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INNOVATION ON CROSS-DICIPLINARY FOR ACCELERATION RECOVERY

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The 28th ADRI-UMAHA 2022 “INNOVATION ON CROSS-DICIPLINARY FOR ACCELERATION RECOVERY”

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FOR ACCELERATION RECOVERY
March 24, 2022



Campus of Universitas Maarif Hasyim Latif Sidoarjo
East Java – Indonesia
March 24, 2022

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PREFACE

WELCOME FROM THE CHAIRMAN OF THE 28TH ADRI – UMAHA INTERNATIONAL CONFERENCE 2022

Dear distinguished Guest, Ladies and Gentlemen,

Welcome to the 28th ADRI – UMAHA International Conference 2022, which is organized by ADRI-Universitas Maarif Hasyim Latif (UMAHA), Sidoarjo – Indonesia, with supported by Perkumpulan Ahli Dan Dosen Republik Indonesia (ADRI) – LPPM UMAHA, Hassan First University, Maroco – Tikrit University, Iraq – Fathoni University, Thailand – Sultan Zainal Abidin University, Malaysia – Universiti Sains Malaysia, Malaysia– Narotama University, Surabaya and STKIP Singkawang. The main theme for the 28nd International Conference is 'Innovation on Cross-Disciplinary for Acceleration Recovery. The aim of the Conference is to invite academics, researchers, engineers, government officers, and students from the field of all disciplines (such as Humanities, Social and Technology Sciences, etc.), to gather, present and share the results of their research and/or work and discuss the future and impact of for Acceleration Recovery. Taking this opportunity, I would like to convey my sincere thanks and appreciations to our keynote speakers and invited speakers from Hassan First University, Maroco – Tikrit University, Iraq – Fathoni University, Thailand – Sultan Zainal Abidin University, Malaysia – Universiti Sains Malaysia, Malaysia– Narotama University, Surabaya and STKIP Singkawang for their support of this important event. I would also like to invite all participants in expressing our appreciation to all members of the 28th ADRI – UMAHA International Conference 2022 organizing committee for their hard work in making this conference success. Finally, we wish you all fruitful networking during conference, and we do hope that you will reap the most benefit of it. Do enjoy your stay in UMAHA Sidoarjo campus, and thank you very much!

Dr. Dony Perdana – Universitas Maarif Hasyim Latif Sidoarjo. Chairman of the 28th ADRI – UMAHA International Conference 2022

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SOCIAL JUSTICE IN CALL-MEDIATED EFL TEACHING: TEACHER IMPERATIVES FROM A SOCIAL PSYCHOLOGY PERSPECTIVE

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ABSTRACT

This article presents a concept of social justice in CALL-mediated EFL teaching. Social justice is the equitable treatment of pupils in the classroom (both face-to-face and virtual learning environments). It requires that language teacher treat their students equally, fairly, and respectfully. It offers six imperatives from a social psychology perspective: 1) fairness, 2) equity, 3) generosity, 4) technology affordability, 5) digital safety, and 6) digital dignity and respect. This concept aims to increase the teachers' awareness of social justice in teaching English with technology and provide a meaning-making learning practice for learners. With this in mind, language teachers can be wise, fair, generous, and respectful in selecting and using digital technologies in their teaching practices. The implication of this study calls for the inclusion of social justice imperatives in CALL teacher education and professional development.

Key words: call, critical pedagogy, language teaching, social justice

INTRODUCTION

CALL and technology can promote equity and social justice (Gleason & Suvorov, 2019; Papendieck, 2018). Meanwhile, teaching English using technology needs Technological Pedagogical Content Knowledge (TPCK) (Koehler et al., 2013; Mishra & Koehler, 2006, 2008) and social awareness in selecting and utilizing technology. However, studying CALL-mediated learning in Indonesian higher education has psychological implications. It seeks to determine whether CALL teachers handle their students with social justice. Therefore, a language teacher must treat children with fairness, dignity, and generosity (Nieto & Bode, 2018, p. 8). This study comes under critical CALL pedagogy, where the researcher may examine and criticize social justice teaching methods using CALL.

We witnessed that learners experienced increased stress and anxiety when some teachers utilized different digital platforms or applications (Irmawati et al., in press). For example, some teachers used different online learning platforms synchronously (e.g., Zoom, Google Meet, Skype, Jitsi, WebEX, etc.) and asynchronously (e.g., LMS Moodle, Google Classroom, and social media platforms). This situation is considered unfair where students must learn and use several digital tools simultaneously. They spent extra time and energy learning new technologies used by the teachers. The absence of a negotiated learning approach caused unreasonable tasks, task load, and materials selection. To

fill the gap, we developed a concept to guide EFL teachers to articulate social justice in their teaching practices. With this in mind, the language teachers will increase their awareness of social justice in CALL-mediated EFL teaching. This concept can be applied to learning language skills such as speaking, writing, listening, and reading. Furthermore, future studies can specifically investigate social justice in writing pedagogy with CALL-mediated instruction. Beyond the skills, it also applies to vocabulary or grammar.

SOCIAL JUSTICE IN CALL-MEDIATED EFL TEACHING

This section elaborates on the six language teachers' imperatives teaching English with technology: fairness, equity, generosity, technology affordability, digital safety, and digital dignity and respect. Beyond the technological and pedagogical aspects of teaching, we developed these elements from a social psychology perspective. It indicates that education must involve the psychological aspect of learning where a language teacher must be fair, wise, and generous when choosing and selecting digital tools for learning.



Figure 1. Social justice in CALL-mediated teaching

Fairness

Fairness relates to how language teachers treat their students equally and without discrimination. A language teacher must have social sensitivity where every student has different abilities and capacities in using technology tools. For example, when a language teacher assigns a task requiring every student to use a laptop or specific tool, he must ensure that every student can access the necessary devices. Otherwise, he must prepare anticipatory plans such as setting up the device or doing the assignment in the computer lab.

To better understand this field of inquiry, here are some considerations for fairness in CALL-mediated instruction.

Table 1. Fairness in CALL-mediated instruction	
Issues	Descriptions
Digital Assessment	<ul style="list-style-type: none"> - Teachers use a digital assessment tool to maintain fairness. - Teachers use assessment strategies to maintain fairness? - Teachers assess the students equally and objectively with a reliable online test?
Online learning platforms	<ul style="list-style-type: none"> - Teachers negotiate the platform they want to use (Zoom, Google Meet, Skype, etc.) - Teachers provide digital assistance to students
CALL-mediated tasks	<ul style="list-style-type: none"> - Teachers provide enough time for students to complete the task (e.g., one week for a simple video creation project). - Train the students before assigning a task (e.g., video editing, adding subtitles, etc.) - Avoid using any applications they are unfamiliar with unless it is a participatory activity.

Table 1 shows several imperatives of dealing with

materials and resources. For example, teachers provide equal access to an online repository where students can download e-books, handouts, worksheets, etc.

Equity

Equity can be defined as accessibility to technology such as digital devices, software, applications, platforms, etc. The language teachers need to ensure that all students have equal access to the internet, language learning software, computer laboratory, and digital library. According to Van Wingerden et al. (2018), teachers can consider using *Bring Your Own Device (BYOD)* strategy to empower learning and assessment. The idea may not work in a digitally-poor environment due to the students' limited access to digital devices. Therefore, providing instruments for all learners might be an option for teaching in a digitally-poor learning setting.

In online teaching and learning settings, teachers must encourage digital participation. Digital or online participation relates to students' contribution to the online discussion, peer review circles, collaborative facilitation, and interaction (Diep et al., 2019). For example, a language teacher must treat the students equally in an online discussion (e.g., equal access to live chat, virtual discussion, and meeting).

Generosity

Generosity can be defined as humble or humanized teaching, where a language teacher should be fully aware of the students' limitations following the CALL-mediated instructions. Some students might need some assistance during the lesson. For example, teachers

provide equal service to all students who need help in troubleshooting (e.g., internet disconnection, software malfunction, application installation, virus attack, etc.). This issue may seem simple, yet it is often overlooked by teachers, resulting in students feeling that they are not being cared for and are forced to deal with the issue

independently.

On the other hand, teaching with technology requires language teachers to be digitally versatile and willing to share new knowledge and skills with students. For example, before assigning the students to work on a

video-creation task, the teachers must be generous to give initial training on creating an exciting video. They can include video-taking, editing, and sharing through social media or Youtube channels. Teachers should avoid tasking the students before teaching them how to do it. If teachers can not do it, they must find other CALL specialists to help them cope with the issues.

Technology affordability

In Indonesia, for example, some students cannot digital assessment, online learning platforms, and CALL-mediated tasks. Fairness can also relate to CALL

afford digital devices or other sophisticated tools. Yet, we still find students who cannot participate in online learning because they cannot afford the internet, computer/ laptop, smartphones, etc. Here the role of the teacher as a facilitator and student learning partner

needs to be encouraged to be able to understand every situation experienced by students. They must position themselves not only as teachers but also as problem-solvers faced by every student.

Teachers should consider using affordable and accessible technology for all students in teaching activities. They must ensure that students receive equal treatment. Therefore, the following questions may help language teachers to accentuate social justice in their teaching.

1. Are the books, handouts, and worksheets affordable for all students? Can they afford them?
2. If I used Zoom, can the students afford the internet? What about Google Meet or Classroom?
3. I will use a language learning software that is not free. Otherwise, students cannot participate in learning without it. So, how do I know that all students are OK with it? Or how to encourage equal participation in using the software?
4. In a video-creation project, the students need some compulsory devices (e.g., video-editing software, digital camera, lighting set, etc.). How do you know that they are ready for the project technologically? How many students do not have the required device? What will you do with these students? How can you make them feel not discriminated?
5. When the learning requires the students to spend some money, did you discuss the plan with them initially?

This issue is crucial and needs to be carefully managed to increase the students' equal participation and engagement in learning with technology. We then suggest the school management or the institutional leaders as policymakers will need to facilitate them with multimedia learning resources. Relying on teachers and students can cause many problems in its implementation because it can trigger an attitude of reluctance to use personal devices for work purposes.

Digital safety

Teachers and students must be aware of digital or cyber safety behavior in utilizing technology for learning (Dodel & Mesch, 2018). Teachers must be selective and considerate in choosing technology resources that potentially harm the students. For example, some harmful content should be banned to keep students secure and safe in learning (e.g., pornography, inappropriate images, digital fraud, phishing, fake information/hoax, and cyberbullying) (Tomczyk, 2019). Teachers must give equal protection to all students to get clean and helpful information. So, what can the teachers do? For instance, language teachers should set a filter to choose appropriate videos for learners when teaching with video. They have to sort out which videos are suitable for learning activities.

Digital dignity and respect

Teaching English with digital technology must prioritize dignity and respect. Why is this so important

when it comes to social justice? There is a term known as digital ethics. Every language teacher must teach ethically (e.g., the legal way to use digital sources) and avoid discrimination, such as racism and the digital divide (Bangou, 2010). For example, when teaching online synchronously, the teacher should respect the students by turning the camera on and allowing the students to have equal participation in the lecture. Turning off the video is disrespectful and considered digital discrimination in online learning encounters.

FUTURE DIRECTIONS

Social justice in CALL-mediated EFL teaching is now gaining more attention from CALL practitioners and researchers. Many aspects of social psychology can be researched related to the issue of social justice in language education, including social justice in writing, speaking, listening, or reading pedagogy with CALL-mediated instruction. In teaching writing, for example, a language teacher must be aware of some technical aspects of writing utilizing technology such as proofreading, grammar check, digital mind mapping software (Anas et al., 2021), and translation software. All students must have equal access to those tools without any discriminatory practices. Assessing the students' writing using Grammarly Premium is unfair and unequal because not all the students subscribe to the premium version. The free version has some limitations compared to the paid version. As a result, students who use paid applications are much better quality than those who use the free version.

CONCLUSION

Although social justice in CALL-mediated EFL teaching is scarcely explored, several psychological aspects affect student learning participation and impact students' engagement in learning with technology. Therefore, it calls for innovative approaches to promoting fairness and equality in designing the technology-based instructions for effective ELT. This concept also calls for the inclusion of social justice imperatives in critical pedagogy, language teacher education, and professional development.

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THE INFLUENCE OF PRINCIPAL'S LEADERSHIP STYLE, EDUCATION TRAINING, AND WORK MOTIVATION TO THE PERFORMANCE OF SMP TEACHERS IN MAJALENGKA REGENCY- WEST JAVA

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ABSTRACT

The problem of this research is the low performance of SMP teachers. The aims of this study are: (1) to describe the principal's leadership style, training education, work motivation and teacher performance; (2) to determine the effect of the principal's style to teacher performance; (3) to determine the effect of education and training to teacher performance; (4) to determine the effect of work motivation to teacher performance; (5) to determine the effect of the principal's leadership style, training education and work motivation to teacher performance. The method of this research used descriptive analysis. The population in this study were teachers of SMP in Majalengka Regency. The sample in this study amounted to 342 people. Based on the research results, it is known that: (1) the description of the principal's leadership style is in the medium category, the description of teacher training education is in the low category, the description of work motivation is in the medium category, and the description of teacher performance is in the medium category; (2) there is no influence of the principal's leadership style on teacher performance; (3) there is no effect of training education on teacher performance; (4) there is an effect of work motivation on teacher performance; (5) there is an effect of principal's leadership style, training education, and work motivation on teacher performance.

Key words: principal leadership style, teacher performance, training education, work motivation

INTRODUCTION

If we observe, in all educational activities on the school track, teachers hold the most strategic position which is directly in the front through interaction with students at classroom or outside classroom. The context of learning process at the classroom, teacher places himself as a teacher, mentor, scientist, facilitator as well as a motivator so that students are able to develop their potential to absorb, explore, and discover scientific concepts and values that are taught at class independently. Therefore, teachers must have quality in their performance, especially in the field of teaching.

One of the factors that measure school success is teacher performance. Teacher performance is a work achieved by a teacher in carrying out the tasks assigned to him based on skills, experience, and sincerity and time (Hasibuan, 2007: 94). Teacher performance will be good if teacher has carried out elements consisting of high loyalty and commitment to teaching tasks, mastering and developing lesson materials, discipline in teaching and other tasks, creativity in teaching and learning, implementation of teaching, collaboration with all school members, leadership that is a role model for students, good personality, honest and objective in guiding students, as well as

responsibility for their duties. Performance is said to be good and satisfying if the goals achieved are in accordance with predetermined standards. Therefore, the principal's job as manager is to evaluate the teacher's performance. This assessment is important to do considering its function as a motivational tool for leaders to teachers and for teachers themselves.

One of the educational problems faced by State SMP teachers throughout Majalengka Regency in 2018 was the lack of maximum teacher performance. This is proven by: (1) the low work ability, creativity, dedication, responsibility, discipline, mastery of teacher competencies, (2) the Minimum Completeness Criteria (KKM) that have been set have not been achieved by all students, this is evidenced by the report cards that value is not complete. (3) lack of sense of responsibility at work; (4) weak interest in assignments, and (5) lack of encouragement to excel (Source: Results of interviews with several heads of state SMP in Majalengka Regency in 2018). In Majalengka Regency, the quality of schools are still not evenly distributed in every school, especially at SMP level. Improving the quality of teacher teaching performance is an absolute requirement to achieve development

goals. One of the vehicles to improve the quality of the teacher's teaching performance is through education so that the quality of education must always be improved continuously. effective.

Based on the description above, the formulation of the problem in this study is as follows:

- 1) What are the descriptions of the principal's leadership style, training education, work motivation, and teacher performance at State Junior High Schools throughout Majalengka Regency?
- 2) Is there any influence of the principal's leadership style on the performance of state junior high school teachers in Majalengka Regency?
- 3) Is there any effect of education and training on the performance of state junior high school teachers in Majalengka Regency?
- 4) Is there any influence of work motivation on the performance of state junior high school teachers in Majalengka Regency?
- 5) Is there any influence of the principal's leadership style, training education and work motivation together on the performance of state junior high school teachers in Majalengka Regency?

THEORETICAL FOUNDATION

Teacher performance

According to the Regulation of the Minister of State for Empowerment of State Apparatus and Bureaucratic Reform (Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi) Number 16 of 2009, teacher performance appraisal is an assessment carried out on each item of the teacher's main task activities in the context of career development, rank, and position. Teacher performance is said to be of high quality if a teacher can display good behavior in his teaching effort." Therefore, to be able to carry out teaching tasks well, teachers must have good knowledge, skills and attitudes. Castetter (2008:212) suggests that knowledge, skills, attitudes regulation for effective performance (knowledge, skills and attitudes needed to realize effective performance). Furthermore, Gaffar (2012:132) asserts that performance based teachers require mastery of content knowledge, behavioral skills, and human relation skills. Content knowledge is the mastery of knowledge material that will be taught to students. Behavioral skills are behavioral skills related to the mastery of methodological didactics that are pedagogical and andragogic. Human relation skills are skills to have good relations with human elements involved in the educational process.

The factors that influence teacher performance are teacher education level, teaching supervision, upgrading program, conducive climate, facilities and infrastructure, teacher's

physical and mental condition, principal's leadership style, welfare insurance, principal's managerial ability, training, providing incentives, etc. Teachers are able and skilled to carry out teaching tasks well, if the teacher has professional abilities, namely the fulfillment of 10 teacher professional competencies. According to Agib (2013:103), the 10 teacher competencies include:

1. Mastering materials, including:
 - a) mastering the subject matter; and curriculum;
 - b) mastering enrichment or supporting materials
2. Managing teaching and learning programs, including:
 - a) formulating instructional objectives;
 - b) recognize and be able to use teaching methods;
 - c) select and develop appropriate instructional procedures;
 - d) implement teaching and learning programs;
 - e) recognize the ability of students; and
 - f) plan and implement remedial teaching.
3. Managing classes, including:
 - a) arrange classroom layout for teaching; and
 - b) create a suitable learning climate.
4. Using source media, including:
 - a) recognize, select and use media;
 - b) create simple learning aids;
 - c) use and manage laboratories in the teaching and learning process;
 - d) develop laboratories;
 - e) use the library in the teaching and learning process.
5. Mastering the educational foundation, including:
 - a) study the concept of educational and teaching problems with a physiological, historical, and psychological sociological perspective; and
 - b) recognize the function of the school as a social institution that has the potential to advance society in a broad sense as well as the mutual influence between the school and the community.
6. Manage teaching and learning interactions.
7. Assess student achievement for teaching purposes.
8. Get to know the functions and programs of guidance and counseling services, including:
 - a) get to know the functions and programs of guidance and counseling services in schools;
 - b) organize a guidance service program in schools.
9. Recognize and organize school administration, including:
 - a) getting to know the administration of school administration;
 - b) organize school administration.
10. Understand principles and interpret research results for teaching purposes.

Based on the opinions of the experts that have been put forward, the dimensions and indicators of teacher teaching performance are taken from Agib (2013:103) which means "teaching performance of teachers is the process

and result of the work of teachers in managing and carrying out their duties and responsibilities to achieve educational and teaching goals. ". The dimensions and indicators of teacher teaching performance are seen from the aspects of a teacher's professional competence in teaching, namely by realizing the following indicators: (a) mastering the material; (b) managing teaching and learning programs; (c) managing the class; (d) using source media; (e) mastering the educational foundation; (f) managing teaching and learning interactions; (g) assessing student achievement for teaching purposes; (h) recognize the functions and programs of guidance and counseling services; (i) identify and administer school administration; (j) understand the principles and interpret the results of educational research for teaching purposes.

Principal leadership

The principal is one of the components of education that plays the most role in improving the quality of education. No matter how complete the learning facilities are, having great teachers, student input with strict standards, but if not managed properly it is impossible to achieve good school achievements. Thus, the principal has a very decisive role in the progress of a school. Supriadi (2008:346) states that: "There is a close relationship between the quality of school principals and various aspects of school life such as school discipline, school cultural climate, and decreasing student misbehavior". The principal is responsible for organizing educational activities, school administration, fostering other educational staff, and utilizing and maintaining facilities and infrastructure.

Wahjosumidjo (2012: 443) states that "the principal's leadership style is what the principal as a leader does in empowering the resources of a school". The emphasis on the dimensions of the principal's leadership style is emphasized on the principal's leadership style approach developed by Halpin in Wahjosumidjo (2012:443), namely:

1. Dimensions of structure initiation, including indicators including:

- a) explain the duties and responsibilities of teachers;
- b) explain how to do the task;
- c) offer innovation;
- d) ensure the teacher does the task according to his ability;
- e) ask teachers to follow work standards;
- f) organize school activities;
- g) coordinating school activities;
- h) prioritizing the achievement of goals;
- i) carry out strict supervision;
- j) assessment based on work results;
- k) criticize the poor work of teachers;

l) seek certainty that their duties are understood by the teacher.

2. Dimensions of consideration, including indicators including:

- a) friendly attitude towards teachers;
- b) mutual trust;
- c) attention to the teacher;
- d) deliberation;
- e) pay attention to the welfare of teachers;
- f) cooperate;
- g) support teachers;
- h) do good;
- i) be familial.

Education, teacher training

Education, training and development are terms that are often used in parallel in education administration/management even though they have different meanings. To emphasize and clarify these terms, it can be clarified as follows: Presidential Instruction of the Republic of Indonesia Number 15 of 1974, emphasizes that "education is all efforts to foster personality and develop human, physical and spiritual abilities, which lasts a lifetime both internally and externally. Outside schools in the context of building the unity of Indonesia and a just and prosperous society based on Pancasila".

The term training (training) Flippo (2005: 219) states that "Training is the act of increasing the knowledge and skills of employees for doing a particular job". The statement is that training is an activity to improve the knowledge and skills of employees in carrying out certain jobs. There are two elements that need to be understood here, namely the first is increasing knowledge and skills and the second is specific work. Furthermore, Mangkunegara (2013: 49) argues that "training and development are terms related to planned efforts held to achieve mastery of skills, knowledge and attitudes of employees or members of the organization", while Notoatmodjo, (2012: 28) stated: "Education and training is an effort to develop human resources, especially to develop intellectual abilities and human personality." From the several definitions of education, training mentioned above, it can be concluded that teacher training is a planned process aimed at improving and adjusting their technical and professional abilities in order to achieve effective performance. Education and training is an effort to develop human resources. Each training implementation requires clear objectives, this is intended to measure and determine the extent to which the training implementation is successful.

The purpose of any training is to achieve changes in knowledge, skills, experience, behavior, or attitudes that will increase employee effectiveness". Completed faster and more

effectively; (b) develop knowledge, so that work can be completed rationally; (c) develop attitudes, so that it creates a willingness to cooperate with employees and leaders. In particular, Jalal and Supriadi (2006: 265) state that "The purpose of in-service training is to improve teaching skills, mastery of teaching materials, and teacher commitment and motivation in teaching"

From several opinions about teacher education and training that have been put forward by these experts, the dimensions and indicators are taken from the opinion and developed by Sanusi (2010:69), because this opinion is very relevant to the research being undertaken. Measurement of teacher training in terms of dimensions and indicators, namely:

1. dimensions of the essence of the training material, including the following indicators.
 - a) useful for improving the learning process,
 - b) information about educational innovation,
 - c) systematic, practical and coherent
2. dimensions of education and training incentives, including the following indicators.
 - a) receive pocket money,
 - b) certificate
3. dimensions of education and training facilities, including the following indicators.
 - a) standard of facilities,
 - b) use of facilities
4. dimensions of the training instructor, including the following indicators.
 - a) have competence,
 - b) material delivery
5. dimensions of the impact of education and training on the learning process, including the following indicators.
 - a) apply the results of the training,
 - b) teaching materials are getting deeper and wider,
 - c) provide excellent service to students.

Work Motivation

Work motivation is important for every worker. It is something that gives rise to enthusiasm or encouragement and work. Therefore, work motivation in psychology is a driving force for work morale. According to Hasibuan (2011: 67) that "Motivation is the provision of a driving force that creates enthusiasm for one's work, so that they are willing to work together, effectively and integrated with all their efforts to achieve satisfaction". Furthermore, Terry in Hasibuan (2011:141), explains that 'Motivation is the desire that exists in an individual which stimulates him to take actions'. Every effort to achieve satisfaction. Thus it can be concluded that work motivation is an impulse that arises in a person which causes him to take an action

Specific to meet their needs. So work motivation is a psychological condition that encourages workers to make efforts to produce goods or services so that a goal can be achieved.

According to Sardiman (2011: 83) that the motivation that exists in everyone has the following characteristics.

- 1) Diligent in facing the task (can continue for a long time, never stop before finishing)
- 2) Tenacious in facing difficulties (don't give up easily)
- 3) Show interest in various problems.
- 4) Prefer to work alone
- 5) Get bored quickly on routine tasks (things that are mechanical, just repetitive, so less creative).
- 6) Can defend his opinion (if you are sure of something).
- 7) It is never easy to give up what you believe in.
- 8) Enjoy finding and solving problems.

Thus, the author can conclude that someone who has work motivation has the characteristics mentioned above. If someone has these characteristics, it means that person has a strong enough motivation. The characteristics of such motivation will be very important in teaching and learning activities.

RESEARCH METHODS

The population in this study were all state junior high school teachers in Majalengka Regency as many as 63 schools with a total of 2013 teachers. (data from the Majalengka District Education Office). Researchers set the number of research samples as many as 342 people. The method of determining the sample unit is done by using a cluster random sampling technique.

This study uses a survey research method with a quantitative approach. The survey research in question is to explain causal relationships and test hypotheses. As stated by Masri (2013: 22) survey research can be used for the purposes of (1) exploration (exploratory), (2) descriptive, (3) explanation (explanatory or confirmatory), namely explaining causal relationships and hypothesis testing; (4) evaluation, (5) predicting or predicting certain events in the future (6) operational research, and (7) development of social indicators. This type of survey research focuses on disclosing the causal relationship between variables, namely the independent variable on the dependent variable, namely pedagogic competence (X1) and professional competence (X2) on teacher performance (Y).

RESEARCH RESULTS

The influence of the principal's leadership style on teacher performance

From the results of the t test, the t_{count} value is 0.403 while the t_{table} at a significance level of 5% and $dk = 342 - 2 = 340$ is $t(0.05)(339) = 1.655$. It turns out that the value of $t_{count} (0.404) < t_{table} (1.645)$. This shows that the influence of the principal's leadership style on teacher performance has no meaning or is not significant. Therefore, by comparing the value between t_{count} and t_{table} , the hypothesis that the author proposes stating "There is an influence of the principal's leadership style on teacher performance" is rejected or in other words "There is no influence of the principal's leadership style on teacher performance".

The principal's leadership style that does not involve subordinates in making decisions will result in subordinates not optimally carrying out work, because these decisions are related to the daily tasks of subordinates. Coercion of will by the leadership should not be carried out, leadership failure should not be carried out. Leadership failure can be predicted as a result of applying a leadership style that is not in accordance with the views of subordinates, because without the support of subordinates the leader cannot achieve the goals expected by the organization. In addition to the above factors, other factors that cause low teacher performance are caused by, among others:

(1) there are still many teachers who do not fully pursue their profession. This is due to the fact that many teachers work outside their working hours to meet the needs of daily life so that there is no time for reading and writing to improve themselves; (2) the absence of professional standards for teachers as demanded in developed countries; (3) it may be caused by the existence of private universities as producers of teachers whose graduates are random without taking into account their output later in the field, causing many teachers to be disobedient to the ethics of the teaching profession; (4) lack of teacher motivation in improving self-quality because teachers are not required to research as is applied to lecturers in universities.

The effect of teacher training education on teacher performance

From the results of the t test, the t_{count} value is 6.736 while the t_{table} at a significance level of 5% and $dk = 342 - 2 = 340$ is $t(0.05)(339) = 1.655$. It turns out that the value of $t_{count} (6.738) > t_{table} (1.655)$. This shows that the effect of education and training on teacher performance has a meaning or significance. Therefore, by comparing the value between t_{count} and t_{table} , the hypothesis that the

author proposes which states "There is an influence of training education on teacher performance" is accepted.

The success of education is not only determined by the leadership of the principal, but is also determined by the teacher's performance factor. Efforts to improve teacher professionalism have been carried out by the central government, provincial government and district/city governments as well as school institutions through the development of education personnel, especially teacher professional education and training. Professional development of teachers is the key in improving the quality of national education.

The effect of work motivation on teacher performance

From the results of the t test, the t_{count} value is -2,616 while the t_{table} at a significance level of 5% and $dk = 342 - 2 = 340$ is $t(0.05)(339) = 1,655$. It turns out that the value of $t_{count} (-2,618) < t_{table} (1,655)$. Therefore, by comparing the value between t_{count} and t_{table} , the hypothesis that the authors propose which states "There is an influence of work motivation on teacher performance" is accepted even though the results are negative. There are many factors that influence the level of quality of teacher performance in schools, both internal factors of the teacher concerned and factors originating from teachers such as school facilities, applicable regulations and policies, managerial quality of school principals, and other environmental conditions. The level of quality of this teacher's performance will further determine the quality of the graduates produced and the achievements of the graduates produced and the achievement of success the school as a whole (Lamatenggo, 2001:98). Performance is the result of the formation of various factors. Castetter (2008:14) reveals that performance will be strongly influenced by the following factors (a) the internal environment, including formal organizations, individual behavior, group behavior, culture and ethics, (b) the external environment, which includes legislation, economic, sociocultural, political, and technological.

The influence of the principal's leadership style, training education, and work motivation to teacher performance

Based on the test results obtained a value of $F = 16.144$ ($p = 0.000$), then the hypothesis is accepted in other words "there is an effect of the principal's leadership style, training education, and work motivation together on teacher performance". In carrying out their work, teachers are always faced with motivational factors and maintenance factors in their work environment, this is attempted to increase the motivation and

expected work results of teachers. The existence of various unmet needs related to the place and atmosphere in the work environment will cause someone not to try to work hard in the hope that the school can meet the needs and desires of the results of their work.

CONCLUSION

From the results of data analysis, the authors conclude as follows.

- 1) The description of the principal's leadership style according to the teacher's perception is in the medium category, the description of teacher training education according to the teacher's perception is in the low category, the description of work motivation according to the teacher's perception is in the medium category, and the description of teacher performance according to the teacher's perception is in the medium category.
- 2) There is no influence of the principal's leadership style on teacher performance. This means that the increase in the principal's leadership style has no effect on the level of teacher performance.
- 3) There is an effect of teacher training education on teacher performance. This means that the increase in teacher training education has an influence on teacher performance.
- 4) There is no effect of work motivation on teacher performance. This means that the increase in teacher work motivation does not affect the level of teacher performance.
- 5) There is an effect of the principal's leadership style, training education, and work motivation together on the teacher's performance, meaning that the improvement of the principal's leadership style, training education, and work motivation together has an effect on the level of teacher performance.

Suggestion

After seeing the conclusions above, the authors put forward the following suggestions.

1. The company should determine the amount of compensation based on the minimum wage standard in accordance with the applicable rules in the company.
2. If there are co-workers who have difficulty in carrying out work, each employee should be responsive to help.

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EDUTAINMENT LEARNING MODEL IN DEVELOPING AND IMPLEMENTING INTEREST IN LEARNING ENGLISH

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ABSTRACT

This research is based on the change curriculum in the world education which is more meaningful. Curriculum 2013 is curriculum needed new corresponding with development education needs, and to develop the process of development quality potency of students. In its application, curriculum 2013 use thematic learning. The focus of this research on how planning, implementation and evaluation of thematic learning integrative-based edutainment. The purpose of this study to describe and analyze in depth the planning, implementation and evaluation of thematic learning integrative-based edutainment. The research method used descriptive qualitative with primer and secondary source. The sampling data is observation, interview and documentation. The data analysis is Miles Interactive and Huberman which is data reduction, showing the data and conclusion. To get the valid data the research is used triangulation technique, Triangulation source and triangulation time. Based on the result of this research, the researcher concludes that: On learning planning, the teachers already make with appropriate instructions, includes: mapping competence, webs themes, syllabus, and implementation learning Plan (RPP). On implementation learning, before start the teachers always prepare the material. The Activity of learning divided into three stage, that: early activity, the core, and final activity. In the core activity, teacher already use approach scientific as should be use in thematic learning, but sometimes teachers still separated between learning materials. On assessment thematic learning, the teacher uses assessment test and non-test. In the assessment teacher leads on domain affective, cognition, and psychomotor which is appropriate within core competence. For reporting results learning assessment, the teacher used effective application and efficient time.

Key words: edutainment, evaluation, implementation, planning, thematic integrative

INTRODUCTION

Education is a very important aspect of human life. Through education man will grow and develop especially to face his future. Education is also a system consisting of a number of components that affect it, including curriculum, facilities, students, and teachers. In the education system in schools the main activities are organized by teachers. Therefore, in order to be able to carry out learning activities properly, teachers must prepare in advance starting from the planning of educational programs, planning the use of learning strategies and media benefits to evaluation. The learning process must be far from the effort of cramming knowledge into the child's brain. Excessive knowledge will interfere with understanding and exhaust the child's brain. Tracking a child's brain with a large amount of information and knowledge will turn off intelligence. Children should be seen as developing organisms that have potential, not to try lesson materials or force children to memorize data and facts. Educators must engage students to actively develop their potential. Each student is an

active creature and has basic potential to be developed. The educator's job is to activate the student, both physically, mentally, intellectually, emotionally, and socially, so that his potential can grow better. The target of education is an effort to advance and improve human resources ready to improve their lives, both on a personal scale, society and nation. According to Law No. 20 of 2003 chapter 1 article 1 on the National Education System which reads:

"Education is a conscious and planned effort to realize the atmosphere of learning and learning process so that learners actively develop their potential to have religious spirituality, self-control, personality, intelligence, noble morals, and skills that have themselves, society, nation and country".

In each learning process, it will always include three important components that are interrelated with each other. The three important components that are interrelated are the material to be taught, the learning process and the results of the learning process. These three aspects are just as important because they are a unity that forms a learning environment. One thing that has been felt

and experienced is the lack of a correct and effective approach in carrying out the learning process. However, the reality today in many schools of teachers is only fixated on the materials and learning outcomes. They are preoccupied with various activities in setting goals to be achieved, putting together what materials need to be taught, and then designing evaluation tools, but they are often forgotten about a very important thing that is the ordinances or methods to design a good learning process in order to be a link between the material and the learning outcomes.

The practice of learning that occurs during this time is if the teacher teaches then it is considered that at that time the learner will learn, this is the wrong assumption. However, the presence of a teacher and learners in the classroom does not mean that the learning process takes place automatically. In order to achieve learning, a teacher should create a concentrated learning situation and raise the minds of students first. By raising the student's mind before the learning process, the student will concentrate more and be more excited in the learning process.

During this time, the learning process in class is often only considered as an empty place that must be filled with various sciences or any information desired by the teacher. Not all teachers really pay attention to aspects of students' feelings or emotions, as well as their readiness to learn, both physically and psychically. Learning practices that often occur when the teacher has entered the class and then the student is told to sit quietly and still, then the teacher immediately teaches regardless of how the student is in condition. This makes the learning atmosphere stiff and stressful. This forced learning creates an uncomfortable learning atmosphere, creates a frightening atmosphere, and can even make it fail. Because, students who are educated with such methods and strategies will instead become a generation full of tension, easily stressed, and unable to solve problems in their lives. There are already many students who are intellectually intelligent, but cannot control their emotional side, thus losing the opportunity to live happier and happier lives. Therefore, the element of happiness in the learning process becomes important.

From the above, the concept of fun-based learning arises, which is called edutainment-based learning. This concept is expected to be a solution to problems in the learning process that often occur. Hamruni (2008) explained that in edutainment learning activities do not appear in a frightening face but in a humanist form and in open and pleasant educational interactions. Educational interactions like this will result in effective learning activities and become the main key to the success of

a learning. The basic concept of edutainment, according to Ratna Pangastuti, is trying to be present to be able to solve the problem, which is a concept that combines two elements, education and entertainment. This combination of entertainment and play refers to the nature of children whose world is the world of play. For children, the distance between learning and playing is so thin. The choice of edutainment model is also based on the results of research on how the brain works. These latest findings show that learners will learn effectively when in a state of fun and free from pressure or revolution learning, where the implementation prioritizes pleasure and happiness in order to achieve learning goals. The lessons applied are packed in the atmosphere of playing and experimenting so that learning is no longer boring and depressed conditions, but it is precisely an educational and fun playground for students.

Learning with edutainment approach is a learning that combines educational and entertainment content harmoniously. So that the learning activities will be fun, so that students are not easily saturated and bored when in class. The concept of edutainment is certainly very interesting when developed systematically and structurally. If it goes well, of course the atmosphere of learning in the classroom will change, from something scary to something fun, from something boring to happy, or from something hated to something that the students miss. Basically edutainment strives to teach or facilitate social interaction to students by including various lessons in the form of entertainment that is familiar to their children such as television shows, games on the computer, or video games, movies, music, websites, multimedia devices, and so on. In addition, edutainment can also be an education in the wild that is able to entertain and learn about animal life and its habitat. In the course of edutainment has transformed in various forms, such as humanizing the classroom, active learning, accelerated learning quantum learning, quantum teaching, and so on. This edutainment shopper tries to invite students to enjoy all subjects.

The concept of edutainment is certainly very interesting when developed systematically and structurally. If it goes well, of course the atmosphere of learning in the classroom will change from something scary to something fun, from something boring to happy, or from something hated to something that the students miss. So, they want and want to continue learning in class, because it is influenced by a high sense of passion and enthusiasm to follow the lessons. Because the concept of edutainment emphasizes the way teachers perform their functions, they must equip themselves with the ability to apply the concept of edutainment in the classroom. This is certainly not

an easy job, because the change of teaching from conventional, where teachers are very dominant in the classroom, becomes the concept of edutainment. Of the many advantages that can be obtained from playing, edutainment learning needs to be used as a learning method. Lessons are packed in an atmosphere of entertainment and experimenting so that the learning process is no longer boring, but it is precisely an educational and fun entertainment arena for students. With learning methods.

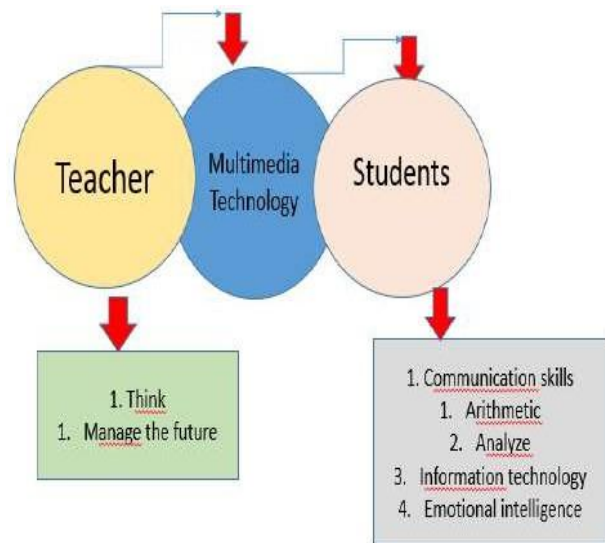
RESEARCH METHODS

The focus of this research on how planning, implementation and evaluation of thematic learning integrative-based edutainment. The purpose of this study to describe and analyze in depth the planning, implementation and evaluation of thematic learning integrative-based edutainment. The research method used descriptive qualitative with primer and secondary source. The sampling data is observation, interview and documentation. The data analysis is Miles Interactive and Huberman which is data reduction, showing the data and conclusion. To get the valid data the research is used triangulation technique, Triangulation source and triangulation time. The Activity of learning divided into three stage, that: early activity, the core, and final activity. In the core activity, teacher already use approach scientific as should be use in thematic learning, but sometimes teachers still separated between learning materials. On assessment thematic learning, the teacher uses assessment test and non-test. In the assessment teacher leads on domain affective, cognition, and psychomotor which is appropriate within core competence.

RESULTS AND DISCUSSION

Edutainment grows along with the development of educational methods that identify aspects of learning in play. With more and more parents having to leave home to work for a living, plus the development of information and communication technology, edutainment is growing and even becoming a profitable business area. Of course, with various implications for the concept of edutainment itself.

Edutainment is actually not a new concept that emerged recently. It develops along with the discourse of childhood, learning and play. The concept of "learning is fun" has been known since ancient times through visualization (drawings, paintings, comics).



Picture 1. Edutainment Learning Model

The concept of edutainment in the learning method. is a revolutionary learning concept by utilizing multimedia technology, where the classroom is made with an atmosphere like the original according to the material presented. Teacher how to learn, think, and manage the future. From there, it is expected that students have life skills, including communication skills, arithmetic, students are invited to analyze, information technology, and emotional intelligence. In addition, children get used to thinking.

Based on the results of research resulting from various interviews, observations and documentation conducted by researchers, all sources of information about planning, activities, and assessment of the implementation of integrative thematic learning in the edutainment-based 2013 curriculum, there are findings presented in this section based on exposure to data obtained in the field. The findings at SMK Prof Dr. Moestopo Bogor, are as follows:

Edutainment-based learning design

It is related to learning design with edutainment learning models. In the edutainment learning model, it is explained that the design in question is the design of the 10 class rooms. Classroom design is very important to note, because it will affect the learning atmosphere in the classroom. In the edutainment model, the classroom design consists of the design of the classroom environment, the arrangement of the benches, the provision of aromatherapy, the arrangement of plants and plants and educational aids.

First, the design of the classroom environment. As explained in chapter two that the

classroom environment affects students' ability to focus and absorb information. If the atmosphere and conditions in the classroom are messy, shabby, dirty, and unattractive to the students, they will think that learning is uncomfortable, tiring and old-fashioned. On the other hand, if the environment is well organized, clean, healthy and comfortable, and able to support learning, then they have the view that learning is fun and exciting. Some things that must be considered in designing an ideal and supportive classroom environment for student learning are providing pictures and using attractive colors.

Second, the arrangement of the bench. As explained in chapter two that the arrangement of the bench has an important role in the concentration of student learning. The arrangement of benches is carried out to fulfill four learning objectives, namely accessibility which makes it easy for students to reach available learning tools or resources, mobility that makes students and teachers easy to move from one part to another, interaction that facilitates communication between teachers, students and between students. and student work variations that allow students to work together individually, in pairs or in groups.

Third, the provision of aromatherapy and arrangement of plants. According to some studies, humans can increase their creative thinking ability by as much as 50% when given the scent of certain flowers, as well as plant arrangements. Based on research states that plants and plants are able to provide oxygen. In this case, the brain develops due to oxygen. The more oxygen you get, the better your brain will work.

Applied forms of edutainment-based learning methods

As already explained, edutainment in its journey takes various forms, such as humanizing the classroom, active learning, the accelerated learning, quantum teaching, quantum learning, and so on. Based on theory, data exposure and based on observations related to the application of edutainment-based learning, it can be concluded that the application of the edutainment model carried out at SMK Kesehatan Prof. Dr. Moestopo Bogor is more directed to the form of active learning, accelerating learning, and humanizing classroom.

First, learning by telling stories. In telling stories, all students showed great enthusiasm to come forward, all students were active in telling stories in front of the class, this was proven by the various story models that were carried out. Some use media and some do not.

Second, group learning. In groups, it shows that students also play an active role in learning

activities, this is evident where students are actively involved in discussions with their group friends. When sharing information with other groups, it also shows seriousness in sharing the information obtained. Students seem happy in doing this activity. All students listen and take notes on important things.

Third, learning through presentations. In the presentation students are also active. This is proven where, as a presenter, students try to explain as best they can the material they get with a display that is no less interesting. As listeners, students also occasionally ask questions related to the material. From this statement, it can be analyzed that the presentation and discussion activities run actively with a lively discussion atmosphere.

Effectiveness of edutainment-based learning

The effectiveness of learning is the results obtained after the implementation of the teaching and learning process. Means that is meant by the effectiveness of learning, namely the results obtained after students complete learning. There are several criteria used to measure the effectiveness of a learning, Reigeluth and Merrill determine the effectiveness of teaching there are 7 indicators, as follows: (a) Accuracy in mastering behavior; (b) Speed of performance; (c) Compliance with procedures; (d) Quantity of performance; (e) Quality of the final result; (f) The rate of transfer of learning; and (g) Retention rate. Based on the data obtained in the field, it can be said that the learning carried out by applying the edutainment model is quite effective.

The results will be described by the researchers as follows: *First*, learning is carried out through storytelling activities. Based on the results of observations showed that students have high enthusiasm for telling stories, students are also eager to tell stories in front of the class, even among students there are very good at telling stories.

Second, learning activities are combined with watching videos. Based on the results of observations showed that students seriously paid attention to the video shows that were delivered. Not infrequently some of the students showed a very exaggerated expression as if the students felt what was happening. No students fell asleep while showing this video, all students also paid attention to the video. Even when the teacher asked the students questions about the video, the students were able to answer enthusiastically.

Third, learning activities are carried out in groups. Based on the results of observations showed that all students participated to work in groups. Although there are some students who are less active. It is true that students feel enjoy when studying in groups. There are some students who

are able to complete the tasks given by the teacher in a fast time, although there are one or two groups who run a bit slowly. In presenting the results of the discussion, it also shows that students are able to finish it with pretty good results.

CONCLUSION

Based on the results of research and discussion of the implementation of the edutainment model in learning at SMK Kesehatan Prof. Dr. Moestopo Bogor, researcher drew several conclusions, as follows:

1. The edutainment-based learning design carried out at SMK Kesehatan Prof. Dr. Moestopo Bogor, was carried out in several stages, namely: making competency mapping, compiling theme nets, syllabus, and lesson plans (RPP), then arranging classrooms. Edutainment-based learning design consists of various learning techniques, namely storytelling, watching videos, groups and presentations, conducting learning through games and making mini-film projects resulting from students' own role playing. Classroom designs apply more environmental design and bench arrangements.
2. The application of the edutainment model at SMK Kesehatan Prof. Dr. Moestopo Bogor is more focused on the following forms: Active Learning, Accelerating Learning, and Humanizing Classroom. It is said to be active learning because students take an active role in learning activities, be it storytelling, groups, discussions and presentations, learning through games, or making mini films. It is said that accelerating learning is accelerated learning which in this model uses a visual learning approach, namely a way of learning that emphasizes the visual aspect.
3. Learning through the edutainment model at SMK Kesehatan Prof. Dr. Moestopo Bogor, is considered effective, because it has met several indicators of learning effectiveness, namely: (a) Accuracy in mastering behavior; (b) Speed of performance; (c) Compliance with procedures; (d) Quality of the final result; and (g) Retention rate. Learning through storytelling has met the indicators of mastery accuracy and performance speed. Accuracy of mastery is indicated by the number of errors in student performance. While the speed of performance is indicated by the amount of time it takes students to display their performance which only takes 1 week. Learning

through watching video shows has met the criteria for learning effectiveness, namely a high retention rate.

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RETAIL PERFORMANCE DURING PANDEMIC IN SOLORAYA

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ABSTRACT

The Covid pandemic has had an impact on many things, especially on the economic sector. The retail industry as one of the sectors affected has an important role in the country's economy. This study aims to determine the effect of the use of technology, supply chain and government policies on retail performance in the Soloraya area. Data was collected through a survey involving 62 respondents who are members of the Sampoerna Retail Community. This research uses purposive sampling. Data analysis used regression analysis. The results of this study indicate that the use of technology influences retail performance while supply chain and government policies do not affect retail performance

Key words: government policies, retail performance, supply chain, the use of technology

INTRODUCTION

The COVID-19 pandemic has impacted many things, one of which is the business sector. Based on a survey on the impact of Covid 19 on business actors conducted by BPS in 2020, 84.2% of MSEs experienced a decrease in income. The most limited business sector is accommodation and food and drink (BPS, 2020). As the backbone, MSMEs have an important role in increasing the independence of the people's economy, including driving strategic sectors of the domestic economy.

The retail industry in Indonesia makes a large contribution to the Gross Domestic Product (GDP) and absorbs a large number of workers. As a developing country, the growth rate of the Indonesian retail industry is influenced by the strength of people's purchasing power, population growth, and also the community's need for fulfillment of consumer products.

The presence of the modern retail industry takes advantage of people's spending patterns, especially the upper-middle class who do not want to jostle in traditional markets which are usually muddy or untidy. Although the presence of modern retail is highlighted as being able to kill traditional markets because it has advantages in many factors, its development itself can be said to be unstoppable.

The retail market in Central Java has 1977 people's markets, 51 buying centers and 211 supermarkets that have been registered, while those that have not yet sold more than 5000 sales, both conventional and new. Retail of choice is between 100,000 and 500 thousand people in Central Java (BPS, 2020). Retail is increasing roughly. Closures to prevent the spread of the corona virus in Indonesia Specifically for Central Java significantly affected the retail business - 7% of Indonesia's intake and 10% of Indonesia's GDP. most

shops were closed across the country, except for shops selling essential foods and medicines. almost all shops have closed shops, saris, electronics, cell phones, furniture, appliances, etc. The drop in revenue from non-wholesale/food stores is 50 to 100%. However, distributors who sell essential goods run a risk if they cannot market non-essential goods, which means they have a better profit. During the pandemic survived the economic recession, gains in Indonesia, especially Central Java. With most provincial and even state leaders implementing PSBB, many shops were completely closed except for grocery stores. 40% of the contribution of the retail sector in Central Java is affected by COVID-19. Retailers in Central Java need to develop strategies to reduce the disruption caused by the COVID-19 crisis.

PT HM Sampoerna Tbk. (Sampoerna) as a large company has a program to grow MSMEs through the Sampoerna Retail Community (SRC), Sampoerna has been developing and increasing competitiveness since 2008 and now SRC has fostered more than 120,000 grocery stores spread throughout Indonesia. Based on the survey, in 2020 the SRC will contribute to the economic turnover of IDR 69.3 trillion per year. In addition, SRC has also created job opportunities for the surrounding community. The research started from the SRC in Soloraya with 1500 members of traditional retail entrepreneurs, with the potential for the MSME economic movement in the Sampoerna Retail Community (SRC) program. The results of the data show that SRC is one of the drivers of the economy, so this research takes the theme of Retail Performance during the Covid 19 Pandemic in Soloraya.

RESEARCH METHODS

The population of this study is SRC (Sampoerna Retail Community). Sample data were taken from 62 business owners in the organized retail sector in Soloraya. Questionnaires were used for data collection. The five-point Likert scale, which ranges from strongly agree to disagree, measures two main proportions, including the impact of COVID-19 on the retail sector and owners in the retail sector. Each variable has a specific set of questions. This paper aims to determine whether there is a significant effect between the impact of COVID-19 and the SRC (Sampoerna Retail Community) retail industry. SPSS version 20 is used for data processing.

Multiple linear regression is used to find out how the dependent variable can be predicted through the independent variable (Imam Ghozali, 2011). The impact of regression analysis can be used to decide whether the up and down state of the dependent variable is done by increasing or decreasing the state of the independent

variable. In other words, increasing the state of the dependent variable, it can be done by increasing the independent variable and vice versa.

In this study, multiple linear regression analysis was used to examine the effect of the Covid 19 Pandemic Impact on Retail Performance at the Sampoerna Retail Community in Soloraya. The econometric models in this study are:

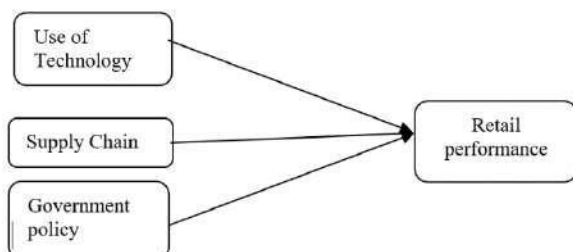
$$Y = 0 + 1 X_1 + 2 X_2 + 3 X_3 + e$$

Where :

- Y = retail performance
- 0 = constant
- 1,2,3 = regression coefficient of each variable
- X1 = use of technology
- X2 = government policy
- X3 = Supply Chain
- e = Confounding Factor

For the analysis to see the feasibility of the model with the F test, the independent contribution to the dependent is the coefficient of determination and the effect of each variable with the t-test.

Based on the theoretical basis, previous research and preliminary surveys, the framework of this research is structured in two main activities, namely searching for data with questionnaires, then from the results of the analysis will be carried out to find the most ideal evaluation format in retail development. The framework of thought is structured as follows:



RESULTS AND DISCUSSION

There were 62 absolute and open responses collected from various regions in Soloraya. The table shows that male respondents are higher than female respondents. The majority of retail business actors are in the >45 year age group. Respondents are high school graduates. the owner has a turnover of >50 million.

Table 1. Gender characteristics

No	Gender	Frequency	Percentage
1.	Male	34	54.8
2.	Female	28	45.2
Total		62	100%

Table 2. respondent's age

Age	Frequency	Percentage
20-35	12	19.4
35-45	22	35.5
>45	28	45.2
Total	62	100%

Table 3. data analysis

Variable	B	Std. Error	t	P value
(Constant)	3.802	2.044	1.860	0.504
The use of technology (X ₁)	0.630	0.143	4.406	0.000
Supply chain (X ₂)	0.049	0.119	0.415	0.679
Government policies (X ₃)	0.179	0.150	1.197	0.236
R	0,761			
R-Squared	0,579			
F-	26,541			
Probability F	0,000			

The results showed that the use of technology and the retail performance had a significant effect on retail performance and the use of technology had a positive effect on retail performance during the pandemic.

The results of the supply chain on the retail performance show that the supply chain does not affect retail performance. This statement can be proven by the results of the t-test where the probability value is significantly greater than 0.05.

Government policies on retail performance have resulted that government policies do not affect retail performance.

CONCLUSION

From the results of this study, it can be concluded that retail performance is not influenced by government policies and the supply chain.

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GRADING SCHEME-SELF ASSESSMENT FOR STUDENT TEACHERS' INSTRUCTIONAL SKILLS

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ABSTRACT

Assessment is academically needed to evaluate an activity of learning. Self-assessment provides students with an opportunity to self-evaluate, or make judgments about their learning process and products of learning based on criteria that they have agreed on with their instructor. This research-based paper is aimed at investigating how the student teachers self-assess their own instructional skills in their teaching practice. This paper is qualitative research employing a grading scheme questionnaire given to 42 student teachers joining Instructional Skills Course at English Education Department of Muria Kudus University. The grading scheme questionnaire consists of two parts. The first part is close questionnaire covering the student teachers' instructional skills of explaining, giving reinforcement, using variability, and using classroom language expression. The second part is open questionnaire asking the student teachers' comments on their instructional skills in their teaching practice. The result shows most of the student teachers self-assess that they can practice instructional skills well.

Key words: grading scheme, instructional skills, self-assessment, student teachers.

INTRODUCTION

Self-assessment provides students with an opportunity to self-evaluate, or make judgments about their learning process and products of learning, based on criteria that they have agreed on with their instructor. Self-assessment is a useful tool as it helps students judge their own abilities and performance, and become self-regulated learners, and it also helps them to have professional careers after they graduate by teaching them to regulate their own performance.

This article is aimed at investigating how the student teachers' self-assessment for their own instructional skills in teaching practice. Those instructional skills concern with the skills of explaining, giving reinforcement, using variability, and using classroom English expressions in teaching.

Self-assessment

Brown and Harris (2013) limited self-assessment as a "descriptive and evaluative act carried out by the student concerning his or her own academic works and abilities" (p. 368). Again, according to Panadero et al. (2016a) claimed it as a "wide variety of mechanisms and techniques through which students describe (i.e., assess) and possibly assign merit or worth to (i.e., evaluate) the qualities of their own learning processes and products" (p. 804). Referring to physicians, Epstein et al. (2008) defined "concurrent self-assessment" as "ongoing moment-to-moment self-monitoring" (p. 5). Self-monitoring "refers to the ability to notice our own actions, curiosity to examine the

effects of those actions, and willingness to use those observations to improve behavior and thinking in the future" (p. 5). Taken together, these definitions include self-assessment of one's *abilities, processes, and products*—everything but the kitchen sink. This very broad conception might seem unwieldy, but it works because each object of assessment—competence, process, and product—is subject to the influence of feedback from oneself.

What is missing from each of these definitions, however, is the purpose of the act of self-assessment. Their authors might rightly point out that the purpose is implied, but a formal definition requires us to make it plain: Why do we ask students to self-assess? I have long held that self-assessment is feedback (Andrade, 2010), and that the purpose of feedback is to inform adjustments to processes and products that deepen learning and enhance performance; hence the purpose of self-assessment is to generate feedback that promotes learning and improvements in performance. This learning-oriented purpose of self-assessment implies that it should be formative: if there is no opportunity for adjustment and correction, self-assessment is almost pointless.

Clarity about the purpose of self-assessment allows us to interpret what otherwise appear to be discordant findings from research, which has produced mixed results in terms of both the accuracy of students' self-assessments and their influence on learning and/or performance. I believe the source of the discord can be traced to the different ways in which self-assessment is carried out, such as whether it is summative and

formative. This issue will be taken up again in the review of current research that follows this overview. For now, consider a study of the accuracy and validity of summative self-assessment in teacher education conducted by Tejeiro et al. (2012), which showed that students' self-assigned marks tended to be higher than marks given by professors. All 122 students in the study assigned themselves a grade at the end of their course, but half of the students were told that their self-assigned grade would count toward 5% of their final grade. In both groups, students' self-assessments were higher than grades given by professors, especially for students with "poorer results" (p. 791) and those for whom self-assessment counted toward the final grade. In the group that was told their self-assessments would count toward their final grade, no relationship was found between the professor's and the students' assessments. Tejeiro et al. concluded that, although students' and professor's assessments tend to be highly similar when self-assessment did not count toward final grades, overestimations increased dramatically when students' self-assessments did count. Interviews of students who self-assigned highly discrepant grades revealed (as you might guess) that they were motivated by the desire to obtain the highest possible grades.

Panadero, et. al (2016a) summarized five very different taxonomies of self-assessment and called for the development of a comprehensive typology that considers, among other things, its purpose, the presence or absence of criteria, and the method.

Instructional skills

Instructional skills are the most specific category of teaching behaviors. These are used constantly as part of the total process of instruction. They are necessary for procedural purposes and for structuring appropriate learning experiences for students. No matter how experienced or how effective a teacher may be, the development and refinement of these skills and processes is a continual challenge (RPS of Instructional Skills, 2021).

A variety of instructional skills and processes exist. Some are broader than others and more complex in their nature. Some factors which may influence their selection and application include student characteristics, curriculum requirements, and instructional methods. Technically, instructional skills cover how a teacher practices his teaching activities in the classroom: explaining, giving reinforcement, using variability, and using classroom English expressions in teaching practice.

Grading scheme self-assessment

Student teachers are involved in assessing their own instructional skills in teaching practice. Grading scheme used in self-assessment is in the form of close and open questionnaires. The detail of the grading scheme self-assessment in close questionnaire is as in the following table:

Table 1 Grading Scheme Self-Assessment

No	Competence	Poor = 1	Fair = 2	Good = 3	Excellent = 4
1	How do you do your explaining skill?	I directly explain	I brainstorm and explain	I brainstorm, explain, and give exercise	I brainstorm, explain, give exercise, and give feed-back
2	How do you use the reinforcement skill?	I do not give any reinforcement	I give verbal reinforcement	I give verbal, and gestural reinforcements	I give verbal, gestural, and token reinforcements
3	How do you use the skill of variability?	I do not do any variability	I do variability in using reinforcement	I do variability in using reinforcement and media	I do variability in using reinforcement, media, and teaching position
4	How do you use Classroom English (CE) in your teaching practice?	I do not use any CE	I use CE in the beginning the lesson	I use CE in the beginning and running the lesson	I use CE in the beginning, running, and closing the lesson

While the detail of the grading scheme self-assessment in open questionnaire is stated in the following instructional questions:

1. State your other comments related to EXPLAINING; which are not covered in the questionnaire above.
2. State your other comments related to REINFORCEMENT; which are not covered in the questionnaire above.
3. State your other comments related to VARIABILITY; which are not covered in the questionnaire above.
4. State your other comments related to CLASSROOM ENGLISH; which are not covered in the questionnaire above.

RESEARCH METHODS

Research design

This research-based article uses descriptive qualitative research design. It is to qualitatively describe how the student teachers self-assess their own instructional skills in teaching practice.

Data and data source

The data of this research-based article are the result of close and questionnaires; while the data source is taken from the student teachers joining *Instructional Skills Course* in semester 5 of academic year 2021/2022.

Data collection

Close questionnaire in the form of grading scheme and in open questionnaire are used to collect e data. The detail of the questionnaire is as already mentioned in the previous part.

Data analysis

The data are analysed by using the following analyses:

1. counting the percentage of students who apply instructional skills in their teaching practice by using this formula:

$$\frac{NS}{TNS} \times 100$$

NS: Number of students applying the instructional skills based on the grading scheme

TNS: Total number of students

RESULTS AND DISCUSSION

The result shows that the student teachers did the self-assessment with the following details:

Grading scheme self-assessment for student teachers' instructional skills: explaining

Table 2 below describes how the student teachers self-assess that they have done explaining in teaching practice:

Table 2. Grading Scheme Self-Assessment for Student Teachers' Explaining

Instructional Skills	Grading Scheme			
	Poor = 1 I directly explain	Fair = 2 I brainstorm and explain	Good = 3 I brainstorm, explain, and give exercise	Excellent = 4 I brainstorm, explain, give exercise, and give feed-back
Number of Student Teachers	2 4,8%	1 2,4%	4 9,5%	35 83,3%

The majority (83,3%) of student teachers do explaining very well. They self-assess that they have already done brainstorming, giving exercise, and giving feedback when they are explaining in teaching practice.

Grading scheme self-assessment for student teachers' instructional skills: giving reinforcement

Table 3 below describes how the student teachers give reinforcement in teaching practice:

Table 3. Grading Scheme Self-Assessment for Student Teachers' Giving Reinforcement

Instructional Skills	Grading Scheme			
	Poor = 1 I do not give any reinforcement	Fair = 2 I give verbal reinforcement	Good = 3 I give verbal and gestural reinforcements	Excellent = 4 I give verbal, gestural, and token reinforcements
Number of Student Teachers	1 2,4%	2 4,8%	16 38,1%	23 54,8%

The student teachers are bit various in using the instructional skill of giving reinforcement (2,4% giving no reinforcement, 4,8% giving verbal reinforcement, and 38,1% giving verbal and gestural reinforcement); although the dominant ones (54,8%) give reinforcement very well in teaching practice.

Grading scheme self-assessment for student teachers' instructional skills: applying variability

Applying variability as one the instructional skills is described in the following Table 5:

Table 4. Grading Scheme Self-Assessment for Student Teachers' Applying Variability

Instructional Skills	Grading Scheme			
	Poor = 1 I do not do any variability	Fair = 2 I do variability in using reinforcement	Good = 3 I do variability in using reinforcement and media	Excellent = 4 I do variability in using reinforcement, media, and teaching position
Number of Student Teachers	1 2,4%	3 7,1%	6 14,3%	32 76,2%

Similar to the student teachers' giving reinforcement, they are bit various in applying

variability (2,4% applying no variability, 7,1% applying variability in using reinforcement, and 14,3% applying reinforcement and media); although the dominant ones (76,2%) apply variability in using reinforcement, media, and teaching position very well in teaching practice.

Grading scheme self-assessment for student teachers' instructional skills: applying classroom english expressions

Student Teachers apply classroom English expressions in teaching practice. As they assess their

Table 5. Grading Scheme Self-Assessment for Student Teachers' Applying Classroom English Expressions

Instructional Skills	Grading Scheme			
	Poor = 1 I do not use any CE	Fair = 2 I use CE in the beginning of the lesson	Good = 3 I use CE in the beginning and running of the lesson	Excellent = 4 I use CE in the beginning, running, and closing of the lesson
Number of Student Teachers	0 0%	2 4,8%	1 2,4%	39 92,9%

instructional skill of applying classroom English expressions themselves, the result is as in Table 5 below:

Almost all student teachers (92,9%) apply classroom English expressions in their teaching practice very well. They apply all the parts of classroom English: beginning the lesson, running the lesson, and closing the lesson. Even the student teachers who do not use any classroom English expression are not found.

Compared with the assessment done by the lecturer by using the similar grading scheme, it is found only 16,7% (7) student teachers whose self-assessment does not match with the lecturer's assessment; and other student teachers' self-assessment (83,3% = 35 student teachers) matches the lecturer's assessment. This can happen to 16% student teachers probably because they are less objective in self-assessing their own instructional skills in teaching practice.

CONCLUSION

Most of the student teachers can do self-assessment for their instructional skills in teaching practice well. There are only few student teachers can not do it well.

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THE EFFECT OF LOCUS OF CONTROL AND MOTIVATION ON ENTREPRENEURSHIP INTENTION ON MANAGEMENT STUDENTS OF NINETEEN NOVEMBER KOLAKA UNIVERSITY

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ABSTRACT

This study aims to determine: (1) the effect of locus of control on the entrepreneurial intention of management students at Nineteen November Kolaka University; (2) the effect of motivation on the entrepreneurial intention of management students at Nineteen November Kolaka University. This research is an explanatory research model with a quantitative approach. Collecting data in this study using documentation and questionnaires. The population of this study were all Management Students of the Nineteen November Kolaka University while the sample of this study was Management Students of the 2017-2020 class. Testing the research instrument using the validity test and reliability test with SPSS 23.0. The data analysis technique used in this study is the measurement model test (outer model) and the structural model test (inner model) with SmartPLS 2.0 with the aim of knowing how much direct influence the independent variable (locus of control and motivation) has on the dependent variable (intentions entrepreneurship). Based on the results of the study, it is known that there is a significant influence between the locus of control variable on the entrepreneurial intention which is indicated by the t-statistic value of 4.087 and the p-value of 0.642, the motivational variable affects the entrepreneurial intention of students at the management students of the University of Nineteen November Kolaka which is shown with a t-statistic value of 2.031 and a p-value of 0.321.

Key words: locus of control, entrepreneurial intention, motivation

INTRODUCTION

Higher education is a post-secondary scientific organization or institution that aims to enable students after graduating from college to be able to open jobs, have reciprocal relationships with their environment and be able to develop skills in the business world and the world of work (Susilaningsih, 2015). But the rampant competition in the world of organizations and the business world, qualified skills alone are not enough if they are not based on entrepreneurial intentions or intentions. This encourages all groups, including students, especially management students at the Nineteen November Kolaka University, to cultivate a strong intention in themselves to become an entrepreneur.

Entrepreneurial Intentions or entrepreneurial intentions are believed to be able to provide a number of benefits to anyone who wants to do business. The intended benefits are such as providing welfare to individuals and groups, namely by opening their own business. However, in the process, entrepreneurial intentions do not just happen but are influenced by several variables, two of which are locus of control and motivation (Rustiyaningsih, 2013).

As one of the determining factors in entrepreneurship activities, locus of control becomes one of the determinants of an individual's decision in determining his perception in various activities. According to Wijayanti & Suryani (2016) in their research found that of several variables related to entrepreneurial intentions, locus of control is one of the basic things for an individual or group to foster high confidence and ability then work hard to become a successful entrepreneur in their environment. . Based on research conducted by (Ermawati et al., 2017) found that the locus of control variable has a positive effect on the formation of individual beliefs in entrepreneurship. This is in line with research conducted by (Blegur & Handoyo, 2020) which resulted in the finding that one of the characteristics forming entrepreneurial activity is locus of control, where each individual is influenced by control and expectations in themselves. From some of the results of this study directly locus of control is positioned as a determining variable and in the formation of interactions and relationships with entrepreneurial intentions. Entrepreneurial Intention Relationship Patterns cannot just happen but are supported by individual perceptions or beliefs in this case the locus of control.

In addition to locus of control, entrepreneurial intentions are also influenced by other variables, namely motivation. Motivation in the context of entrepreneurial intentions is often said to be something of encouragement or strength, both internal and external to the individual himself. Motivation according to Suryana (Santosa, 2014) is defined as one of the elements that explain a person's behavior related to encouragement or strength to do something. Entrepreneurial intentions are often seen as a pattern that is not formed just like that but must be supported by motivation (Owoseni, 2014). Besides being said to be a supporting variable, motivation is also an important component in entrepreneurial intentions because it directly has a significant influence on individuals to start a business. In line with this, research conducted by (Farouk et al., 2014; Wirananda et al., 2016) explains that motivation has a significant positive effect on entrepreneurial intentions in individuals and groups. From the two

research results, it can be concluded that the motivational variable can be a bridge or link to the occurrence of entrepreneurial intentions.

Substantively, research related to the influence of locus of control and motivation on entrepreneurial intentions described previously

focused more on how entrepreneurial intentions could be realized, as well as in the discussion of research results (Ermawati et al., 2017) above about locus of control variables and research results. (Farouk et al., 2014) regarding motivational variables stated that these two variables had a significant positive effect on entrepreneurial intentions. The author argues that the process of entrepreneurship intentions among students has not been fully understood so that they will find different results from before. This is in line with research (Bustan, 2014) which found that locus of control and (Nugrahaningsih & Muslim, 2016) found that motivation and locus of control together did not have a significant effect on entrepreneurial intentions. In addition to finding different theories, the authors received recommendations from research results (Nugrahaningsih & Muslim, 2016) which are to add variables that can encourage entrepreneurial intentions among students.

Based on the differences in theory and the recommendations above, the authors believe that the entrepreneurial intention among students in a college or university is something that needs to be known. In this case, the entrepreneurial intention among students is said to be important because the higher the locus of control and motivation of a person, the tendency in entrepreneurial intentions will be high and vice versa if the locus of control and motivation of a person is low, the tendency in entrepreneurial intentions is also low.

In line with the novelty of the research as described above, it is then supported by the phenomenon that occurred to the Management Student at Nineteen November Kolaka University. Based on the initial data obtained by the author through observations and initial surveys with Google Forms on 34 management students, if there are two main assumptions in the formation of entrepreneurial intentions, namely there are students who want to be entrepreneurs because they have their own will because they want to feel the freedom to work in this case open up employment and there are students who are not entrepreneurship because they prefer to find work after graduation rather than opening their own business. This is shown in the following survey data table:

Table 1. Preliminary Survey Results Data

Number of Student	Force	Description
4 People	2017	25
10 People	2018	People are Not
10 People	2019	are Interest
		ed in
10 People	2020	Entrepre neur

Source: USN Kolaka Management Student

Seeing this phenomenon, it is interesting to know and understand how the process of forming locus of control, motivation, on entrepreneurial intentions among students. In addition to the phenomena that occur, this study is based on the results of different studies by (Ermawati et al., 2017) and (Bustan, 2014) about the influence of locus of control on entrepreneurial intentions as well as research conducted by Wirananda et.al (2016) and Nugrahaningsih & Muslim (2016) about the effect of motivation on entrepreneurial intentions.

On this basis, a study on the influence of locus of control and motivation on entrepreneurial intentions is important to be studied more deeply through research on the influence of locus of control and motivation on entrepreneurial intentions in management students at Nineteen November Kolaka University.

RESEARCH METHODS

This study uses a quantitative model. The quantitative research model is a research model that is based on the philosophy of positivism, namely science that is built from empirical, measurable and observable methods using

mathematical logic to produce generalizations
(Raihan, 2017:35). While the type of research used

is explanatory research. This type of explanatory research is a type of research that explains and emphasizes the relationship or influence between independent and dependent variables based on research data from selected samples in a population. The population in this study were students majoring in Management at the Nineteen November Kolaka University class of 2017-2020, amounting to 413 people. The table of the research population is as follows:

Table 2. Research Population

Force	Number of Student
2017	54
2018	133
2019	144
2020	82
Amount	413 People

Source: www.usn-managementdept.ac.id

Based on the population above, it will determine the number of samples used as respondents in the study. The procedure for sampling in this study was determined using the Slovin formula, namely:

$$n = \frac{N}{1+N(e)^2} \quad (1)$$

Description:

- n = Number of Samples
- N = Population
- e = Error Precision (Inaccuracy)

By using a precision level (presentation of inaccuracy allowance) of 5%, the sample size in this study is as follows:

$$n = \frac{413}{1 + 413 (0.05)^2} = 203.1$$

Based on the results of calculations using the Slovin formula, it is known that the number of samples in this study was 203.1 and rounded up so that the number of samples was 203 respondents. Data collection techniques in this study using documentation and questionnaire techniques. The data collected in the form of a questionnaire was measured using a Likert Scale and then analyzed using validity and reliability tests. The results of the validity and reliability tests are as follows:

Table 3. Validity Test Results

Const	Indicator	r	r	Desc
		arithmetic	table	
I _{OC} (X ₁)	RT	0.410	0.306	valid
	Knl	0.695	0.306	valid
	...	0.875	0.306	valid
	SDM	0.890	0.306	valid

(X ₂)	TK	0.961	0.306	valid
	Kbs	0.984	0.306	valid
	Kmn	0.984	0.306	valid
	ES	0.967	0.306	valid
	ILOC	0.967	0.306	valid
IB (Y)	RT	0.967	0.306	valid
	MTV	0.811	0.306	valid
	SE	0.873	0.306	valid
	Kep	0.487	0.306	valid
	LK	0.487	0.306	valid

Source: Data Processed with SPSS, 2021

Based on the results of the validity test in table 3, the results of the validity test show the value of r arithmetic > r table, it can be said that all data are declared valid and can carry out the measuring function well.

Table 4. Reliability Test Results

Research Variable	Cronbach's Alpha	Description
LOC	0.797	Reliable
MTV	0.965	Reliable
IB	0.921	Reliable

Source: Data Processed with SPSS, 2021

Based on the results of the reliability test in table 4, the results of the reliability test show that all construct values are declared reliable because the value of Cronbach's alpha > the critical value (0.06).

RESULT AND DISCUSSION

Measurement model test

In measurement testing, there are two test scale models, namely validity and reliability tests and analysis of variance (test of determination and path coefficients which have the following

MTV	Eks	0.890	0.306	valid
	KAP	0.984	0.306	valid

equations:

Picture 1. PLS Algorithm Output

Convergent validity

Convergent validity is a measurement model using a validity indicator based on the value of the outer loading indicator that measures a construct. The outer loading value is declared valid if it is > 0.7. According to Ghozali & Latan (2015:74) the loading factor value of 0.5-0.6 is still acceptable if the research is still in the early stages in this case for the development of a measurement scale. The value of the outer loading factor can be seen in the following table:

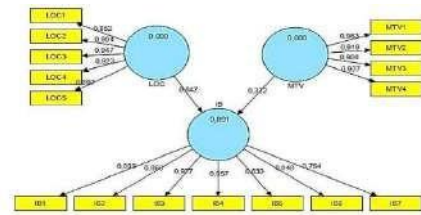


Table 5. Outer Loading Value

	IB	LOC	MTV
IB1	0.889		
IB2	0.865		
IB3	0.926		
IB4	0.856		
IB5	0.832		
IB6	0.847		
IB7	0.753		
LOC1		0.851	
LOC2		0.904	
LOC3		0.946	
LOC4		0.923	
LOC5		0.897	
MTV1			0.963
MTV2			0.919
MTV3			0.907
MTV4			0.926

Source: Data Processed with SmartPLS, 2021

Based on table 5, the outer loading value above the outer loading value shows that there are indicators that have convergent validity that is more than 0.7 and are declared to have high validity.

Discriminant validity

Discriminant validity testing is carried out with the aim of proving whether the construct of a variable has a high discriminant validity value against other construct variables it forms. The value

of cross loading can be seen in the following table:

Table 6. Cross Loading Value

	IB	LOC	MTV
IB1	0.889	0.837	0.865
IB2	0.865	0.827	0.862
IB3	0.926	0.915	0.917
IB4	0.856	0.787	0.737
IB5	0.832	0.707	0.666
IB6	0.847	0.796	0.666
IB7	0.753	0.681	0.587
LOC1	0.800	0.851	0.686
LOC2	0.843	0.904	0.705
LOC3	0.886	0.946	0.885
LOC4	0.833	0.923	0.885
LOC5	0.858	0.897	0.923
MTV1	0.868	0.903	0.963

MTV2	0.804	0.835	0.919
MTV3	0.831	0.824	0.907
MTV4	0.851	0.801	0.926

Source: Data Processed with SmartPLS, 2021

Based on table 6 the cross loading value above the cross loading value indicates a good discriminant validity because the correlational value of the variable indicator is higher than other variables. In addition to the cross loading value, the AVE (Average Variance Extracted) value is also used to prove a good discriminant validity value. In the measurement scale using a reflection indicator, the loading factor value is 0.7, the AVE value is 0.5 while the communality value is >0.5. the equation is shown as follows:

Table 7. AVE Value and Communality

	AVE	Communality
IB	0.730	0.730
LOC	0.819	0.819
MTV	0.864	0.864

Source: Data Processed with SmartPLS, 2021

From table 7 above, it can be concluded that the AVE value has been declared good because it has fulfilled the predetermined provisions. Next, compare the value of the AVE quadrant root with the correlation between latent variables. The equations are as follows:

Table 8. AVE Quadrant Root Results and Latent Variable Correlation

Construct	IB	LOC	MTV
IB	1.000		
LOC	0.933	1.000	
MTV	0.903	0.905	1.000

Source: Data Processed with SmartPLS, 2021

From table 8 above, it can be concluded that the value of the AVE quadrant root has been declared good because the value of the latent variable is > compared to the correlation value.

Composite reliability and cronbach's alpha

This test was carried out with the aim of seeing the reliability of the construct by comparing the value of composite reliability and Cronbach's alpha was carried out to test the level of reliability between construct variables or latent variables. The output values for the composite reliability and cronbach's alpha test are as follows:

Table 9. Composite Reliability and Cronbach's Alpha

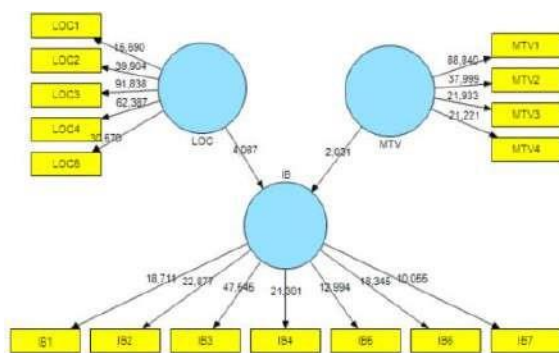
Contract	Composite Reliability	Cronbach's Alpha
LOC	0.957	0.944
MTV	0.962	0.947
IB	0.949	0.938

Source: Data Processed with SmartPLS, 2021

From the output values in table 9, it can be said that the construct has a good reliability value. Where a construct is said to be good if it has a composite reliability value above 0.7 and Cronbach's alpha above 0.6.

Structural model testing

Structural model testing in Partial Least Square is usually evaluated using R-Square for the value of the dependent variable and the T-Statistic value for each test with path analysis. The structural model testing equation model is as follows:



Picture 2. PLS Boothstrapping Output

Analysis of variance (r2) / determination test

Analysis of variance is an analysis conducted to determine the magnitude of the influence of the independent variable on the dependent. The value of variance (R2) or the test of determination is as follows:

Table 10. R-Square Value

	R Square
Entrepreneurial Intention (Y)	0.890

Source: Data Processed with SmartPLS, 2021

Based on the R-Square value in table 10 above, it is known that the independent variable has an effect of 89% on the dependent variable and the remaining 11% is influenced by other constructs outside of this study.

Path coefficient (Mean, STEDEV, T-Values)

The Path Coefficient is carried out with the aim of strengthening the relationship between constructs in each hypothesis. The path coefficient is tested using PLS Bootstrapping by looking at the T-Statistic value of the independent variable on the dependent variable. According to Weiber & Muhlhaus (2014:327) the rule of thumb used in a study is T-Statistic > 1.96 with a P-Value significance level or probability value < 5% (0.05) and a positive value. The output path coefficient is as follows:

Table 11. Path Coefficient Value

	Original Sample Estimate (O)	Mean Of Sample (M)	Standard Deviation (STDEV)	Standard Error (STERR)
LOC -> IB	0.642	0.682	0.157	0.157
MTV -> IB	0.321	0.285	0.158	0.158

	Statistics (O/STERR)
LOC -> IB	4.087
MTV -> IB	2.031

Source: Data Processed with SmartPLS, 2021

Based on the results of statistical calculations, it is concluded that the locus of control variable has a positive and significant effect on the entrepreneurial intention of Management Students at Nineteen November Kolaka University. This can be seen from the T-Statistics value > 1.96, which is 4,087 and the original sample estimate value is positive at 0.642. Thus the first hypothesis (H₁) is accepted. This explains that the locus of control among management students is very influential in growing entrepreneurial intentions. The results of this study are in line and consistently support the results of research conducted by (Wijayanti & Suryani, 2016 ; Ermawati et al., 2017) and do not support the results of research conducted by (Bustan, 2014) which states that locus of control has no effect on entrepreneurial intentions.

It was concluded that the motivation variable had a positive and significant effect on the entrepreneurial intention of Management Students at Nineteen November Kolaka University. This can be seen from the T-Statistics value > 1.96 which is 2.031 and the original sample estimate value is positive at 0.321. Thus the second hypothesis (H₂) is accepted. This explains that the motivational variable among management students is very influential and has a large enough impact in encouraging someone to grow entrepreneurial intentions. The results of this study are in line and

consistently support the results of research

conducted by (Farouk et al., 2014 ; Wirananda et al., 2016) which states that motivation affects entrepreneurial intentions. On the other hand, the results of this study do not support the results of research conducted by (Nugrahaningsih & Muslim, 2016) which states that motivation has no effect on entrepreneurial intentions.

CONCLUSION

Based on the results of research conducted on Management Students at the Nineteen November Kolaka University it is possible to confirm two things, first, locus of control has a positive effect on entrepreneurial intentions. Second, motivation has a positive effect on entrepreneurial intentions. Where these two things are in line with the facts on the ground which explain that many management students encourage and motivate themselves into entrepreneurial intentions.

From the results of this study, the researchers also suggested several things, first of which students should have a high desire and motivation to enter the world of entrepreneurship so that they are not stuck looking for jobs provided by the government. Second, universities should provide advice, motivation, training, entrepreneurship expos to students so that their entrepreneurial intentions can be well formed. Third, further researchers are expected to expand the range of research objects and add several variables that can influence entrepreneurial intentions such as attitudes, need for achievement, self-efficacy and entrepreneurial mindset.

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THE ROLE OF MOTIVATION IN MEDIATION OF COMPETENCE ON EMPLOYEE PERFORMANCE

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ABSTRACT

This research is motivated by the decline in employee performance within a certain time which results in the realization of the work not fully achieving the specified target. The decline in employee performance is thought to be due to the decreased level of motivation of employees. The purpose of this study is to empirically prove that the role of motivation in mediating competence on employee performance is both descriptive and verification. The research method used is a survey method with quantitative data processing and analysis through a statistical approach to path analysis, the calculation is using SPSS 20 program tools. While the parameters used are employee motivation and performance based on respondents' perceptions with random sampling techniques. From the results of the study, it was found that 1) competence had a positive and significant effect on performance 2) competence had no effect on employee performance 3) Motivation had a positive and significant effect on employee performance. 4) Motivation can mediate the relationship between competence and employee performance.

Key words: competence, employee performance, work motivation

INTRODUCTION

In today's global era, humans must be ready to face challenges and changes in the highly competitive world of work. The biggest challenge is being able to compete in the quality of education and human resources both nationally and internationally, so that human resources are the key and capital in facing competition. If human resources are managed properly, it can increase effectiveness and efficiency in business development (Husain, 2017). In terms of human resource management, a manager is required to be able to understand the important things related to human resource management.

According to Fachrurza and Suryadana (2019), human resource management is an activity in managing and regulating the provision of manpower, career development, compensation as a process for business goals. According to Cherrington (1995) one of the functions of HRM is staffing/work where this function consists of three parts, namely: planning, drawing and selecting human resources. The purpose of this staffing is to select employees who really have good capabilities in terms of performance so that they are expected to be able to make a major contribution to business survival.

According to Suhadi et., al. (2019) states that achieving the goals of an institution or company is only possible because of the efforts of the actors in the business or company. In this case, there is actually a

close relationship between individual performance (Individual performance) and business performance (organizational performance), in other words, if the employee's performance is good, it is likely that business performance is also good. According to Matthew (2011) defines performance as performance is the result of activities that have been carried out by employees or a business unit means the work of an employee, a management process or a business as a whole, where the work results must be shown in a concrete and measurable way (compared to standard which have been specified). Excellent performance is the company's goal to be achieved. To achieve superior performance requires a motivation that arises from within and from outside a person. Inner motivation comes from the need for money, power, appreciation, recognition. While external motivation comes from family, superiors at work, and co-workers. Generally, when motivation decreases, employees tend to be lazy to come every day or be in the office full time.

Munurut Sanghi (2016) argues that competence refers to the characteristics that underlie behavior that describe the motives, personal characteristics, self-concept, values, knowledge, or skills brought by someone who performs excellently in the workplace. Competency attributes are distinguished based on the extent to which these competencies can be taught. Skills and knowledge are usually classified as competition on the surface so they can be seen quickly. Self-concept

competencies, personal characteristics, and ulterior motives and, therefore, are more challenging to develop or assess. Changing the causes and symptoms is still possible, but the process is long, complicated, and expensive. The most economical way for businesses to have this competency is through a character selection process.

The empirical research on the impact of competence on performance can be seen through research conducted by Martini et al., (2018), Suhadi et., al. (2019); Sudarso et., al (2020) which in their research shows that competence has a significant positive effect on employee performance, this means that it can be said that if the competence of the position increases, it will increase the ability to perform better. However, it is different from the research conducted by Noel et al., (2017) which found that competence has no effect on employee performance, this means that it means that the lack of influence of competence on employee performance means that even though employees have good performance. competence, has no significant effect or has a small effect on improving employee performance.

According to Amrullah and Agus (2018); Dwiyantri et., al. (2019) where according to experts, competence affects work motivation and is an important factor in business development. Heryanto et al., (2017) explained that competence is a determinant of employee performance. However, competence without high motivation cannot achieve optimal performance. Therefore, good performance can be achieved if someone has high motivational competence. Motivation is important because motivation causes and encourages human behavior to work hard and be eager to achieve optimal results. This theory is supported by research conducted by Kurniawan et al., (2018) Suhadi et., al. 2019 which proves that competence has an effect on employee work motivation. This can be interpreted that the high level of competence possessed will have an impact on the high level of work motivation. The research conducted by Rahardjo (2014) has different findings which state that based on the results of the study indicate that competence has no effect on motivation, meaning that a high level of competence cannot effectively increase motivation.

In addition, motivation is a factor that can affect the level of performance, Mangkunegara (2015) states that the factors that affect performance are ability and motivational factors. While Mathis (2007) states that the performance sought by a company from a person depends on the ability, motivation, and support received by the individual. According to Patall et., al. (2013) there is a positive relationship between motivation and performance with achievement, meaning that employees who have high achievement motivation tend to have high performance, on the contrary those who have low performance are possible because of low motivation. According to Sari and Ismail (2016) motivation is defined as the drive to work in achieving

company goals. Empirical research on the effect of motivation on performance is evidenced by research conducted by Kuswati (2020) whose findings show that work motivation has a positive effect on performance, in this case that increased motivation will have an impact on employee performance and Engidaw (2021) which states that motivation can directly affect performance. affect performance. The research gap in this study was found by research conducted by Rijanti et al., (2017) which stated that the results of his research showed that motivation was not proven to affect performance. This shows that the level of competence has no effect on the results and quality of performance.

Because there are still gaps in previous research regarding the role of motivation in mediating competence on employee performance, this study aims to provide empirical evidence about motivation in mediating competence on employee performance. The novelty of this research is the use of work motivation as a measuring tool to intervene competence on employee performance at MSME actors in Sukoharjo.

RESEARCH METHODS

This research is quantitative. The population used is SMEs in Sukoharjo with a sample of 48 respondents surveyed by business owners. with convenient sampling and random sampling methods. For Competence, indicators of knowledge (knowledge), skills, abilities are used. Motivation indicators are a set of forces that cause other people to motivate people to behave in accordance with business interests (Moorhead and Griffin, 2010). The indicators in this variable are psychological and the external environment (Machmud and Sidharta, 2016). SME employee performance: work results that can be achieved by a person or group of people in a business and are a determining tool in a process to achieve business goals. Business performance must be measurable based on a certain size and in the unit of time (Ardian, Brahmayanti, Subaedi, 2010). Robbins (2006) suggests indicators to measure employee performance individually there are indicators, namely profit, financial condition, product results that are able to compete, number of customers owned, number of sales, employee satisfaction with compensation and employee motivation (Lee and Tsang, 2010). The analysis used is path analysis. The regression equation model to test the hypothesis is with the following formulation:

$$Y = a + b_1X_1 + e \text{ (Djarwanto dan Pangestu, 2011)}$$

$$Z = a + b_1X_1 + b_2Y + e \text{ (Djarwanto dan Pangestu, 2011)}$$

Path analysis with the Sobel test method is carried out by testing the strength of the indirect effect of the independent variable (X) on the dependent variable (Z) through the intervening variable (Y). The indirect effect of X to Z through Y is calculated by switching the X→Y (b1) path with the Y→Z (b2) or b1b2 path. So the coefficient $b_1b_2 = (cc')$, where c is the effect

of X on Y2 without controlling for Y1, while c' is the coefficient of the effect of X on Z after controlling for Y. The standard error coefficients e1 and e2 are written as Se1 and Se2, the size of the standard error is not direct. (indirect effect) Sat is calculated by the following formula:

$$sb1b2 = \sqrt{b1^2Se2^2 + b2^2Se1^2 + Se1^2Se2^2}$$

To test the significance of the indirect effect, it is necessary to calculate the t value of the coefficient b1b2

with the following formula:

$$t = \frac{b1b2}{Sb1b2}$$

This t-count value is compared with the t-table

value and if the t-count value is greater than the t-table value, it can be concluded that there is a mediation effect.

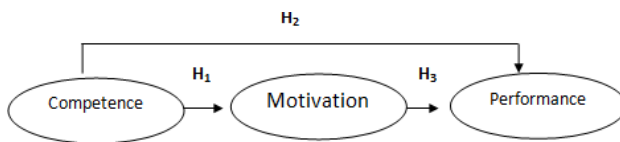
The hypothesis obtained:

H1: Competence has an influence on motivation

H2: Competence has an influence on employee performance

H3 : Motivation has an influence on Employee Performance

H4 : Motivation can mediate competence on employee performance



The data obtained show that male respondents are 32 MSME respondents, female 16, the majority age is 41-50 years, the average education is Bachelor's Degree, the tenure of workers more than 5 years, the type of business taken is the majority of trade and services. For complete data, see table 1.

Jenis Kelamin	Jumlah Responden	Pendidikan	Jumlah Responden	Masa kerja	Jumlah UMKM
Laki-Laki	32	S2	2	1-3th	6
Perempuan	16	S1	9	3-5th	6
		D3	1	>5th	36
		SLTA	11		
		Umur			
		19-30th	6		
		31-40th	17		
		41-50th	18		
		>50th	7		

Source: Primary Data Processed, 2022

RESULTS AND DISCUSSION

The results of this study were in the early stages, before the data taken using a questionnaire that was made had to be tested with validity and reliability tests

after being declared valid, the next stage was regression testing which was used to determine the role of motivation in mediating competence on employee performance. Based on the sample obtained, the results of this test can be seen in the table below:

Table 2. The results of the Model 1 and 2 regression tests are as follows:

Variabel	Model 1	Model 2
	Motivasi	Kinerja
	Kerja	Karyawan
Kompetensi	0,000*	0.069*
Motivasi Kerja		0.028
R-Squared	0,531	0,413
Adj. R-Squared	0,521	0,387
F-Hitung	52.079*	15.820*

Source: Primary Data Processed, 2022

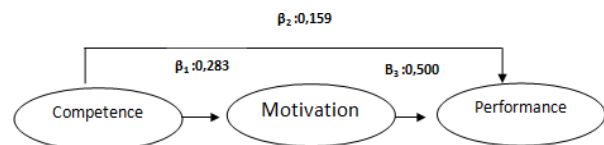


Table 3. Sobel Test Results

	Inderect Effect	Standar d error of Inderect effect	tstatistik	result
Path 1	Kompetensi -Motivasi Kerja = 0,283	Sab =0,0655	2,1603	signifikan
	Motivasi kerja- Kinerja karyawan = 0,500			

Source: Primary Data Processed, 2022

Discussion

The influence of competence on work motivation

The results of testing hypothesis 1 show that competence can have an effect on increasing motivation (Table 2). This means that the better the competence of employees, the motivation will increase. Vroom in Sigit (2003), states that the effort to do something (motivation) is influenced by the size of the expectation. If the business is affected by high effort then employees will perform activities to get high first stage yields. So hope connects the first stage of motivation. This first

stage is used to get the results of the second stage. The increase in competence is expected to be able to improve his career which in the end will have an impact

on the acquisition of rewards, both financial and non-financial. Based on the respondent's data taken, there is an increase in knowledge of competence, where owners who have an undergraduate education on average have more employees than those with lower education. This phenomenon is also supported by the respondent's data obtained from the information. This can be felt if they increase their competence, their motivation to develop their business will also be better. The results of this study support the results of previous research conducted by Amrullah and Agus (2018); Dwiyanti et., al. (2019) where according to experts, competence affects work motivation.

The effect of competence on employee performance

The results of testing hypothesis 2 show that competence has no effect on employee performance (Table 2). Competence with the dimensions of self-concept, knowledge and skills does not significantly affect the performance of employees expected by the company. Competencies should be needed to help businesses to create a high performance culture. The number of competencies used by human resources will improve performance (Vom Brocke et al., 2014). The results are consistent with research conducted by Sari and Ismail (2016) Rahardjo (2014) showing that competence has no effect on employee performance, but is different from research conducted by Martini et al., (2018), Suhadi et., al. (2019); Sudarso et., al (2020) which in their research shows that competence has a significant positive effect on employee performance

The effect of motivation on employee performance

The results of testing hypothesis 3 indicate that motivation has an influence on employee performance (Table 3). Where the higher the employee's work motivation, the higher the performance. The results of this study prove that work motivation has a significant effect on employee performance, which means that work motivation is really needed by employees to achieve high performance. This is in line with expectancy theory which states that employees will be motivated to make optimal efforts if they feel that there is a strong relationship between effort and performance, performance and rewards, and rewards and fulfillment of personal goals. Motivation is the effort and desire that affects the activities of these employees in utilizing the abilities they have to complete their work. Consistent results conducted by Kuswati (2020) found that work motivation has a positive effect on performance, in this case that increased motivation will have an impact on employee performance and Engidaw (2021) which states that motivation can directly affect performance.

The role of motivation as a mediation of the relationship between competence and performance

The Sobel test conducted, the resulting mediation effect is significant, which means there is a mediating effect. This is the theory put forward by Gibson (1990) which

states that a person's performance is determined by his ability and motivation to carry out his work and also according to Munandar (2001) Performance is the result of the interaction between work motivation, abilities, and opportunities. From this statement it can be concluded that motivation in its role together with competence (ability) can be used as a determinant of performance. The results of this study are in line with Suhadi et., al. (2019) shows that motivation can mediate competence on employee performance

CONCLUSION

Based on the results of research on the role of motivation in mediating competence on the performance of MSME employees in Sukoharjo. From the results of the regression testing conducted, the following conclusions can be drawn: 1) competence has a positive and significant effect on performance 2) competence has no effect on employee performance 3) Motivation has a positive and significant effect on employee performance. 4) Motivation can mediate the relationship between competence and employee performance as indicated by the t count which is greater than the t table Sobel test. Sukoharjo Sukoharjo employees motivation can be increased through a strategy of transfer of knowledge and technology program, regular assistance and training, not apart from the support from the local government, so that business sustainability will be achieved.

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YOUTUBE-BASED COLLABORATIVE LEARNING AND SPEAKING SELF-EFFICACY: A CASE STUDY IN A RURAL AREA

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ABSTRACT

Self-efficacy is one asset in human thought; it is also related to someone's belief in solving a problem. The study aims to see correlation of collaborative learning-based YouTube creation on speaking self-efficacy. In light of measuring students' self-efficacy, the study recovered through open-ended questionnaires and distributed to 30 students using Google form. The result showed a positive 37 percent relation between YouTube-based and speaking self-efficacy through six dimensions: motivation, knowledge, behavior, expectation, reinforcement, and effectiveness. Furthermore, the result described the more students collaborate with pair groups the more their self-efficacy increases. The study was potentially used to build personal and interpersonal skills. It recommends at least three pieces of advice: First, future research can be employed at students at any level and other skills like reading, writing, and listening. Second, the subsequent investigation would involve class action research; for this reason, the researcher can do observation directly and see students' changing behavior in line with self-efficacy. Third, a similar interested investigation can do with more participants.

Key words: self-efficacy, speaking, rural-area, youtube

INTRODUCTION

Technology has infiltrated every part of our lives, and it is not possible to separate one from another. And the most potential of these is the education system. The majority of today's schools are forward-thinking. Accordingly, the learning process and model have been changing rapidly from time to time. This change forced teachers to leave face-to-face in the conventional classes. On the other hand, there is no longer time for paper and pencil-based learning and from training—Model to performance skills. One highly complex digital technology is YouTube. Also, the most significant change has been honest enough in the educational system during the COVID-19 pandemic outbreaks over the world. None of the countries in the world, excluding Indonesia are immune to its impact. Maqsood et al., 2021 state that the biggest challenge in facing the pandemic was the change in paradigm in educational systems, which became both online and blended learning systems. Indeed, a more complex situation has arisen between teachers and principals in the remote areas, as González-Sanguino et al., 2020 has been explored. They clarify that the pandemic spread was a turning point in conceptualizing the educational system.

In Indonesia's rural areas, the study pointed out that using YouTube as a learning medium, both primarily

and alternatively chosen, was far from reality. Concerning the pre-observation and brief interview with the English lecturers and students at Musamus, Merauke. A few students encountered difficulties learning English in Merauke, Papua, Indonesia. As a result, (1) students received low scores on daily, middle, and final tests, (2) students were disinterested in learning English because it was difficult, (3) limited media for effectively improving vocabulary, (4) fear of speaking in the classroom, (5) limited student handbook, (6) students frequently did not do their homework, (6) the teacher's teaching method was monotone and conventional, (7) teacher-centered learning, and (8) Using technology in the learning-teaching process has been changed learning process and model itself.

In line with the advancement of technology development, YouTube is one of the top media influences on speaking English students' performance. In this case, YouTube provides audio, pictures, and written text (Dubovi & Tabak, 2020). Those three essential components are valuable and meaningful for students with a learning strategy involving visuals. Besides, YouTube also acknowledges that it can enlarge student experiences without knowing to program. Thus, teachers can use it as an alternative media to provide students with a learning process that is more fun and meaningful.

and giving students ample opportunities to improve their memorization (Saed et al., 2021)

Furthermore, (Asakereh & Dehghannezhad, 2015);(Bárkányi, 2021), (Liu, 2013) Saeidi & Ebrahimi, 2012, Zhang & Ardasheva, 2019, stated that self-efficacy was acknowledged to help teachers highlight and evaluate students' language performance improvement. Although research has shown that video can help English as a foreign language (EFL) learners speak more effectively, more is needed to determine how self-efficacy can help students' supporting skills, particularly mainly mediated created YouTube creation.

According to Bandura's (1977; 1997) social cognitive theory, an efficacy expectation is belief that someone should be able to perform any activity required to get the intended results. Nonetheless, given the right skills and incentives, self-efficacy is an essential component of what people should and should not do, and how much time it takes to complete a task. On the other hand, cognition is understanding or helpful in our adaptive behavior (Göker, 2006, p. 242).

The learners' sense of self-efficacy substantially impacts style (Tong et al., 2021). Like their learning methods and tactics, learners' emotions impact their learning achievement (Ganikhuaeva, 2021). According to Bandura's theory, one of the most critical cognition is self-efficacy. It has an impact on attitude, emotion, and social interaction. As a result, high levels of perceived self-efficacy are connected with higher performance levels. Across a broad spectrum of dysfunctions, the efficacy-action link has been discovered in intergroup and intra-subject studies. Mastery was compared to whether it increased perceived self-efficacy through personal experiences or influence. In a vicarious sense, self-efficacy. Induction is particularly well-suited to determining a variable's causal contribution. The connection between perceived self-efficacy and performance Individuals only observe models in action. They draw conclusions capacities from the modeled without taking any actions, and then act on that knowledge based on their self-assessed efficacy (Schwarzer, 2014)

However, the educational environment in Indonesia is constrained by factors such as exam-oriented syllabi, huge class sizes, limited class time, a lack of appropriate teaching methods, and unqualified teachers. Also, according to local TOEFL data, EFL students in Indonesia have weaker English speaking skills than students in other Asian countries. Furthermore, according to the online survey report (2020), the average score on the IELTS speaking test for Indonesian was under four bands. It illustrates that the speaking ability of Indonesian students is low-standard.

Since creation-base YouTube is a sine qua non of collaboration group works, social cognitive, environmental devices (sound, pictures, text, video). Further information, (Coleman, 1992) stated that a creation (Coleman, 1992) noted a creation-based YouTube collaborates in transferring skills, time for

working in a group, and encourages experiences. His investigation was significantly utilized in developing oral and written skills in language learning.

Only minor investigations have looked into the impact of collaborative learning-based YouTube creation on self-efficacy speaking skills. The study aims to fill and overcome the study gap by comparing self-efficacy speaking skills before and after implementing course syllabi-based YouTube. Previous research made the mistake of relying solely on video equipment to improve EFL students' English-speaking results, rather than investigating the value of course syllabi based on YouTube in covering students' speaking skills. As mentioned previously, the study is very crucial to be done. Regarding its objective, it was conceptualized through the following research question: Is there any correlation between Collaborative learning-based YouTube creation on speaking self-efficacy?

Beneficial youtube toward self-efficacy

YouTube utilizes both teacher and student during the learning-teaching process is occurring. For teacher, teachers, it can be chosen as primary source for learners' materials YouTube using process, student's interest and willingness increased. Using YouTube as an effective media used to improve speaking skills has been proven by myriad scholars such as Bahadorfar & Omidvar, 2014, Bailey & Nunan, 2005, Saed et al., 2021

Several factors that determine the success of learning success, teaching sources. One of them is technology-based internet to support teaching and learning activities, and, using this media enables us to be accessible ubiquitously; YouTube is the most significant media. It is an intimate video sharing service that allows users can upload, download, watch and share video clips freely. Thus, it is one of the most practical and easily accessiblesocial media. According to (2011), social media is an essential teaching device for disseminating information to students, patients, and families. The use of interactive videos such as YouTube in the learning process will improve students' understanding and mastery of skills (Burnett, Melissa, 2008). Since COVID-19 pandemic outbreaks, this media can be both primary and alternative for developing self-efficacy in speaking in EFL classroom the Indonesian context (Butarbutar, 2021) and (Butarbutar et al., 2021). For this reason, YouTube has some potentials meaningfulness whether used for supporting learning process comprises, (1) informative; it provides various information including science and technology development (2) cost effectively, it means that YouTube is accessible freely, (3) practical, complete, and can be used by all people, (4) shareable; its link can be shared to various other media, and (5) interactive; it accommodates question and answer simultaneously.

The study discovered various delightful effects of utilizing YouTube to teach speaking in an EFL classroom, including innovative pedagogy in integrating student-centered learning, as investigated by Bajrami and Ismaili

(2016). He claimed that YouTube encourages pupils to become more engaged, enthusiastic, motivated, and self-assured in their communicative abilities. Students can obtain a plethora of cultural background information and emotional attitudes toward the learning materials when teachers use video in their English sessions. As a result, individuals could exercise their independence when learning a language. They can understand comprehensive the materials through language used in video content. Another perspective comes from Sun & Yang (2015) argued YouTube helps learner improve student's public speaking skills. They added that learning based ideas, content development, and pronunciation could improve student confidence. Also, YouTube can effectively reach language target, for this case, this medium was claimed alternative for communication. Furthermore. They reinforced that YouTube enables students to share their creation with peers on social media communities like Facebook or other avenues. To enhance information about YouTube influenced speaking advancement have investigated (Balbay & Kilis, 2017). Their research findings testify they are inserting YouTube in English course design helped students improve their speaking rather than presentation. Indeed, their student's perception suggested enlarging language skills and boosting the willingness to use self-directed YouTube channels as supplementary materials for speaking skills. Crucially important, more videos are added to the channel every day, growing in popularity. Its content is shaped by the constant feedback from the course's students and teachers. The channel provided effective course material to the study's participants appreciated. This research could broaden horizons and spark creative thinking in other YouTube's future applications in the language classroom.

According to Bandura's (1989, 1993, 1997) theory, self-efficacy defined as the belief that everyone can do and develop their ability to perform well. According to Mohamadi et al. (2011), who investigated self-efficacy in school, it is also known as a social cognitive theory. Their research divided essential self-efficacy into four subcategories: (1) mastery experiences, (2) vicarious experiences, (3) verbal persuasion, and (4) emotional. Furthermore, their findings revealed that the teacher's self-efficacy was related to the students' outcomes. Moreover, Bandura's (1977) self-efficacy theory underpins Social Cognitive Theory, which influences people's motivation and conduct. According to Bandura (1977), A higher level of self-efficacy in future actions and coping mechanisms for participating in a given endeavor. Self-efficacy impacts how much people choose to participate because students avoid circumstance with low self-efficacy. Self-efficacy refers to one's belief in one's ability to complete a particular activity. Self-efficacy and self-confidence are frequently used interchangeably. Some favor the latter as a more familiar frame of reference over the less well-known or understood word "self-efficacy." However, there is a substantial difference between the two. Self-efficacy, as

previously said, is task-specific, whereas confidence is a more general sense of oneself.

Based on the findings of the preliminary studies, it is possible to assume that high self-efficacy during the learning process indicates students will have confidence in their skills to solve difficulties and overcome constraints. Their learning outcomes are maximized as a result. Moreno and Kilpatrick (2018), Teng and Zhang (2020), and Zhang and Ardasheva (2020). (2019). Self-efficacy substantially impacts student speaking outcomes when teaching English as a foreign language in an EFL classroom. Asakereh and Dehghanzad (2015). According to their findings, EFL instructors and administrators should give students favorable learning environments to enhance speaking skills. EFL teachers must also assist students in developing self-efficacy beliefs in their speaking abilities to assist them in dealing with challenging speaking tasks in both real-life and classroom scenarios. Furthermore, their findings can help EFL language learners comprehend the importance of self-efficacy beliefs in speaking skills and drive them to seek out opportunities to strengthen their self-efficacy beliefs. Similarly, Aregu (2013) clarified that self-efficacy is a component of the predictor of speaking performance. Indeed, to make changes in terms of accomplishments, emotions, and other elements, both teachers and students must be aware of the roles of self-esteem, self-efficacy, and gender. In sum, self-efficacy is an essential contributor to the student speaking successfulness. Since it has proven useful and meaningful help make better student speaking performances in EFL classroom. Also, self-efficacy positively boosts students' inner-talent and capability to reduce anxiety and overcome speaking challenges, fear, shyness, and the like.

RESEARCH METHODS

Participants profile

Students (N=30) at the university of Musamus Merauke in the Indonesian state of Papua were studied. In such cases, they purposefully chose the first academic year of the English education department. They are made up of 20 ladies and ten males. Their speaking ability is graded as low level based on pre-observation. It's most likely because none of them spoke English at home. Also. They communicated with their family and society through bilingualism, Indonesian and local languages. It is critical for persuading pupils who lack confidence in their ability to communicate in English. In terms of other attributes, five students had ever followed.

Instruments

The research creation used course materials, internet, and YouTube as instrument for creating

(1) Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	20.652	5.451		3.789	.001
	Self-efficacy	.234	.259	.168	.901	.375

a. Dependent Variable: You Tube

(1) Correlations			
		You Tube	Self-efficacy
You Tube	Pearson Correlation	1	.168
	Sig. (2-tailed)		.375
	N	30	30
Self-efficacy	Pearson Correlation	.168	1
	Sig. (2-tailed)	.375	
	N	30	30

(1) ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.549	1	8.549		.812
	Residual	294.918	28	10.533		
	Total	303.467	29			

a. Dependent Variable: You Tube

composition. One picked course material entitled, "Cross Cultural Communication". To help students easier was made creation they were distributed into six groups and consisted of five members. In this case, they collaborated through Robin-Round technique discussion generating ideas and speaking in sequentially one student to others. Therefore, in light of measuring students' self-efficacy, research creation recovered through open-ended questionnaires and distributed using google-form. This instrument is aimed at how far and deep students' self-efficacy is built-up after corroborating a collaboration while creating YouTube for their speaking performances.

Research procedures

Week 1: Researcher introduced initial creation lecturing for one following semester. In this case, the researcher gave a crucial topic in light of students' problem in learning English at the higher education level, students at Musamus Merauke, Papua in particular. It was accordance with basic competency of the course, and strongly relevant to the real student's problem to be solved.

Week 2: Designing creation involves teacher and students collaboratively, and during this session the supporting tasks to be carried out, the equipment and resources required, and the rules for creation completion including timeline finishing are all discussed.

Week 3-4: Students were engaged and applied Round-Robin technique for discussing chosen topic earlier. This technique aims to develop and encourage students' self-efficacy and the main focus on creating. In doing so, students were invited to share their ideas sequentially and collaborate on the best performances. For stating self-efficacy collaboration, this stage over some steps, for instances gathering students around a table; giving each participant index cards so they can jot down their thoughts on separate pieces of paper; explaining the chosen problem and solution regarding previous entitled; making a list of the goals for the brainstorming session; answer questions, but don't start

a debate. It was intended to empower individuals to think creatively without being influenced by others. Therefore, have each team member think of one concept and write it down on an index card while remaining silent. After everyone has written down an idea, have them pass it on to the person sitting next to them. Everyone should have a new card with their n on it now.

Week 5-6: Students uploaded results discussion documentation into the YouTube channel for this phase. Regarding this channel, one group delivered chosen topic and the rest group was the audience as evaluator for developing student's self-efficacy, it was round sequentially until the end of group six. For doing this, audiences group gets evaluated through checklist assessment for providing pair feedback after watching classmates' YouTube. Besides, the researcher monitored, considered, criticized, and gave feedback to encourage students' self-efficacy regarding both advices classmates and the researcher.

Week 7: for this phase creation almost finished, however, students gave an equal opportunity for revising their YouTube content such as, focusing on self-efficacy improvement, various motivational outcomes linked with student involvement, such as task choice, effort, and persistence, are all influenced by self-efficacy students concentrate on their goal during this evaluation session by evaluating how far and close impact YouTube was watching to increase and boost their self-efficacy in speaking performance.

Week 8: at the closing creation, each group presented their YouTube revised content, student collaboration, self-efficacy improvement, and evaluation results.

Data analysis

Data gathered from open-ended questionnaires were analyzed with ANOVA regression. For doing this, the study used SPSS application version 21 with a decision maker t-count < 0.005. The result was corroborated through self-efficacy dimensions such as motivation, knowledge, behavior, expectation, reinforcement, and effectiveness. And the rest excerption elected students' perception s as representation self-efficacy increasing

RESULTS AND DISCUSSION

Regarding research question mentioned previously, students collaborated to create a YouTube project. The result showed that there is positive correlation between YouTube based and speaking self-efficacy. This result described the more students collaborate with pair group the more their self-efficacy increase (Bailey & Savage, 1994); in detail might be seen as shown in the table follows; Table 1. Correlation, Coefficients and ANOVA results of using YouTube with self-efficacy

By paying attention to the table 1 above, collaborating and creating YouTube creation could be facilitated students for building-up their self-efficacy (Table 1). The significant correlation creates YouTube as 0.01 (< 0.05) and self-efficacy correlation as .375. It implied that there were 37.5 per cent speaking self-efficacy increased by creating YouTube creation. To encounter research question as mentioned previously, picked students' perception was excerpted as follows:

Student 1: yeah, during created YouTube creation I was satisfied and motivated to speak out with my pair group to deliver my ideas. I felt more confident when the topic was chosen close to my own culture. My speaking was improved regarding my initial knowledge culture. Besides, selected topic was my favorite also simultaneously I have self-efficacy and could be taking part in round-discussion.

Student 25: I couldn't agree anymore that collaboration creating this creation helped me and gave me a significant chance to drill my self-efficacy in speaking in front of my group mates. Previously, to be honest I realized that I was shy and anxious if teacher asked questions in English. However, during this creation I felt more motivated to speak anymore and in my mind it didn't matter if others were laughing at me.

Student 30: "creating video and uploading into YouTube channel was interesting creation for me "Those three excerpts written above were representation student perception picked through open-ended questionnaires. Those implied teachers applied similar approaches if they wanted their student speaking performance to be more awesome.

Findings of the study recovered research question by elaborating on collaborative learning-based YouTube creation on speaking self-efficacy. And, for further correlation, speaking self-efficacy was indicated by six dimensions: motivation, knowledge, behavior, expectation, reinforcement and affective. The results emphasized collaboration group work helped motivate students to be more confident speaking in front of their group, therefore in front of all class members. This finding in line with the teaching speaking strategies was declared by (Celce-Murcia & McIntosh, 1991); (Hedge, 2001); (Kayi, 2006); (Wong & Nunan, 2011).

Along with speaking self-efficacy, the research noted influential factors could lead to success in speaking English as a foreign language (Minghe & Yuan, 2013); (Şengül & Genç, 2016). Psychologist, Albert Bandura vividly argued that it would be stimuli for people's interactions such as being motivated, confidence, self-esteem, and self-efficacy. In such instances, students' interaction during eight weeks of collaboration encourages bravery step by step. Self-efficacy in this research influenced student's affective process; reduced anxiety after getting advice from classmates and teacher. (McAuley & Courneya, 1992) and (McAuley et al., 1999) showed findings of their creation that a drill could be used to manipulate self-efficacy and stimuli effective process. It is a significant change and response response-based exercise, creating a design.

In terms of cognitive process influenced self-efficacy, the study cultivated and moderated controlling thought and the ability for copying behavior (Maddux & Gosselin, 2012).

In addition, creating YouTube project collaboratively could increase self-efficacy indicated by student's expectation, motivation and reinforcement; here is the concept. Before, teachers have often used YouTube as audio-visual learning media to make the teaching process more motivated and enthusiastic (McAuley et al., 1999). However, the study showed a positive correlation between creating YouTube creation and expectations. Expectation as a part of self-efficacy is called a predictor for successful speaking development. As we can see in the findings above, 37.5 percent of YouTube videos were toward expectation, cognitive, and reinforcement. When group 1 role played as presenters, five rest group played as evaluators to do pair assessment while teachers played as final provider feedback or support (Bandura, 1977). For doing so, all of the members group 1 have 37.5 per cent expectancy that every student could be present their final creation. It was influenced by group work collaboration (Du et al., 2019); (Wang & Lin, 2007) boosted self-efficacy to achieve outcome expectations (Weinberg et al., 1979). On the other hand, every group member has self-efficacy as 37.5 per cent to get expected outcomes.

Meanwhile, behavior, (Bandura, 1977) pointed out self-efficacy has essential role in changing behavior. As we know changing behavior is the result of learning process. (Goldstein & Sorcher, 1974); (Wittrock, 1974). Student's behavior would be affected ways, ideas and the commitment to achieve outcomes expectancy. Bandura, 1977 also declared that students who have high self-esteem, self-efficacy influenced their behavior to gain their academic expectancy. For example, a student who has high self-efficacy for achieving speaking performance and is more insightful would be seen from different behavior such as doing more practices than others, learning independently, adding extra time for repeating exercise, having more discipline, time manageable, and the like. The study showed that 37.5 contributed self-efficacy to the student's behavior. Such took part in delivering ideas, collaborating in writing presentation topics, and doing pair feedback. All these behaviors are gained for expected outcomes. In this study, peer feedback like "Nice presentation, your topic discussion was interesting, and so on" showed changing behavior and being more motivated to revise their creation before being uploaded to the YouTube channel (Butar-Butar, 2018). In addition, teacher's reinforcement also supported changing behavior self-efficacy. (Bandura, 1978) changes in behavior could influence stated stimuli. For this reason, the study told teacher's instruction at the beginning of week lecturing indicated as stimuli student's cognition for doing and choosing related to topics about (stimuli-behavior- expectancy) (Butarbutar, 2021).

The study also reported that the YouTube project effectively pro-speaking confidence during presentations

(Butarbutar & Sauhenda, 2020). The study agreed with (Pinzón Castañeda, 2014) that clarified that PBL effectively encouraged self-confidence, cooperation, and social and inner interaction among group members.

To sum up, there is a correlation between collaborative learning-based YouTube creation on speaking self-efficacy at 37.5 per cent. The correlation might be seen by six dimensions: motivation, knowledge, behavior, expectation, reinforcement, and effectiveness. This noted study supported, which stated that self-efficacy related to student performance after being measured across multiple trials. It was also potential for gaining outcomes expectancy and value. Similarly, media based local culture was influential in young learners' classroom. And, (Butarbutar et al. 2019) and (Leba et al., 2021) point out that teaching and learning English in the Indonesian rural area needs a direct and indirect approach. It must be remembered, collaborative based-project potentially used for building students' personal and interpersonal skills due to work pairs and value during process project (Frank et al., 2003).

CONCLUSION

The study concludes that collaborating on create-based creation could be helpful, helpful, and meaningful to increase speaking performance during presentation. The results also examine that self-efficacy correlates with speaking performances. It implies that creating You Tube project can be used to stimuli students' behavior to gain expectancy outcomes. Furthermore, the results can be designed for speaking syllabus materials. These results are also better for getting the attention of book authors to elaborate self-efficacy as an essential factor in speaking topic discussion. As for the teacher, the development of the study emphasized that successful performance academically is self-efficacy's contribution. So, not just motivating students before doing learning activities but boosting students' self-efficacy is more thana panacea for gaining outcomes expectancy. The study examines the correlation of creating creation-based YouTube with students speaking self-efficacy in remote areas. Also, the study implies that working in pairs contributed to maximizing social life and speaking English skills. The results indicated successful speaking English beyond the classroom and environment society. However, it recommends at least three pieces of advices:

First, the future study can be employed by students at any level and other skills like reading, writing, listening, etc. Second, the subsequent investigation would be clear weather involves class action research; for this reason, the researcher can do observation directly and see student's changing behavior in line with self-efficacy. Third, similar interested investigation can do with more participants

Write a closing article that contains conclusions and suggestions from your paper in narrative form and not in bullet or numeral form. Conclusion contains

answers to research questions. Suggestions refer to the results of the research and are in the form of practical actions, specify who and what the suggestions are intended for.n.

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THE EFFECT OF LEMONGRASS (SEREH) ESSENTIAL OIL DIFFUSER ON IMPROVING SLEEP QUALITY FOR PREGNANT WOMEN IN THE THIRD TRIMESTER

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ABSTRACT

Sleep is a physiological need for humans, therefore sleep quality is considered an essential health variable because it can affect the quality of human life. One of the main factors that affect sleep quality is different periods of life such as pregnancy. Approximately 60% of pregnant women in the final trimester experience fatigue and >75% experience sleep disturbances. Sleep complaints in pregnant women can be in the form of delayed sleep hours, waking up at night, often aroused, getting up in the morning, and waking up longer. However, these complaints are often ignored by pregnant women, even though they can contribute to an increased risk of gestational hypertension, diabetes, prematurity, and postpartum depression. Sleep disorders can also cause depression and stress that affect the fetus. Efforts to overcome these sleep difficulties include a lemongrass essential oil diffuser. The application of this method to third trimester pregnant women in particular is expected to improve the quality of sleep of pregnant women in the Surabaya area. The design of this study was a quasi-experimental (two group pre-post test design). This research was conducted on third trimester pregnant women at the Independent Practice Midwife (BPM) Lita Anggraeni, Surabaya. The study was conducted for 3 months from October - December 2021. In full, the stages of the study are as follows: (1) The population is third trimester pregnant women at BPM Lita Anggraeni, Surabaya. (2) Sampling using purposive sampling technique with 30 pregnant women who were divided into treatment and control groups, (3) The treatment group was given the lemongrass essential oil diffuser intervention 2x a week in 1 month while the group was not given intervention, the intervention will be given after the study is completed, (4) Each group was given a pre-test and post-test to determine the quality of their sleep using the Indonesian version of the Pittsburgh Sleep Quality Index (PSQI) scale. Statistical test using Mann Whitney and Wilcoxon.

Key words: aromatherapy, diffuser, lemongrass, sleep_quality

INTRODUCTION

Decreased sleep quality is an uncomfortable thing for a person and this can affect satisfaction and decrease life productivity. One of the main factors that affect sleep quality is different periods of life such as pregnancy. Pregnancy brings significant changes in physiological, psychological, and social functions, so that this adjustment process often causes various complaints. Insomnia is one of the most common sleep problems during pregnancy. It is said that as the gestational age increases, the quality of sleep can decrease. It was reported that about 60% of pregnant women in the last trimester experienced fatigue and >75% experienced sleep disturbances, decreased levels of alertness and required daytime sleep.

The decrease in sleep quality is caused by physical changes such as nausea, back pain, frequent urination, hormonal changes, fetal growth, increased abdominal size and respiratory changes. Psychological changes such as anxiety before birth, changes in relationships with partners, and financial problems also contribute to the worsening of the quality of sleep. Sleep complaints in pregnant women can be in the form of delayed sleep hours, waking up at night, often aroused, getting up in the morning, and waking up longer. However, these complaints are often ignored by pregnant women, even though they can contribute to perinatal mood disorders and somatic complaints both in the short and long term. Adverse clinical outcomes are an increased risk of gestational hypertension, diabetes, prematurity, and

postpartum depression. Sleep disorders can also cause depression and stress that affect the fetus. Mild stress causes an increase in FHR which if left unchecked will make the baby hyperactive.

Efforts to overcome this sleep disorder are by exercising, taking drugs, hypnotherapy, sleep education and relaxation exercises. In previous research on Aromatherapy has been widely used to improve mood and relax the body. Aromatherapy or lemongrass essential oil (citronella plant) with the Latin name *Cymbopogon citratus* can be used as aromatherapy oil for relaxation by smearing, inhaling. Lemongrass essential oil functions as an antidepressant, which suppresses and relieves depression or stress so that it can help pregnant women feel more relaxed both body and mind. Lemongrass has been shown to be an excellent tonic for the nervous system. Lemongrass can stimulate the mind and help overcome convulsions, nervousness, vertigo and other disorders such as Alzheimer's and Parkinson's. Lemongrass oil can be used for therapeutic baths, which can help to calm nerves, reduce symptoms of depression and fatigue due to stress. can induce thought to improve one's sleep quality and can provide a mild to promote sedation effect. Because the researchers predict that the application of the lemongrass essential oil diffuser will be more effective in influencing the quality of sleep in pregnant women, so it is expected to reduce sleep disturbances in third trimester pregnant women.

RESEARCH METHODS

This study used a quasi-experimental research design (two group pre-post test design). This research design aims to reveal a causal relationship in two groups, namely the treatment group and the control group. The treatment group was observed before and after the intervention, while the control group was observed before and after as well but given different interventions from the treatment group.

Research participants

The subjects in this study were 30 pregnant women in the third trimester. Subjects were divided into a control group and a treatment group of 15 people each. The research site is the Independent Practice Midwife (BPM) Lita Anggraeni, Surabaya. Implementation time from October-November

a sampling process and meeting the inclusion and exclusion criteria of the study. Then divided into treatment group and control group. Each group was given a pre-test and post-test to determine the respondent's sleep quality scale. The intervention was only given to the treatment group, while the control group was given no intervention. In accordance with research ethics, the control group will still be given the intervention but given after this research is completed.

Measurement of the results was carried out based on the results of observations and questionnaires obtained. After that it was analyzed, the results were presented and research conclusions were made.

Instrument

The measuring instruments used were observation sheets and questionnaires. While the data scale used is ordinal based on the Indonesian version of the Pittsburgh Sleep Quality Index (PSQI) score to determine the sleep quality of the respondents.

Data analysis

Data analysis is divided into two, namely univariate and bivariate analysis. The statistical test used depends on the scale of the data. This study uses the Wilcoxon and Mann Whitney test because it uses variables with categorical data scales.

The results of the significance of statistical calculations are seen with the degree of significance 0.05, if p then H0 is rejected and the hypothesis is accepted. This means that there is an effect of the application of a lemongrass essential oil diffuser in improving the sleep quality of pregnant women in the third trimester.

RESULTS AND DISCUSSION

Identification of Respondents' Sleep Quality

During the study period, data was collected to identify sleep quality of third trimester pregnant women at BPM Lita Anggraeni, Surabaya in the treatment group and the control group as shown in table 1.

Table 1. Sleep Quality of Third Trimester Pregnant Women at BPM Lita Anggraeni, Surabaya in the treatment group and control group

	Kelompok							
	Perlakuan				Kontrol			
	Pre		Post		Pre		Post	
	Frekuensi	%	Frekuensi	%	Frekuensi	%	Frekuensi	%
Kualitas Baik	6	40	11	73,3	4	26,7	4	26,7
Tidur Buruk	9	60	4	26,7	11	73,3	11	73,3
Total	15	100	15	100	15	100	15	100

sleep quality. The study was initiated by conducting

Table 1 shows that Lemongrass essential oil diffuserable to improve sleep quality in third trimester pregnant women. This is evidenced by the decrease in the number of third trimester pregnant women who have poor sleep quality, from 60% to only 26.7% in the treatment group before and after the application. Lemongrass essential oil diffuser. When compared between the treatment group and the control group, it can be seen that the difference is that in the post-test treatment group only 26.7% had poor sleep quality (4 people) while in the control group after the post-test the results were no change in the number of people who had poor sleep quality that is still 73.3%.

Pregnancy is a physiological thing, but often changes both physiologically, psychologically and socially that occur make pregnant women experience disturbances in their sleep, even though sleep is a physiological need for everyone, including pregnant women. Therefore, the quality of a person's sleep is considered as the main health variable that affects the quality of life and well-being. Research says that 52% - 61% of pregnant women experience sleep disorders, 97% of pregnant women report waking up in the middle of the night in late pregnancy. The quality of sleep in pregnant women will decrease in line with the increase in the trimester of pregnancy. It is said that the risk of insomnia in the third trimester has increased by 2.03 times compared to other trimesters.

Poor sleep quality in pregnant women can be in the form of shorter sleep duration, usually less

than 6 hours per night, normal sleep time in healthy adults is about 7.5 hours per night. Then there is difficulty maintaining sleep or frequent awakenings due to discomfort experienced by pregnant women, difficulty initiating sleep and waking up too early with inability to fall back asleep. Decreased sleep quality in pregnant women can result in waking up feeling unrefreshed, feeling tired during the day and more often sleepy and even falling asleep, at night it looks less so that you feel sleepy throughout the day. If this continues and is disruptive, the risk of health problems that can be caused to pregnant women can be in the form of hypertension, gestational diabetes mellitus, cardiovascular disease, IUGR,

The results of interviews with respondents about what conditions cause them to experience sleep disturbances, most of them say that they often wake up at night because the frequency of BAK increases, then body discomfort due to increasing pregnancy and pain in the back, they also find it difficult to start sleeping because tend to sleep longer during the day. In accordance with the existing theory that there are several conditions that can contribute to sleep disturbances in pregnant women, including increased urinary frequency, nausea, vomiting, active fetal

movements, back pain, low back pain, excessive sleepiness during the day, discomfort during the day. sleep, unfavorable environment, anxiety, depression and hormonal changes during pregnancy, including estrogen and progesterone, which affect the central nervous and respiratory systems. In addition, maternal age, parity, and body mass index (BMI) as well as maternal weight gain are also factors that can trigger sleep disorders. Pregnant women who are obese have a risk of breathing problems during sleep, especially during the third trimester.

Alternative ways to overcome sleep disorders in pregnant women can be done pharmacologically and non-pharmacologically, including hygienic sleep exercises, relaxation exercises with yoga, the use of aromatherapy, music therapy and stimulus control therapy, all of which can be combined with pharmacological treatment if there are medical indications. However, the use of drugs for sleep induction certainly needs to be considered for pregnant women because it has disadvantages or limitations, one of which has toxic side effects to the fetus.

The Effect of Application of Lemongrass Essential Oil Diffuser on Respondents' Sleep Quality

Table 2. Results of Analysis of the Effect of Lemongrass Aromatherapy Oil on the Sleep Quality of Third trimester Pregnant Women in the Treatment Group.

Category	Pre	Post
Negative Rank	9	0
Ties	5	14
Positive Rank	1	1
Sign 2 Tail	0.011	0.317

The results of the Wilcoxon statistical test in table 2 show that there is a significant effect on the application of Lemongrass essential oil diffuser in improving sleep quality in the treatment group. This is evidenced by the value of = 0.011 or <0.05. Meanwhile, in the control group, the Wilcoxon statistical test results showed that there was no significant difference in sleep quality. This is evidenced by the value of = 0.317 or > 0.05.

Changes in sleep quality in third trimester pregnant women in this study were identified by looking at the Indonesian version of the Pittsburgh Sleep Quality Index (PSQI) assessment sheet or questionnaire, which consisted of 7 components, namely subjective sleep quality, sleep latency, sleep duration, daily sleep efficiency. days, sleep disturbances, use of sleeping pills, and dysfunction of daytime activities which have been filled in by all

respondents and the results are in accordance with table 1.

From the results of interviews with respondents in the treatment group, it is known that the increase in sleep quality that occurs in them is due to a sense of comfort, relaxation and peace application Lemongrass essential oil diffuser. They told me that while doing yoga and inhaling aromatherapy, their nighttime sleep became longer, and when they woke up in the morning they also felt more refreshed than usual. Physiologically, aromatherapy has been widely used to improve mood and relax the body. Application Lemongrass essential oil diffuser induces thought to improve one's sleep quality and can provide a mild top promote sedation effect. Based on several studies say that lemongrass aromatherapy has been shown to have the effect of relieving stress, lowering anxiety and facilitating the recovery of blood pressure after physical exercise. Bathing with soap with lemongrass aromatherapy, massaging, applying at certain points on the body and inhaling lemongrass essential oil can improve the sleep quality of a person from babies, teenagers, adults, the elderly, pregnant women to menopause mothers..

Therefore, according to researchers, the application of a lemongrass essential oil diffuser can be considered as an alternative way to treat sleep disorders in pregnant women that is safe and easy than using stimulant drugs for sleep. According to the Food and Drug Administration, most prescription sleeping pills or tranquilizers are categorized as drugs that are considered unsafe for use during pregnancy.. Antihistamines, such as doxylamine and diphenhydramine, are safe for pregnant women, but they are usually recommended to treat allergy symptoms and nausea during pregnancy and no controlled trials have been conducted to thoroughly prove the efficacy and safety of these antihistamines. for mother and child based on the dose and duration of medication needed to treat sleep disturbances during pregnancy. Therefore, according to the researchers, there are no sleep aids, drugs that are currently considered safe and efficacious for sleep disorders during pregnancy, as an alternative way of dealing with sleep disorders in pregnant women can be done with non-pharmacological therapies including exercise, acupuncture, aromatherapy, habit changes. , music therapy, art therapy,.

Differences in the quality of sleep of pregnant women in the third trimester in the treatment group and the control group

Table 3 Results of Analysis of Differences in Sleep Quality for Pregnant Women in the Third

Trimester in the Treatment Group and the Control Group

Test Statistics	
	Sleep Quality
Mann-Whitney U	52,500
Wilcoxon W	172,500
Z	-2.878
asympt. Sig. (2-tailed)	0.004

The results of the Mann-Whitney statistical test in table 3 show that there is a significant difference in sleep quality in the treatment group (which was given Lemongrass essential oil diffuser) compared to the control group. This is evidenced by the value of = 0.004 or <0.05. It can be concluded that the application of Lemongrass essential oil diffuser improve sleep quality significantly in third trimester pregnant women.

During the pre-test and post-test, it was seen that there was an increase in the quality of sleep for pregnant women in the third trimester. The results of interviews with respondents before treatment showed that respondents often woke up at night. When the respondent wakes up from sleep, it is difficult for the respondent to go back to sleep, so that in the morning the respondent feels unwell. By inhaling lemongrass essential oil regularly, you will be able to improve sleep patterns without using sleeping pills that will affect the natural sleep cycle.

CONCLUSION

The application of a lemongrass essential oil diffuser can be considered by health professionals as an alternative way to treat sleep disorders in pregnant women that is safe and easy to use than stimulant drugs for sleep because, most prescription sleeping pills or tranquilizers are categorized as a category of drugs that are considered unsafe to use during pregnancy.. therefore, according to the researchers, there are no sleep aids, drugs that are currently considered safe and efficacious for sleep disorders during pregnancy, as an alternative way of dealing with sleep disorders in pregnant women can be done with non-pharmacological therapies including exercise, acupuncture, aromatherapy, habit changes. , music therapy, art therapy, progressive muscle relaxation exercises, massage, reflexology, foot baths with warm water, dietary supplements, and so on.

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FAMILY SUPPORT RELATED TO FLUID RESTRICTION COMPLIANCE IN HEMODIALYSIS PATIENTS IN THE HEMODIALIZATION ROOM OF RS. WILLIAM BOOTH SURABAYA

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ABSTRACT

Hemodialysis is a replacement therapy for kidney function that aims to remove metabolic wastes. To prevent fluid accumulation along with hemodialysis therapy, the patient must also be made efforts to limit fluid intake. Family support is assistance that can be given to other family members in the form of goods, services, information and advice that can make the recipient of the support feel loved, valued, and at ease. This support is the attitude, action and acceptance of the family towards the sick patient. The purpose of this study is to identify the relationship between family support and adherence to fluid restriction in hemodialysis patients in the Hemodialysis room of the Hospital. William Booth Surabaya. In this study used a correlational design through a cross sectional approach. The population in this study, all patients undergoing hemodialysis at William Booth Hospital were 58 people, with the number of samples meeting the inclusion and exclusion criteria of 50 people. The sampling technique used purposive sampling. The tool for the questionnaire data collection process was then analyzed by using the Spearman Rank statistical test with p value < 0.05. Most of the respondents in the good family support category were 34 people (68%) which were divided into the obedient category as many as 23 people (46%) and the non-compliant category as many as 11 people (22%). From the results of statistical tests using Rank Spearman correlation, the p value of 0.000, which means that there is a relationship between family support and compliance with fluid restrictions in hemodialysis patients in the Hemodialysis Room, William Booth Hospital, Surabaya. Hemodialysis RS. William Booth Surabaya. For this reason, patients must comply with fluid restrictions to avoid complications such as edema, shortness of breath and hypertension.

Key words: family support, fluid restriction, hemodialysis

INTRODUCTION

Hemodialysis is a replacement therapy for kidney function that aims to remove metabolic wastes (Smeltzer et al. 2018). To prevent fluid accumulation along with hemodialysis therapy, the patient should also be made to limit fluid intake. Fluid restriction is often difficult for the patient to do, especially if the patient is taking drugs that dry out the mucous membranes such as diuretics. It causes the patient feels thirsty and tries to drink. Researchers found problems in patients undergoing hemodialysis with the condition when they came complaining of shortness of breath and edema in the legs, this condition could be exacerbated because the patient did not comply with fluid restrictions, it can be seen from the observation of the Hemodialysis visit book that every time the patient comes and goes home must weigh. In addition, it could also be due to low family support, there are some patients when they come and go alone, some are accompanied by their families during hemodialysis and some are only delivered in front of the hemodialysis room (Potter & Perry in Kartika, 2019).

In 2018 in Indonesia the number of patients with chronic kidney failure was around 480,000 people and 38,700 undergoing therapy and the rest were not handled. Chronic Kidney Disease (CKD) requiring replacement therapy in the form of hemodialysis, peritoneal dialysis, and kidney transplantation is 430 per one million population. So, when calculated with the total population of Indonesia, which is around 340 million people, the number of patients who need kidney replacement therapy is around 96,000 (Risksdas, 2018).

Data from the East Java Provincial Health Office throughout 2018 there were 546 new cases of kidney failure with 175 cases from the city of Surabaya. So far, people think that the diseases that cause death are heart disease and cancer. Actually, kidney failure also causes death and its incidence continues to increase (Santoso, 2018). Based on the results of a preliminary study conducted by researchers on July 28, 2021 at the William Booth Hospital in Surabaya, data obtained from medical records of 165 patients undergoing hemodialysis therapy, each patient was different in visits for

hemodialysis therapy. In a day on average, 28 patients were treated with hemodialysis. From the observations that have been made to 10 patients, there are 5 patients who are not compliant in limiting fluids. This can be seen from the weight gain in the observation book where each hemodialysis is filled in by the patient and family, besides that the patient also experiences edema in the legs, face and shortness of breath. From the observations, 2 patients experienced shortness of breath and edema in the legs. Of the 10 patients there were 3 patients who were not escorted and were not accompanied by their families while undergoing hemodialysis therapy.

Many studies of hemodialysis patients have shown that excessive fluid consumption is detrimental to survival because it can cause Interdialytic Weight Gain (IDWG) greater than 5.7% of their dry body weight, having a 35% higher risk against death. Family support is needed by patients. Because with the support of the family, the patient will feel psychologically supported so that there is a spirit of life which will have an impact on increasing enthusiasm for treatment and will trigger compliance in the treatment program, especially the fluid restriction program (Iacono, 2018). Factors that affect hemodialysis compliance include education, knowledge, attitudes, family support (Notoatmodjo, 2012) and the length of time undergoing hemodialysis. In addition to hemodialysis therapy for CKD clients such as fluid restrictions, diet, drugs and hemodialysis measures, it requires high compliance in order to improve the quality of life of the client and things don't get worse. This compliance needs to be supported by the family to help ease the patient's burden, because the routine and the time needed make the patient experience boredom. This boredom can also lead to decreased compliance with fluid restrictions in patients. (Suharjono, 2008) With the above background, it is necessary to conduct a study to determine the relationship of family support to fluid restriction compliance in hemodialysis patients in the Hemodialysis Room, William Booth Hospital, Surabaya.

RESEARCH METHODS

This study uses a correlational study with a cross-sectional approach. This research was conducted in January 2022 in the Hemodialysis Room of the Hospital. William Booth Surabaya. The population in this study were all patients undergoing hemodialysis at William Booth Hospital, as many as 58 people with a total sample of 50 people with a pupposive sampling technique. The instrument used is a questionnaire. Statistical analysis used is Spearman Rho with < 0.05.

RESULTS AND DISCUSSION

The results of data collection on the relationship of family support to fluid restriction compliance in hemodialysis

patients in the Hemodialysis Room of William Booth Hospital Surabaya, can be described as follows:

Characteristics of respondents based on respondent's gender

Table 3.1 Distribution of respondents by gender

No	Gender	f	%
1	Male	28	56%
2	Female	22	44%
total		50	100%

Data Source: Research Questionnaire

Based on table 3.1, it can be seen that more than half of the respondents are male (56%)

Characteristics of respondents based on education

Table1 3.2 Characteristics of Respondents by Age

No	Age	f	%
1	26-35 Years	3	6%
2	36-45 Years	14	28%
3	46-55 Years	12	24%
4	56-65 Years	13	26%
5	> 65 Years	8	16%
Total		50	100%

Data Source: Research Questionnaire

Based on Table 1 3.2 above, it shows that most of the respondents are aged 36 - 45 years, namely as many as 14 respondents (28%).

Characteristics of Respondents based on Education

Table1:3.3. Characteristics of Respondents Based on Education.

No	Education	f	%
1	Elementary school	4	8%
2	Junior High School	2	4 %
3	Senior High School	25	50%
4	University	19	38%
Total		50	100%

Data Source: Research Questionnaire

Based on table 3.3, it can be seen that half of the respondents have high school education, namely as many as 25 respondents (50%)

Characteristics of Respondents by Occupation.

Table1:3.4 .Characteristics of Respondents Based on Occupation.

No	Job	f	%
1	Pension	1	2 %
2	Private	21	42%

3	Not Working	24	48%
4	IRT	4	8%
Total		50	100%

Data Source: Research Questionnaire

Based on table 3.4, it can be seen that almost half of the respondents do not work, namely as many as 24 respondents (48%)

Characteristics of respondents based on length of haemolysis.

Table 1:3.5. Characteristics of Respondents Based on the length of hemodialysis.

No	HD DURATION	f	%
1	< 1 Year	12	24%
2	1-3 Years	13	26%
3	3-6 Years	14	28%
4	> 6 Years	11	22%
Total		50	100%

Data Source: Research Questionnaire

Based on table 3.5, it can be seen that most of the respondents underwent hemodialysis for 3-6 years, as many as 14 respondents (28%)

Characteristics of respondents based on family support in hemodialysis patients.

Table 1 3.6 Characteristics of respondents based on family support in hemodialysis patients.

No	Family Support	f	%
1	Less	0	0%
2	Enough	16	32%
3	Good	34	68%
Total		50	100%

Data Source: Research Questionnaire

Based on table 3.6, it can be seen that most of the respondents received good family support as many as 34 people (68%).

Characteristics of respondents based on compliance with fluid restrictions

Table 1 3.7. Characteristics of respondents based on compliance with fluid restrictions

No	Compliance	f	%
1	Disobedient	0	0%
2	Lack of compliance	25	50%
3	Obey	25	50%
Total		50	100%

Data Source: Research Questionnaire

Based on table 3.7, it can be seen that half of the respondents are in the less compliant category and the other half are in the obedient category, namely 25 respondents (50%).

The relationship between family support and compliance with fluid restrictions in hemodialysis patients in the Hemodialysis Room, William Booth Hospital Surabaya

Table 3.8 cross tabulation table between family support and adherence to fluid restriction in hemodialysis patients.

Evaluation			
No Pain	Rating Scale	# obedient	< obedient
obedient			
1. Less	0 (0%)	0 (0%)	0 (0%)
2. Enough	0 (0%)	14 (28%)	2(4%)
3 Good	0 (0%)	11(22%)	23(46%)
Total		0 (0%)	25(50%)

Spearman Rank Test Results: p = 0.000

Based on table 5.8, it can be seen that the majority of respondents with good family support categories are 34 people (68%) which are divided into obedient categories as many as 23 people (46%) and non-compliant categories as many as 11 people (22%). From the statistical test results using the Spearman Rank correlation, the p value of 0.000, which means that there is a relationship between family support and fluid restriction compliance in hemodialysis patients in the Hemodialysis Room, William Booth Hospital Surabaya. Family support for hemodialysis patients in the Hemodialysis Room of the Hospital. William Booth Surabaya.

Based on table 6 above, it is known that most of the respondents have a good family support category as many as 34 people (68%). This is in accordance with the theory from Akhmadi in Yuliana (2015) that family members assume that supportive people are always ready to provide help and assistance if needed. Patients with good support will provide positive coping. According to Dolan et al in Yuliana (2015), that family support can strengthen each individual, create family strength, increase self-esteem, has the potential as the main prevention strategy for the whole family in facing the challenges of daily life and has relevance in society. in a stressful environment. According to Niven (2016), family support is one of the factors that influence non-compliance. Families can help remove the temptation to disobedience and families are often a support group for obedience. The five tasks of family health according to Friedman in Niven (2016) are recognizing family health problems, making decisions about appropriate health actions for the family, caring for families with health problems, modifying the family environment to ensure family health and using health facilities.

The support given by the respondent's family based on the results of the study was 34 people (68%) in the good category. It can be concluded that the

respondent's family is very concerned and cares about the condition of his family members undergoing hemodialysis. Respondents who received high support from their families indicated that the family played an important role in assisting respondents in undergoing hemodialysis therapy, especially compliance with fluid restrictions. Based on the description above, the researcher's opinion is that patients who have just undergone hemodialysis feel that their lives are not long, useless, and hopeless so that patients always ask the nurse to be given euthanasia injections. Here the role of the nurse educator in the family is to always support the patient in undergoing the hemodialysis program such as escorting or accompanying the patient during hemodialysis, preparing to drink according to the doctor's recommendation (600cc/24 hours including gravy food), bringing food while undergoing hemodialysis, and sabra in caring for sick families. Compliance with fluid restriction in hemodialysis patients in the Hemodialysis Room of the Hospital. William Booth Surabaya.

Based on table 7 above, it is known that half of the respondents have a fluid restriction compliance category in the compliant category as many as 25 people (50%). Patients with chronic renal failure who do not comply with fluid restrictions will experience fluid accumulation, causing pulmonary edema and hypertrophy of the left ventricle (Smeltzer & Bare, 2014). Accumulation of fluid in the body causes the heart and lungs to work hard, which results in the patient's physical response being tired and short of breath, physical activity is also impaired both during light and moderate activities (Riyanto, 2016).

Based on table 1 above, it is known that almost half of the respondents aged between 36-46 years were 14 people (28%). According to Sinaga (2014) stated that someone aged 36-46 years will have better compliance than the elderly age. This is because at the age of 36-46 years, they are still in their productive period, so they have a greater spirit to be able to live optimally.

Based on table 4 above, it is known that almost half of the respondents are not working as many as 24 people (48%). The work will be related to patient compliance. People who are not working have more time for treatment. In addition, people who do not work think more focused on the treatment process (Sinaga, 2014).

Based on the description above, the researcher's opinion is that patients who are always accompanied or accompanied by their families are more enthusiastic and obedient in undergoing hemodialysis therapy here, it can be seen that initially patients feel hopeless, become obedient to the hemodialysis treatment program including fluid restrictions. In addition, patients who experience a weight gain of more than 3 kg, if they receive good support from their family, they

will experience a weight gain of less than 3 kg and do not experience edema, shortness of breath, etc.

Relationship between family support and fluid restriction compliance in hemodialysis patients in the Hemodialysis Room, William Booth Hospital, Surabaya Based on table 8 above, it is known that the majority of respondents with good family support categories are 34 people (68%) which are divided into obedient categories as many as 23 people (46%) and non-compliant categories as many as 11 people (22%). From the statistical test results using the Spearman Rank correlation, the p value of 0.000, which means that there is a relationship between family support and fluid restriction compliance in hemodialysis patients in the Hemodialysis Room, William Booth Hospital, Surabaya 2022.

Compliance with fluid restriction in patients with chronic kidney failure with hemodialysis therapy is associated with the length of hemodialysis, almost half of the respondents with hemodialysis duration of 3-6 years were found to be 14 people (28%). The length of time undergoing hemodialysis therapy has an influence on knowledge, attitudes and compliance with fluid restrictions. Each patient takes a different amount of time to improve his knowledge and attitude. The longer the patient undergoes hemodialysis therapy, the more knowledge will be gained and can have a positive attitude towards fluid diet compliance. The longer the patient undergoes hemodialysis therapy, the more obedient the patient is because the patient has reached the acceptance stage (Sapri, 2008). According to Kamaluddin (2009) the longer the patient undergoes hemodialysis therapy, the better the patient's adaptation because the patient has received a lot of health information and is able to control fluid restrictions in maintaining his health so that patients become more obedient.

The results of this study are in line with the results of research conducted by Nurkhayati in Yuliana (2015), the family plays an important role in the success of hemodialysis therapy both during pre hemodialysis and during the dialysis process because support from the family can affect patient behavior and this behavior gives health outcomes as shown. desired. During hemodialysis therapy patients feel the support provided by the family is able to relieve stress and psychological burden.

Based on the description above, the opinion of the research is that patients who have a younger age are also more obedient to fluid restrictions because they think that there are families who still need it, besides that they want to see their children succeed.

CONCLUSION

Based on the research that has been done, it can be concluded as follows:

1. Most of the respondents have a good family support category as many as 34 people (68%)
2. Half of the respondents have a fluid restriction compliance category in the obedient category as many as 25 people (50%)
3. There is a relationship between family support and compliance with fluid restrictions in hemodialysis patients in the Hemodialysis Room, William Booth Hospital, Surabaya 2022.

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RELATIONSHIP OF WORKLOAD WITH STRESS LEVEL NURSES TREATING COVID-19 PATIENTS

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ABSTRACT

Nurses have an important role in providing good quality health services in hospitals as the frontline in handling confirmed cases of Covid-19 which causes the workload to increase, resulting in a workload both physically and mentally, this causes responses such as increased work stress. This study aims to determine the relationship between workload and stress levels of nurses caring for Covid-19 patients. This research is a quantitative research with a cross sectional approach. This research instrument uses a questionnaire, the sampling method is total sampling. The population in this study were all nurses in the isolation room of William Booth Hospital Surabaya as many as 35 respondents. The results showed that the nurse's workload was mostly medium workload as many as 20 (57.1%), the stress level of nurses was mostly moderate stress as many as 27 respondents (77.1%). Data analysis using the Spearman test obtained a value of > 0.05 , which means H_0 is accepted, H_1 is rejected, so there is no relationship between workload and stress levels of nurses who treat Covid-19 patients at William Booth Hospital Surabaya. Thus, to overcome the level of stress at work that can be done by reviewing, redesigning the workload by looking at the quantity of human resources and it is necessary to pay attention to work schedules and good organizational management.

Key words: covid-19, nurses, stress level, workload

INTRODUCTION

Coronavirus Disease 2019 is currently a serious problem in the world. This incident began in the city in the Wuhan area, in China when the pneumonia outbreak was first discovered, it was not clear what caused it (Lu, Stratton and Tang, 2020). This virus has been named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and can move rapidly from human to human through direct contact, (Li et al., 2020; Rothe et al., 2020). Hospitals with this pandemic are required to be able to provide services to every patient who comes with complaints that lead to Covid-19. Hospitals in carrying out their functions are expected to always pay attention to social aspects when providing health services to the community. The success of a hospital in carrying out its functions is marked by the quality of extra services in a hospital. The service quality of a hospital is influenced by several factors, one of which is the most dominating human resources. One of the professions that plays an important role in providing health services is a nurse. According to Baumann (2007) nurses are the

most important resource in providing hospital services where in almost every country 80% of health services are provided by nurses. In addition, a nurse also has enormous duties and responsibilities to patients and their families, so that a nurse is required to be professional in doing her job (Hariyono et al, 2009).

The workload of nurses is quite numerous and varied. Kurniadi (2013) defines a nurse's workload as all activities or activities carried out by a nurse while serving in a nursing service unit. Where According to Irwandy (2007), an analysis of the workload of nurses can be observed based on their duties in providing services or nursing care. One of the factors that affect the workload of nurses is the number of job descriptions of nurses in one shift, including: bed, TTV, SOAP, report the patient's condition, take blood samples / swabs, perform patient administration tasks, bribe patients, give injections, distribute drugs, assisting BAK/BAB, accompanying visiting doctors. During the pandemic, the workload of nurses is not only due to their job descriptions, but nurses also think about their own safety and security so they are not exposed. The high

workload in handling Covid-19 cases and the use of level 3 personal protective equipment (PPE) greatly affect the decline in body immunity, so the risk of contracting the virus increases and increases stress pressure on nurses, so a form of intervention is needed to minimize the pressure experienced by nurses. nurse. According to Yosiana, Hermawati and Mas'ud, (2020) work stress is a consequence of a high workload and it occurs because the optimal work environment is not supported. Based on observations made by researchers so far, nurses in carrying out services at hospitals during the Covid-19 pandemic, nurses provided services to patients more than their normal working hours, considering that the number of Covid cases at that time was very high. There are several expressions of nurses who say that while treating Covid-19 patients they are often angry, unable to control their emotions, easily offended, sometimes unable to overcome the problems they face while they are serving in isolation rooms.

According to the world health organization (WHO) on April 6, 2020, the number of sufferers in the world was 1,278 523 infected with Covid-19 cases. Of the 1.2 million positive cases of Corona, 69,757 (5.46%) Covid-19 patients died and 266,732 (20.9%) people have recovered from the total positive cases. In Indonesia, from 3 January 2020 to 17:11 CEST, 31 August 2021, there were 4,089,801 confirmed cases of COVID-19 with 133,023 deaths, reported to WHO. As of August 23, 2021, a total of 91,526,084 doses of the vaccine have been administered. According to statistical data on the spread of Covid-19 in Surabaya. As of June 27, 2021, it has reached 21,342 new cases and 17,914 cases on average per 7 days, and continues to increase. On July 16, 2021, the highest number reached 56,757 new cases and 44,145 cases on average per 7 days. Likewise, what happened at William Booth Hospital Surabaya, seen from the BOR IGD William Booth Hospital Surabaya since April was 0%, May was 0% and June was 78.67%. This shows an increase in Covid-19 cases at the William Booth Hospital in Surabaya. The impact of the increase in Covid-19 cases has caused the full treatment room (covid isolation room) used to treat patients. With this increase, the Director of the William Booth Hospital Surabaya issued a temporary lockdown letter starting on June 29, 2021. The decision to lock down was because several health workers were exposed to as many as 24 people. Specifically in the ER, the number of health workers who were exposed was 9 people, consisting of 4 doctors and 5 nurses. One of the causes of exposure to health workers is that health workers feel the workload has increased because the number of patients and the number of

nurses is not balanced. The increased workload also causes stress for nurses. Signs of stress that usually occur in nurses are nurses feeling restless, cold sweats, chest palpitations, not focusing on doing work, and excessive fear due to the high risk of transmission

For nurses, in addition to interacting with patients, nurses are also faced with other workloads, such as working as much as possible with the limited number of personnel and busy work schedules. In addition, they are often faced with critical patient conditions that threaten the patient's death, or the uncertainty of healing time (Lailani, 2012). Conditions with this excessive workload will be a source of work pressure for nurses to work so that it becomes a determinant of the quality of performance for nurses. According to (Marquis & Huston, 2010) workload in the context of nursing is all activities or activities carried out by nurses while on duty in a nursing service unit. Meanwhile (Hadley et al., 2004) describes the workload of nurses as the number of treatments performed on patients based on the nurse's assessment of the patient's nursing needs, and other care the patient needs. Work burnout is related to job stress which has a potentially negative impact on an individual's physical and psychological health and its impact on the effectiveness of an organization. According to Mokhtari, Moayedi and Golitaleb, (2020) during this pandemic nurses were exposed to various stresses due to the nature of their work including prolonged and constant contact with critically ill patients and felt a high level of responsibility. Similarly, the physical effects that occur on nurses include fatigue, emotion, indifference, loss of concentration and uncooperative communication. These events have a psychological and physiological impact that can lead to consequences such as exposure to various diseases, absenteeism, decreased performance, impaired emotional function, decreased productivity, increased risk of anxiety, which endanger patient safety.

Nursing is considered as one of the most stressful professions, so nurses are exposed to many demands of stress and pressure in the clinical area, therefore nurses face the risk of various health, safety, and other problems. with programs that can be carried out to reduce work stress, namely by reviewing, redesigning the workload by looking at the quantity of available human resources and the need to pay attention to shifts or work schedules, leadership or management models that apply to the organization and conducive conflict management. In addition, there are several strategies that nurses can take to overcome them, or reduce them, including the following: Strive to communicate well at all levels.

Communication is one of the best ways for nurses to reduce work stress, preferably communicating with patients, co-workers, doctors or other members of the healthcare team. Regular exercise routine and good nutrition consumption, just because the nurse is busy, it does not mean that the nurse can neglect her health and maintain a healthy diet with regularly scheduled meals. This will not only increase your stamina but can also really help increase your efficiency and patience levels.

RESEARCH METHODS

This study uses a correlation study design with a cross sectional approach. The population in this study were all nurses who took care of Covid-19 patients in the isolation room of William Booth Hospital Surabaya as many as 35 nurses using the total sampling technique. The independent variable in this study is the workload of nurses and the dependent variable is the stress level of nurses caring for Covid-19 patients. The instrument used is a questionnaire via google form. Statistical analysis used is the Spearman test with p: value > 0.05.

RESULTS AND DISCUSSION

The results of this study are described as follows:

General data

1. Characteristics of Respondents Based on Gender

Table 1. Characteristics of Respondents Based on Gender of Nurses Caring for Covid-19 Patients Isolation Room at William Booth Hospital Surabaya.

Gender	Frequency (f)	Percentage(%)
Male	9	25.7%
Female	26	74.3%
Total	35	100%

Based on table 1, it appears that most of the respondents are female as many as 26 nurses (74.3%)

2. Characteristics of Respondents Based on Age.

Table 2 Characteristics of Respondents Based on Age of Nurses Caring for Covid-19 Patients Isolation Room at William Booth Hospital Surabaya

Age	Frequency(f)	Percentage(%)
20-30 years	13	37.1%
31 - 40 years	8	22.9%
41 - 50 years	12	34.3%

> 50 years	2	5,7%
Total	35	100%

Based on table 2, it can be seen that respondents aged 20-30 years are the largest respondents with a total of 13 nurses (37.1%).

3. Characteristics of Respondents Based on Education

Table 3 Table of Characteristics of Respondents Based on Education of Nurses Caring for Covid-19 Patients Isolation Room at William Booth Hospital Surabaya.

Education	Frequency (f)	Percentage (%)
Diploma 3	26	74.3%
S1	9	25.7%
Total	35	100%

Based on table 3, it is known that respondents with D3 education level are the majority of respondents as many as 26 nurses (74.3%).

4. Characteristics of Respondents Based on Years of Service

Table 4 Characteristics of Respondents Based on Working Periods of Nurses Caring for Covid-19 Patients Isolation Room at William Booth Hospital Surabaya.

Working Period	Frequency (f)	Percentage (%)
< 1 year	6	17.1%
5 - 10 years	11	31.4%
11 - 20 years	4	11.4%
>21 years	14	40%
Total	35	100%

Based on table 4, it is known that respondents with a working period of more than 21 years (> 21) the results contain a maximum of 14 nurses (40%)

Special Data

1. Nurse Workload

Table 5 Workload of Nurses Caring for Covid-19 Patients in Hospital Isolation Rooms. William Booth Surabaya

Workload	Frequency (f)	Percentage (%)
Light Workload	2	5.8%
Medium Workload	20	57.1%
Heavy Workload	13	37.1%
Total	35	100%

Based on table 5, it can be seen that the level of workload of nurses caring for Covid-19 patients in the Isolation Room of William Booth Hospital Surabaya is at a moderate level of workload, namely as many as 20 respondents (57.1%)

2. Nurse Stress Level

Table 6 Table of Stress Levels for Nurses Caring for Covid-19 Patients in the Isolation Room of William Booth Hospital Surabaya.

Stress Level	Frequency (f)	Percentage (%)
light Stress	1	2,9%
Medium Stress	27	77.1%
Heavy Stress	7	20%
Total	35	100%

Based on table 6, it can be seen that the stress level for nurses who treat Covid-19 patients in the Isolation Room of William Booth Hospital Surabaya is in moderate stress level, namely as many as 27 respondents (77.1%)

3. Relationship between workload and stress level of nurses

Table 7 Cross Tabulation Between Workload and Stress Levels of Nurses Caring for Covid-19 Patients in Hospitals. William Booth Surabaya.

Workload	Light %	Medium %	Heavy %	Total
Light	0	2	0	2
Medium	0	16	4	20
Heavy	1	9	3	13
Total	1	27	7	35

Statistical test p : 0.934, spearman test

Based on table 7, it can be seen that the relationship between the workload of nurses caring for Covid-19 patients in the Isolation Room of William Booth Hospital Surabaya, shows that from 35 respondents it can be seen that nurses with heavy workloads have mild stress as much as 1 respondent (7.7%), nurses with moderate workloads of moderate stress and 4 respondents (20%). Based on statistical calculations using SPSS 25, a p value of 0.934 (> 0.05) was obtained, which indicates that statistically H0 is accepted, meaning that there is no relationship between workload and nurse stress.

DISCUSSION

1. Identify the Workload of Nurses Caring for Covid-19 Patients

Based on table 5, it can be seen that the level of workload of nurses caring for Covid-19 patients in the Isolation Room is at a moderate level of workload, namely as many as 20 respondents (57.1%). Workload according to Meshkati in Astianto and Suprihhadi (2014) can be defined as a difference between the capacity or ability of workers and the demands of the work that must be faced. Considering that human work is mental and physical, each has a different level of loading. The level of loading that is too high allows the use of excessive energy and overstress occurs, on the contrary the intensity of the load that is too low allows boredom and saturation or understress. Kurniadi (2013) defines a nurse's workload as all activities or activities carried out by a nurse while serving in a nursing service unit. In addition, internal factors that affect the workload are factors that come from within the body itself as a result of reactions from external workloads. In this study also found that respondents aged 50 years as many as 2 respondents with a light workload (5.8%). Here it can be seen that the more mature age the better in adapting to work compared to the age of 20-30 years as many as 13 respondents (37.1%) they have not fully adapted to work so that this research finds a high workload at this age.

the factors that affect the workload of nurses is the number of job descriptions of nurses in one shift, including: perbed, TTV, SOAP, ng the patient's condition, taking blood samples / swabs, performing patient administration tasks, bribing patients, giving ins, distributing drugs, assisting BAK/BAB, anying visiting doctors. During the pandemic, the workload of nurses is not only due to their job descriptions, but nurses also think about their own safety and security so they are not exposed. The high workload in handling Covid-19 cases and the use of level 3 personal protective equipment (PPE) greatly affect the decline in body immunity, so the risk of contracting the virus increases and increases stress pressure on nurses, this is what causes most respondents to say that they have workload at the moderate level of 20 respondents (57.1%) and the heavy level of 13 respondents (37.1%).

Based on table 3 shows the majority of nurses have the latest education D3 Nursing as many as 26 respondents (74.3%). From this research, it can be related to the theory. According to Herzberg, education can spur one's self-improvement. Education indirectly directs behavior in a constructive direction, including work behavior in order to fulfill goals. Saydam in Inayah (2015) describes a person's level of

education can affect work motivation, work with a higher education background shows relatively better work motivation when compared to a low educational background. In this study, some respondents saw that their workload during this pandemic was moderate and heavy because the respondents were in a state of exhaustion and with the level of education, most of which were D3. objective because of the increased workload than usual so that the results are mostly at a moderate level.

2. Identify the Stress Level of Nurses Caring for Covid-19 Patients

Based on table 6, it can be seen that the stress level for nurses who treat Covid-19 patients in the Isolation Room of William Booth Hospital Surabaya is in moderate stress level, namely 27 respondents (77.1%). According to Yosiana, Hermawati and Mas'ud, (2020) work stress is a consequence of a high workload and it occurs because the optimal work environment is not supported. Factors that cause nurse stress during the pandemic include: gender, age, work environment factors (workplace noise, workload factor with working hours and anxiety factors, excessive leadership style, this is in line with research conducted by Erina , (2020). In this study, it was found that there were 14 respondents (40%) of respondents with a working period of >21 years and 4 respondents (11.4%) with a working period of 11-20 years. The length of time people work in an organization will make that person feel at home and can adapt to work.

During this pandemic nurses were exposed to a variety of stressors due to the nature of their work including prolonged and constant contact with critically ill patients and a high level of responsibility. Similarly, the physical effects that occur on nurses include fatigue, emotion, indifference, loss of concentration and uncooperative communication. These events have a psychological and physiological impact that can lead to consequences such as exposure to various diseases, absenteeism, decreased performance, impaired emotional function, decreased productivity, increased risk of anxiety, which endanger patient safety. In research conducted by respondent researchers who have a working period of >21 years as many as 14 respondents (40%) where they have much longer experience so that they are better able to deal with stress and difficulties in carrying out their duties as a nurse who treats Covid-19 patients in the ward. isolation, so that in this study the stress level of nurses was more at a moderate level.

3. Analysis of the Relationship between Workload and Stress Levels of Nurses Caring for Covid-19 Patients

Based on table 8, it can be seen that the relationship between the workload of nurses caring for Covid-19 patients in the Isolation Room shows that most of the respondents who have a moderate workload also have a moderate stress level, namely 16 (80%) and most of the respondents who have a heavy workload. with a moderate level of stress as many as 9 (69%). From the results of statistical tests using the Spearman Rank correlation, the p value of 0.934 was obtained. The strength of the correlation between the two variables is in the category of very weak correlation strength with a correlation coefficient of 0.014. Judging from the direction of the correlation, the two variables have a positive correlation coefficient, which means that the relationship between the two variables is unidirectional, which means that when the workload variable increases in value, the value of the stress variable will also increase, besides this research was taken during a pandemic but the data collection was not during a pandemic. pandemic with the increasing number of Covid patients so that this situation affects the stress level of the respondents. From the description above, it can be concluded that there is no relationship between the workload of nurses and the stress of nurses caring for Covid-19 patients. Based on table 1 above, it appears that most of the respondents are female as many as 26 nurses (74.3%), those aged 20 - 30 years are the largest respondents with 13 nurses (37.1%), with a D3 level of education as many as 26 nurses (74,3%), with a working period of more than 21 years (>21) the results contain a maximum meaning of 14 nurses (40%). Most of the age in productive age. This is in line with research conducted by Purwindasari (2011) which shows that the age factor is related to work stress.

The highest percentage of nurses who are stressed is female. The large percentage of women who became respondents was due to the fact that the majority of nurses in the Isolation Room were female. The researcher concludes that this study shows that the majority of respondents who experience the most anxiety when facing work are women. Anxiety that arises in women due to excessive autonomic reactions caused by thinking too much about results and worrying about not graduating and being overly sensitive. As is the case with the Covid-19 pandemic, negative events and situations as stress-triggering factors will be very vulnerable to causing women to become more stressed. Based on the thought that female nurses will be more thorough, more patient, more respectful, more responsible in completing tasks,

so that it is not uncommon for leaders to give additional assignments because they feel sure that they will be completed well.

The fear of contracting the Covid-19 disease, being away from family, a very complex workload is one of the factors causing this stress. Work burnout is related to job stress which has a potentially negative impact on an individual's physical and psychological health and its impact on the effectiveness of an organization. During this pandemic nurses are exposed to a variety of stressors due to the nature of their work including prolonged and constant contact with critically ill patients and a high level of responsibility. Similarly, the physical effects that occur on nurses include fatigue, emotion, indifference, loss of concentration and uncooperative communication. These events have a psychological and physiological impact that can lead to consequences such as exposure to various diseases, absenteeism, decreased performance, impaired emotional function, decreased productivity, increased risk of anxiety, which endanger patient safety.

CONCLUSION

The workload of nurses caring for Covid-19 patients in the Isolation Room is mostly at a moderate workload level, namely as many as 20 respondents (57.1%)

The stress level of nurses caring for Covid-19 patients in the Isolation Room mostly had a moderate stress level, namely 27 respondents (77.1%)

There is no relationship between Workload and Stress Level of nurses caring for Covid-19 patients in the Isolation Room.

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SOCIAL PARTICIPATION OF CORN FARMERS IN AGROPOLITAN PROGRAM AT GORONTALO DISTRICT

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ABSTRACT

This study aims to analyze the form of participation of corn farmers in the agropolitan program and analyze the form of the agropolitan program. This research was conducted in Gorontalo Regency with a farmer group analysis unit. This study uses a qualitative-quantitative approach with an exploratory-sequential strategy which means that the research begins with qualitative and then is strengthened by quantitative data and analysis to strengthen qualitative data. Data collection techniques used participant observation, in-depth interviews, and documentation studies. The data analysis technique used three-stage analysis as a qualitative analysis, and frequency tabulation as a quantitative analysis. The results obtained are as follows (i) the forms of farmer participation in the agropolitan program include mind participation, material participation, and labor participation. (ii) The forms of agropolitan programs include (i) distribution of assistance for agricultural facilities and infrastructure, (ii) training and education such as field schools, weekly discussions related to agricultural issues. The conclusions of the study are (1) farmers are fully and totally involved in the agropolitan program because it is related to their future and that of their families. (2) the agropolitan program covers two aspects, namely the hard program and the soft program.

Key words: agropolitan program, corn farmers, empowerment, social participation

INTRODUCTION

Gorontalo Regency is known as an area with corn crop potential. The potential for corn plants is because this area has farmers who have been planting corn for a long time other than rice plants. However, corn crops have so far received less attention from the government while corn farmers only plant corn as a distraction after the rice harvest. Corn farmers also seem not to be serious about planting corn so that the corn yields are not significant, often do not get profitable harvests, and often lose. This has also caused many other farmers to no longer want to grow corn and choose other productive activities.

The launch of the national agropolitan program by the central government established Gorontalo Province as one of the pilot areas, in addition to West Nusa Tenggara Province, especially in Bima Regency, and one of the provinces in Sumatra (Pertanian, 2021). The Gorontalo provincial government through Governor Fadel Muhammad also followed up the program through Gorontalo provincial government regulations in its long-term development plan (Editor, 2017). The agropolitan program requires the involvement of corn farmers as an important part of the success of this program. Farmers' social involvement or participation is a mandatory requirement and therefore all corn farmers are required to register themselves so that they are recorded in the government database. Corn farmers are one of the most

important social entities in the social life of rural communities. Farmers (maize) are also categorized as a 'poor' social group in rural communities. Although this community does not receive serious attention, it has great potential to be empowered. Moreover, history has proven that farmers can be self-sufficient in food in the New Order era which has an impact on improving the welfare of Indonesian farmers (Arndt, 1983; Febriyani et al., 2020). This shows that basically all Indonesian people can do their best if they get support from the Indonesian government.

Theoretically, social participation is the total involvement of a person or community in an activity or program. Totality in question includes thoughts, feelings, and physical (Sastroetro, 1988). There are also those who include a moral element in the engagement. A number of other opinions state that social participation is a person's involvement from planning, implementation, to evaluation (Hidayatullah, 2019). There are also those who include material, thought, and energy elements as a form of social participation (Bahri & Halim, 2019). Therefore, it can be concluded that social participation is the involvement of corn farmers in agropolitan programs that include elements of thought, feeling, and physical, as well as material, and thoughts from the planning, implementation to monitoring or evaluation phases.

The agropolitan program as a government program is oriented towards empowerment because the substance of the program is 'awareness' or changing the

mindset of farmers in farming. The concept of empowerment in this program is different from the concept of the New Order era, where all the ideas and program implementation came from the government. In this program, the idea and infrastructure are from the government but the implementation is done by the farmers themselves because they are the ones who know the exact mechanism. So, the government's position is merely to be a facilitator who is bridged by the field extension workers. In its implementation, the government conducts a dialogue with farmers so that there is agreement on various strategies for implementing the program (Waris, 2012).

The urgency of this study is focused on farmers' social participation and forms of activities in agropolitan programs as farmer empowerment programs. Thus, the orientation of the program is directed at the involvement of farmers as an important element in this program. Thus, this study is focused on answering the following research questions: (i) how is the form of social participation of corn farmers in agropolitan program activities, (ii) how activities take place in agropolitan programs. Furthermore, the contribution of this research is (i) a reference for the government in formulating community-based activities, (ii) a reference for community empowerment stakeholders in determining targets or targets in an empowerment program. (iii) build awareness and independence of corn farmers in carrying out innovation and creativity in their work.

RESEARCH METHODS

Types of research

This study is a mixed study; qualitative-quantitative with exploratory-sequential strategy. This strategy indicates qualitative research as the initial stage and after analyzing qualitative data, the second stage takes place, namely quantitative research to data analysis. Quantitative data analysis is a supporting dimension of qualitative data (Creswell, 2013).

Research site

The location of this research is in Gorontalo Regency, Gorontalo Province, as follows.



Figure 1. Gorontalo district map, 2022.

Data source

The data sources for this research are corn farmers who are members of farmer groups in Gorontalo

Regency. There are 10 groups that are used as the unit of analysis with 5 farmers each.

Table 1. Name of farmer group as unit of analysis

No.	Farmer Group	Members	Asal
1	Sinar Helumo	8	Desa Helumo
2	Alo Satu	15	Dusun Alo
3	Helumo	10	Dusun Budidaya
4	Surya Mas	9	Dusun Kayu Mas
5	Teratai	8	Desa Ayumolinggo
6	Agro Makmur Jaya	11	Dusun Bukit Aren
7	Dewi Sri	13	Dusun Helumo
8	Ilandala Bersatu	12	Dusun Yilandala
9	Huyula	10	Desa Pongoggaila
10	Harmoni Tani	11	Desa Buhu

Source: primary data processing, 2022.

Data collection

Qualitatively, this study collects data using participant observation, in-depth interviews, and documentation studies. While quantitatively, this study uses a questionnaire technique in collecting data.

Data analysis

The analysis of the qualitative data of this study was divided into three stages, namely reduction, categorization, and conclusion. While quantitative analysis uses frequency tabulation.

RESULTS AND DISCUSSION

Forms of corn farmers' social participation

1. Mind participation

The thought participation referred to in this study is the involvement of corn farmers in ideas in providing considerations regarding the problems faced by them in the future. At the same time, the field extension workers also held a dialogue with the farmers who were the subjects of the program. They held a dialogue about the mechanism for implementing their activities. Related to this, members of the Surya Mas farmer group stated that when the agropolitan program was implemented, the extension workers invited farmers to discuss joint activities for the smooth running of these activities..

The Helumo farmer group members also shared the same thing that they met with the field extension workers who worked in their area and they agreed on the type of activities they carried out, so that they were small but effective and useful..

Another farmer group represented by Alo Satu revealed that the extension worker should invite the farmers to discuss the strategy for implementing the activities because each farmer group has different characteristics so that the implementation of activities must be different..

The meeting between farmers and extension workers indicated the involvement of farmers in ideas. They provide input for extension workers to consider. So from the start, the involvement of

farmers in contributing their thoughts has been going on.

2. Energy participation

Labor participation means that farmers are involved in carrying out activities in the form of practice. They do things that contain elements of skills such as land cultivation skills, fertilization skills, poison skills, and harvest skills. All these skills are included in the practical material presented by the extension workers by giving examples and at the same time the farmers put them into practice.

Regarding the practice of these skills, a member of the Dewi Sri farmer group told that they still had to practice directly what the extensionist had set out to do.

The same statement was also expressed by members of the Agro Jaya farmer group that their involvement in the program is absolutely mandatory, not only knowledge but also practical skills. So, knowledge of extension workers on how to farm or cultivate land must still be practiced because it is different from their experience so far.

Related to this, a field extension worker from Ulubala sub-district said that they were obliged to disseminate productive agricultural knowledge because so far farmers have not been productive so they need new knowledge. In that case the farmer sacrifices his energy to learn new things.

All agricultural skills as new knowledge that farmers gain through direct field practice, indicate the involvement or participation of farmers in terms of labor. They go to the location of the extension worker with other farmers and then follow the skill directions from the extension worker until they can do it repeatedly and generate new knowledge for farmers.

3. Material Participation

Material participation occurs when farmers have to buy their own agricultural needs in the form of fertilizers and poisons. They have to find and find it themselves and buy it using their own money in buying fertilizers and poisons at the farmer's shop. This has to happen because there is not always a stock of aid available so that when farmers need it, they don't have to wait long, they can get it directly at the farmer's shop at a subsidized price. However, the important thing here is that they still have to spend their own funds. Usually also, the distribution of fertilizers and poisons is only distributed in limited quantities while farmers have a variety of land areas where the need for fertilizers and toxins is more than the land area..

The members of the Makmur farmer group raised the above problem that they are still grateful for the government's assistance even though it is not enough. They have to find other additions by buying their own at the farm shop. The Teratai farmer group member also expressed the same thing that the price set at the farmer's shop is a subsidized price so that farmers only spend half the price to buy fertilizer or

poison. So the point is that farmers are still being helped so they don't burden everything to the government.

Table 2. Social participation of farmer groups

No.	Farmer groups	Participation		
		Mind	Power	Material
1	Sinar Helumo	√	√	√
2	Alo Satu	√	√	√
3	Helumo	√	√	√
4	Surya Mas	√	√	√
5	Teratai	√	√	√
6	Agro Makmur Jaya	√	√	√
7	Dewi Sri	√	√	√
8	Ilandala Bersatu	√	√	√
9	Huyula	√	√	√
10	Harmoni Tani	√	√	√

Source: primary data processing, 2022.

Table 2 above explains that all farmer groups are totally involved in all elements of activity and participation, namely material, thought, and energy. This must happen as expected in the vision and mission of the agropolitan program based on the interests of corn farmers. The vision and mission as well as their implementation synergize together so that corn farmers are aware and ultimately involved that the program is for their future.

Forms of Agropolitan Program Activities

1. Field School

Field school is a term used by field extension workers to emphasize that this agropolitan activity has its own color in the form of the transfer of knowledge, attitudes, and skills to farmers. In educational language, these three things are termed as cognitive, affective, and motoric.

In the implementation of field schools, non-formal activities take place in the field, especially in the fields or in bamboo halls around rice fields. Such an atmosphere makes farmers more relaxed compared to indoors like in a hall. This situation also allows the extension worker to give an example directly in the fields of a skill. Another interesting thing is that they can also directly discuss or exchange ideas with farmers and extension workers regarding the problems they face when carrying out their practice.

The experiences above, as stated by members of the Teratai farmer group that field schools are interesting for them because they gain a lot of new knowledge that is different from their experience so far, so they also need to learn again for their future.

A member of the Agro Makmur Jaya farmer group also shared the same fact that it was fun to participate in field school activities because they got new experiences with better results. They get an explanation why so far the farmers are not getting good and quality harvests. They are also trained to change for the better.

Other members of farmer groups such as Maju Bersama also revealed that they did not get

bored of participating in field school activities because learning was relaxed and directly practiced on location. The extension workers explain and give examples first, then the farmers who practice it repeatedly until they can because this is just an exercise. The point is, you can practice it in your own garden.

Field schools provide new knowledge, form new mindsets and attitudes of farmers, as the subject of teaching. Skills just follow and remain important. But behind all that is a change in the mindset and openness of individual farmers that they must be creative and innovative and cannot continue to depend on government assistance. This is what field school is for.

2. Discussion and Meeting

Discussions and meetings, both of which are routine activities of farmers and extension workers. In the meeting they discussed many things, especially problems faced in the field. In meetings, farmers are also required to express their ideas regarding what is important for them to communicate because through communication they can express their thoughts. This is as stated by a member of the Harmoni Tani farmer group that they are conditioned to speak when there is a meeting, they are also asked to discuss finding solutions to problems encountered in the field. The problem is free, the important thing is that it can enliven the atmosphere and create brotherhood.

Other members of the farmer group from Gapura revealed that the atmosphere of the meetings and discussions they had held so far seemed to have strengthened their bonds of solidarity with fellow farmers to undergo the struggle for the welfare promised in the agropolitan program. This makes them much more serious about cultivating their agricultural land.

Field school is a new alternative for community empowerment which is modified according to the socio-cultural conditions of corn farmers in Gorontalo. This is also reinforced by the government's commitment to reduce field extension workers to assist farmers until they succeed.

There are two main activities in the agropolitan program that are oriented towards empowerment, namely the implementation of field schools, and the discussions and meetings they often hold with the aim of achieving knowledge transformation among them. Both activities were organized by all farmer groups with different impressions and experiences. However, as an empowerment program, the substance of its activities is the awareness of their mindset towards their unchanging condition. Therefore, their mindset was intervened to realize their condition and determined to get out of the problem by finding alternatives from their experiences so far.

This agropolitan program has achieved its success because it has succeeded in exporting large amounts of corn to foreign countries, especially the Philippines. This indicates that farmers are successful in producing quality corn harvests. Thus, it can be assumed that with the corn harvest, farmers get a large profit from the sale of their corn, which means increasing the welfare of corn farmers.

This success cannot be separated from the maximum participation of farmers with everything they have, physically and mentally, body and soul, material and non-material. The high participation is also interrelated with the government's maximum efforts to fulfill its promise to the community so that they are involved in it. Thus, all components related to the agropolitan program are a causal entity so that each component contributes to the achievement of the program's objectives.

CONCLUSION

The agropolitan program is said to be successful because the farmer's involvement as a whole includes thoughts, energy, and materials. Farmers also involve feelings, morals, and physical activities in it. This is how the totality of participation looks like.

In this program, farmers' participation is the result of the government's relentless power in encouraging farmers to make this program a part of their lives. Therefore, farmers will consider it urgent to do this with government support.

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Table 3. The form of agropolitan program activities

No.	Farmer group	Activities	
		Field school	Discussion/met
1	Sinar Helumo	√	√
2	Alo Satu	√	√
3	Helumo	√	√
4	Surya Mas	√	√
5	Teratai	√	√
6	Agro Makmur Jaya	√	√
7	Dewi Sri	√	√
8	Ilandala Bersatu	√	√
9	Huyula	√	√
10	Harmoni Tani	√	√

Source: primary data processing, 2022.

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DUALITY FUNCTIONS OF MULBERRY AND MULBERRY FARMERS' RATIONALITY IN SOUTH SULAWESI

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ABSTRACT

The mulberry plant is basically cultivated for silkworm food. During its development, mulberry has many commercial benefits, especially as a medicine. Based on these benefits, mulberry farmers in Pakkatto Village have made commercial innovations. It is in that context that this article aims to reveal these innovations. This research was conducted in Pakkatto Village, Gowa Regency as the center of mulberry plant development in South Sulawesi. This research is descriptive qualitative. There were 10 informants purposively from the mulberry farming community. Data collection was carried out through interviews, observation, and literature study. The data analysis technique used a three-way technique. From the results of this study, the following points were obtained: the innovations of the farmers were (1) making mulberry tea (teabags and brewed tea). (2) make mulberry juice. (3) making a traditional scrub powder from mulberry roots and leaves. They market the results of this innovation through stalls in the region. The conclusion of this study is that the innovation carried out by mulberry farmers is based on the commodity potential possessed by the mulberry plant itself.

Key words: commodities, innovations, mulberry plants, powder scrub, tea bags

INTRODUCTION

The mulberry plant is known as a multi-purpose plant. In addition to having a high content of substances and minerals, this plant is also an industrial plant which is cultivated by the government as food for silkworms.

In Indonesia, only a few areas are used as centers for the mulberry plant industry, one of which is South Sulawesi. In South Sulawesi, the government built 3 industrial centers, namely Enrekang Regency, Soppeng Regency, and Gowa Regency.

Since the entry of mulberry cultivation in Gowa Regency in the 1960s, the main purpose is only for silkworm food to produce cocoons and then be processed into silk. This situation continues to this day because silk as one of the export commodities still needs to be maintained to increase the country's foreign exchange (Nurjayanti, 2011).

However, over time the development of human thought has progressed. The farmers also found a lot of information that the mulberry plant

has many benefits, especially it can be used as traditional medicine or herbs. A number of research results show that mulberry with all its parts has benefits (Isnain & Muin, 2015; Lastridewi et al., 2017). However, the method of treatment is still conventional, such as drinking boiled water from mulberry leaves or sticking mulberry leaves on sick limbs. Even methods like this still exist today because they are the most practical and simplest way to do it when needed.

In the last five years, the presence of the internet in remote areas has caused information to be absorbed quickly, including mulberry farmers. The availability of information about the mulberry plant from various regions, either through research results or as a local experience, is also consumed by the Pakkatto community, thereby enriching their knowledge.

Through the internet, they began to imitate many things and then they modified and innovated to develop the potential of the mulberry plant.

In addition, they are also thinking about commercializing the results of the mulberry plant innovation. Whereas so far the nature of social

solidarity dominates the farmers in the village compared to business rationality.

Plant innovations carried out by farmers have been studied by various academics, including: (1) star fruit cultivation innovation in Blitar City (Rianto et al., 2018), (2) Sorghum cultivation innovation in Bantul Regency (Wijayanti et al., 2015), (3) Innovation of the citrus crop intercropping system (Aryawan, 2020), and (4) Innovation of watermelon fruit production (Wahyudi, 2014).

Innovative ideas related to mulberry plants are always new in the context that no one has done it before, although the term copying and modifying and innovating still applies. Therefore, this study reveals the forms of mulberry plant innovation by farmers in Pakkatto village.

RESEARCH METHODS

This study uses a qualitative descriptive method that describes matters related to the focus of this research, namely the innovation of mulberry plant commodities to be of commercial value. Data were collected through interviews with farmers as informants and observation as primary data and literature study as secondary data. Both primary data and secondary data, both reinforce each other. Determination of informants using purposive sampling technique on 5 mulberry farmers with the consideration that they have been farmers for 5 years, and have knowledge or experience related to mulberry plants. The data from the interviews were analyzed using a three-way technique, namely data reduction, data categorization, and drawing conclusions. The results of the literature review are used to strengthen the interview data (Miles & Huberman, 1999).

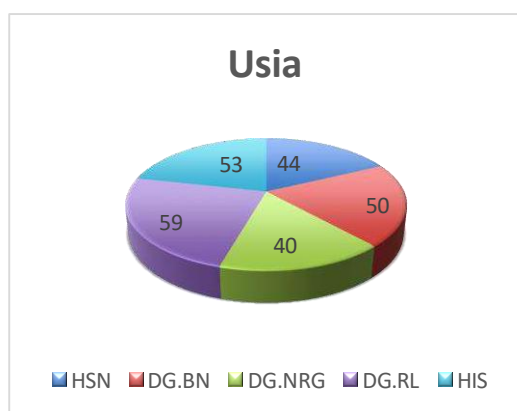


Figure 1. Research Informant Identity
 Source: Data processing result, 2022.

RESULTS AND DISCUSSION

A. Mulberry plant as an agro-industry

The mulberry plant is a forest-based agro-industrial plant managed by the Ministry of Forestry through the Balai Persuteraan Alam unit.

The entry of this plant in South Sulawesi has been started since 1962 from Java, which was introduced by silk thread traders. This is also the forerunner to the development of this plant because the community immediately planted mulberry in the same year (Nurjayanti, 2011).

Data obtained from interviews with informants that when this research was conducted, there were around 200 families in Pakkatto who cultivated mulberry on a total land area of 46.75 ha. They are also grouped into 21 farmer groups which are directly supervised by the Gowa District Forestry Department through the local Silk Unit.

As told by TSR (54 years old) that his parents were one of the first generation farmers involved in mulberry cultivation, which was fostered by the Balai Sutera of Gowa Regency. According to him, the project is aimed at the agro industry because the Ministry of Forestry has almost no activities.

The same situation was also expressed by another HSB informant (59 years old) whose parents are also from the early generations of mulberry farmers. He said that his parents were only instructed by the leadership at that time to take care of the mulberry plant and he did well.

The description of the interview results above confirms that the farmers work according to their designation. They grow mulberry only for the benefit of the silk industry and nothing more.

Theoretically, the actions of the farmers as described above reflect the instrumental rationality of farmers as described by Weber. Their main purpose is actually to produce silk. To achieve this, all activities supporting its achievement have been designed in such a way, and one of them is planting mulberry which is the domain of the farmers.

Village communities are always identified with traditional rationality and value rationality. However, the introduction of industrial-based mulberry farming patterns and work systems has conditioned the Pakkatto villagers to act with instrumental rationality. As it is known that 'industry' which is the jargon of 'capitalism' is always oriented towards measurable productivity, and based on profit and loss. This then conditions the local community on an instrumental rational way of thinking.



Figure 2. Mulberry Plant Cultivation in Pakkatto Village (Sumber: Dokumen Observasi)

B. Mulberry and duality function

The use of the mulberry plant for medical treatment and health care which is socially accessible to the Pakkatto community shows the social function of this plant.

The following are two benefits that farmers in the study area get from the mulberry plant socially.

1. Mulberry leaf for medicine

There is no definite data on events or incidents where the Pakkatto community recognizes the function of the mulberry plant as a herbal medicine.

Based on an interview with HAK (44 years old) that their knowledge about mulberry only serves as a remedy for body aches or pains. This knowledge they get from generation to generation. HSN told that their parents used to use mulberry root as a medicine when they were sick. They take the roots and leaves and cook them in an earthen pot until the water is dark brown. After the water is a little warm, just drink it for one day and the next day the body is fresh again.

The same thing was also stated by another farmer, namely DG. BN (50 years old) that when he was a teenager he was often sick and after being given the mulberry plant herb regularly, he rarely got sick anymore. He revealed that before he married as a teenager, he often got sick compared to his other siblings. The disease is not known by the name of the residents. Then someone suggested to drink a mulberry plant potion, then after using it regularly, his health gradually improved.

Observing the description of the interview above, it can be explained that so far the people in the research location have been using the mulberry plant as an ingredient for health. It's just that their knowledge is still based on experience and inherited from their parents. This is reflected in the technical processing of these ingredients, which are still general and simple by taking only the roots or leaves.

In its development, mulberry farmers have come to know that mulberry roots can provide great

benefits and more than what they have ever received if they are treated properly or processed with certain technologies or techniques.

The same is true for other plant parts, especially leaves, which when processed with certain techniques can provide many benefits. This is as stated by the informant Dg. NRG (40 years old) that so far they know that mulberry is only boiled from a mixture of leaves, roots, or skin and used as a drink for the treatment of diseases. Apparently, the leaves alone can be used as a concoction mixed with other plants and made into a drink.

The above description is also strengthened by information from DG mulberry farmers. ML (59 years) that he is very happy with the many benefits of the mulberry plant. He said that the mulberry plant had many benefits. He was also surprised and pleased with the information after being told by his son. So very lucky farmers can grow mulberry.

Based on the description of the interview above, it can be concluded that there was a change in public knowledge regarding the benefits of mulberry plants due to the information they received.

The many benefits of the mulberry plant are also scientifically strengthened through research findings. These benefits range from roots to leaf shoots (Isnain & Muin, 2015) which means that all parts of the plant are useful (Lastridewi et al., 2017), the benefits of treating various types of diseases such as antibacterial (Jurian, V.Y, Suwasono, S, Fauzi, 2016), anemia and tooth decay (Khaira & Ramadhania, 2019), arterial blood pressure (Jurian, V.Y, Suwasono, S, Fauzi, 2016).

2. Leaves and Roots to smooth the skin

Making cold powder using mulberry roots and leaves has only been known in the last two years. Previously, they made a concoction only from mulberry leaves and used it as an external medicine to reduce fever. Mulberry leaves that have been finely ground or chewed until smooth are placed on the forehead.

For the past two years, people have been able to make cold powder from mulberry leaves and roots. Moreover, they also know that the cold powder can function for skin care such as smoothing, nourishing, and beautifying the skin. This is as stated by an SAS informant (44 years old) that he is surprised that there are benefits of such mulberry. He suggested that mulberry is good for beauty.

The same situation was also expressed by HAL (51 years old), which is a senior farmer. He expressed his excitement about the mulberry plant has benefits for skin health care.

Observing the two descriptions of the interview above, it can be stated that the benefits of

mulberry as a skin health and beauty treatment are new information for these farmers.

So far, the process of making cold powder is simple. They only take mulberry leaves and roots and then dry them to dry and then mix them. This is as told by an HIS informant (53 years old) that they have experience making cold powder, but they are more often used for external medicine that is attached to the forehead when they have a fever. Often also affixed to the sick body part.

As long as they know the function for skin care, the community also enriches the concoction with other medicinal plant ingredients such as ginger, turmeric, and kencur rice. This is as told by KMRS (45 years old) that in making this cold powder, the ingredients that must be prepared must be natural, available around the house.

The description above states that in making body scrubs, they don't just make things as they are, but also enrich and improve them. This is indicated by the addition of other additional spices as mentioned above.

Basically, they have done cold powder making by the Pakkatto people long before, even though the benefits are only for internal medicine. Even then the making of the powder is processed in a simple way.

Based on the perspective of science, mulberry does contain powerful antioxidants and antibacterials (Arisman, 2009; Jurian, V.Y, Suwasono, S, Fauzi, 2016; R. et al., 2013). It's just that the local community does not have the capacity to explain such content in mulberry. But experience and beliefs caused them to pass it down to their generations.

In the context of science, the scientific community needs empirical rational instruments as a form of accountability and guarantee for the products made. This aspect is very supportive of making product development more varied.

The mulberry plant has been known for a long time by the community at the research site. The interaction of these plants with the surrounding community causes the community to get many benefits from these plants.

As a village community, there are many benefits that people do not know about this plant. This causes their knowledge and actions in utilizing these plants are still simple which Weber called traditional rationality based. This simple knowledge has been passed down from generation to generation.

In the context of the development of time, community activities related to mulberry plants are no longer one-way, namely industrial interests but also lead to broader activities in the form of benefits of mulberry plants that can be accessed by the public socially. They see there is more value in the benefits of these plants that they did not know

before. This condition reflects showing that there are two functions of the mulberry plant, namely industrial functions and social functions that take place simultaneously. This is what is called 'Duality of function'.

Socially, there is a shift in the rationality of the local community which was previously based on traditional rationality to become value rationality. The simple knowledge of cold powder that was born from family inheritance experienced the development of knowledge. The new experience broadens their horizons about the other functions of cold powder. This is then related to value rationality.

Industrially, the instrumental rationality that is the spirit of cultivation persists. The reason is that this project involves many institutional interests in it.

CONCLUSION

The mulberry plant is a multipurpose plant with their respective functions. There are industrial functions that are project-oriented and there are social functions that are utilized by the general public.

Both industrial and social functions have consequences for actions that are profit-and-loss-based (instrumental rationality) and benefit-based (value rationality). These two rationalities exist simultaneously (parallel) in their respective functions but do not deny each other.

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PLAYING ORIGAMI CAN IMPROVE FINE MOTOR DEVELOPMENT IN EARLY CHILDREN

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ABSTRACT

Many older people are pursuing their interests to ignore the effort to train the smooth motor development of children, and the development of children is still not achieved according to their age, among other obstacles in concentration, quickly bored and lack of coordination between the eyes and hands. The purpose of this study was to analyze the effect of origami play therapy on the fine motor development of early childhood (3-5 years). This type of research is pre experiment with One Group Pre and Post Test Design. The variables of this research are Origami play therapy as independent variable and smooth motor development of children as dependent variable. The population of this study is all children aged (3-5 years) in Post Paud Terpadu (PPT) at Surabaya as many as 30 respondents samples taken by simple random sampling technique as much as 20 respondents. The data was collected with the instrument sheet of Denver II, then processed by editing, coding, scoring and tabulating and presented in the form of frequency distribution table. The results after the introduction of origami therapy showed that most of the developments were appropriate for the age of the children of 15 respondents (75%). Wilcoxon test results showed $p = 0.034$ so that H_1 is accepted then there is influence of origami play therapy on the development of fine motor of early childhood. One of the advantages of giving origami play therapy is improving the skills and creativity of children so that the child'

Key words : early childhood, fine motor, origami games

INTRODUCTION

Early childhood is the foundation or initial foundation for a child's future. Early childhood starts from the age of 3 to 5 years. Early childhood is an individual figure who is in the process of developing rapidly and fundamentally for the next life (Sujiono, 2009). Early age is also called the golden age because it is an important period for a child. This stage involves the process of differentiation of body cells such as increasing height, body tissues, organs and organ systems that develop in such a way, so that each can fulfill its function, one of which is mental and language in children. Education for early childhood is the provision of efforts to stimulate, guide, nurture and provide learning activities that will produce children's abilities and skills. In accordance with the uniqueness and growth of early childhood, the implementation of education for young children is adjusted to the developmental stages that are passed by early childhood. There are six aspects that must be developed in children, namely aspects of religious moral development, physical motoric, cognitive, language, social, emotional and children's

art. One aspect that needs to be stimulated from an early age is the child's motor development and all these aspects are important to be stimulated. Motor development is the development of physical movement control through coordinated activities of the nerve center, nerves, and muscles (Hurlock, 2011). Fine motor skills are developments that occur because of the coordination of small muscles that are used for the movement of certain body parts or specific body parts including drawing, writing, folding paper, tying shoelaces and activities that involve the use of small body movements (Dewi, 2011). Fine motor development is very important for children to prepare for writing at the elementary school level and in children's daily activities such as buttoning clothes, tying shoelaces, and holding water bottles. The purpose of fine motor activities is to stimulate muscle development, as the basic capital for writing, recognize colors or shapes, train the finger or wrist muscle movements to be flexible, channel feelings, create beauty in children's imagination and creativity can develop optimally. One of the

activities that can improve children's fine motor skills is Origami. Origami is an art of folding paper so that it produces various forms such as animal shapes, flowers, and means of transportation. (2008). Origami playing activities can train fine motor skills during development, increase creativity, train patience, train finger muscles, and recognize colors. Origami game tools are educational game tools with low cost and can use used materials and natural materials found in the environment around children (Karmachela, 2008). This origami game tool is not harmful to children's health because the materials used are materials that can be used and are in the child's environment. Making this origami game requires eye-hand coordination as well as children's skills in folding materials that will help stimulate fine motor skills in early childhood (Santrok, 2013). increase creativity, train patience, train finger muscles, and recognize colors. Origami game tools are educational game tools with low cost and can use used materials and natural materials found in the environment around children (Karmachela, 2008). This origami game tool is not harmful to children's health because the materials used are materials that can be used and are in the child's environment. Making this origami game requires eye-hand coordination as well as children's skills in folding materials that will help stimulate fine motor skills in early childhood (Santrok, 2013). Origami game tools are educational game tools with low cost and can use used materials and natural materials found in the environment around children (Karmachela, 2008). This origami game tool is not harmful to children's health because the materials used are materials that can be used and are in the child's environment. Making this origami game

requires eye-hand coordination as well as children's skills in folding materials that will help stimulate fine motor skills in early childhood (Santrok, 2013).

Based on the results of observations so far through interviews with teachers at PPT Tunas Mekar Sari Surabaya, it was found that there were main problems that became the main reference in the study, namely the children's fine motor skills were not yet optimal. This can be seen during the learning process, children are less able to move their fingers while coloring, sticking, folding and cutting paper, children are less able to coordinate eye and hand coordination movements simultaneously when folding paper activities and children are less able to hold objects with one hand at a time. when holding a water bottle. Learning is not carried out in the context of playing so that the learning process is monotonous and does not vary. WHO (World Health Organization) reports that 5-25% of preschool age children suffer from minor brain dysfunction, including disorders of fine motor development (Sutirna, 2013). According to the Indonesian Ministry of Health (2012) that 0.4 million (16%) toddlers in Indonesia experience developmental disorders, both fine and gross motor development. From a preliminary study of 30 students there are children who are less than optimal in fine motor skills, less able to hold objects with one hand when holding a drinking water bottle, because teachers usually use blackboards and children's magazines as learning media so that children become bored in learning, while at home parents do not understand how to play origami because they are busy with their work. The data was obtained through interviews with teachers in the PAUD. Education for children aged 2 to 5 years can be taken in PAUD. In PAUD children will get many learning methods, one of them by playing. Play is an activity where children can perform or practice skills, give expression to thoughts, be creative, and prepare to play a role and behave in an adult manner. By playing, children will always know the world, be able to develop physical, emotional and mental maturity so that they will grow to be creative, intelligent, and full of innovative children. The game should stimulate muscle development, as a basic model for writing, recognizing colors or shapes, training finger or wrist muscle movements to be flexible. By playing, children will always know the world, be able to develop physical, emotional and mental maturity so that they will grow to be creative, intelligent, and full of innovative children. The game should stimulate muscle development, as a basic model for writing, recognizing colors or shapes, training finger or wrist muscle movements to be flexible. By playing, children will always know the world, be able to develop physical, emotional and mental

maturity so that they will grow to be creative, intelligent, and full of innovative children. The game should stimulate muscle development, as a basic model for writing, recognizing colors or shapes, training finger or wrist muscle movements to be flexible.

Education for children aged 3-5 years can be taken in early childhood education (PAUD). Early childhood education is education aimed at children of preschool age with the aim that children can develop their potential from an early age so that they can develop naturally as children (Widarmi, 2009). The cause of the child's lack of physical ability is the lack of information about the development of motor skills. Parents who cannot take care of their children because they are busy with work. Fine motor development can develop well if the community, especially parents, can provide a good stimulus, because at this time is the right time for children. Children begin to feel in accepting various efforts to develop all their potential (Sumantri, 2005).

One of the games that is considered effective to improve the fine motor development of children at preschool age in a more positive direction is the origami game. Origami can hone a child's fine motor skills through the skills of a child's fingers when folding paper (Sari, 2014). When both hands move, the movement of the fingers of the hand muscles sends signals to the central system triggering neurons through the hands (fine motor impulses) activating the language part of the brain (Shaleu, 2015). Origami games can be played by children up to their teens. But of course the level of difficulty must be adjusted to the age of the child who uses it, therefore researchers are interested in taking the research title "The effect of origami play therapy on the fine motor development of children aged 3 to 5 years.

RESEARCH METHODS

The design used in this study was pre-experimental. With a one group pre-post test design. The independent variable of the study was origami play therapy. The dependent variable is fine motor development. The sample of this study was children at the Integrated Early Childhood Education Center (PPT) in the city of Surabaya, which were taken using simple random sampling, a sample of 20 children aged 3-5 years who met the inclusion criteria. The action of the origami game is done 6 times in 2 weeks with the duration of each session is 20-30 minutes. After the last session is done data collection techniques using sheets observation about fine motor measurement. The data is processed and analyzed using statistical tests *Wilcoxon Signed Rank Test*.

RESULTS AND DISCUSSION

Research result

1. Distribution of Respondents based on the child's age

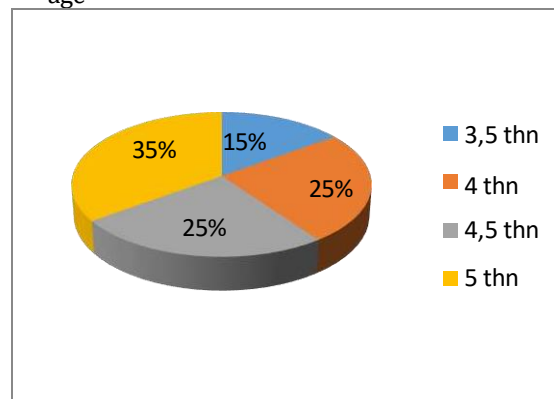


Figure 1. Pie chart distribution of respondents by age (n=20)

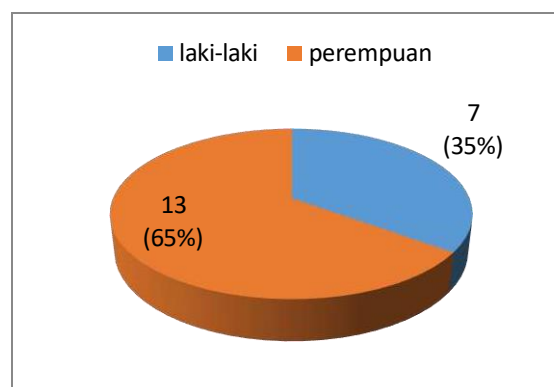


Figure 2. Pie chart distribution of respondents by gender (n=20)

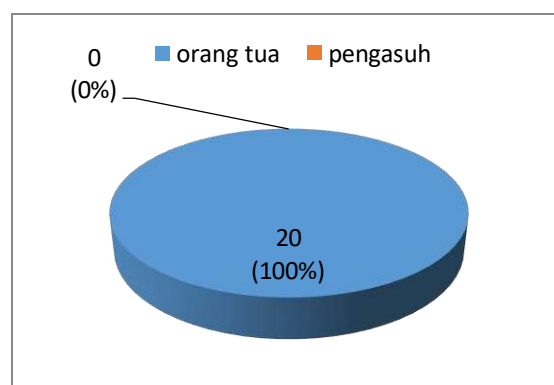


Figure 3. Pie chart distribution of respondents based on child care (n=20)

Ability level	f	%
In accordance	9	45
It is not in accordance with	11	55
Total	20	100

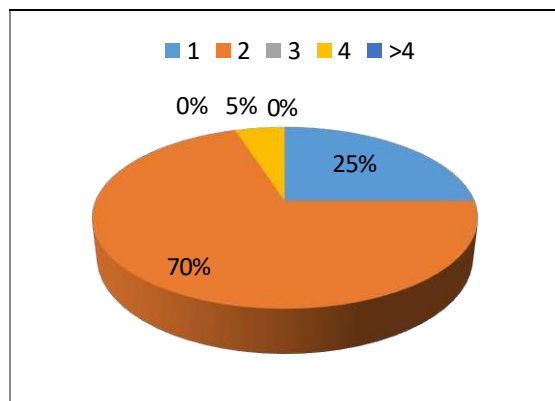


Figure 4. Pie chart of respondent distribution based on the order of children (n=20)

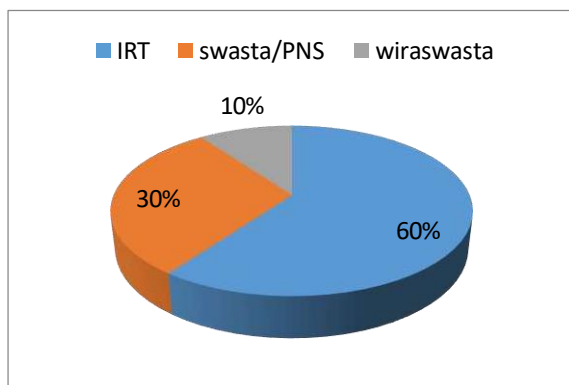


Figure 5. Pie chart distribution of respondents based on parents' occupations (n=20)

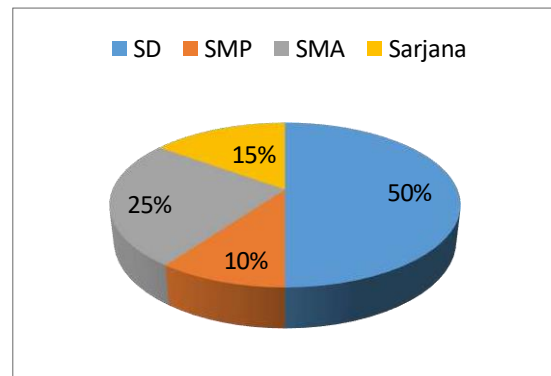


Figure 3. Graph pie distribution of respondents based on the last education of parents (n=20)

Characteristics of respondents based on diagram 1. it can be seen that most of the respondents aged 5 years were 7 students (35%), table 2. most of the respondents were female 13 students (65%), and the rest were male 7 students (35%) , diagram 3. It appears that the entire respondent is being cared for by the parents of 20 students (100%), in diagram 4. that most of the respondents are the second child of 14 students (70%), in diagram 5. it can be seen that most of the respondents' parents work are housewives with 12 students (60%), and in diagram 6. it can be seen that most of the respondents' parents' last education was Elementary School with 10 students (50%).

2. The results of the level of fine motor development in early childhood before being given Origami play therapy

Table 1. The level of fine motor development of early childhood before origami play therapy (n=20)

Based on table 1. it was found that the data on the level of fine motor development in early childhood before being given origami play therapy showed that the highest level of fine motor development was not appropriate as many as 11 respondents (55%).

3. The results of the level of fine motor development of early childhood after being given origami therapy.

Table 2. LevelFine motor development of early childhood after origami play therapy (n=20)

Based on table 2. it was found that the data on the level of fine motor development in early childhood after being given origami play therapy showed that most of the respondents with the appropriate level of fine motor development were 15 students (65%).

3 The results of the level of fine motor development in early childhood before and after being given origami play therapy.

Table 3. The effect of origami play therapy on the level of fine motor development of early childhood (n=20)

Inter venice Played origami	Before		After		P Value
	n	%	n	%	
In ccore	9	45	15	75	0.034
It is not in accordanc e with	11	55	5	25	
Total	20	100	20	100	

Development Level motor	f	%
In accordance	15	75
It is not in accordance with	5	25
Total	20	100

The fine motor development of early childhood in a total of 11 children (55%) experienced age-inappropriate motor development. Fine motor development is not appropriate due to lack of stimulation in children. while fine motor development that is not in accordance with age is a child who fails/fails when given the test.

Based on table 3. it can be seen that there is an effect of origami play therapy on fine motor development of early childhood (3-5 years) with a significance level of $p = 0.034$.

The results of this study indicate that there are differences in results before being given origami play therapy, most children experience fine motor development that is not suitable for 11 children (55%), while after being given origami play therapy most experience fine motor development according to 15 children (75%).

The table above shows that the cross-tabulation of the distribution of the level of children's fine motor development before and after origami play therapy was statistically tested using *Wilcoxon Signed Rank Test*, it was found that $p < 0.05$, namely $p = 0.034$, meaning that H1 was accepted, so there was an effect of origami play therapy on the development of fine motor skills in early childhood.

DISCUSSION

1. Fine Motor Development in early childhood before being given Origami play therapy.

According to Santrock (2007) that fine motor skills are skills using media with coordination between eyes and hands, so hand movements need to be developed properly so that basic skills which include making horizontal lines, vertical lines, sloping lines to the left or tilting to the right, arches can continue. improved. Normal fine motor development is development that is appropriate for the child's age and can complete the test given by the researcher or is declared passed,

Based on the data obtained by the researchers in diagram 3. which is about child care, that in total 20 children (100%) are directly cared for by their parents. According to Soetardjo (2012), parental care is very influential on children's fine motor development, parental care needs to be considered so that children's abilities can be optimal, children need interaction with parents to improve their motor skills, namely by providing stimulation to children. Stimulation is needed to improve children's fine motor skills. If it is associated with facts and theories, there is a gap where there is no attention and affection given by parents. Many parents give their affection such as taking their children to school, picking up their children from school and at home, parents guide their children as if evaluating what they have learned today. This makes the child's fine motor skills become not good.

Based on the data in diagram 5. it can be seen that the most respondents with the order of the second child are 14 students (70%). According to Irham (2012), the second child tends to be often spoiled and in parenting is often assisted by the people around him, including assistance from the first child. If it is related to facts and theories, there are similarities where some respondents are second children who tend to be spoiled, so that when parents give stimulation they don't want to and parents tend to spoil their children so that parents do not force them to train so that children tend to experience delays.

2. Fine motor development of early childhood after being given Origami play therapy

The origami game is an art of folding paper to produce various forms such as animal shapes, flowers, and means of transportation.

Based on diagram 2. it can be seen that after being given origami play therapy the results of the level of fine motor development of children according to age were 15 children (75%), while those who were not age appropriate were 5 children (25%). Origami play therapy theory is an art of folding paper so that it produces various forms such as animal shapes, flowers, and means of transportation (Karmachela, 2008). This origami

game tool is not harmful to children's health, because the materials used are materials that can be used and are in the child's environment. Making this origami game requires eye-hand coordination as well as children's skills in folding materials that will help stimulate fine motor skills in early childhood. When both hands move, finger movements of the hand muscles send signals to the central system triggering neurons through the hands (fine motor impulses) activating the language part of the brain, children are unconsciously training themselves to improve their fine motor skills. When it comes to theory and facts, there is no gap between facts and theory. When the researchers gave origami games, the children had trained themselves to improve their fine motor skills. When the child is given an origami game, the child tries to complete the folds instructed by the researcher to form the appropriate folds. To prove that playing paper folding (origami) has an effect on children's fine motor development,

Based on the data obtained by the researcher in diagram 3. namely child care, the number of children being cared for by parents is 20 (100%). According to Wong (2003) parenting is a process of action that has a goal to be achieved while the period starts from pregnancy. Basically, the main purpose of parental care is to maintain the physical life of the child and improve his health, facilitate the child to develop abilities in line with the stages of development and encourage increased behavior according to the religious and cultural values he believes in. If it is associated with facts and theory, there are similarities where after being stimulated the child's origami game becomes appropriate. This is due to several factors, namely parental caregivers for children tend to receive good stimulation.

Based on the data obtained by researchers in diagram 5. namely the order of 14 children (70%) respondents with the second order. According to Ajeng (2007) the second child is a child who tends to be spoiled and this results in indecisiveness in the second child, the second child often feels himself less than the other children, he wants to be praised. The second child is an optimistic person, feels that everything will go smoothly and well, everything will be taken care of with the help of others. Based on theory and facts there are gaps. It is proven that after being stimulated, children can still play origami games.

3. The effect of origami play therapy on fine motor development of early childhood (3-5 years).

Based on table 3. Cross tabulation of the frequency distribution of fine motor skills in early childhood before and after origami play therapy. The results showed that there was an effect of origami play therapy on the fine motor skills of early childhood. The increase in test scores for

respondents, where in the pre-test the results were delayed as many as 11 children (55%), and those who got good fine motor skills were 9 children (45%), but in the pre-post fine motor development experienced delay as many as 5 children (25%) and normal ability to 15 children (75%). This shows that there is an increase in the fine motor skills of children. Statistic test *Wilcoxon Signed Rank Test* showed p value = 0.034 so that the results showed that there was an effect of origami play therapy on the fine motor skills of early childhood (3-5 years). These results also support what was conveyed by Sari (2014), playing origami can hone children's fine motor skills through the skills of the child's hand muscle fingers when folding paper. Playing origami is a kind of constructive activity to make animals, flowers, and transportation tools that can be used to express creative ideas. Good/normal fine motor skills are very much needed in early childhood, because it requires stimulation that can improve children's fine motor development, one of the stimulations given is origami. This origami game is very effective to do to improve children's fine motor skills. This is because origami games can improve fine motor skills because by folding using hand coordination, children can develop fine motor skills. Students are very enthusiastic about playing origami.

CONCLUSION

The fine motor development of early childhood before being given origami play therapy respondents who had fine motor development did not match 11 children (55%), while after being given origami play therapy respondents who had fine motor development became suitable for 15 children (75%). There is an effect of origami play therapy on fine motor development of early childhood with evidence of a significant result of $p = 0.034$.

It is hoped that parents will pay more attention to children's problems, especially about children's growth and development, for example by using KPSP, DDST according to its function to determine the growth and development of children, and it is hoped that this research can add information or knowledge for other researchers.

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THE EFFECT OF YELLOW SEEDS (CUCURBITA PEPO) ON INCREASING ZINC LEVELS IN STUNTING TODDLERS

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ABSTRACT

Background Stunting is a One of the nutritional problems experienced by toddlers and is a state of chronic malnutrition which results in the child's body being categorized as short for his age, and the stunting state will be clearly visible after the child is 2 years old due to a lack of micronutrients in this case will have an impact on the survival of stunting toddlers to decline, to poverty in adulthood. Kauya pumpkin seeds are rich in micronutrients so that they can improve the problem of micronutrient deficiency in stunting toddlers. See if there is an effect of pumpkin seeds (cucurbita pepo) on increasing zinc levels in stunting toddlers. Research design Quasy Experiment pretest and postets control group design. The research subjects of stunting toddlers aged 3-5 years were 24 toddlers divided into 2 groups by purposive sampling technique. Blood serum was taken before and after being given pumpkin seeds at a dose of 10 g for 28 days. Data analysis using paired test, Wilcoxon. Research result zinc levels in the intervention group were 8.65+0.53 and 9.80+0.93 p-value 0.005, in the control group 8.40+0.37 and 8.65+0.44 p-value 0.037 zinc levels in the intervention group reached the normal value of zinc needed by toddlers but in the control group it had not reached the normal value of 9.8-16.8 mol/L. the average increase in zinc levels was 1.15+1.01 and 0.25+0.34 with a p value of 0.008. 10 grams of pumpkin seeds for 28 days is effective in increasing zinc levels in stunting toddlers

Key words: pumpkin seeds, stunting toddlers, zinc levels

INTRODUCTION

Stunting is a problem public health that affects one third of children in developing countries. *World Health Organization (WHO) Child Growth Standard* diagnosing stunting based on the anthropometric index of body length for age (PB/U) or height for age (TB/U) with a limit (z-score) below the standard deviation (< - 2 SD). Nutritional problems can occur in all age groups. Toddlers are an age group that is vulnerable to nutrition and prone to disease, especially at the age of over two years, this is because children aged 3-5 years are just going through a transition period from baby food to adult food.

According to the World Health Organization (WHO) in 2014, stunting conditions were mostly found in Asia, which was around 56% compared to 36% in the African region. Judging from several ASEAN countries, it is known that the prevalence rate of stunting starts from the highest until the lowest among others are Indonesia (37.2%), Myanmar (35%), Vietnam (23%), Malaysia (17%), Thailand (16%) and Singapore (4%).⁵

According to the results of the Basic Health Research (2013), in Indonesia around 37.2% (almost 9 million) children under five are stunted, with details of the short category as much as 19.2%

and the very short category as much as 18.0%. The prevalence of stunting has increased compared to the results of Riskesdas in 2010 which was 35.6% (7.8 million) under five, with details category short as much as 17.1% and very short category as much as 18.5%. Meanwhile, in 2018 there was a decrease in the prevalence of stunting to 30.8% with details in the short category of 19.3% and the very short category of 11.5%. However, this prevalence is still below the WHO recommendation. This is what makes WHO determine Indonesia is the country with the fifth largest stunting prevalence.⁶

Micronutrient deficiency in stunted children affects several aspects of immunity, including the immune response to cells and cytokine production. Zn deficiency and serum retinol have been shown to decrease hepatic IGF. Expression of genes to impair intracellular growth hormone signaling pathways.

Many prevention efforts have been given, starting from providing additional food from the government to fulfill malnutrition in children under five to monitoring nutrition starting from the first 1000 days of birth. Supplementary food (PMT) is given as many as 3 packs / where each primary package is 4 pieces so that toddlers get 12 pieces of additional food per day. However, supplementary feeding is still not optimal. The prevalence of stunting has been reported for many reasons

related to the suboptimal provision of supplementary food, one of which is that toddlers will start to get bored with the addition of 12 pieces of sweet-flavored food that must be consumed every day, so it is very likely that the biscuits will be eaten by parents, siblings and even the possibility A large amount will be wasted so that a new innovation is needed by utilizing local food ingredients containing zinc levels which are packaged attractively as snacks, ciki or snacks that are liked by children at the age of toddlers, especially at the age of 3-5 years which will create the need for micronutrients. child is fulfilled.

Local food ingredients that are rich in micronutrients such as mineral zinc and vitamin A in animal protein foods that play an important role in growth have a relatively expensive price, so sourced food is needed. protein Another simple and easily available alternative that can replace expensive animal protein is by utilizing local produce that is around which is rich in beta-carotene, provitamin A and contains minerals.

In this study, pumpkin seeds (*cucurbita pepo*) were chosen because apart from being proven to increase zinc mineral levels in sperm growth and quality, pumpkin seeds are also a vegetable protein with the highest zinc content and have no effect on absorption. Some research results say the mineral zinc in pumpkin seeds can increase zinc in the prostate gland. Pumpkin seeds contain Some substances include amino acids, pyrazoalanine, amino butyrate, ethylasparagine, and citrulline as well as a number of other amino acids. The content in pumpkin seeds (*cucurbita pepo*) is the same as that contained in the government program supplementary food in the intervention to accelerate the stunting program that is already running, some of which are zinc minerals which are needed for vision, growth and increase endurance.

Based on the results of laboratory tests conducted in December 2018, besides containing

the nutrients above, pumpkin seeds also contain the mineral elements Mg (magnesium) and Zn (zinc), in 100 g of pumpkin seeds there are 23.3 mg Zn and 12.30 g carotene. where zinc and vitamin A are essential elements for the growth of all types of animals, plants and even humans which have been proven in a study conducted by Nina Puspita, 2012 ethanol extract of pumpkin seeds can increase zinc on the quality of the spermatozoa of mice. Other ingredients in 100 g of pumpkin seeds are calories 515.00 cal, protein 30.60 g, fat 42.10 g, carbohydrates 13.80 g, sugar 5.30 g, calcium 54.00 mg, phosphorus 312.00 mg, iron 6.20 mg, water 5.90 mg where calories, besides that pumpkin seeds have various benefits for health to beauty because they contain anti-oxidants, vitamin B complex, vitamin E, omega 3 fiber and many others.

Based on the above background, it is necessary to investigate the processing of snacks (*kuaci*) made from pumpkin seeds as an intervention to fulfill micronutrients to increase zinc levels in stunting toddlers.

RESEARCH METHODS

This research is a quantitative study with a Quasy Experiment design with a pretest and posttest control group design. In this group, one treatment group was used, namely stunted toddlers who were given the consumption of processed snacks (*kuaci*) made from pumpkin seeds and biscuits for additional food from the Ministry of Health program and the control group, namely stunted toddlers, was only given biscuits from the supplementary food program. The number of samples in this study were 24 toddlers divided into 2 groups, 12 intervention groups and 12 control groups.

RESULTS

a. Univariate Analysis

Table 4.1 Distribution of respondent characteristics by age and gender

Characteristics of toddlers	Group				P value Levene's
	Intervention		Control		
	N = 12	%	N = 12	%	
toddler age					
36-47 months	9	75	7	58.3	0.192
48-60 months	3	25	5	41.7	
Gender					
Man	4	33.3	4	33.3	1,000
Woman	8	66.7	8	66.7	

Based on table 4.1 on the variables of age and sex in the intervention group and control group, it is shown that three quarters of children aged 36-47

months are female. Both groups of data are homogeneous/have the same variance $p > 0.05$.

Table 4.2 Distribution of respondent characteristics by occupation, education, income and parenting patterns of parents of toddlers

Characteristics of parents	Group				P value <i>Levene's</i>
	Intervention		Control		
	N = 12	%	N = 12	%	
Mother's Job					
working mom	10	83.3	10	83.3	1,000
Mom doesn't work	2	16.7	2	16.7	
Mother's Education					
SD	9	75.0	9	75	0.347
JUNIOR SCHOOL	2	16.7	3	25	
SENIOR SCHOOL	1	8.3	-	-	
Income					
< Rp. 1,542,000	10	83.3	10	83.3	0.029
> Rp. 1,542,000	2	16.7	2	16.7	
Parenting					
Bad	10	83.3	11	91.7	0.234
Well	2	16.7	1	8.3	

Based on table 4.2 shows the results of the frequency distribution of the characteristics of children under five based on the mother's occupation and family income in both the intervention group and the control group, most of the working mothers with income < Rp. 1,542,000, toddlers get poor parenting and 3 out of 4 mothers of toddlers have elementary school education. This

shows that most toddlers are in an unfavorable environment to stimulate their growth and development.

The data group for occupation, education and parenting had the same/homogeneous variance $p > 0.05$, the heterogeneous income data group $p < 0.05$.

Table 4.3 Distribution of characteristics of children under five based on nutritional intake (protein, fat, calcium, zinc and vitamin A)

Toddler Characteristics	Group				P value <i>Levene's</i>
	Intervention		Control		
	N = 12	%	N = 12	%	
Protein intake					
Not enough	8	66.7	10	83.3	0.073
Enough	4	33.3	2	16.7	
More	-	-	-	-	
Fat intake					
Not enough	9	75.0	11	91.7	0.029
Enough	3	25.0	1	8.3	
More	-	-	-	-	
Calcium Intake					
Not enough	11	91.7	10	83.3	0.234
Enough	1	8.3	2	16.7	
More	-	-	-	-	
Zinc intake					
Not enough	8	66.7	7	58.3	0.444
Enough	4	33.3	5	41.7	
More	-	-	-	-	
Vitamin A intake					

Not enough	8	66.7	11	91.7	0.002
Enough	4	33.3	1	8.3	
More	-	-	-	-	

Based on table 4.3, three quarters and most of the children under five in the intervention and control groups received less intake of protein, fat, zinc and vitamin A based on the recommended nutritional

adequacy rate. The data group on protein, calcium, zinc intake was homogeneous $p > 0.05$ and heterogeneous fat and vitamin A intake $p < 0.05$

b. Bivariate Analysis Results

An overview of the average increase in zinc levels before and after being given treatment in the intervention and control groups

Table 4.4 Description of the average increase in zinc levels after being given treatment
Serum Zinc Level

Group	Before mol/L		After mol/L		P value
	Mean+SD	Min-Max	Mean+SD	Min-Max	
Intervention	8.65+0.53	8.1-10.0	9.80+0.93	8.2-11.4	0.005
Control	8.40+0.37	7.6-9.1	8.65+0.44	7.9-9.6	0.037

Based on the Wilcoxon test in Table 4.4 shows that the value of zinc levels in the intervention group before treatment has a value of 8.65 mol/L + 0.53 mol/L, zinc levels in the intervention group after treatment the mean value is 9.80 mol/L + 0.93 mol/L.

+ 0.37 mol/L. After treatment, the control group also experienced changes in zinc levels with a mean value of 8.65 mol/L + 0.44 mol/L. The p value < 0.05 in both the intervention and control groups. So it can be concluded that there is a significant average difference before and after being given pumpkin seeds (kuaci)

Zinc levels in the control group before being given treatment showed a mean value of 8.40 mol/L

Table 4.5 Differences in retinol and zinc levels between the intervention group and the control group

Variable	Group		P value
	Treatment	Control	
	Mean + SD	Mean + SD	
zinc	9.80 + 0.93	8.65 + 0.44	,001
□	1.15 + 1.01	0.25 + 0.34	,008

Based on table 4.8, it shows that the results of statistical tests after being given an intervention using the Independent T test on zinc levels there are significant differences in zinc levels between the intervention group and the control group, namely p value = <0.05. The average difference in zinc levels

affects the incidence of stunting who experience micronutrient deficiencies. The results of research

DISCUSSION

The results of this study showed that most of the children under five received poor parenting, both in the intervention group and in the control group. Parenting is one of the factors that influence the provision of wrong nutritional intake so that it

in the treatment group was 1.15 and in the control group was 0.25 with p value = 0.008, meaning that there were differences in zinc levels in both the intervention group and the control group. It can be concluded that the administration of pumpkin seeds (kuaci) is more effective in increasing zinc levels. from Rahmayana which prove that there is a significant relationship between parenting patterns and the incidence of stunting.

The wrong parenting in this case is in the practice of giving food which is the most important point in growth, especially the intake of micronutrients, especially the minerals zinc and retinol. The role of parents, especially mothers, when providing food to children and controlling the portion size and nutritional content in children's food will improve nutritional status so that it will

reduce the problem of micronutrient deficiencies which will increase the incidence of stunting in children under five.

In practice, feeding is associated with the education of parents, especially mothers. The education of the mother in this study was three-quarters of the mothers of children under five from the intervention group and the control group with elementary school education. The results of research from Atikah Rahayu and Laily Khairiyati prove that the low level of mother's education affects child growth (Stunting).. Education can be used as an assessment of a person's knowledge, habits and lifestyle, especially in parenting and providing good nutrition for their children. The level of education greatly affects the ability to receive information about the management of micronutrient nutrition improvements in stunting toddlers.

One of the factors that cause malnutrition in a person which later can lead to stunting is the direct factor, namely food intake where the nutritional intake discussed in this study is the intake of protein, fat, calcium, zinc and vitamin A. In this study, most of the toddlers in the intervention group get less protein intake and more than half of toddlers in the control group get less protein intake.

Lack of protein intake will inhibit the synthesis of most of the body's structural materials in the body. The main function of protein for the body is formation of essential body compounds, regulation of water balance, maintaining body neutrality, antibody formation, nutrient transport, and tissue growth and maintenance. Good quality protein is a complete protein in that it contains all the essential amino acids and has high biological value for growth. Study conducted by Haryati (2016) showed the results that there was a relationship between protein consumption and the incidence of stunting. In accordance with the theory mentioned by Muchtadi that protein is a compound that exists in every living cell, therefore protein is needed in every synthesis process in the body. One of the activities in the body that requires protein intake is cell division and growth.

Another cause is the limited purchasing power of the community due to the low level of family income. It is related to income of families where in this study 3 out of 4 mothers of children under five had a low income level, which was brought by the UMR in Brebes district. Families with low incomes will not consider the nutritional value intake, but rather on the material. The needs of children, both primary and secondary, can be met if the level of family income is adequate to support the child's growth and development.

In the results of data collection research on fat intake in stunting toddlers, most toddlers get less

fat intake. Fat is an essential source for the body as well as protein. Lack of essential fatty acids will inhibit the growth of children, reproductive failure and disorders of the skin, kidneys and liver. The results of a study conducted by Oktarina and Trini showed that the proportion of toddlers with low levels of fat intake experienced stunting more than the proportion of toddlers with adequate fat intake.

Lack of essential fats will inhibit growth in infants and children, reproductive failure, and disorders of the skin, kidneys, and liver. Fat is a macronutrient that is very important for early childhood, this is because fat is the main source of energy, supply of essential fat-soluble vitamins and polyunsaturated fatty acids which are needed in relatively high amounts during early growth.

Based on the results of the characteristics of toddlers based on calcium intake in this study, most of the toddlers received less calcium intake. Calcium is one of the important elements in the body. The main function of calcium is to replenish bone density. Calcium in the bones has two functions, namely as an integral part of the bone structure and as a place for calcium storage. Another function of calcium is for bone formation and tooth, helps the process of blood clotting, as a catalyst for biological reactions, besides calcium also plays an important role in growth.

Research conducted by Elvandari et al. showed that there was a significant relationship between lack of calcium and stunting under five. The concentration of calcium in the plasma, especially free calcium ions, is carefully maintained in such a way for the transmission of nerve impulses and muscle contractions, as well as a catalyst for various biological reactions, such as absorption of vitamin B12, the action of fat-splitting enzymes, pancreatic lipase, insulin secretion by the pancreas, the formation and solving acetylcholine. Calcium homeostasis is regulated primarily through an integrated hormonal system that controls calcium transport in the gut, kidney, and bone. This process involves two large calcium-regulating hormone and its receptors namely PTH and the PTH receptor, and 1,25(OH)₂D and vitamin D receptors, as well as serum ionized calcium and calcium-sensing receptors. Serum calcium homeostasis develops to maintain extracellular calcium ion levels within normal ranges by transporting calcium to and from reserves in bone.

The zinc intake in the results of this study showed that three quarters of children under five received less zinc intake in the intervention group and the control group. Zinc or zinc is an important mineral that is found in almost every cell in the body. Zinc required as supports a good defense system in the body. Zinc is also needed for wound healing, helps the ability to taste and smell, and synthesize DNA.

Another function of zinc is for human growth and development, which starts from pregnancy, childhood to adulthood. Research conducted by Yani Ristya Widi et al, proves that zinc in saliva is related to the growth of toddlers²⁸. Supariasa wrote that zinc interacts with growth hormones, such as somatomedin-c, osteocalcin, testosterone, thyroid hormone and insulin in the body. Very high levels of zinc in bones can strengthen the bone matrix, so growth and development can work properly. Zinc can also launch the effect of vitamin D on bone metabolism through stimulation of DNA synthesis in bone cells.

Low zinc intake causes anorexia or decreased appetite, resulting in low energy intake in the body and disrupting growth. The period of childhood, especially in the toddler years is the peak period of cell growth and development so that it requires a lot of nutritional intake as well. If in infancy there has been a decrease in appetite, automatically the process of cell growth and development becomes disrupted. Decreased appetite can lead to stunting in toddlers, this is because zinc can control appetite by working directly on the central nervous system, then changing the level of responsiveness of receptors to neurotransmitters.

Based on the intake of vitamin A in this study, most of them received less intake of vitamin A in the intervention and control groups. Vitamin A intake is found in vegetables and fruits, some types of milk also contain high vitamin A. Lack of vitamin A intake will affect the lack of serum retinol in the blood, this incident is in line with research conducted by Elvandari et al, who said that there was a significant relationship the presence of vitamin A supplementation with serum retinol²⁷. Lack of retinol will result in decreased immune system, vision and stunted growth.

Deficit of vitamin A results in increased morbidity where morbidity is a degree of health in an area, when vitamin A intake is reduced the immune system will decrease and toddlers will be susceptible to this infectious disease which will inhibit the growth of children. This has also been proven in research results where there is a relationship between vitamin A supplementation and morbidity, so children who receive vitamin A supplementation can reduce infectious disease morbidity. According to Pusparini, if children's daily food intake is balanced, there is no need to add vitamin A in the form of supplements, so it is important to take vitamin A in the body of toddlers with stunting.

Zinc levels before and after treatment between the two groups

The results of statistical tests showed that there was a change in zinc levels in the intervention group as seen from the mean value of the results of

data processing carried out. The mean value before treatment of zinc levels in the intervention group was 8.65 mol/L to 9.80 mol/L. Means that there is a difference in the value of zinc levels before and after the intervention. The mean value of the control group showed a change in the average zinc level from 8.40 mol/L to 8.65 mol/L. This shows that there is a change in zinc levels before and after treatment. Changes in the average increase in zinc levels in the control group were already within the normal limits of the recommended zinc value for toddlers.³³

Zinc is an essential micro mineral for the body, zinc deficiency can cause several conditions such as alopecia, reproductive system disorders, acrodermatitis, growth disorders, atrophy to damage to the small intestinal mucosa which results in diarrhea.¹¹⁰ According to Merryana Adriani BW, zinc deficiency can interfere with growth, both in the growth of sperm cells, ciliary hairs in the intestines to linear growth depending on where the body's organs are deficient there will have an effect.⁷⁹ Pumpkin seeds contain the mineral element zinc which acts as an anti-oxidant that affects the absorption of water and sodium, as well as increasing the metabolism of vitamin A, improving the immune system, preventing disaccharidase enzyme deficiency and acting as an enzyme co-factor that will assist in the growth process of toddlers, especially toddlers. nutritional problems.

Based on the results of statistical tests using the Independent t-test, the research showed that pumpkin seeds 1x10 grams in the intervention group could increase zinc levels higher than the control group in stunted toddlers even though the average value of changes in zinc levels had not reached the recommended normal limit. The results showed that there were different changes in zinc levels where the zinc levels in the intervention group and the control group both experienced an increase in changes but not as much as in the intervention group. The zinc level value of stunting toddlers in the intervention group and before and after treatment the average difference value was 1.15 mol/L with $p = 0.001$, while in the control group before and after treatment the average difference value was 0.25 mol/L.

Giving 3 packs of PMT biscuits to the government program as many as 12 pieces with a zinc content of 3.5 mg plus 10 grams of pumpkin seeds in the intervention group was more effective in increasing zinc levels when compared to stunting toddlers who only received PMT biscuits, but the average increase was greater than with the intervention group with $p = 0.001$. In addition, the difference in the mean increase in zinc levels in stunting toddlers in the intervention group was 4 times greater than the control group with an effect size of 1.58 after being given treatment. This can be

interpreted as having a very significant effect on increasing zinc levels in stunting toddlers.

The results of this analytical test can prove that PMT biscuits added with pumpkin seeds (kuaci) are much higher in increasing zinc levels in stunting toddlers than only being given one of them, either only biscuits or only pumpkin seeds. Research conducted by Beni Lestari, et al. that pumpkin seeds can be used as a source of phytoestrogens has been shown to modulate blood lipid profiles and significantly increase bone density.¹¹¹The provision of supplementary food / biscuits is a specific nutritional intervention for children aged 24-59 months that has been promoted in the nutrition problem management program where the content of PMT biscuits is 160 cal, 3.2-4.8 grams of protein, 4.72 grams of fat and 10 grams of fat. kinds of vitamins (D, E, K, B1, B2, B3, B6, B12 and folic acid) and 7 kinds of minerals. Likewise, pumpkin seeds contain the same content, but the difference is that pumpkin seeds contain palmitic acid and linoleic acid which are unsaturated fatty acids which act as zinc enhancers, so that by giving PMT plus pumpkin seeds can help absorption. of the zinc content itself.

CONCLUSION

There is a significant difference in the increase in zinc levels before and after treatment in stunted toddlers, $p = 0.005$ and $p = 0.037$

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THE EFFECT OF CAPITAL ASSISTANCE, LABOR, EDUCATION, AND TECHNOLOGY ON INCREASING REVENUE OF MICRO SMALL AND MEDIUM ENTERPRISES (MSMEs) COPPER AND BRASS CRAFT CLUSTER IN TUMANG, CEPOGO, BOYOLALI

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ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) have a strategic role in supporting national economic growth after being affected by the Covid-19 pandemic. This can be seen from the contribution of MSMEs to Indonesia's GDP which continued to increase to around 60% in the pre-pandemic period. The absorption of labor by MSMEs is also very high and continues to grow reaching 96.99% - 97.22% with the number of MSME actors reaching 62 million or around 98% of national business actors. The development of the metal and brass industrial center in Tumang, Cepogo Village/Sub-district, Boyolali is very fast. This study has purpose to determine the effect of capital assistance, labor, education, and technology on increasing the income of Micro, Small and Medium Enterprises (MSMEs) in Tumang, Cepogo District, Boyolali Regency. This study belongs to a quantitative research, and the type of data was subject data. The data used were primary and secondary data. The data collection techniques used was documentation. The population in this study were 200 MSMEs in copper handicrafts in Tumang. The sample used were 172 SMEs in copper handicrafts in Tumang. In this study, the writer used purposive sampling in determining the number of samples, the sample being MSME business actors in the Copper and Brass Craft Cluster in Tumang, Cepogo. The stipulation is that one MSME is given one questionnaire. The results of this study indicate that jointly or simultaneously capital assistance, labor, education, and technology have a positive and significant effect on the increasing income. While partially, only capital and technology assistance variables have an effect on increasing the income of SMEs in the copper and brass craft cluster in Tumang, Cepogo, Boyolali. The two variables of education and labor do not affect the increase in income for these SMEs.

Key words: capital, copper and brass cluster msme, education, labor, technology assistance, tumang

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) have potential in the economy and become a source of livelihood to meet the needs of business actors. Even MSMEs become independent businesses managed by the community by creating jobs so that MSMEs also contribute to economic growth in an area (Nugroho et al, 2020). The existence of MSMEs is not only carried out by business actors but also needs to get support from other parties such as the Government, the private sector, banking and non-banking as well as within the scope of universities so that MSMEs can grow towards a better business and develop from time to time. However, not all existing MSMEs have received assistance in accordance with the problems faced, so the role of MSME assistance needs to be a program that needs to be done .

According to Adam Smith, the main elements and main factors of the production system are capital and labor. Capital is an element of production that actively determines the level of output. Its role is very central in the production process because the greater the capital used by the company, the higher the productivity

(Todaro, 2013: 54), while the workforce is humans as the main production factor that determines the prosperity of nations. The reason is, nature (land) is meaningless if there are no human resources who are good at processing it so that it is beneficial for life (Subri, 2003: 78) which will have an impact on income.

Other factors that support the production of MSMEs are technology and education. Education is a form of investment in human resources that plays a role in spurring economic growth. This investment is a long-term investment because the benefits can only be felt after ten years (Atmanti, 2005). According to Simanjuntak (2001:70) the relationship between the level of income at the level of education is because by assuming that the higher the level of education, the higher the level of employee productivity and ultimately affect the level of income.

Metal crafts, especially copper and brass in Tumang, Cepogo, are one of the superior products from Boyolali. Currently, Dukuh Tumang is dominated as an activist for Micro, Small and Medium Enterprises (MSMEs) carving metal (copper and brass) and has a significant potential for turning the wheels of the

economy. Tumang is a metal craft center and has a Bumdes Tumang with a BRILink agent business unit with up to 1000 transactions per month (<https://www.liputan6.com/news/read/4640729/tumang-desa-yang-dalam-kerajinan-ukir-metal-best-in-indonesia>).

Based on information obtained from the Chairman of the Tumang Copper and Brass IKM KITE Cooperative, Muhammad Mansyur (2021), the Tumang copper and brass cluster MSMEs also received financing assistance from BRI which could be used for import capital and other business operational activities. BRI empowered the Tumang copper business cluster to increase capacity in managing its business. The Tumang copper cluster has received support through various programs, one of which is through BRILian Village. BRILian Village helps Tumang residents become more economically empowered and able to build the village economy.

The results of research conducted by Putri Rahmanissa Tri Puji Utami (2018) show that capital assistance has a positive and significant effect on increasing mustahik income on zakat, infaq, and alms empowerment of BAZNAS Yogyakarta City (2018). The second research conducted by Ida Bagus Adi Mahayasa (2017) found that capital and labor had a positive and significant effect on income. Then, research by Arva Bhagas (2016) found that capital, amount of labor and technology have an effect on income.

Riyan Latifahul Hasanah's research (2020) found that capital and technology factors have a significant

influence on business income, so the greater the capital owned and the higher the use of technology in a business, the greater the business income will be. While the level of

education is not stated to have a significant effect on operating income.

Based on the description above, this study aims to determine the effect of capital assistance, labor, education, and technology on increasing the income of Micro, Small and Medium Enterprises (MSMEs) in Tumang, Cepogo District, Boyolali Regency.

RESEARCH METHODS

This study belongs to a quantitative research, and the type of data was subject data. The data used were primary and secondary data. The data collection techniques used was documentation. The population in this study were 200 MSMEs in copper handicrafts in Tumang. The sample used were 172 SMEs in copper handicrafts in Tumang. In this study, the writer used purposive sampling in determining the number of samples, the sample being MSME business actors in the Copper and Brass Craft Cluster in Tumang, Cepogo. The stipulation is that one MSME is given one questionnaire. The test in this study was conducted to see whether there was a significant effect between capital assistance, labor,

education, and technology on increasing the business income of the copper and brass cluster MSMEs in Tumang, Cepogo, Boyolali. The analysis used by the writer to determine the effect of each variable using multiple linear regression analysis techniques.

RESULTS AND DISCUSSION

The results of the analysis of this study is presented in the following tables.

Table 1. F Test
Tabel 1. Uji F

Model	Sum of Square	Df	Mean Square	F	Sig.
1 Regression	122544658005389792,000	4	30636164501347448,000	5,446	0,001 ^b
Residual	556965495840764220,000	99	5625914099401658,000		
Total	679510153846153980,000	103			

The table above shows that the significant value of 0.000 is less than 0.05, therefore it can be concluded that all independent variables simultaneously affect the dependent variable. This is supported by the value of f_{count} which is greater than f_{table} , which means that the regression model used is goodness of fit. The results of the F_{test} are known that (5.446 is greater than 2.4635), then H_0 is rejected, meaning that simultaneously the variables of capital assistance, labor, education and technology have an effect on the increasing income and the model can be considered fit.

Table 2. Coefficient of Determination Test

Model	Adjusted			Std. Error of the Estimate
	R	R Square	R Square	
1	0,425 ^a	0,180	0,147	75006093,7485

The table above shows that the coefficient of determination with adjusted R2 is 0.147. This means that 14.7% of the variation in the variable of increasing MSME income can be explained by the variables of capital assistance, labor, education, and technology. The remaining 85.3% is explained by other factors outside the model studied.

Table 3. t- Test

Variable	t _{count}	t _{table}	Sig.	Std. Sig.	Interpretation
Capital Assistant	3,28	1,9	0,0	0,0	H1 accepted
Labor (X2)	-0,261	1,9	0,7	0,0	H2 rejected
Education (X3)	-0,178	1,9	0,0	0,0	H3 rejected
Technology (X4)	2,62	1,9	0,0	0,0	H4 accepted

Based on the test results in the table above, it can be explained as follows:

1. The capital assistance variable has a value of $t_{count} > t_{table}$ ($3.287 > 1.984$) and a significance value of < 0.05 ($0.001 < 0.05$). This shows that more capital received can be used in increasing income, therefore it can be concluded that there is a significant effect of capital assistance on increasing the income of SMEs in the copper and brass craft cluster Tumang, Cepogo, Boyolali Regency.

2. The labor variable has a value of $t_{count} < t_{table}$ ($-0.261 < 1.984$) and a significance value of > 0.05 ($0.794 > 0.05$). This shows that the less labor is used, the increase in income will decrease, therefore it can be concluded that labor has no significant effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

3. The education variable has a value of $t_{count} < t_{table}$ ($-0.178 < 1.984$) and a significance value of > 0.05 ($0.061 > 0.05$). This shows that the lower the education, the increase in income will decrease, therefore it can be concluded that education has no significant effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

4. The technology variable has a value of $t_{count} > t_{table}$ ($2.626 > 1.984$) and a significance value of < 0.05 ($0.010 < 0.05$). This shows that the higher or more sophisticated the technology that can be used to increase income, therefore it can be concluded that there is a significant influence of technology on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

The effect of capital assistance on increasing the income of MSMEs in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency

The results of this study indicate that the capital assistance variable has a tcount value of 3.287 > ttable 1.984 and a sig value of 0.001 < 0.05. So that the variable of capital assistance has an effect on increasing the income of MSMEs in Tumang Village, Cepogo District, Boyolali Regency, then the first hypothesis is accepted (H1 is accepted).

The main components that determine a productive business from a community group can grow

and develop effectively are business capital, work ethic, discipline, and work spirit. However, capital as the main factor in running a business is one of the SMEs in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency, especially in the metal or copper craftsmen. With the form of the community that still holds regional customs and is not too familiar with modernization, capital assistance is needed to support community business activities. The greater the capital assistance will affect the increase in the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

With sufficient business capital, MSME actors

have the ability to improve company facilities and infrastructure in order to support business continuity. These facilities and infrastructure include more sophisticated production equipment, a wider area, tools that support marketing and sales, more skilled human resources and so on. The correct use of capital assistance by MSME actors will be able to make the business develop well so that capital assistance can increase the income of MSMEs in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency.

Capital is very important for entrepreneurs to develop their businesses so that they can increase their business income, this explains the problem with the highest percentage being capital difficulties, because MSMEs are a type of independent business where most of the business owners are individuals, so capital assistance is one of the hopes of business actors in promote his business. Therefore, when capital assistance is obtained in large quantities, the output obtained is more and more because the capital is used to finance daily production processes.

This study is in line with research conducted by Nurmaya (2016), Dinata (2016) and Dyatama (2020) which state that capital assistance has an effect on MSME income or turnover. This study also supports Utami's (2018) research which found that there was an effect of capital assistance on increasing income.

The effect of labor on increasing the income of MSMEs in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency

The results of this study indicate that the labor variable has a tcount of -0.261 < ttable 1.984 and a sig value of 0.794 > 0.05. Therefore, the labor variable has no effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency, then the second hypothesis is rejected (H2 is rejected).

Labor is part of working capital. The large number of workers reflects the size of the business. But a lot of labor does not necessarily create maximum results. Metal or copper craftsmen MSMEs in Boyolali do not require a large workforce but require skilled workers who are meticulous in creating products in order to compete in the market. Thus, this study proves that the number of workers has no effect on increasing the income of SMEs

in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency.

Workers who do not have an understanding of crafts will find it difficult to adapt and the creativity of the workforce will not emerge, in this way the workforce cannot guarantee that market demands can be met. The large number of workers does not always make the work completed on time but can hamper the process. Labor is a factor of production that needs to be taken into account in the production process in sufficient quantities, not only in terms of its availability but also the quality of labor. Thus, the workforce has no effect on increasing the income of MSMEs in Tumang, Cepogo Village, Cepogo District, Boyolali Regency.

Labor is a useful income factor and is considered in the company's production process and in sufficient quantities, not only in terms of readiness but also quality. Labor is focused on the amount of labor used in businesses that participate in the production process. The workforce is large but not qualified and making unqualified products will reduce consumers' desire to buy metal or copper crafts, this will reduce the income of SMEs in the copper and brass craft cluster Tumang, Cepogo, Boyolali Regency.

This study is in line with the research conducted by Puspitasari (2012) and Anashari (2019) which states that labor has no effect on increasing MSME income.

The effect of education on increasing the income of MSMEs in Tumang, Cepogo, Boyolali Regency

The results of this study indicate that the education variable has a tcount value of $-0.178 < t_{table}$ 1.984 and a sig value of $0.061 > 0.05$. Therefore, the education variable has no effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency, then the third hypothesis is rejected (H3 is rejected).

MSME actors in running a business are not fixated on how high their education is but are seen by their willingness to try and be consistent in doing business. In running a business, an MSME actor does not fully use the knowledge obtained from school or lectures. MSME actors often use the results of the learning process outside of formal education and experience to run their business. This shows that the level of education has no effect on increasing the income of SMEs in the Tumang copper and brass craft cluster, Cepogo, Boyolali Regency.

MSME actors to increase their income think that they do not need higher education, this is because the average MSME actors in the area trust experience more than high school. Experience is considered as learning, to get that experience does not require higher education. Regional characteristics such as customs also affect MSME actors in running a business, this explains that education has no effect on increasing the income of MSMEs in the copper and brass craft cluster in Tumang, Cepogo, Boyolali Regency.

Educational background is not widely used in running a business because MSME actors have their own

way of advancing their business. In advancing a business, it is not necessary to have a high educational background, by discussing or socializing with fellow business actors, they can come up with solutions or strategies that must be carried out by businesses in advancing MSME businesses. Education is not only obtained from formal channels, education can be obtained through non-formal education, namely training and knowledge and experience passed down by the family. This further supports the results of research that education has no effect on increasing MSME income.

This study is in line with the research conducted by Noviono (2019) and Hasanah (2020) which state that education has no effect on increasing business income.

The effect of technology on increasing the income of SMEs in the copper and brass craft cluster Tumang, Cepogo, Boyolali Regency

The results of this study indicate that the technology variable has a tcount value of $2.626 > t_{table}$ 1.984 and a sig value of $0.010 < 0.05$. Therefore, the technology variable has an effect on increasing the income of SMEs in the copper and brass craft cluster in Tumang, Cepogo, Boyolali Regency, then the fourth hypothesis is accepted (H4 is accepted).

Technology, part of the means to provide goods needed for the survival and comfort of human life. Recent technological developments, including the printing press, the telephone, and the internet, have reduced physical barriers to communication and allowed humans to interact freely on a global scale. Oviliani (2000) in the research of Bhagas 2016, explains that internet IT applications can give business strategy advantages to win the competition in global dissemination, interaction, customization, and electronic commerce. Technology has affected society in many ways and has also helped improve the state of the economy (including today's global economy). With the new technology, it will simplify the production process and also facilitate the marketing of the production of both goods and services.

Technology is very helpful for MSME actors in offering their products, one of which is the use in marketing and sales aspects such as the use of social media which can reach more people in a shorter time, with less costs and a wider scope. This states that the more modern the technology adopted, the greater the increase in the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

In addition, the maximum use of technology will facilitate the production process so that more and more goods are produced. Because the number of the same goods in large quantities and it is easier for people to obtain these goods will have an impact on the income of MSME actors. Technological advancements are often the creativity of MSME actors in making new products that are trending or favored by consumers, with the emergence of innovation and creativity in creating new products, it can increase the income of MSMEs in the

copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

The use of technology is very helpful for business development, this makes it easier for business owners to market or produce, besides that technology makes everything easy and efficient. The use of technology in advertising products through internet networks such as social media among MSMEs shows that MSME actors have been able to adapt to existing technology. When the technology used is higher, it will affect the income of SMEs in the Tumang copper and brass craft cluster, Boyolali Regency.

Technology is a tool used to accelerate productivity in a business. With this tool, it is very easy for workers to produce goods and will increase the productivity of workers which will ultimately affect the level of income. The development of MSME technology is influenced by many factors, including the ability of human resources to develop technology, the availability of capital for technology procurement, the role of research institutions in supporting technology development as well as monetary and fiscal policies (Suharyadi, 2004). Suparmoko and Irawan (2003), technology means a change in the production function that appears in existing production techniques.

This study is in line with the research conducted by Bhagas (2016), and Hasanah (2020) which states that technology has an effect on increasing income. This research also supports the research of Noviono (2019) where technology has a significant effect on the income of MSMEs. This means that the more modern the technology used, the more MSME income received will also increase. As for the relationship with this research, technology has an equally positive effect on MSME income.

CONCLUSION

Based on the results of data analysis that has been carried out and the discussion that has been described previously, the conclusions obtained are as follows:

1. The results of the simultaneous test (F test) show that simultaneously the variables of capital assistance, labor, education and technology have an effect on increasing income in the UMKM cluster of copper and brass crafts in Tumang, Cepogo, Boyolali Regency.

2. Capital assistance has an effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency. The greater the capital consumed, the greater the income received by MSMEs.

3. Labor has no effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

4. Education has no effect on increasing the income of SMEs in the copper and brass craft cluster of Tumang, Cepogo, Boyolali Regency.

5. Technology has an effect on increasing the income of MSMEs in Tumang Village, Cepogo District, Boyolali Regency.

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THE INFLUENCE OF ORGANIZATIONAL CULTURE, UNETHICAL BEHAVIOR AND PROCEDURAL FAIRNESS ON THE TENDENCY OF VILLAGE FUND MANAGEMENT ACCOUNTING FRAUD IN GOHONG VILLAGE, KAHAYAN HILIR DISTRICT, PULANG PISAU REGENCY

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ABSTRACT

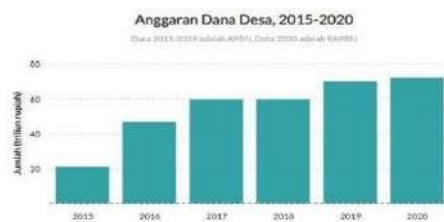
This study aims to examine the effect of organizational culture, unethical behavior, procedural justice on the tendency of accounting fraud. This study uses a quantitative approach with primary data in the form of a questionnaire where the sample obtained is 87 people with a saturated sampling method. The data analysis technique in this study uses SPSS 25 data analysis. The results of hypothesis testing indicate that organizational culture and unethical behavior have a positive and significant effect on the tendency of accounting fraud. Then the results of hypothesis testing indicate that procedural justice has a negative effect on the tendency of accounting fraud. It is recommended for further researchers to develop samples and are expected to be able to test with other variables outside the study.

Key words: accounting fraud trends, organizational culture, procedural justice, unethical behavior

INTRODUCTION

Accounting fraud has gotten a lot of public attention as the dynamics of being the center of attention. Even in Indonesia, accounting fraud has already become a habit over the years. The tendency is defined as “more interested in”.(Pratama (2020). According to Adelin (2013) the tendency shows the indication to perform an action that leads to the presence of cheating or fraud. The tendency of accounting fraud is defined as that causing the error reporting in the financial statements, or an act of intent to use resources unnaturally and wrong present the facts to obtain a personal benefit. Purwanti (2020) the tendency of accounting fraud can be said as the tendency of corruption in the definition and terminology because of the involvement of some elements that consists of the facts is misleading, a violation of the rules or abuse of trust, and the commission of fact critical.

Based on the results of monitoring of Indonesia Corruption Watch (ICW) records the activities of the corruption of the majority is done by the village in the year 2020. Data ICW mention 330 cases of corruption committed by officials of the village reached a total of Usd 111 billion, this figure is keeping the position of the second loss to the state in 2020 after the practice of corruption committed by a cluster of political namely members of the legislative and the head of the region, which amounted to Usd 115 billion. That



is the competence and integrity of the village of mertig get more attention while increasing the participation of supervision by the public. (www.republika.so.id 22 march 2021). According to Fachrunisa (2015) cheating on intent to do the act of transfer or the addition of a certain amount so that happened misstatement in the financial statements. The opportunity to do cheating depends on the position of the players on the object of fraud. In general, the leadership of an organization has a greater opportunity to commit fraud and influence employees.

According to Bihandung (2019:59) the village is the unity of community law which have boundaries that are authorized to regulate and manage the affairs of the government, the interests of the local community based on the initiative of the society, the right of the origin, and/or traditional rights recognized and respected in the system of government of the Unitary State of the Republic of Indonesia. The village fund is one of the programs given by the central government to help the village government in carrying out any development programs in the village. Provision of village funds to improve the implementation of village government, improve the ability of social institutions, improve income distribution and also to encourage increased community participation in economic development. The village fund that increased annually, driven by the needs of the village

government to finance programs in the budget in mursyawarah the village. Village finance is managed based on the principles of transparent, accountable, participatory and performed with order and discipline of the budget. Village fund management is carried out in 5

stages, namely Planning, Implementation, Administration, reporting and accountability.

In the framework of the financial management of the village, the village head did most of Financial Management to the village appointed. The construction of the Village is a development that is carried out by the village. If you do, then concerned shall be subject to sanctions in the form of a reprimand verbal/written warning. In addition, the Manufacture of such also is No corruption, where there is a threat of a criminal for the people using the authority that the impact can be detrimental to the country. Based on data compiled by the Ministry of Finance of the Republic of Indonesia (2019), namely in accordance with the principle of money follows function and the money follows the program that the village was given the funds adjusted with program priorities, improving on the principle of efficiency of budget allocation, transparency and accountability that is run with the objective performance goals. Purpose given the funds to make is to improve the welfare and program development activities of the village. Another purpose of the implementation of the village fund since 2015 is to improve the economic and public awareness of the village. The Data of the budget Funds of the village 2015-2020 following:

Source: Ministry Of Finance, (Accessed April 21, 2021)

Based on the picture can be seen that the village fund budget in 2015 is Rp 20.8 trillion, in 2016 amounted to Rp 46.9 trillion, year 2017 amounted to Rp 60 trillion, 2018 amounted to Rp 60 trillion in 2019 to reach Usd 70 billion, and in 2020 Rp 72 trillion. Every year the government allocates funds of the village increased every year for the welfare of the village community. The whole revenue of the village received and distributed to the districts through the cash accounts of the village and its use is defined in APB Desa. The amount of village fund large will increase the chances of occurrence of fraud in its management. Cheating happens because of the limitations of the understanding of the human resources in the management of village funds is quite large.

To anticipate the tendency of accounting fraud that may occur in an agency, then it is necessary the presence of the culture of the organization. According to Sutrisno (2019:2) organizational culture is defined as a system of values (values), beliefs (beliefs), assumptions (assumptions), or the norms that have long been in force, disepekati and followed by the members of an organization as a code of conduct and solving the problems of

the organization. According to Aprilliyanti (2018) organizational culture in the form of role models visible, communication expectations of ethical training, ethical, rewards as well as penalties for unethical acts, and the mechanism of protection ethics.

The theory of Attitudes and Behavior, developed by Triandis (1980), states that a person's behavior is determined by attitudes related to what people want to do and consists of beliefs about the consequences of doing the behavior, social rules related to what they think they will, and habits related to what they usually do. Organizational culture is an invisible social force that can move people in an organization to carry out work activities. Unconsciously, each person in an organization learns the culture that prevails in its organization. Moreover, as a new person in order to be accepted by the working environment, he tries to learn what is forbidden and what is required, what is good and what is bad, what is right and what is wrong, and what should be done and what should not be done in the working organization. So organizational culture socializes and internalizes the members of the organization.

If seen from the research of previous studies, research Fachrunisa (2015) organizational culture positive and significant effect on the tendency of accounting fraud. The organization will form the perpetrators of the organization have a sense of belonging (sense of belonging) and sense of identity (a sense of pride as part of an organization). It is also supported by research conducted by the research Pratama (2020) organizational culture has a positive effect on the tendency of accounting fraud. The lower the organizational culture, the higher the tendency of cheating. So also with research Apriliyanti (2018) organizational culture has a positive effect on the tendency of cheating. It means that the worse the organizational culture of an institution, the higher the tendency of employees to commit fraud accounting. Culture is the norms and values that directs the behavior of the members of the organization.. Culture can encourage ethical behavior, and vice versa can also encourage the creation of unethical behavior.

RESEARCH METHODS

This type of research uses quantitative research with this type of research classified as causal associative research (causative). Quantitative research is a research method used to examine a particular population or sample, data collection using research instruments, quantitative or statistical data analysis with the aim to test the hypothesis that has been established Sugiyono (2017:13).

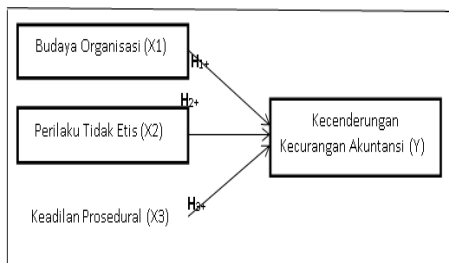
Used in this research aims to know the influence of organizational culture, unethical behavior and procedural justice against the tendency of accounting fraud the management of village funds. The object of the acquisition of the data of this study, namely the Village, the PKK, Mantir, Karang Taruna, Posyando, and

Community Leaders in the Village Gohong Kecamatan Kahayan Hilir Kabupaten Pulang pisau.

The source of the data used in this study is the respondents, namely, the type of data using Primary data. Data collection techniques used in this research is questionnaire that list of questions was sent to the respondents the original source or not through the medium. A questionnaire or a questionnaire in general can take the form of a question or statement that can be answered according to the form of the questionnaire. The Data collected was processed using the analysis tools in the form of SPSS software.

The instruments used in this study is a questionnaire or a questionnaire. The variables measured in the questionnaire include: the Tendency of accounting fraud (k. k. a.), Organizational Culture (BO), Perilaku unethical (PTE), Procedural Justice (KP). The process carried out to uncover various phenomena that occur in society by using various ways and methods so that this process runs systematically and is more accountable for its validity.

In quantitative research mengembangkan karangka conceptual is an obligation that must be described by a researcher. Sugiyono (2017:83) states that karangka concept will connect theoretically between the research variables namely between the variables independen with the dependent variable. In this case in accordance with the title of the research model can be seen in the picture below.



Description :

H1 : organizational Culture has positive and significant effect on the tendency of accounting fraud

H2 : unethical Behavior and significant positive effect on the tendency of accounting fraud

H3 : procedural Justice has positive and significant effect on the tendency of accounting fraud

Description :

a. The Tendency Of Accounting Fraud (Y)

The tendency of accounting fraud is the intentional or incorrect statement of a truth or the state of the hide of a material fact that may affect the other person to do any act or action that is detrimental, usually an error but in some cases (especially done intentionally) allows is a crime.

b. Organizational Culture (X1)

Organizational culture is defined as a system of values, beliefs, assumptions, or norms that have long been in force, agreed upon and followed by members of an

organization as a guide to behavior and solving organizational problems.

c. Unethical Behaviour (X2)

Unethical behavior is behavior that is not in accordance with the social norms accepted in general, with respect to the action that is beneficial or harmful.

d. Procedural Justice (X3)

Procedural justice is a consideration made by the employees about the fairness perceived about the process and organizational procedures used to make allocation decisions and resources.

Data collection techniques conducted in this study is a questionnaire method using questionnaires that are structured in accordance with variable indicators (Sugiyono, 2017:107). Each respondent was asked his opinion on a question with a likert scale from 1 to 5

RESULTS AND DISCUSSION

On the variable of organizational culture answer a minimum of respondents of 11 and a maximum of 25, with an average total answer 19.34 and standard deviation of 2.807. Variable unethical behavior answers a minimum of respondents of 25 and a maximum of 39, with an average total answer 32.13 and standard deviation of 3.227.

Procedural fairness variable minimum answer respondents amounted to 12 and a maximum of 33, with an average total answer 26.53 and standard deviation of 3.368. Meanwhile, the variable tendency of fraud fraud respondents minimum answer of 16 and a maximum of 41, with an average total answer of 28.52 and standard deviation of 5.785. Based on the test results of the descriptive statistics above, it can be concluded that, the smaller the standard deviation then the data better than on that has a standard deviation that is great, if the standard deviation of a data is small then it shows the data were gathered around the average calculation skill. If the value of the standard deviation is much larger than the mean value, then the value of the mean is a representation of the overall data. Whereas if the value of the standard deviation is very small compared to the mean value, then the value of the mean can be used as a representation of the overall data.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BUDAYA ORGANISASI	87	11	25	19.34	2.807
PERILAKU TIDAK ETIS	87	25	39	32.13	3.227
KEADILAN PROSEDURAL	87	12	33	26.53	3.368
KECENDERUNGAN KECURANGAN AKUNTANSI	87	16	41	28.52	5.785
Valid N (listwise)	87				

From the analysis above, the regression equation as follows

$$Y = 29,843 + 1,363X_1 + 0,647X_2 - 0,266X_3 + e$$

From the regression equation above can be described as follows:

1. The regression coefficient has a constant value of 29.843 with the value of t count is positive at 4.017 and a significance level of 0.000, is the state of the variable tendency of accounting fraud have not been influenced by other variables that the variable of organizational culture (X1), variable Unethical Behaviour (X2). Variable Procedural Justice (X3). If the independent variable does not exist then the variable tendency of accounting fraud does not change.
2. The coefficient of the variable of organizational culture (X1) of 1.363 shows that the variable of organizational culture has a positive influence on the tendency of accounting fraud which means that every increase of 1 unit of the variable of organizational culture will affect the tendency of accounting fraud by 1.363 with the assumption that the other variables did not change or constant.
3. The coefficient of the variable of unethical behavior (X2) of 0.647 showed that the variables of unethical behavior has a positive influence on the tendency of accounting fraud which means that every increase of 1 unit of the variable of organizational culture will affect the tendency of accounting fraud by 0.647 with the assumption that the other variables did not change or constant.
4. The coefficient of procedural justice variable (X3) of -0.266 indicates that procedural justice variable has a negative influence on the tendency of accounting fraud which means that every increase of 1 unit of procedural justice variable will affect the tendency of accounting fraud of -0.266 assuming that other variables do not change or are constant.

Test The Coefficient Of Determination (Test R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.462 ^a	.214	.185	5.222	1.069

From the above analysis it is known that the value of R Square

0.214 or 21.4%. This shows the level of influence of accounting fraud tendency variables influenced by organizational culture variables (X1), unethical behavior (X2), and Procedural Justice (X3) by 21.4% while 78.6% influenced by other variables that are not included in this study.

The influence of organizational culture on the tendency of accounting fraud the management of village funds

Based on the results of descriptive analysis of organizational culture variables obtained an average of 4.08. This shows that the indicators of organizational culture variables have an influence on the tendency of accounting fraud. Based on the 2nd statement Item "code of ethics has been applied stating the values of the organization san various ethical rules that are adhered to

"and the 1st" superior behavior is used as a standard reference to determine the behavior to be taken " and the 5th" the existence of a kind of regulatory body that handles ethical protection issues", has the highest average of 4.09, 4.18, 5.03. This indicates that those who commit violations in performing duties will be penalized in accordance with applicable regulations with the aim of anticipating disciplined and ethical daily behavior. While the respondent's statement of the lowest value in the 3rd question is " in the community there have been ethical seminars and trainings on the standards of organizational demands, which explain practices that are not allowed and about ethical dilemmas that may arise, with a score of 3.54. This means that many respondents assume that seminars and trainings in organizations are still poorly conducted on ethical practices. Although many have understood the consequences of ethical violations, it seems that awareness of the importance of ethics should continue to be encouraged. Based on the percentage of age studied the most dominant is aged 40 years to 49 years. According to gender, the most dominant number is the femalesex. While the percentage based on the most dominant last Education is bendidikan SMA.

Based on the results of testing the first hypothesis that has been done related to the influence of organizational culture on the tendency of accounting fraud in the management of village funds shows that the value of tcount 4.015 > ttable 1.796 and significancevalue of 0.000 < 0.05, and also can be seen the value of the unstandardized coefficient beta of 0.523. It shows that the significance level below 0.05. The study successfully proved the first hypothesis (H1) is accepted, meaning that organizational culture has positive and significant effect on the tendency of accounting fraud.

The results of this study concluded that the respondents be agreed in answering questions related to the variables of organizational culture. Ethical standards lowwill havetheriskof accounting fraud is high, although there has been a culture of good organization will not open up opportunities for further individual to commit fraud, but the culture of the organization that there is less benefit on the level of skills and expertise in accordance with certain qualifications. Training ethical quality will provide protection, insight, inspiration and motivation are very useful in the organization. The training included information ethical issues concerning the violation of ethics training is important given to the public in order not to violate the code of ethics that exist to support rural development and the achievement of the progress of the village in the Village Gohong Kecamatan Kahayan Hilir Kabupaten Pulang pisau.

The influence of unethical behavior against the tendency of accounting fraud the management of village funds

Based on the results of the descriptive analysis of the variables of unethical behavior obtained average amounted to 3.41. It shows that the indicator variable of

unethical behavior has an influence on the tendency of accounting fraud. Based on the statement Item-4 "Is a natural thing when using vasilitas the village office for personal purposes in excess" and 6 "Do leaders engage the community and provide an opportunity subordinates to express their opinion", has the highest average amounted were 4.12 and the 4.33. This shows that the leadership has a vision, mission, strategy and ideas that require the voice of the community in the opinion so that the public interest is more involved to all parties for the village. While the respondent's statement of the lowest value in the 1st question "Is it reasonable to recruit relatives / relatives without going through the entrance selection test", had the lowest average of 2.95. This means that in essence, in carrying out the duties of the leader it is forbidden to abuse his authority. The act of recruiting based on the relationship of relatives / relatives or called nepotism, basically in conducting labor implementation is carried out based on the principle of open, free, objective, and fair. Disclosure of information is necessary to protect and to avoid the occurrence of impartial disputes. The most dominant gender is the female sex. While the percentage based on the most dominant last Education is *pendidikan SMA*.

Unethical behavior is behavior that is not in accordance with the social norms accepted in general, deviant behavior which person do to achieve a certain goal. Based on the results of testing these second hypothesis that has been done related to the influence of unethical behavior against the tendency of accounting fraud in the management of village funds shows that the value of $t_{count} 2.124 > t_{table} 1.796$ and a significance value of $0,037 < 0,05$ which has a positive direction and also can be seen the value of the unstandardized coefficient beta of 0.350. It shows that the significance level below 0.05. Thus the study successfully proved the second hypothesis (H2) is accepted, meaning that the behavior is not ethical influential positive and significant effect on the tendency of accounting fraud.

The results of this study concluded that respondents are neutral tend to agree in answering questions related to unethical behavior variables. Unethical behavior that individuals have is likely to lead those individuals to commit accounting fraud tendencies. Unethical behavior should not be morally acceptable because it results in harm to others and the environment. As a symptom complex of unethical behavior is very dependent on the interaction between personal characteristics with the phenomenon of asocial that appears, environmental, and psychological factors are complex. If unethical behavior left untreated, it will develop into a behavior that is so complex that it is difficult traced and cause adverse consequences. The behavior of the abuse of office, organizational resources, power, and behaviors that do not do anything with respect to the position and his power. In addition to these factors unethical behaviour is also triggered by the system of salaries, top security risk jobs, the protection of the confidentiality of the financial statements Especially

associated with unethical behavior aimed at the achievement of appropriate compensation will justify any means to achieve the goal so that the tendency to commit accounting fraud is very large.

The influence of procedural justice on the tendency of accounting fraud the management of village funds

Based on the results of the descriptive analysis of the variables of procedural justice obtained the median of 3.81. It shows that the indicators of the variables of procedural justice has no influence on the tendency of accounting fraud. Based on the statement Item-5 "Every deal, every society has the right and is treated the same in a similar procedure" has the highest average of 4.20. This shows that the Opinion of the community is preferable, community involvement is very important in the construction of the village sustainable. The head of the village still has involved the community in the budgeted funds development in the village. In this case, society is seen as the object of the builders at once the subject or part of the development actors. Procedural justice is high then the tendency of accounting fraud will be low. While the statement of the respondents the lowest score on question 1 "If the community has already contributed in the expressing ideas that support progress " has a low average of 3.59. This means that the village head still does not involve the community to contribute to the development in the village. The most dominant gender is the female sex. While the percentage based on the most dominant last Education is *pendidikan SMA*.

Based on the results of the third hypothesis testing that has been done related to the influence of procedural justice on the tendency of accounting fraud in Village Fund Management shows that the value of $t_{hitung} -1.589 < t_{table} 1.796$ and a significance value of $-0,116 > 0,05$, which has a negative direction and also can be seen the value of the unstandardized coefficient beta of -0.155. It shows that the significance level is above 0.05. Thus the results of the research prove the third hypothesis (H3) is rejected, meaning that procedural justice is not positive and significant effect on the tendency of accounting fraud.

The results of this study showed that procedural justice negatively affects the tendency of accounting fraud in Gohong Village. It is concluded that procedural justice has been classified as good it can be seen from every community has the right and perceive the decision-making procedures are included in the category of fair, so accounting fraud is not caused by fair or not decision-making procedures but there are other factors that cause it. *Pastisipasi* and contribution to society is the cooperation between the people and the government in planning, implementing, preserve, and develop the construction in the village.

The results of this study are not relevant to the research conducted by Aprilliyanti (2018), found that procedural fairness has a positive effect on the tendency of fraud. Someone will compare the outcomes and inputs they put out in doing the work and will compare them with those received someone else. However, the results

of this study are in line with Fachrunisa (2015) research suggests that compensation systems that clearly describe rights and obligations, measures of achievement and failure, in managing organizations where with fair or not fair payroll procedures, fraud still occurs. So whether or not procedural fairness based on the fairness of payroll procedures in an institution is not a guarantee to prevent the trend of accounting deficit. And also relevant to the study by Pratama (2020) the results of this study indicate that procedural fairness is a consideration made about the perceived fairness of organizational processes and procedures used to make existing decisions, if justice in each procedure is higher, it will further reduce the tendency of fraud committed and the management in it. This study still has limitations in terms of describing or uploading the fact of the actual situation that relies on three variables, one of which is procedural justice variables, so that there may be other variables that affect the tendency of accounting fraud.

CONCLUSION

This study aims to determine the influence of organizational culture, eprilaku not ethical and procedural justice against the tendency of accounting fraud. Samples taken in the village of GohongKecamatan Kahayan Hilir Kabupaten Pulang pisau., The sampling technique using purposive sampling technique and obtained 87 questionnaires that can be processed. Based on the results of data analysis that has been done, then it is taken to the following conclusion:

1. Organizational culture positive and significant effect on the tendency of accounting fraud. This is because the Culture of the Organization in the Village Gohong Kecamatan Kahayan Hilir Regency Home still not good enough. They have the integration of low internal to the work and the agencies they work for. Organizational culture can be realized in the form of obedience to the regulations, both in terms of working time, and operational work. The lower the organizational culture, the higher the level of the tendency of accounting fraud.
2. Unethical behavior has positive and significant effect on the tendency of accounting fraud. This is because ethical behavior in the Village Gohong Kecamatan Kahayan Hilir Regency Home still not good enough. It can be seen from the behavior of the abuse of office, organizational resources, power, and behaviors that do not do anything with respect to the position and his power. The lower the unethical behavior, the higher the level of the tendency of accounting fraud.
3. Procedural justice and no significant negative effect on the tendency of accounting fraud. This is because procedural justice in the Village Gohong Kecamatan Kahayan Hilir Regency Home is quite good. Perceive the decision-making procedure is included in the category fair, pastisipasi and contribution society is the cooperation between the people and the government in planning, implementing, preserve, and develop the

construction in the village. Thus the high procedural justice then the lower the level of the tendency of accounting fraud.

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ANALYSIS OF THE IMPLEMENTATION OF OFF-NETWORK LEARNING IN THE COVID-19 PANDEMIC PERIOD FOR FIFTH GRADE ELEMENTARY SCHOOL

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ABSTRACT

The purpose of this study is to describe the implementation of offline learning during the Covid-19 pandemic. The reason this research was conducted was to find out how offline learning was implemented during the Covid-19 pandemic. The approach used in this research is descriptive qualitative. The data collection technique used in this research is descriptive qualitative. Data collection techniques used in this study were observation, interview, and documentation. Data collection tools in the form of observation sheets, interview guidelines, and documentation. The results of offline learning during the Covid-19 pandemic has been carried out quite well. Students and teachers already have the basic facilities, it describes the readiness to implement offline learning. In the implementation of offline learning, the teacher has planned and implemented offline learning well, namely using the *Shift learning method* (turned learning method) which is divided into three shifts with a maximum learning time of one hour for each shift. Offline learning can encourage students and teachers to be more innovative, independent, and motivated to learn. However, offline learning has obstacles in its implementation in terms of time in delivering material and in the form of assignments to students. Efforts to overcome obstacles in the implementation of offline learning continue to be carried out by evaluating and developing the methods used in stages in each offline learning.

Key words: covid-19, elementary, offline learning, implementation, pandemic

INTRODUCTION

Education is a very important thing for humans. Along with the development of the era, the education system has changed both in terms of material, teaching staff, and facilities and infrastructure. There is alternative to increase human resources is through education, because life and livelihood in accordance with human values, both individually and in groups, absolutely require the provision of abilities that can be formed through education. Through education, humans are expected to be able to face and overcome future challenges and become intelligent, skilled, independent, and responsible human beings.

Teachers have an important role in terms of developing the quality of education in various conditions and circumstances, they are required to remain professional to carry out their duties. Including during a pandemic like now by the Covid-19 virus. Corona virus or Covid-19, according to the official website of the World Health Organization (WHO), is an infectious disease caused by the Corona virus. This virus was first discovered in Wuhan, China. Covid-19 is a kind of immune disorder caused by a virus, namely the SARS-CoV-2 virus (Yuliana et al., 2020)

WHO declared the corona virus a global pandemic in March through the Director General of WHO named Tedros Adanom Ghayesus in Geneva. The determination of the corona virus as a global pandemic is due to the large number of people who have contracted this virus far from the center of the outbreak. One of them is Indonesia, which was officially announced in Presidential Decree No. 12 of 2020 that the corona virus was designated as a non-natural national disaster. Various efforts from the government to find the right solution in recovering every aspect affected by the Covid-19 pandemic, one of which is in the education aspect. (Ambarita, 2020)

Many people identify distance learning as online learning that utilizes technology and internet access, even though the scope of distance learning is wider. According to Law No. 12 of 2020, distance learning can be carried out with various learning methods, including online learning (on the network/online), offline learning (outside the network/without the internet) or combined learning (blended learning), with 6 suitable learning models. Implemented during the Covid-19 pandemic, namely Project Based Learning, Online, Offline, Home Visit Method, Integrated curriculum, Blended Learning. Online learning is considered to be the best solution for several

educational institutions in Indonesia, but there are several educational institutions in Indonesia that are located in certain areas in remote parts of the country with inadequate internet access. Ambarita, J. (2020: 9). Therefore, not all educational institutions can implement the implementation of online-based learning.

The term offline which is derived from the word "outside the network" as a substitute for the word offline. According to the KBBI of the Ministry of Education and Culture (Big Indonesian Dictionary), offline is an acronym from outside the net (an); disconnected from the computer level. The implementation of offline learning during the Covid-19 pandemic has given its own color to the world of education in Indonesia as well as an innovation in the world of education that can be applied in the long term in the future. All educational institutions apply learning methods during the Covid-19 pandemic with the same goal, namely so that the learning process can be carried out properly.

Offline learning is also carried out by SD Kenukut. In observations made on April 9, 2021 in the implementation of offline learning at SD Kenukut, with the class subject taken, namely fifth grade. The results of observations in fifth grade SD Kenukut on the implementation of offline learning taking place, using the *Shift Method Learning* on a weekly basis for each class. The implementation of offline learning in class V is scheduled every Tuesday. The learning method used is the offline learning method by giving assignments that are sourced from the available package books. The researcher found that the implementation of offline learning at SD Kenukut using the Shift Method

Learning was divided into three shifts. Each shift is given a maximum of 60 minutes of learning time. Each shift is divided into study groups consisting of 5 to 8 students.

The existence of time restrictions for face-to-face meetings between teachers and students is an obstacle to providing maximum explanations about the material and student assignments. Conventional learning also tends to make students bored because learning activities are limited to only collecting assignments and accepting assignments. There are some students who do not come to school to take assignments and receive new assignments from the teacher, the students' attendance is represented by their parents for various reasons. Some of the factors of the problems found, of course, there are internal and external factors both from the teacher and the students themselves. Based on the problems that have been described, researchers are interested in describing how the implementation of offline learning during the Covid-19 pandemic.

RESEARCH METHODS

The research approach used in this research is a qualitative approach. This research uses descriptive analysis method. The research method used in this research is descriptive qualitative. There are two sources of data in this study, namely primary data sources and secondary data sources. The primary data sources in this study were obtained directly through interviews and observations regarding the implementation of offline learning. While secondary data sources were obtained through documentation, field notes from researchers while at the research location, as well as literature that supports the implementation of offline learning during the Covid-19 pandemic. The subjects studied in this study were the fifth-grade students and teachers of SD Kenukut, Kelam Permai District, Kembong Village. Data collection techniques and tools in this study were direct communication in the form of observations and interviews which referred to observation sheets, interview guidelines, and documentation for each research activity. The validity of the data uses internal validity in the form of triangulation (source and technique, and time). The data analysis technique used in this research is descriptive qualitative data analysis technique.

RESULTS AND DISCUSSION

Kenekut Elementary School related to the implementation of offline learning during the Covid-19 pandemic, including:

1. Implementation of offline learning during the Covid-19 pandemic at SD Kenekut

a) Observation Results

Data collection by observation was carried out by researchers on Friday, 09 April 2021 in fifth grade SD Kenekut. Observations carried out by researchers aimed to find out how the implementation of offline learning. The researcher made observations when the offline learning took place by involving the teacher and students, totaling 10 students. Based on the results of observations and documentation that have been obtained, the implementation of offline learning during the Covid-19 pandemic that was implemented by teachers used the Shift Method Learning, namely the Alternating Learning Method with 3 shifts. Offline learning is carried out by fifth grade teachers with the learning implementation system enforcing a schedule for students who come to take assignments and take assignments with the shift learning method. The schedule for the implementation of learning is carried out every week with a special schedule in the form of

Tuesdays for fifth grade, starting from 07.00 to 09.50 WIB. Around 5 to 8 students are limited to entering the room and take turns to come forward to get materials and assignments from the teacher in each shift within 60 minutes. The teacher explains material related to assignments that come from thematic books.

assessment

Table 1. Observation Results of Class V Teachers and Students

Indicator	Aspect	Observation Results
Offline Learning	Readiness of teachers and students	Teachers and students have readiness to carry out offline learning. This is assessed from the readiness of the teacher in preparing lesson plans at each meeting and the readiness of students is assessed from the presence of students in school to participate in class.
	Material readiness	The teacher always prepares the material according to the package book that has been distributed to students.
	Learning scenario	The implementation of offline learning is in accordance with the learning scenario that refers to the lesson plans.
	Assignment form	Essay and multiple-choice questions
	Suitability of Student Worksheets (LKPD) with learning objectives	Learning resources are from thematic package books, so that the LKPD is in accordance with the learning objectives.
	Completeness of notes, summaries/summaries of students	Not so complete because in every implementation of learning students experience limited time.
	Student discipline in	collecting assignments

The implementation of offline learning during the Covid-19 pandemic is one of the Indonesian government's initiatives in the world of education to make it easier for students to continue to carry out learning in the Covid-19 pandemic situation. According to Sunandar (2020) states that the term offline is an acronym or abbreviation of

"Outside the Network", disconnected from the computer network. The offline method is a learning method that is carried out outside the network which means that this learning model is carried out outside face to face by teachers and students, but is carried out offline which means the teacher provides material in the form of hardcopy assignments to students and then carried out outside school. Affective learning outcomes are

related to attitudes and values (Hawai: 2022).

According to the theory from Ambarita (2020: 33) to avoid crowds during the Covid-19 pandemic, learning using this method is that students will be

taught by teachers in shifts to avoid crowds. Shift

learning methods can make it easier for teachers to carry out face-to-face learning directly with students and still pay attention to health protocols.

b) Documentation Results

The results of the documentation are used

as supporting material to provide supporting evidence during the process of a series of research conducted by researchers. The results of the documentation are also used as a tool or evidence that is authentic, the truth is that it is true that the researcher has carried out and carried out the research concerned. Documentation data obtained are data in the form of taking pictures with Grade V teachers as well as homeroom teachers, pictures of

school conditions, offline learning schedules, offline

lesson plans, and LKPD, which are attached in the appendix. Documentation obtained by researchers as evidence that research on the implementation of offline learning has actually been carried out.

2. Supporting factors and inhibiting factors in the implementation of offline learning during the

Students collect assignments according to a predetermined schedule.

Covid-19 pandemic.

Based on the results of the interview

conducted on Tuesday, June 2, 2021, involving the fifth-grade

teacher, Mr. "BR". Interviews were also held on 07 to 09 June 2021 by involving 10 students

Forms of learning evaluation

Evaluation and assessment of learning is carried

in Grade V SD Kenukut as resource persons with the

initials "JC, GKB, YA, JGKP, ZA, MV, JS, GG, JA, and IS". The supporting and inhibiting factors for the implementation of offline learning during the Covid-

and out in stages at each meeting.

19 pandemic Grade V are internal and external

factors. Internal factors in the form of interest, readiness, and understanding of teachers and students related to offline learning. External factors in the form of assignments and delivery of materials, availability of facilities and infrastructure in schools, involvement of the role of parents at home, and involvement of the school in maximizing the quality of teachers in the implementation of offline learning in schools.

Research conducted by researchers through interviews with teachers and fifth grade student, found a number of supporting and inhibiting factors that they had experienced so far in the implementation of offline learning during the Covid-19 pandemic. These factors are in accordance with Purwanto et al., which relates that there are factors from internal and external indirectly. The inhibiting factor faced by teachers and students, namely the limitation of face-to-face lessons, of course, makes it difficult for teachers to deliver long material, students do not really understand some of the explanations about the assignments given. Through the limitations of the teacher in understanding offline learning more deeply, the learning method becomes unattractive for students. The dominant form of the task is about essay text which is too monotonous for students. Regarding the supporting factors for the implementation of offline learning, namely the availability of learning resources that are easily understood by students such as thematic books, making it easier for students to work on the given questions, they do not have to access the internet because the signal is inadequate. Furthermore, through the collaboration between the school and the parents of the students, parents will understand the rules in implementing offline learning so that students can understand from the explanations of their parents regarding the rules for implementing learning in schools.

3. Efforts made by teachers in overcoming the inhibiting factors for the implementation of offline learning during the Covid-19 pandemic.

Based on the results of interviews conducted by researchers on Tuesday, June 2, 2021, the fifth-grade teacher, Mr. "BR". Efforts are being made to overcome the obstacles that exist in the implementation of offline learning, namely by overcoming several factors that hinder the implementation of offline learning. Efforts are being made in the form of debriefing and training activities for teachers and between schools so that they can provide some advice and experience regarding the implementation of offline learning during the Covid-19 pandemic. Teachers can also carry out a gradual evaluation of the learning that has taken place, both in terms of assignments, assessments, and so on. Carrying out socialization to parents of students is also necessary to provide

direction on the importance of the role of parents in accompanying their children to study at home during the Covid-19 pandemic. good assignment during the covid-19 pandemic is able improve student learning outcomes (Handayani: 2022).

The efforts to overcome obstacles to the implementation of offline learning during the Covid-19 pandemic, it cannot be separated from the role of teachers as educators in schools. Regarding the efforts and role of teachers, in Law number 14 of 2005 concerning educators and education personnel which states that: "Educators are professionals who are tasked with planning and implementing the learning process, assessing learning outcomes, conducting guidance and training, as well as conducting research and community service, especially for educators and universities".

According to Yestiani (2020) the role of the teacher is very important in the implementation of learning and has a role that is more than just an educator, but also as a teacher, learning resource, facilitator, mentor, demonstrator, manager, advisor, motivator, innovator, trainer, and evaluator. Parents is also needed as according to Lilawati et al. in his research journal which says that the form of the role of parents is actually a form of role in school. The role of parents is to motivate all things both by increasing school needs, enthusiasm, as well as praise and appreciation for children's achievements. Schools must provide computer to make it easier for teachers in searching for information so that learning is going well (Kulana: 2021).

Based on the results of interviews with fifth grade teachers at SD Negeri 01 Kenekut, there were several efforts made by teachers or parties at school in line with the theory presented by Yestiana (2020). In this case the teacher is included as an innovator and evaluator who has to make innovations in learning to make it more interesting and not boring and evaluate each lesson and student responses at each learning meeting that has taken place in order to find out how far the learning objectives have been achieved.

The effort made by the fifth-grade teacher at SD Kenekut is one of the socializations regarding the implementation of offline learning which is not only for students but also for parents so that there is no misunderstanding in learning for their children at home. The teacher also strengthens the understanding of offline learning by regularly conducting meetings both between teachers and between schools so that there is more experience regarding the implementation of learning in the future. Covid-19 pandemic. Regarding the restrictions on face-to-face lessons at schools due to Covid-19, the school took the initiative to share information on further assignments or if there was

information asked by students, they could contact directly on the phone, but if students were found to have difficulty accessing the internet network, the teacher took the initiative to provide information directly to people who are easy to meet directly with parents of students who are in a signal difficult zone to convey task information. This at least helps guardians and students get information, considering that sometimes parents and students do not come to school because they are busy and do not know the information about their children's assignments.

Based on the results of research and discussion of data, conclusions and suggestions were obtained regarding the implementation of offline learning during the Covid-19 pandemic: The implementation of offline learning, the teacher has carried out lesson plans and has carried out offline learning well, using learning methods Shift Method Learning (turn over learning method) which is divided into three shifts with a maximum learning time of one hour for each shift. Offline learning is able to encourage students and teachers to be more innovative in teaching and students are required to be more independent and motivated to learn. Offline learning has obstacles in its implementation both in terms of time in delivering material and in the form of assignments to students. Efforts to overcome obstacles in the implementation of offline learning continue to be carried out by conducting a gradual evaluation of each lesson and further development of the methods used in the implementation of offline learning.

CONCLUSION

Based on the results of research and discussion of data, conclusions and suggestions were obtained regarding the implementation of offline learning during the Covid-19 pandemic in fifth grade SD Kenukut, namely: The implementation of offline learning, the teacher has carried out lesson plans and has carried out offline learning well, using learning methods Shift Method Learning (turnover learning method) which is divided into three shifts with a maximum learning time of one hour for each shift. Offline learning is able to encourage students and teachers to be more innovative in teaching and students are required to be more independent and motivated to learn. Offline learning has obstacles in its implementation both in terms of time in delivering material and in the form of assignments to students. Efforts to overcome obstacles in the implementation of offline learning continue to be carried out by conducting a gradual evaluation of each lesson and further development of the methods used in the implementation of offline learning.

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IMPLEMENTATION HIGHER ORDER THINKING SKILLS (HOTS) FOR GRADE IV PUBLIC ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

The purpose of research to find out how the planning of learning, the application of learning and assessment of learning of Higher Order Thinking Skills (HOTS) on thematic learning in class IV of SDN 27 Engkidau Academic Year 2019/2020. This research approach is a qualitative approach. This research method is a descriptive qualitative research method with the form of pure descriptive research. Data collection techniques use direct communication, indirect communication, and documentation. Data collection tools used interview sheets, questionnaires, and documentation. The data were analyzed using the triangulation method. The results of research indicate that the lesson plans compiled by the teacher lead to HOTS even though they are still dominated by LOTS. In the application of learning tends to lead to HOTS because in the 4C aspects, namely creativity, critical thinking, collaboration, communication, including criteria are very often applied. Assessment of learning leads to HOTS where the questions made by the teacher already use operational of HOTS, although they are still dominated by operational verbs of LOTS

Key words: evaluations, higher order thinking skills, tematic

INTRODUCTION

Education is a process of learning that is planned and consciously carried out to create a standard of human life. "Education is an effort to develop humans or humanize humans" (Sinson and Wedyawati, 2017: 23). In the era of the industrial revolution 4.0, the skills to analyze and make fast and correct decisions are needed. These skills are expected to be able to help students be ready to compete so that they are not left behind by the progress of the times. 21st century education applies the importance of the ability to work together to have. Basically, Higher Order Thinking Skills (HOTS) is a priority in the field of education in producing competent graduates. Higher Order Thinking Skills (HOTS) enables individuals to expand knowledge, connect concepts, connect concepts with problems in the field, and solve problems based on theory.

Puspaningtyas (2019: 136) states "Higher Order Thinking Skills (HOTS) are one of the components of creative thinking and critical thinking skills". According to Mantek, Wedyawati and Ege (2019: 71) "creative students will have high curiosity, are independent, confident and have the courage to take risks from the decisions they have taken". Creative thinking and critical thinking can develop a person to be more innovative.

Aprilia (2018: 150) states "Higher Order Thinking Skills (HOTS) include aspects of critical thinking skills, creative thinking skills, and problem-solving skills". Deviana and Kusumaningtyas (2019: 67) state "learning Higher Order Thinking Skills (HOTS) is one of its characteristics, which is to make students think divergent, with several possible and alternative answers

and varied thoughts". Students are not only directed to the mastery of "remembering" knowledge or Lower Order Thinking Skills (LOTS), but the skills of students must be trained and accustomed to be able to have the competence of "creating" or Higher Order Thinking Skills (HOTS).

Bloom's Taxonomy is used as the main basis for Higher Order Thinking Skills (HOTS). Bloom (Fajriyah and Agustini, 2018: 2) states "Higher Order Thinking Skills (HOTS) include analysis, synthesis, and evaluation". Anderson and Krathwohl's revised Bloom's Taxonomy is divided into (C¹) considering, (C²) understanding, (C³) applying, (C⁴) analyzing, (C⁵) evaluating, and (C⁶) create. The grades (C¹) to (C³) are categorized as Lower Order Thinking Skills (LOTS) abilities. Meanwhile, C⁴ to (C⁶) are categorized as Higher Order Thinking Skills (HOTS).

The 2013 curriculum has been socialized and implemented since 2013. The 2013 curriculum at the elementary school level (SD) uses a thematic learning approach. According to Setiamihardja (Deviana and Kusumaningtyas, 2019: 65) states "thematic learning is learning that uses themes in linking several interrelated learning content so that it can provide meaningful experiences to students".

Elis, Wedyawati and Wibowo (2015: 2) "effectively and students experience a meaningful and quality learning process if students show a high level of mastery of learning tasks in accordance with the goals and objectives of national education." One of the meaning of learning is that students have Higher Order Thinking Skills (HOTS), especially in solving problems that are achieved through various learning activities. But in

reality, the application of Higher Order Thinking Skills (HOTS) learning is not easy for teachers to do. Research related to Higher Order Thinking Skills (HOTS) was conducted by Khusnul Fajriyah & Ferina Agustini in 2018, which showed that the Higher Order Thinking Skills (HOTS) of elementary school class V Pilot Project Curriculum 2013 students were in the low category. This can be seen from the student achievement on each indicator of Higher Order Thinking Skills (HOTS). The ability to classify and induce students is at a sufficient level. While the ability of deduction, error analysis, perspective analysis, decision making, experience, problem solving and discovery of the students is at a low level.

Basic Competence (KD) in the 2013 curriculum does not limit the use of taxonomic levels, this can be seen from students who can build Higher Order Thinking Skills (HOTS) with various categories of knowledge. But in practice there are still problems. Many educational institutions, especially at the elementary school (SD) level, still use a simple learning model so that students are only required to memorize. Higher Order Thinking Skills (HOTS) for students are not well developed so that almost all the material provided by the teacher is only accepted by students without any critical action during learning.

The purpose of Higher Order Thinking Skills (HOTS) is to improve children's thinking skills at a higher level, especially in the ability to think critically and creatively in receiving various information. Basically, every teacher wants the subject matter presented to students to be understood well and make students have Higher Order Thinking Skills (HOTS). However, fulfilling these expectations is not something that is considered

easy because there are several factors that hinder it. 1.

The success of activities in the teaching and learning process in schools is not only determined by the accuracy of the teacher in transferring knowledge, but also by the active participation of students in the learning process (Wedyawati and Saragih, 2019). In Higher Order Thinking Skills (HOTS) students are expected to be able to analyze, solve problems and create new ideas or create products. Higher Order Thinking Skills (HOTS) will make students able to make decisions based on their level of thinking and confidence in their abilities.

RESEARCH METHODS

The research approach used is a qualitative approach. Sugiyono (2015: 1) says "the qualitative approach is a research approach used to examine the condition of a natural object where the researcher is the key instrument, the data collection technique is done in triangulation (combined), the data analysis is inductive, the results of qualitative research emphasize the meaning, rather than generalizations ". The research method used is descriptive qualitative research methods with pure descriptive research form.

This research was conducted at SDN 27 Engkidau. The subjects in this study were 10 grade teachers and fourth grade students of SDN 27 Engkidau, 6 male students and 4 female students. The objects in this study are RPP (Learning Implementation Plan), implementation of learning that leads to Higher Order Thinking Skills (HOTS), and learning evaluation questions. Data collection tools used were interview guides, questionnaires, and documentation. The data analysis technique used to answer the formulation of the problem in the study was the data analysis technique according to Miles and Huberman, namely data collection, data reduction, data presentation and drawing conclusions.

RESULTS AND DISCUSSION

RESULTS :

The research results found in the field can be explained and described as follows.

1. Planning Higher Order Thinking Skills (HOTS) in Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

a. RPP Analysis Results

In this study, using a document in the form of a lesson plan to determine whether grade IV teachers have compiled a lesson plan that is in accordance with the 2013 curriculum format and leads to Higher Order Thinking Skills (HOTS). The lesson plans used are lesson plans theme 7, sub-theme 3, learning 5 and learning 6.

Table 1
Results of Learning Cognitive Indicator Analysis 5

Indicator	H	L	Description
Indonesian Language Content			
3.7.2 Describe new knowledge contained in the text appropriately	✓		Operational verbs are contained in Bloom's Taxonomy at level C1 (Knowing)
The Content of Pancasila and Citizenship Education			
3.4.2 Identifying the various implementations of tolerance	✓		Operational verbs are contained in Bloom's Taxonomy at level C1 (Knowing)

4.4.2 Mention the need to be tolerant in everyday life.	✓	Operational verbs are contained in Bloom's Taxonomy at level C1 (Knowing)
Content of Cultural Arts and Crafts		
3.4.2 Explaining the difference between montage and collage	✓	Operational verbs are contained in Bloom's Taxonomy at level C5 (Assess)
4.4.1 Create custom montage and collage artworks.	✓	Operational verbs are contained in Bloom's Taxonomy at level C6 (Creating)
Total	2	3

Based on Table 1, it can be explained that the five cognitive indicators consist of different subject content, namely, Indonesian Language, Pancasila and Citizenship Education, and Cultural Arts and Crafts (SBdP). From these indicators, there are two indicators containing Higher Order Thinking Skills (HOTS), namely the SBdP

load. Meanwhile, the content of Indonesian Language and Pancasila and Citizenship Education contains operational verbs of Lower Order Thinking Skills (LOTS).

Table 2
Results of Learning Cognitive Indicator Analysis 6

Indicator	H	L	Description
Indonesian Language Content			
3.7.2 Describe new knowledge contained in the text appropriately	✓		Operational verbs are contained in Bloom's Taxonomy at level C1 (Knowing)
4.4.2 Compiling important information from the reading text correctly	✓		Operational verbs are contained in Bloom's Taxonomy at level C6 (Creating)
Content of Cultural Arts and Crafts			
4.4.1 Display mosaic artwork and applications	✓		Operational verbs are contained in Bloom's Taxonomy at level C6 (Creating)
Total	2	1	

Based on Table 2, it can be explained that there are three indicators in lesson 6 lesson plans with Indonesian language content and SBdP. Of the three indicators, the indicator contains Higher Order Thinking Skills (HOTS) and only one indicator contains Lower Order Thinking Skills (LOTS). Indicators containing Higher Order Thinking Skills (HOTS) are found in SBdP and Indonesian language content indicators 4.4.2. Meanwhile, the indicator containing Lower Order Thinking Skills (LOTS) is found in the Indonesian language lesson content, indicator 3.7.2.

b. Teacher Interview Results

The results of the interviews used were questions number 1 to 18. Based on the results of the interviews with the teacher, it was known that there were several obstacles in the preparation of the lesson plans. The obstacle felt by the teacher was the teacher's lack of understanding of the level of Bloom's Taxonomy which led to Higher Order Thinking Skills (HOTS) so that the

teacher could not include it in the lesson plan. According to the teacher, what needs to be revised is only part of the learning activities and the most important thing is the Bloom Taxonomy verb.

c. Results of the Teacher's Questionnaire

The lesson plans made by the teacher were analyzed using a questionnaire instrument with a total of 22 statements, namely the statements in items 1 to 22. very good category. The calculation of the results of the teacher's questionnaire was carried out using a Likert scale, so that it could find the average obtained in planning Higher Order Thinking Skills (HOTS) in thematic learning.

The lesson plans made by the teacher already contain complete lesson plans components according to Majid and Rochman (in Helmawati, 2019: 169-170). In the first lesson plan the teacher has included identity, learning objectives, learning materials, learning models or methods, learning steps, learning media or resources, and assessment.

d. Checklist Sheet

Table 3
Results of Checklist Sheet Analysis

No	Aspects	Analysis Results
1.	Identity	The identities listed in the RPP are clear, which consists of: education unit, class / semester, subjects and subject matter and time allocation
2.	Competency Standards and Basic Competencies	SK and KD are not included in the RPP, because they are in the syllabus used. But the Competency Standards used describe the mastery of knowledge, attitudes, and skills
3.	Competency Achievement Indicators	Competency Achievement Indicators listed in the RPP are in accordance with the KI-KD used, the KKO used are relevant to the KI-KD being developed, the formulation of indicators includes cognitive, affective, and psychomotor competencies.
4.	Learning Objectives	The formulation of learning objectives in the lesson plan 5 is very clear in accordance with the indicators, but in learning 6 there is one learning objective that does not match the indicators. Learning objectives contain elements of audience and behavior, including cognitive, affective, and psychomotor competencies, and according to the allocation of time, complexity, KD and infrastructure.
5.	Learning Materials	The selection of teaching materials is adjusted to the competencies to be developed, in accordance with the learning objectives, and formulates learning materials according to the abilities of students and is adjusted to the time of supporting facilities and infrastructure. However, the learning materials listed are only the basics.
6.	Learning methods	The learning methods used are in conformity with the learning objectives. Selected based on the material to be taught and adjusted to the characteristics of students and the media used so that it is in accordance with the learning objectives
7.	Learning Resources	Learning resources only use government textbooks (Teacher's Book and Student Book) and take advantage of the natural and / or social environment. Not equipped with other sources as a complement (to increase student knowledge).
8.	Learning Media	Using learning media that is in accordance with the learning objectives, media selection can realize learning with a scientific approach, and the media used is in accordance with the characteristics of students. However, there is no variation in media use due to the limitations of the school environment.
9.	Learning Activities	The learning scenario looks quite clear which includes preliminary, core and closing activities. In accordance with the learning objectives. Includes sanitive activities. Formulated based on student characteristics, time allocation, facilities and infrastructure.
10.	Scoring	Assessment is less clear because it only includes affective assessments and does not reflect learning outcomes

Based on the results of the analysis, mistakes can be identified in the lesson plans compiled by the teacher.

The mistakes that are often found in the RPP are as follows:

1) Although the learning materials used by the teacher are in accordance with the developed competencies, learning objectives and students' abilities, but the material presented is only the basics.

2) The learning resources used are only textbooks from the government (Student Books and Teacher Books)

3) The learning media included in the lesson plans do not vary, the teacher only uses media that is easily available.

4) The assessment instrument has not been fully prepared in accordance with the learning objectives.

Likewise with the completeness in the guidelines and determining the aspects being assessed.

Implementation of Higher Order Thinking Skills (HOTS) in Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

a. Student Questionnaire Results

Table 4

Student Questionnaire Results

No	Indicator	Score	Category
1.	Creativity	3,5	Often
2.	Critical Thinking	3,46	Often
3.	Collaboration	3,78	Often
4.	Communication	3,54	Often

Based on Table 4, the results show that the collaboration reached an average of 3.78, which is a higher indicator than other indicators. Meanwhile, critical thinking is a lower indicator with an average of 3.46. Creativity at 3.5 and communication reaching an average of 3.54. Based on the results of the student questionnaire, it can be concluded that 4C skills are often applied in the classroom.

b. Results of the Teacher's Questionnaire

Table 5

Results of the Teacher's Questionnaire on 4C Implementation

No	Indicator	Score	Category
1.	Creativity	3,5	Often
2.	Critical Thinking	3,4	Often
3.	Collaboration	3,8	Often
4.	Communication	3,6	Often

The results of the table show that collaboration is at the highest level, namely, 3.8 which means that it is often applied to learning. For critical thinking, it is in the lowest order, namely 3,4 indicating that it is often applied to learning, creativity of 3.5 means that it is often applied to learning, and communication as much as 3.6 shows that it is often applied to learning. So it can be concluded that these four criteria are often applied by teachers in class.

c. Teacher Interview Results

At this point, use the aspects of questions number 19 to 26 to better find out how 4C is applied to learning carried out by grade IV teachers. Based on the results of the interview, it can be seen that grade IV teachers do not understand the meaning of Higher Order Thinking Skills (HOTS). But on 4C ability which is included in the indicator of the application of Higher Order Thinking Skills (HOTS) in this study the teacher already understands 4C ability.

3. Assessment of Higher Order Thinking Skills (HOTS) on Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

a. Results of Problem Analysis

In this activity, using MID Semester II class IV SDN 27 Engkidau for the 2019/2020 school year. The MID questions analyzed are the suitability of indicators contained in the Bloom Taxonomy operational verb which leads to Higher Order Thinking Skills (HOTS).

Based on the results of the question analysis, there are 40 questions consisting of 35 multiple choice questions and 5 essay questions. The questions consisted of Indonesian language subject matter, Citizenship Education and Pancasila, Natural Sciences (IPA), Social Sciences (IPS), Cultural Arts and Crafts. Of the 40 MID questions, it contains 16 Higher Order Thinking Skills (HOTS) questions and the remaining 24 questions are categorized as Lower Order Thinking Skills (LOTS). In

multiple choice questions, a very easy question is found. There are no distractors in multiple choice questions so students are easy to think and easy to answer questions.

b. Interview result

The results of the teacher interviews used are in the aspects of learning assessment numbers 29 to 36. Based on the results of the interviews the class teachers have made questions using operational verbs that lead to Higher Order Thinking Skills (HOTS) although they are still dominated by Lower Order Thinking Skills (LOTS) questions. The teacher does not make many questions that encourage students to do Higher Order Thinking Skills (HOTS) because the teacher feels that their students are still not able to work on Higher Order Thinking Skills (HOTS) questions.

c. Results of the Teacher's Questionnaire

The questionnaire used is to support the results of the analysis of question assessments and teacher interviews. The results of the questionnaire used are statements on items forty-two (42) to item fifty-one (51). Based on the results of the average score obtained, the Higher Order Thinking Skills (HOTS) assessment in the thematic learning of the fourth grade students of SDN 27 Engkidau is in the very good category. The calculation of the results of the teacher's questionnaire was carried out using a Likert scale, so that it could find the average obtained in the Higher Order Thinking Skills (HOTS) lesson planning.

d. Results of Checklist Sheet Analysis

The results of data collection from documentation techniques are listed on the MID question checklist sheet, the checklist sheet in this study is used to assess the questions compiled by grade IV teachers.

Table 6

Analysis Results of Question Checklist Sheet

No	Aspect	Analysis Results
1.	Basic Competencies	Questions designed by the teacher are in accordance with the Basic Competencies and use KKO relevant to the KD being developed
2.	Question Grids	The teacher does not create question grids
3.	Stimulus	The stimulus questions compiled by the teacher are interesting and contain material reality in students' daily lives.
4.	Question Items.	Question items are arranged based on KD. Questions made by the teacher in accordance with the material that has been taught, questions made by the teacher are in

		accordance with the question stimulus
5.	Assessment Rubric	The teacher does not make an assessment rubric for the form of description questions. the teacher only makes an answer key for the form of multiple choice questions

Based on Table 6, it can be explained that the questions made by the teacher were classified as good but found some mistakes made by the teacher when compiling the questions. As for these errors, namely:

- 1) The teacher does not make grid questions
- 2) The teacher does not make a scoring rubric for essay questions

DISCUSSION :

1. Planning for Higher Order Thinking Skills (HOTS) in Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

In the analysis of lesson plan 5, it is concluded that from the five indicators in the cognitive aspect, there are two indicators which contain Higher Order Thinking Skills (HOTS) while the other three indicators contain Lower Order Thinking Skills (LOTS). The indicator that contains Higher Order Thinking Skills (HOTS) is in the content of Cultural Arts and Crafts (SBdP) because on indicator 3.4.2 students are asked to compare between montage and collage art. This indicator contains Higher Order Thinking Skills (HOTS) because there is an

operational verb C ^ 5 "to assess" in Bloom's Taxonomy.

2. Indicator 4.4.1 students are asked to make a montage and collage artwork. This indicator contains Higher Order Thinking Skills (HOTS) because there is a C ^ 6 operational verb "to create". The three other indicators that contain the operational verb Lower Order Thinking Skills (LOTS) are found in the content of Indonesian Language and Pancasila and Citizenship Education. In Indonesian content, the researcher found operational verbs at the C ^ 1 level "to remember" with the indicator sentence "to explain new knowledge contained in the text appropriately".

The content of Pancasila and Citizenship Education lessons contains two indicators that contain Lower Order Thinking Skills (LOTS) operational verbs. The first indicator is 3.4.2, namely students are asked to identify the various practices of tolerance. This indicator contains the operational verb Lower Order Thinking Skills (LOTS) at level C ^ 3 "to apply". Indicator 4.4.2 content of Pancasila and Citizenship Education, the researcher reveals that there is an operational verb Lower Order Thinking Skills (LOTS) at level C ^ 1 "remembering" with the indicator sentence "mentioning the need to be tolerant in everyday life".

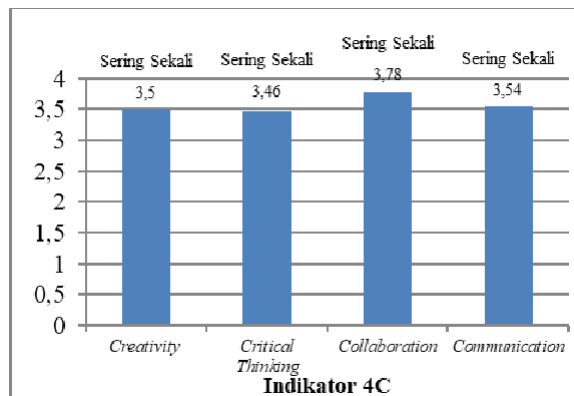
The analysis carried out on the lesson plan 6, found two indicators that contained the operational verb Higher Order Thinking Skills (HOTS), namely the content

of the Indonesian language lesson indicator 4.4.2 and Cultural Arts and Crafts (SBdP) indicator 4.4.1. In the Indonesian language lesson content, indicator 4.4.2 contains the operational verb Higher Order Thinking Skills (HOTS) at level C ^ 6 "to create" with the indicator sentence "compile important information from the reading text". Indicators in the subject matter of Cultural Arts and Crafts, students are asked to display mosaic artworks and applications. The researcher revealed that there is an operational verb Higher Order Thinking Skills (HOTS) at the C ^ 6 level "to create" with the indicator sentence "to present mosaic artwork and applications". Another indicator is found in the Indonesian language lesson content indicator 3.7.2 with the indicator sentence "to explain new knowledge contained in the text appropriately". This indicator contains Lower Order Thinking Skills (LOTS) because there is a C ^ 1 operational verb "to remember".

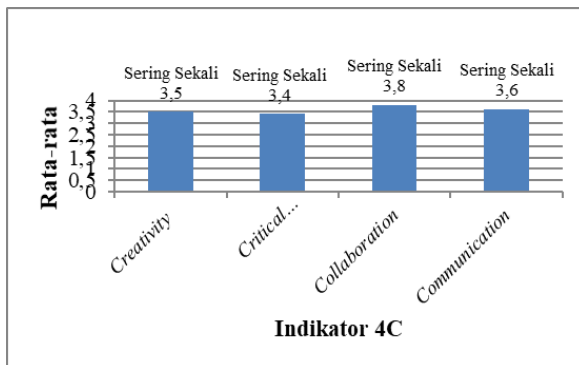
After re-analysis using a teacher questionnaire with 22 statement items and a checklist sheet, the teacher has compiled a thematic lesson plan properly. Of the 22 statement items through the Likert scale calculation, the lesson plans compiled by the fourth grade teacher at SDN 27 Engkidau are in accordance with the thematic RPP and lead to Higher Order Thinking Skills (HOTS) because the average obtained is 3.6 which is in the very good category. Based on the results of the assessment of the lesson plans through the checklist sheet, the lesson plans designed by the teacher already contain lesson plan components in accordance with the 2013 curriculum process standards although there are still errors in the preparation of the lesson plans.

Implementation of Higher Order Thinking Skills (HOTS) in Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

This research was conducted to determine how teachers apply Higher Order Thinking Skills (HOTS) in thematic learning using the results of teacher and student questionnaires and teacher interviews. The questionnaire filled out by students will be compared with the results of the teacher's questionnaire. Besides that, it can also conclude from the results of the interview by understanding the results of the interview on every aspect of the question.



Picture 1
Results of the Student Questionnaire Recapitulation



Picture 2
Results of the Recapitulation of the Teacher Questionnaire

Based on the data obtained from the student questionnaire on the creativity aspect, it shows an average of 3.5, which means that students' perceptions of the implementation of learning carried out by the teacher are often applied in the classroom. This is also balanced with the average obtained from the results of the teacher's questionnaire on the creativity aspect, which is 3.6 which means that teachers often apply the aspects of creativity during the learning process, this indicator consists of fluency, authenticity, flexibility and elaboration.

The next aspect is critical thinking, the results of the student questionnaire analysis are 3.46 while the results of the teacher's questionnaire analysis obtained an average of 3.4 which means that students' perceptions of the learning implementation process carried out by the teacher often encourage students to think critically and this is the case according to the teacher's perception. This indicator consists of the ability to analyze, synthesize, solve problems, conclude and evaluate. The results of the student questionnaire analysis on the communication aspect amounted to 3.54. This is stated frequently because it has a value almost equivalent to the results of the teacher's questionnaire analysis, which is 3.6. Aspects of this indicator consist of explaining ideas, timing presentations, speaking in a clear voice, using presentation tools, and responding to audience questions.

The last aspect is collaboration, in this aspect the results of the analysis of the student questionnaire amounted to 3.78. In this aspect, the teacher is considered to often provide opportunities for students to discuss and seek information with group friends. While the results of the teacher's questionnaire analysis of 3.8 where teachers often apply collaboration skills in class. This indicator consists of sharing relevant information, discussing answers before making decisions, decisions taken are the responsibility of the group, giving opinions

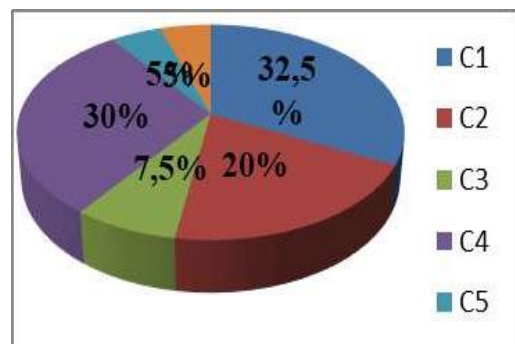
during discussions, and being willing to accept friends' opinions.

Based on the results of teacher and student questionnaires and the results of teacher interviews, there is agreement with the theory of the Partnership for 21st Century Skills (Zubaidah, 2018: 2) that critical thinking is a fundamental skill in solving problems, creativity is a skill related to skills using a new approach to solving a problem, innovation, and discovery, communication includes listening, writing, and public speaking skills, and collaboration is the skill of working in groups, as well as leadership, decision making, and collaboration.

3. Assessment of Higher Order Thinking Skills (HOTS) on Thematic Learning in Class IV SDN 27 Engkidau Academic Year 2019/2020

An analysis was carried out on MID semester II theme 7 to find out how Higher Order Thinking Skills (HOTS) assessments in thematic learning in grade IV then

used the results of teacher questionnaire analysis, teacher interviews and a checklist to support the research results.



Picture 3
Diagram of Problem Analysis Results

Based on Figure 5.3, of the 40 questions there are 32.5% of the questions in the Lower Order Thinking Skills (LOTS) category at the C¹ level (remembering), 20% of the questions in the C² category (understanding), and 7.5% of the questions category C³ (apply). Meanwhile, the questions belonging to the Higher Order Thinking Skills (HOTS) category consisted of 20% of the questions at the C⁴ level (analyzing), 5% of the questions at the C⁵ level (assessing), and 5% of the questions at the C⁶ level (creating). So it can be concluded that the class teachers did not make many questions that required students to do Higher Order Thinking Skills (HOTS) because the contents of each Higher Order Thinking Skills (HOTS) question were less than the Lower Order Thinking Skills (LOTS) questions. According to Helmawati (2019: 219), the percentage of learning assessments on cognitive aspects should be distributed as follows: C¹ (remember) 5%, C² (understand) 10%, C³ (apply) 45%, C⁴ (analyze) 25%, C⁵ (rate) 10% and at C⁶ (create) 5%.

Based on the results of the interview analysis, the teacher has made questions in accordance with the material that has been taught and in accordance with the learning objectives to be achieved. However, for the assessment of skills, the teacher explained that they rarely did this assessment because they had to do practical activities first.

Based on the results of the teacher's questionnaire analysis on the assessment aspect, it was found that an average of 3.4 was included in the very good category. This is also in accordance with the checklist sheet that the researcher uses to match the results of the analysis of the questions with the indicators of the arrangement of Higher Order Thinking Skills (HOTS) questions. However, the drawback of the preparation of questions carried out by the teacher is that the teacher does not make a grid before making test questions.

CONCLUSION

Based on the results of the analysis and discussion of the lesson plans, teacher and student questionnaires, teacher interviews, MID questions and documentation in thematic learning in class IV SDN 27 Engkidau in the 2019/2020 school year, it can be concluded as follows:

Higher Order Thinking Skills (HOTS) learning planning in thematic learning in grade IV SDN 27 Engkidau in the 2019/2020 academic year has been implemented even though Lower Order Thinking Skills (LOTS) still dominates the indicators in the Learning Implementation Plan (RPP) because of the 5 indicators in the theme RPP 7 sub themes 3 learning 5, there are 2 indicators that lead to Higher Order Thinking Skills (HOTS). Whereas in RPP theme 7 sub-theme 3 learning 6, indicators are more dominated by Higher Order Thinking Skills (HOTS) indicators because of the 3 indicators there is only 1 indicator which contains the operational verb Lower Order Thinking Skills (LOTS).

The application of Higher Order Thinking Skills (HOTS) in thematic learning in grade IV SDN 27 Engkidau in the 2019/2020 academic year tends to lead to Higher Order Thinking Skills (HOTS) because the 4C aspects of creativity, critical thinking, collaboration, communication are included in very frequent criteria applied by the teacher.

Assessment of Higher Order Thinking Skills (HOTS) in thematic learning in grade IV SDN 27 Engkidau in the 2019/2020 school year has led to Higher Order Thinking Skills (HOTS) where the questions made by the teacher have used the operational verb C⁴ (analyze), C⁵ (assess), and C⁶ (create) although still dominated by questions that lead to Lower Order Thinking Skills (LOTS) with operational verbs C¹ (to know), C² (to understand), and C³ (apply).

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IDENTIFICATION: ASSIGNMENT OF SUBSTITUTE TEACHERS TO THE LEARNING PROCESS DURING THE COVID-19 PANDEMIC

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ABSTRACT

In this study, the assignment forms given by the teacher varied according to the needs of teachers and students. One that can be used as an assignment is an activity and several questions arranged in student worksheets. Students are directed to work on the questions within one week. The purpose of the study was to describe the assignment of teachers as a substitute for the learning process and to find out the form of the assignment during the COVID-19 pandemic. The approach is descriptive qualitative research, the research method is descriptive qualitative. The research subjects were the principal of SD Negeri 29 Manis Raya, a third-grade homeroom teacher and 3 students with the highest, medium, and low grades. Data collection techniques are direct observation, interviews, and documentation. Data collection tools are observation sheets, interview sheets, and documentation sheets in syllabus and lesson plans. The result from a riset: (a). Form of assignment (BDR) where students do assignments from home (b). In the form of student assignments (LKS) students read books while looking for answers in the book. The form of assignment given by the teacher as a substitute for class III student learning. This is the assignment of BDR (study from home) and LKPD (student worksheets) questions.

Key words: assignment, covid-19, identification, learning, process

INTRODUCTION

Education has a very important role in advancing a nation. Education is expected to be able to educate the younger generation who are able to develop their own potential, and have a critical and dynamic mindset, are responsible, have noble character, have faith and fear God Almighty. Education must also be able to produce human resources who have competencies, namely attitudes, knowledge and skills. Education is a reorganization of experience in increasing the ability to lead education in the future.

Education is basically a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation, and society. country. The world is currently experiencing an outbreak of a coronavirus that can cause a disease called Covid-19. The Covid-19 that occurred in various countries including Indonesia had an impact on various fields including education. Currently the world of education is facing quite complex problems. The virus attack has an impact on the implementation of learning at all levels of education. Elementary school education is

education that provides knowledge and skills to open the basic attitudes needed in society, and prepares students to take part in secondary education called Elementary School.

According to Sagala (2005: 219) the assignment method is a way of presenting lesson material where the teacher gives certain tasks so that students carry out learning activities, then they must be held accountable. The assignments given by the teacher can deepen the lesson material and can also check the material that has been studied. Tasks stimulate children to actively learn both individually and in groups.

The forms of assignments given by teachers vary according to the needs of teachers and students. One that can be used as an assignment is an activity and a number of questions that are arranged in student worksheets. In the guidelines for preparing student worksheets, there are sheets containing assignments that must be filled out by students. This sheet usually contains instructions and steps to complete a task. According to the Ministry of National Education (2007), student worksheets are sheets containing tasks that must be done by students. Activity sheets are usually in the form of instructions and steps to complete a task. LKPD is also a learning media because it can be used together with other learning resources or learning media. LKPD is a guide for students to do certain jobs that can improve and strengthen learning outcomes (Sumiati et al, 2010).

Based on pre-observations that have been carried out at the 29 Manis Raya public elementary school, the process during the COVID-19 pandemic was carried out by learning assignments and offline learning, which meant that students did assignments from home while the tasks given by the teacher were in the form of sheets. questions contained in the 2018 revised theme (theme) book. And students are directed to work on the questions within one week the questions are taken from the theme book, students look for answers in the thematic book. before carrying out the learning process, questions are made based on themes or sub themes that are in accordance with the basic competency mapping (KD).

In addition, the teacher must make a lesson plan (RPP) in advance at the same time the teacher also makes a schedule in assigning assignments, and collecting assignments, the learning process is presented in the theme book to sharpen students' understanding of the material that is happening. From the observations of the researchers, the teacher only gave assignments without any explanation of the material. From these difficulties, it is necessary to identify the assignment of teachers as a substitute for the learning process of third grade students at the 29 Sweet Raya State Elementary School so that learning can be carried out properly. As for the problems raised, namely how the assignment process, the form of the assignment and the obstacles/obstacles in this case, the researchers are very interested in knowing the

identification of teacher assignments as a substitute.1. for the learning process for third grade students at 29 sweet raya public elementary school, Sepauk sub-district, Sintang district.

RESEARCH METHODS

The approach in this study is a descriptive qualitative approach. According to Sugiyono, (2017: 9) said that the qualitative research method is a research method based on the philosophy of postpositivism, used to examine the condition of natural objects, (as opposed to an experiment) where the researcher is as key instruments, triangulation (combined) data collection techniques, inductive/qualitative data analysis, and qualitative research results emphasize meaning rather than generalization. The method used in this research is descriptive method. According to Sugiyono (2016: 2) stated that in general the

research method is defined as a scientific way to2. obtain data with certain goals and uses.

The method used in this research is descriptive method. There are two sources of data in this study, namely primary and secondary data sources. Primary data sources are obtained directly

from informants through data sources and observations regarding teacher assignments as a substitute for the student learning process. Sources of secondary data obtained are documentation and notes of researchers while at the location as well as literature that supports teacher assignments as a substitute for the student learning process. The subjects in this study were the principal, class teacher, students with the highest, medium and low grades III SDN 29 Manis Raya, Sepauk District, Sintang Regency 2020/2021. According to Moleong (Mardawani 2020: 45) describing the research subject is information getting research data. from this understanding, it can be concluded that the object of research is the person who will be studied by the researcher, and it is from this research subject that information becomes the problem of the researcher. The location of this research was carried out at SDN 29 Manis Raya, Sepauk District, Sintang Regency.

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RESULTS AND DISCUSSION

RESULT

The form of assignment given by the teacher as a substitute for class.

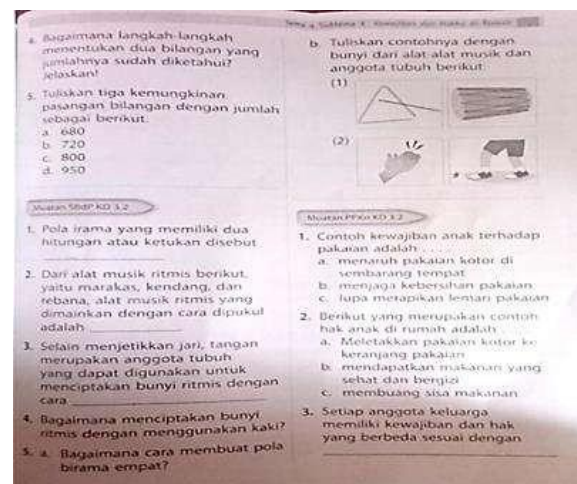


Figure 1. teacher's assignment

The form of assignment given by the teacher as a substitute for class.

The study described that the learning process at SD Negeri 29 Manis Raya, the learning process during this pandemic was carried out in a simple face-to-face manner where students came to school

to take assignments and submit assignments. assignment and assignment. assignment and assignment. In addition to students who come to school, teachers also come to school to make lesson plans, study journals from home (BDR) and attendance, these students are guided by parents as second teachers for their children.

3. Constraints Experienced During Assignments in the Learning Process.

Based on the results of research at SDN 29 Manis Raya, researchers found obstacles experienced by teachers and students where the learning process during the pandemic period and student assignments. The research found the inhibiting factors, as for the inhibiting factors in the learning and assignment process, namely:

- a. The teacher cannot explain optimally because of changes in the way the learning system takes a short time for the teacher to explain the material so that the learning process becomes hampered. kurang pahamnya orang tua dengan dunia pendidikan
- b. Lack of understanding of parents with the world of education
- c. lack of understanding of parents with the world of education
- d. Lack of understanding of students in doing the assignments given by the teacher
- e. Lack of parental assistance in students doing assignments at school.

DISCUSSION

1. The Form of Assignment Given by the Teacher as a Substitute for Class.

Majid (2011: 17) says that planning can be defined as the process of compiling subject matter, use of teaching media, use of teaching approaches and methods, and assessment in an allocation of time that will be carried out at a certain period to achieve predetermined goals. Based on the sources above, it can be concluded that learning is an activity that is always carried out and experienced by humans since humans are in the womb, saying that learning is a change in behavior or appearance and planning in advance in carrying out the learning process. Teachers are required to continuously train themselves to empower various learning models that have optimal functional power. The use of learning models requires special skills. It starts from the habit of using learning models that are easier to obtain, easy to use, and have effective functions in supporting the achievement of learning objectives.

Based on the description of the results of observations and interviews that the researchers described earlier, the learning process during the COVID-19 pandemic period carried out the offline learning process. Offline learning is a form of assignment given by the teacher as a substitute for the learning process for class III students during the pandemic. Based on the

results of the study, it was found that the form of assignment given by the teacher was in the form of a study assignment sheet from home (BDR) which was done by students in the form of copies and student worksheets (LKS). student handbook for study as additional material.

Dek Ngurah, L. et al (2020: 238) said LKS in learning can maximize students' learning activities in developing concepts, activating students in the teaching and learning process, training students to find and develop process skills. Trianto 2010: 111. in the journal (Annisa, et al. 2018: 173) states the Student Worksheet contains a set of basic activities that must be carried out by students to maximize understanding in an effort to form basic abilities according to indicators of achievement of learning outcomes that must be taken. The project model can also be used by teachers as a substitute for school assignments during the pandemic, because it can increase children's creativity and interest in learning (Handayani: 2022). Teachers can also design LKS/LKPD with the recitation method because it is proven to be effective improve student learning outcomes (Hawai: 2022). n giving assignments, teachers should pay attention to the scientific approach, namely observing, asking, try, reason and communicate so that under any conditions the learning outcomes will be very good (Kulana: 2021).

2. The Assignment Process Given by the Teacher as a Substitute for Class.

Based on the results of research at SD Negeri 29 Manis Raya, the assignment process given by the teacher as a substitute for learning during the pandemic is carried out in a simple face-to-face manner where students come to school once a week or one day a week, namely on Monday mornings taking students' new assignments and in collecting student assignments, teachers also come to school to give assignments to students and then do them by students at their respective homes.

Previously, the teacher delivered material or steps in doing assignments at home within 10-15 minutes. The teacher also gives time to ask students who don't understand what the teacher says, don't forget the teacher always reminds students to stick to the health protocol and reminds students to re-collect the assignments that have been done the next day. This can be seen from the learning process carried out by the class III teacher, students are also accompanied by parents in taking assignments given by the teacher and there are also parents who directly take their children's assignments. In addition, there are students who use WA groups to ask for assignments given by the teacher. on the specified day.

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- a. The teacher cannot explain optimally because of changes in the way the learning system takes a short time for the teacher to explain the material so that the learning process becomes hampered.
- b. Lack of understanding of parents with the world of education
- c. Internet network so that teachers find it difficult to find additional theory in student assignments.
- d. Lack of understanding of students in doing the assignments given by the teacher
- e. Parents do not assist students in doing schoolwork.

CONCLUSION

1. The form of assignments given by the teacher as a substitute for learning are BDR (study from home) and LKS (student worksheets) questions for students to work on at home, giving student handbooks.
2. The assignment process given by the teacher as a substitute for learning is: preparing learning tools, giving BDR/LKS assignments to be done from home with parental guidance. The processing time is 1 (one) week. Assignments are collected by parents to school every Monday and Tuesday.
3. The challenges faced during the COVID-19 pandemic are: The teacher cannot explain optimally because of the short time, parents do not understand the learning material, internet network, assistance from parents to help do assignments at school has not been maximized.

OFFERING

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THE EFFECT OF MOBILE INSTANT MESSAGING IN LEARNING ON SELF-EFFICIENCY AND ANXIETY

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ABSTRACT

The uses of information technology that gets a fairly large proportion is the use of mobile devices to support the learning process or commonly known as mobile learning. The change in the implementation of the Mobile Instant Messaging-based academic activity system has the most significant impact on students in the learning process, especially during the pandemic. Hence, this study aims at describing students' perception on Mobile Instant Messaging in learning in terms of self-efficacy and anxiety. This study used an experimental research design. The subject of this study was the students of English Language Education Department at FKIP UHO. The result shows that the implementation of mobile instant messaging does not give significant effect on students' self-efficacy and anxiety. Even though the lecturers have utilized several types of mobile instant messaging, the students still feel shy, low to medium self-efficacy, feel embarrassed to participate in answering in class, and tend to have high anxiety. However, the students believe at their ability in learning English.

Key words: anxiety, mobile instant messaging, learning media, , online learning, self-efficiency, WhatsApp,

INTRODUCTION

It is vital to employ technology and learning media at this time since the government is maximizing the integration of technology in an effort to improve the quality of learning. The use of technology and media in the classroom can create a learning environment in which students can take an active role. Learning media serves as a link between teachers and students, allowing students to transcend the confines of the classroom. Students can learn in a variety of settings, including on the internet or on their mobile phones. This is consistent with what was stated by (Saifuddin, 2018).

Educational technology is seen as an integral part of the teaching and learning process. Simulations, adaptive tutors, virtual laboratories, learning management systems, video games, and mobile applications are some of the technology-enabled learning environments that offer a variety of features to improve learning and engagement through evidence-based practice (McNeal & Hooft, 2006). Technological advancements in education play a part in the process of technology integration in learning, which gives educators more flexibility in

how they employ information technology to improve the effectiveness of learning activities.

The use of mobile devices or mobile devices to support the learning process, also known as mobile learning, is one of the uses of information technology that receives a very substantial proportion. According to McNeal & Hooft (2006) there has been a spike in instructional applications and mobile technologies developed as tools to convey information and boost students' grasp of certain topics, or as tools to facilitate course management, note-taking, or team collaboration. in the classroom and/or among the students.

The opinion above is in line with Richards (2015) which states that learning through mobile devices is one of the fastest growing technologies that is widely used by many individuals, companies, and educational institutions. In the education sector, the use of mobile devices has even become dominant among students. The duration of using mobile devices which is almost eight hours every day makes messaging applications easy to be widely accepted and used in the field of education (Yeboah & Ewur, 2014). According to Sutikno, Handayani, Stiawan, Riyadi, & Subroto (2016) through various instant messaging platforms available on mobile

devices, around 200 million users can respond to 60 percent of real-time communications every day. In carrying out teaching and learning activities at Halu Oleo University, especially English Education, the use of Mobile Instant Messaging in learning becomes a medium in the learning process, there are several applications used, namely, Whatsapp, Telegram, Facebook and others. Research conducted by Widiyanti, Harunasari, Stkip, & Negara (2019) look at the effectiveness of the WhatsApp messaging application in language teaching found that teaching writing skills through WhatsApp was more effective than through regular instruction. In addition, the use of the WhatsApp application is also able to increase the motivation of students because it is able to create a positive social environment, encourage a sense of belonging (sense of belonging) among the community or students and teachers. The results of this study are also in line with Wahyuni & Febianti (2019) who claim that WhatsApp with its mobile instant messaging shows the potential to improve students' writing skills in a second language and activate their engagement.

This change in the implementation of the Mobile Instant Messaging-based academic activity system has the most significant impact on students in the learning process, especially during the pandemic. Especially for students majoring in English Education, in the English study program at Halu Oleo University, Kendari, which has implemented a learning system based on Mobile instant messaging.

It is undeniable that rapid progress and technological developments have affected education, including the learning process and interaction between educators and students. The use of technology in the learning process is commonly known as e-learning where educators and students interact in the learning process via the web. The term E-Learning comes from the combination of "E" and Learning where "E" stands for the word electronic. Khatimi (2006) defines e-learning as learning that is supported by digital electronic media and tools. According to Kumar Basak, Wotto, & Bélanger (2018), there are several types of E-Learning, namely online learning, distance learning, mixed learning, and M-Learning.

To begin, online learning uses the Internet to deliver text, graphics, animation, music, video, discussion boards, email, and assessment. Online learning is usually self-directed and "on demand," but it may also involve synchronous chat, web-based teleconferencing (audio visuals), or other technologies. Second, distance learning occurs when the instructor and students are not physically present at the same time. It can also happen if the instructor and the student are in the same place at the same time. Distance learning is currently conducted using a variety of mediums, including

postal mail, teleconferencing, and the Internet. Third, blended learning blends online and face-to-face instruction.

According to Sadiman, (2006), the media serves as a middleman or messenger between the sender and the recipient. Each teacher and student must convey and exchange messages or information to complete the communication process. Messages or information can be absorbed and digested by others through this communication process. There may be discrepancies in perception during the communication process, necessitating the use of a tool called the media to aid the communication process. Meanwhile, according to Saifuddin (2018), the word media comes from the Latin word media, which means mediator. Anything that transmits information from the source to the recipient is referred to as media. Video, television, diagrams, printed materials, computer programs, and instructors are all examples of media. If it is intended to convey learning, media might be classified as learning media. Learning media's goal is to make communication and learning easier. The media in the learning process, according to Arsyad, (2002), are graphic, photographic, or electronic tools for acquiring, analyzing, and combining visual or verbal information.

Various studies show that the flexibility of mobile devices makes this technology widely used in higher education. This flexibility includes size, ease of use, and portability that make mobile devices easy to adopt into learning environments (Khaddage, Latteman, & Bray, 2011)). Since most students already have mobile devices nowadays, this adoption is easily acceptable as students are generally quite competent in using this form of technology. The use of mobile technology in education increases the possibilities for learners to engage with more diverse digital resources, as well as interact with each other across places and times (Koszalka & Ntloedibe-Kuswani, 2010).

Related to the exploration of mobile instant messaging with its effect on Self Efficacy and Anxiety. Liu (2020) in his research on the integration of mobile technology into learning also suggests that research is needed to explore how appropriate models and instructions for mobile device integration can improve student self-efficacy. Liu's research is also in line with the recommendations given by Yang (2020) who recommends the need for more empirical research on how to integrate mobile devices in increasing student self-efficacy considering that the research he did was limited to literature research which still opens many gaps for empirical research.

From some of the theories above, we can conclude that the use of Mobile Instant Messaging affects many aspects of learning. Especially the increase in self-efficacy and anxiety is very necessary to find out the

advantages and disadvantages of implementing the new system in mobile instant messaging in the implementation of learning in the classroom. So in this study it is necessary to reveal the effect of Mobile instant messaging on Self Efficacy and Anxiety.

RESEARCH METHODS

The design in this study uses an experimental research design or design. The experimental research design is one of the quantitative research designs that aims to determine the impact of treatment on outcomes, on research subjects using certain procedures (Cresswell, Plano Clark, Gutmann, & Hanson, 2003). The experimental research design used in this study was true experiments. True experiments were chosen, because these types of experiments can control external variables that affect the course of the experiment. So that the quality of the implementation of the research design (internal validity) is high.

The data obtained through the instrument were analyzed using descriptive statistics. This analysis is used to provide a general description of the data characteristics of each variable through the mean and maximum rate values to describe the characteristics of the data in each variable. This method is used to make it easier to understand the data in each process. The results of the analysis are used as a reference to see whether mobile instant messages can affect self-efficacy and anxiety. The data obtained through the collected questionnaires were then analyzed with quantitative statistics.

RESULTS AND DISCUSSION

This study aims to determine the effect of mobile instant messaging in learning on self-efficacy and anxiety during the pandemic. Especially for students majoring in English Education, in the English study program at the University of Halu Oleo Kendari, which has implemented a learning system based on Mobile instant messaging. This research was carried out for one month to obtain research results. The results of this study are described as follows:

Self Efficacy

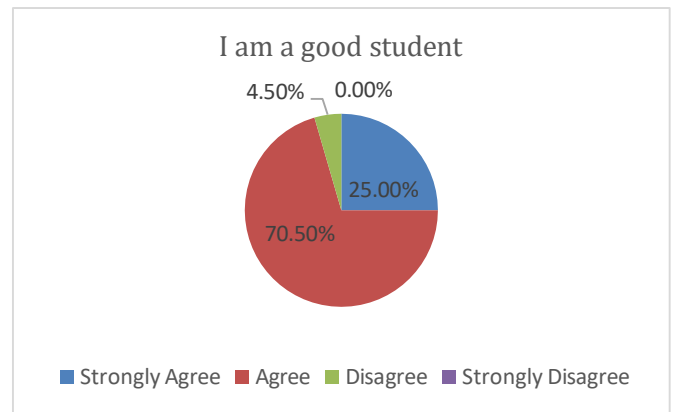


Figure 1. Students' respond item number 1

From the diagram above, it shows that 70.5% of students agree and 25% strongly agree that they are good students. However, 4.5% of students disagreed and 0% strongly disagreed with the statement. This shows that more students feel they are good students. The mobile instant messaging they use doesn't make them bad. They believe in themselves that they are still good students even though they use mobile instant messaging every day.

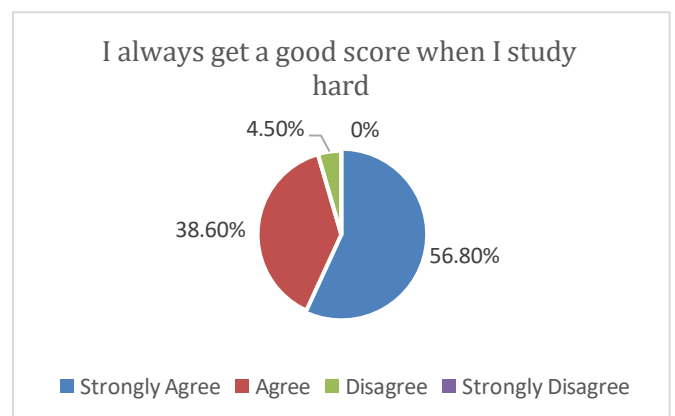


Figure 2. Students' respond item number 2

Diagram above shows 56.8% of students strongly agree and 38.6% agree that they always get good grades when they study hard. however, 4.5% of students disagreed and 0% strongly disagreed with the statement. this shows that more students agree with the statement. With the help of mobile instant messaging, it helps students communicate with teachers and peers to discuss lessons. The material sent by the teacher via WhatsApp or other mobile instant messaging is very helpful for students during a pandemic.

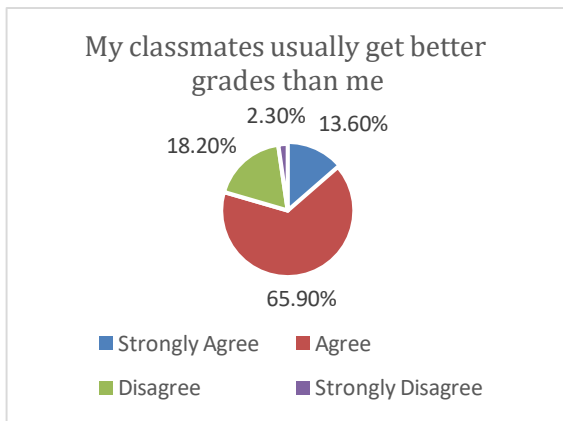


Figure 3. Students' respond item number 3

The diagram above shows 65.9% of students agree and 13.6% strongly agree with the statement that the grades of their classmates are better than the scores obtained by themselves. However, 18.2% of students disagreed and 2.3% strongly disagreed with the statement. It can be concluded that fewer students believe in their own abilities that they have better grades than their classmates.

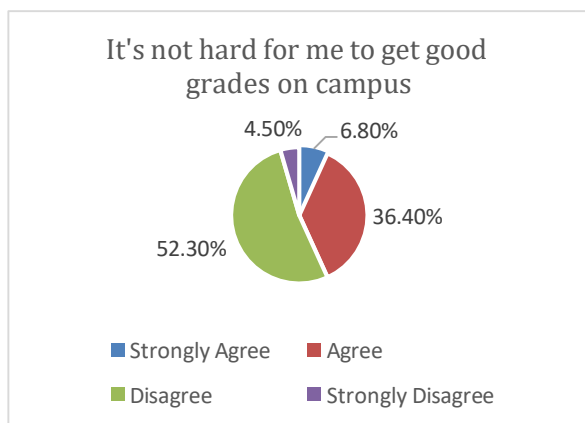


Figure 4. Students' respond item number 4

From the diagram above shows 52.3% of students disagree and 4.5% strongly disagree with the statement that it is not difficult for them to get good grades on campus. However, 36.4% of students agree and 6.8% strongly agree with the statement. This shows that more students find it difficult to get good grades. Based on the previous diagram 2, it shows that they will get good grades if they study hard. It can be concluded that, the students feel even though the students have studied hard, it's not easy to get good grades.

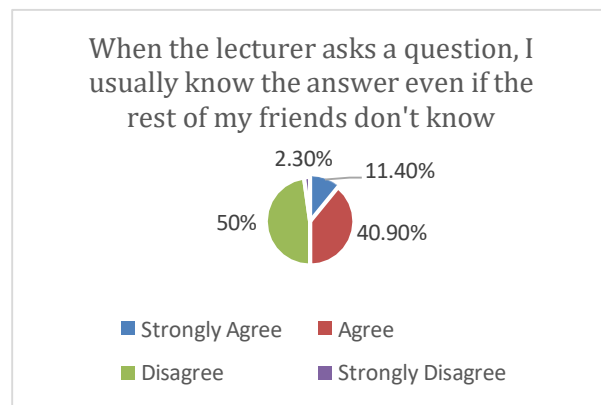


Figure 5. Students' respond item number 5

From the diagram above, it shows that 50% of students disagree and 2.3% strongly disagree that they know the answer to the question posed by the lecturer when their classmates do not know how to answer the question. However, 40.9% of students agree and 11.4% strongly agree with the statement. This shows that more students feel they do not know the questions given by the lecturer. This can be happen, for example the lack of clarity of questions from the teacher given through the chat feature on WhatsApp. So sometimes the teacher gives additional voice notes as reinforcement.

Anxiety

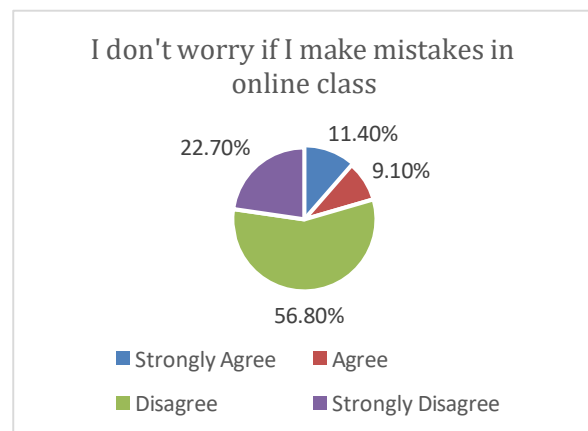


Figure 6. Students' respond item number 6

Based on the diagram above, it can be seen that 56.8% of students disagreed and 22.7% chose to strongly disagree. On the other hand, at least 11.4% of students chose strongly agree and 9.1% chose to agree. With these data, so it can be concluded that even though online learning using instant mobile messaging does not affect students' self-confidence in this case. Students still feel worried if they make mistakes.

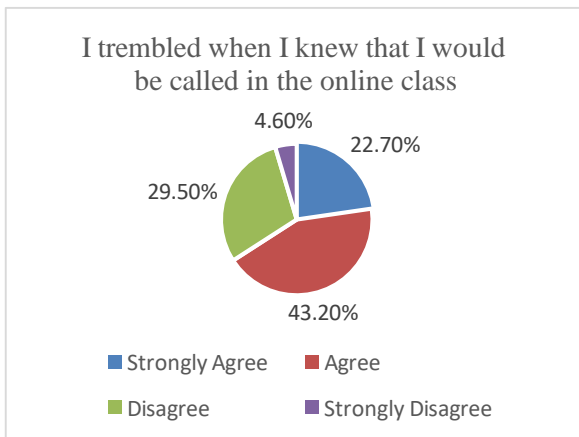


Figure 7. Students' respond item number 7

The diagram above shows that 43.2% of students chose to agree and 22.7% strongly agreed with the statement. Meanwhile, 29.5% of other students chose not to agree and the remaining 4.6% chose to strongly disagree. It can be concluded that most students will tremble if they are called in an online class. This happens because students sometimes don't focus while studying, or try to open other applications while studying. so sometimes they feel nervous when suddenly called in the chat because they missed the information in the WhatsApp group for example.

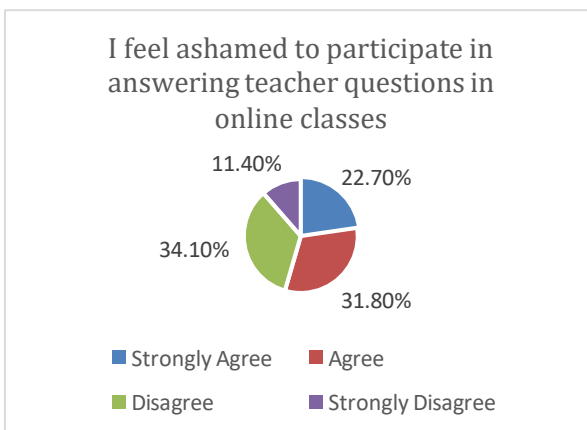


Figure 8. Students' respond item number 8

The data above shows that 34.1% of students chose disagree and 31.8% chose to agree. Students who chose strongly agree as much as 22.7% and the remaining 11.4% chose to strongly disagree with the statement. This figure shows that half of the students feel embarrassed to participate in answering in class.

Discussion

Based on the result of this research, it can be seen that the use of instant mobile messaging in learning is not good enough to increase self-efficacy and

reduce student anxiety. The implementation of this research consists of several steps, namely, first, the researcher makes material in the form of power points or videos and then distributes it using instant mobile messaging such as WhatsApp groups, the second explains about reading the material provided and then discusses through the WhatsApp group application for 30 minutes, the third is asking students to answer the questions given, and finally students ask if there is something they don't understand. At the end of the class, the lecturer will ask about the students' understanding today. Based on the findings recorded by researchers in the learning process, it appears that the use of instant mobile messaging in the online learning process is enough to make some students active in chat rooms. However, the rest took a long time to read and answer the lecturer's response. This is caused by students sometimes opening other chats, lacking focus due to notifications from other applications. In addition, students also feel embarrassed to answer the lecturer's questions. Students' concerns about using impolite language to answer lecturers' questions, and concerns about wrong answers are still very high among students when studying online. Some of them admitted that they sometimes open other applications or answer the phone while studying. However, for students, the use of mobile instant messaging such as WhatsApp is not difficult to used (Habibah, Nurweni, & Deviyanti, 2020). They are used to using it every day to communicate. They seem to enjoy and are excited and increase their motivation to learn. The teaching and learning process must always be updated and in line with technological developments. The students should have positive attitude to implement the mobile instant messaging into online learning (Ayub, Zaini, Luan, & Jaafar, 2018). For instance, the use of WhatsApp in this case is a reflection of the application of teaching in this era (Susilawati & Supriyatno, 2020).

This is not in line with research conducted by (Ayub et al., 2018), the results of the study show that the students have positive attitude by using mobile apps in online learning. The use of mobile instant messaging in this online learning process can help lecturers deliver the material effectively during pandemic. However, in this case the students did not fully feel helped improving the students self-efficacy dan anxiety by the use of WhatsApp. The results of the questionnaire, some students feel shy to express their ideas when trying to answer the lectures' questions. Besides, they feel it's difficult to get good grades. They didn't believe with their abilities. Because of their limited vocabulary, students had trouble understanding the subject matter. It's better if the lecturer tries to encourages the students to be willing to speak in onlie learning such as playing games or providing another interational online activities (Idzni & Setiawan, 2021).

CONCLUSION

The implementation of mobile instant messaging does not give a significant effect on students' self-efficacy and anxiety. Even though the lecturers have utilized several types of mobile instant messaging, the students still feel shy, low to medium self-efficacy, feel embarrassed to participate in answering in class, and tend to have high anxiety. However, the students believe in their ability in learning English.

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CODE-SWITCHING AND CODE-MIXING IN EFL CLASSROOM: STUDENTS' PERCEPTION AT DIFFERENT CLASS LEVELS

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ABSTRACT

This research aimed to investigate and show the students' perception toward code-switching (CS) and code-mixing (CM) in the excellent and regular level of EFL classroom. The research employed a quantitative design. The research subjects were the students of the excellent and regular Classes who were taken based on the purposive sampling technique. The researcher took two classes as a sample; one class was, and the other was a regular class. Each class consisted of 40 students, so the total sample was 80 students. The data were collected through observation and questionnaires. The research findings displayed that the means score in an excellent class was $52.28 < 60.55$ in the regular class. So it showed that the students in the regular class had a higher perception than the students in the excellent class. Besides that, a significance level of $p = 0.005$ showed that $p < 0.01$. It means there was a significant difference between students' perception in excellent and regular classes toward the use of CS and CM in EFL classrooms. So it can be concluded that the use of CS and CM gave positive perception in teaching and learning activity, which means the students in both of the classes had good impressions, judgment, and opinions toward CS and CM.

Key words: code-mixing, code-switching, language teaching, multilingualism, perception

INTRODUCTION

Indonesia is a land of diverse ethnic groups, customs, and languages, including Javanese, Betawinese, Buginese, and Makassarese. Most Indonesians are bilingual or even multilingual, which means they can communicate in at least two languages: their native tongue and Bahasa Indonesia, the country's official language. As a result, it was established that the Indonesian people are bilingual, if not multilingual. In certain instances, using Indonesian as a second language during classroom interaction was unavoidable. This phenomenon occurs when a teacher or students switch from one language to another for a specific purpose. Additionally, it is referred to as Code Switching (CS) or Code Mixing (CM); when a teacher combines two languages in a sentence, it can take the shape of morphemes, words, phrases, or clauses (Belkhir, 2020).

CS and CM have developed into an intriguing phenomenon to study, particularly in the classroom. As a result, this phenomenon was deemed a viable strategy for classroom interaction, mainly if CS and CM aim to clarify meaning and efficiently transfer knowledge to other classroom community members (Flyman-Mattsson and

Burehult, 1999). The use of CS and CM becomes counterproductive; CS and CM might aid students in better understanding the subject during the learning process (positive). According to Jingxia, 2010, researchers such as Vazquez-Faria (1982), Levine (2003), and Chen Liping (2004) advocate for the benefits of code-switching by EFL teachers in EFL classes, arguing that code-switching/code-mixing to L1 by EFL teachers simplifies and accelerates student learning. On the other hand, if CS and CM are utilized indefinitely, failure to learn occurs (negative). Ellwas (1984), Wong-Fillmore (1985), Chaudron (1988), and Lightbown (2001) suggest that EFL teachers should maintain a pure linguistic environment in their classes and that code switching/code mixing to L1 by EFL teachers is detrimental to target or foreign language learning.

According to Bhatti, Shamsudin, and Mat Said (2018), codes form spontaneously during speech. This is because code-switching is useful when speakers seek to express specific words, phrases, or sentences in a language not now in use but lack the corresponding vocabulary, as is commonly the case with bilinguals or multilingual who can communicate in both languages simultaneously (Beatty-Martinez & Dussias, 2017; Kaushankaya & Crespo, 2019; Yang Hartanto &

Yang, 2016). As a result, code-switching will occur in these moments to avoid saying the wrong thing and position oneself as a member of a specific group while performing their identity (Frickle, Kroll & Dussias, 2016; Gardener-Chloros, 2020).

Switching codes can encourage students to take an active role in English Language Teaching (ELT) (Paramesvaran & Wei Lim, 2018). Additionally, it gives repetition, as bilingual or multilingual pupils desire lessons in both languages to aid comprehension (Paramesvaran & Wei Lim, 2018). The purpose of code-mixing is to maintain student engagement in class. Additionally, it can assist students in absorbing the instructor's instructions and message (Syam, Sangkala & Syarif, 2018). Meanwhile, code-mixing can be defined as the process of incorporating two different codes into a single sentence (Fanani & Rudolf-Zico-Ma'u, 2018). In other words, it refers to the speaker's simultaneous usage of two languages throughout a discourse (Helmie, Halimah, & Hasanah, 2020). It is often undertaken between two or more individuals that share an internal group, most commonly ethnicity.

Additionally, code-mixing is utilized to aid their emotional expression. This means that code-mixing enables individuals to transmit their thoughts without further consideration, resulting in a communication breakdown between interlocutors (Thara & Poornachandran, 2018). Code mixing can occur by insertion or substitution. Insertion refers to adding words from various languages into a phrase (Fanani & Rudolf-Zico-Ma'u, 2018); alternation refers to switching codes between conversational turns or utterances (Ikhsani, 2012).

However, applying code switching and code mixing in the classroom may present some obstacles and benefits, as not all teachers understand the value of code switching and code mixing from a student's perspective. Improving students' comprehension and avoiding common misconceptions is critical for comprehending their perspectives on code switching and code mixing in a distinct and consistent teaching setting.

Perception is viewed in this situation as one of the personalities influencing the learning action. Perception is acquired, and perception shapes how individuals respond to situations. Perception and learning are inextricably linked since perception is an internal component that influences learning. The student's learning behavior will be characterized in this situation by the emergence of a new trend that has been transformed into an object. The interactions between students and teachers shape their attitudes regarding teaching and learning. It affects their attitudes and behaviors when it comes to English learning. Teachers must pay close

attention to perception since it influences students' responses to content, most notably English.

CS and CM are always used in EFL schools, whether Indonesian or English. As a result, the researcher is interested in knowing about students' perceptions of the CS and CM employed in the classroom, as these may affect students' achievement in learning English. To observe students' and teachers' perspectives, the researcher recruited a sample of students from several classrooms, both excellent and regular.

This research contributes theoretically to learning and teaching, but it also contributes practically to learning and teaching. In practice, this research has the potential to significantly improve the efficacy and efficiency of English teaching and learning in EFL classes. English teachers can utilize this study to inform students about the benefits and drawbacks of code switching and code mixing. Additionally, examining students' perceptions of the teacher's code switching and code mixing in an exceptional and an ordinary class may assist English teachers in determining the amount of time they need spend in the classroom to ensure that students progress sufficiently in their English.

RESEARCH METHODS

This section discusses the research design, demographic and sample size, variables, research instrument, data collection strategy, and data analysis approach.

Design of the Study

The researcher gathered data via a questionnaire. The questionnaire enabled the researcher to compare a representative sample of students' perceptions in the research's EFL classroom, which was the primary focus of the current study.

Participation in research

Purposive sampling was used in this study, as the research objectives dictated. Students were chosen to demonstrate their contrasts based on their class level at SMAN 4 Makassar. In this case, the researcher sampled two classes: one was an excellent (XI IPA 1), while the other was a regular class (XI IPA 4). Each class had 40 individuals, for an overall sample was 80 students.

The data collection process began with observation and questionnaires. Observational research demonstrated that teachers in the EFL classroom employed CS and CM for three meetings. The second phase employed the questionnaire results to ascertain students' perceptions, tabulated frequencies, and percentages calculated using SPSS 20.00. The questionnaire included twenty closed-

ended questions about students' perceptions of the teaching language. Apart from gathering data, the questionnaire may also elicit candid responses evaluating students' perceptions of CS AND CM on a 4-Likert scale. The scale consisted of the following categories: Strongly Agree, Agree, Disagree, and Strongly Disagree.

RESULTS AND DISCUSSION

English teachers employ code switching and code mixing in the teaching and learning process in EFL courses to help students improve their English proficiency. In its application, the students became the primary factor in accomplishing learning objectives. Thus, it was critical for students' perceptions of code switching and code mixing to be known in order to employ those codes in further language training. The questionnaire responses were gathered from students in various class levels, including exceptional and regular. In the following data, eighty students were surveyed.

Scoring classification of students' questionnaire in the excellent and regular class

The students' attitudes toward language training were examined using a 20-item Likert Scale. Students rated their level of agreement or disagreement with given statements regarding their perceptions of teachers' CS and CM in item questions. Each question has a score between 1 and 4, with lower values indicating more negative perceptions..

Table 1 The Percentage of Questionnaire's Item 1

Item1	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	11	27.5	21	52.5
Disagree	25	62.5	19	47.5
Agree	3	7.5	-	-
Strongly Agree	1	2.5	-	-
Total	40	100	40	100

The table above summarizes students' attitudes on the use of a language (English) as a tool for teaching and communication. As the table above indicates, in an exceptional class, 27.5 % strongly disagree and 62.5 % disagree that teaching English in a foreign language benefited them. In comparison, 7.5 % agreed with the statement, while 2.5 % strongly agreed.52.5% of the students strongly disagrees in a regular class, and 47.5% disagree when only using one language to teach English.

Table 2 The Percentage of Questionnaire's Item 2

Item2	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Disagree	9	22.5	2	5
Agree	26	65	24	60
Strongly Agree	5	12.5	14	35
Total	40	100	40	100

In item number 2, the question indicates that 12.5% of the students strongly agree, and 65% agree that switching the code was desirable or mixing the code between Indonesian and English during teaching. However, there was 22.5% of the students disagreed with it. It was different with the students in the regular class, which only 5% of the students disagreed and 60% of the students agreed, and 35% strongly agreed that it was desirable to switch the code or mix the code between Indonesian and English while teaching English

Table 3 The Percentage of Questionnaire's Item 3

Item3	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Disagree	9	22.5	-	-
Agree	24	60	23	57.5
Strongly Agree	7	17.5	17	42.5
Total	40	100	40	100

Item number 3 above shows that 17.5% of the students were in excellent class strongly agree and 60% of the students agree that using Indonesian and English makes them easy to understand the lesson, but 22.5% of the students disagree that using Indonesian and English made them easy to understand the lesson. On the other hand, 57.5% of the students agree in the regular class, and 42.5% strongly agree that using Indonesian and English made them understand the lesson better.

Table 4 The Percentage of Questionnaire's Item 4

Item4	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	2	5	5	12.5
Disagree	30	75	21	52.5
Agree	8	20	14	35
Total	40	100	40	100

In item number 4, the question indicates that 5% of the students strongly disagree and 75% disagree that teaching English and Indonesian confuses them, but 20% of the students agree that switching and mixing two languages in the classroom confused them. Then the same result also showed in the regular class, which 12.5% of the students strongly disagree and 52.5% of the

students disagree that teaching in both English and Indonesian confused them. In comparison, 35% of the students agree that switching and mixing two languages in the classroom confused them.

Table 5 The Percentage of Questionnaire's Item 5

Item5	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	10	25	4	10
Disagree	27	67.5	22	55
Agree	2	5	13	32.5
Strongly Agree	1	2.5	1	2.5
Total	40	100	40	100

According to item 5, 2.5% of students strongly agreed and 5% agreed that the use of Indonesian and English leads in the weakness of Indonesian. However, 67.5% of students disagree, and 25% strongly disagree, that the use of both Indonesian and English contributes to Indonesian's inferiority. It was almost similar with the students in the regular class, which 10% of the students strongly disagree and 55% of the students disagree that usage of Indonesian and English results in the weakness of Indonesia, but 32.5% of students agree, and 2.5 of the students strongly agree that usage of Indonesian and English result in the weakness of Indonesia.

Table 6 The Percentage of Questionnaire's Item 6

Item6	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	6	15	13	32.5
Disagree	28	70	24	60
Agree	6	15	3	7.5
Total	40	100	40	100

According to item 6, 15% of students strongly disagree and 70% disagree that the use of Indonesian and English leads in the weakness of Indonesian. However, 15% of students feel that the use of both Indonesian and English contributes to Indonesian's weakness. It was similar with students in normal classes, with 32.5% strongly disagreeing and 60% disagreeing that the use of Indonesian and English resulted in Indonesia's weakness, but 7.5% of students agreeing that the use of Indonesian and English results in Indonesia's weakness.

Table 7 The Percentage of Questionnaire's Item 7

Item7	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	2	5	-	-
Disagree	5	12.5	12	30
Agree	28	70	24	60
Strongly Agree	5	12.5	4	10
Total	40	100	40	100

The table above shows that 5% of the students in excellent class strongly disagree, and 12.5% disagree that mixing Indonesian and English strengthens their English. In comparison, 70% of the students agree, and 12.5% disagree that mixing Indonesian and English strengthens their English.

On the other hand, 30% of students disagreed that mixing Indonesian and English strengthens their English, but 60% agreed, and 10% strongly agreed that mixing Indonesian and English strengthens their English.

Table 8 The Percentage of Questionnaire's Item 8

Item8	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	1	2.5	-	-
Disagree	7	17.5	2	5
Agree	28	70	20	50
Strongly Agree	4	10	18	45
Total	40	100	40	100

In item 8, 2.5 % of students strongly disagree and 17.5% disagree that they respect the instructor more when teaching English and Indonesian. However, 70% of students agree, and 10% strongly agree, that they have a greater regard for the instructor when they are teaching English or Indonesian. It was nearly identical with the normal class pupils. Only 5% of students disagree, however 50% agree and 45% strongly believe that instructors deserve more respect when teaching English and Indonesian.

Table 9 The Percentage of Questionnaire's Item 9

Item9	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	3	7.5	-	-
Disagree	22	55	11	27.5
Agree	12	30	26	65
Strongly Agree	3	7.5	3	7.5
Total	40	100	40	100

In item 9, 7.5% of students strongly disagree and 55% disagree that they respect the instructor more when teaching in Indonesian. In comparison, 30% of students concur, and 7.5% are adamant that they respect instructors more when they teach in Indonesian. In ordinary classes, 27.5% of students disagree that they respect the lecturer more when he or she teaches in Indonesian, but 65% agree and 7.5% strongly agree.

Table 10 The Percentage of Questionnaire's Item 10

Item10	Excellent		Regular	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	1	2.5	-	-
Disagree	14	35	6	15
Agree	19	47.5	27	67.5
Strongly Agree	6	15	7	17.5
Total	40	100	40	100

According to Table 10, 15% of students strongly agree and 47.5 % strongly disagree that they respect the instructor more when teaching in English, while 35% of students disagree and 2.5 % strongly disagree that they respect the instructor more when teaching in English. In other classes, such as regular shows, 67.5 % agree, and 17.5 % strongly agree, that they respect teachers more when they teach in English, while 15% disagree.

Students' perception toward CS and CM used by an English teacher in Excellent and Regular Class

Based on the means score result, it was decided that t students in the excellent class have positive perceptions. In contrast, the students in the regular class have a strongly positive perception toward CS and CM used by the English teacher.

Table 11. Mean Score and Standard Deviation of the Students' Perception

Group Statistics					
	class	N	Mean	Std. Deviation	Std. Error Mean
Score total	Excellent	40	52.28	4.523	0.715
	Regular	40	60.55	3.566	0.564

The table above reveals the difference between mean and standard scores in excellent and regular classes. The data was based on the computation by using SPSS 24

The means score of the students in the excellent class was 52.28 and in the regular class was 60.55. The score above shows that the rating score of the students both in excellent and regular class was different, which was proven by looking at the result of mean score in excellent class was lower than a regular class. Means score in excellent class was 52.28 < 60.55 in the regular class. So it means it can be said that the students in the regular class had a higher perception than the students in the excellent class.

Inferential analysis was used to test the hypothesis. In this instance, the writer conducted an independent samples test using a t-test (test of significance). This was a test designed to ascertain the importance of students' mean grades in exceptional and normal classrooms.

Table 12. Independent Sample T-Test

skor total	Equal variances assumed	Levene's Test for Equality of Variances		t-test for Equality of Means								
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference			
									Lower	Upper		
	Equal variances not assumed			-9.086	78	.005	-8.275	.911	-	-	10.088	6.462
	Equal variances assumed			-9.086	73.968	.005	-8.275	.911	-	-	10.090	6.460

The average numbers shown in Table 2 are well-known in the area since they are based on the outcomes of two distinct test calculations. The Levene's Test for Variance Equality has a

significance level of 0.386 (p> 0.05). It established that the two variances are comparable. Then, the assumption of equal variance should be used to compare the average population (t-test for Equality of Means) in testing the t-test. At a significance threshold of p = 0.005, the assumed equal variance was found to be -9086. The results indicated that a difference in students' perceptions of exceptional and regular classes toward CS and CM was significant at p0.01. It can be inferred that there was a considerable difference in perceptions of CS and CM between excellent and standard classes.

CONCLUSION

The students' perception of CS and CM used by English teachers in SMA Negeri 4 Makassar in excellent and regular classes was positive. The mean score in excellent and regular class was different, which was proven by looking at the result of mean score in excellent class was lower than a regular class. Means score in excellent class was 52.28 < 60.55 in the regular class. This showed clearly that in regular class was higher positive level than in excellent class. The excellent class showed 52.28 means positive, while the regular class showed 60.55 means strongly positive toward CS and CM. Besides that, a significance level of p = 0.005 showed that p < 0.01. This indicates that there was a substantial variation in students' perceptions of the usage of CS and CM in EFL classrooms between excellent and standard classes. As a result of the findings, these codes provided positive input that aided in the development of a methodology for teaching English, and it continues to have a beneficial effect on students' perceptions.

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AN ANALYSIS OF AN INDONESIAN LANGUAGE LEARNER COMPETENCE AT THE UNIVERSITY OF LEEDS

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ABSTRACT

The purpose of this study was to examine and discuss a foreign language learner's language competence. The learner's two language competencies, linguistics (phonology, lexis, and grammar) and pragmatics, were investigated. The participant in this study was an Indonesian master's student at the University of Leeds' School of Media and Communication. The data was gathered through interviews. The results show that, despite some errors, M's overall pronunciation was clear and understandable from a linguistics standpoint. She was able to correctly pronounce the majority of the words. She did, however, need to work on articulating some sounds, particularly those that aren't found in her native tongue. She demonstrated good lexis skills, but it was clear that she was still having difficulty with English grammar. Finally, her previous habit seemed to influence how she spoke in English, as she tended to use informal rather than formal utterances to perform the target language, according to pragmatics competence.

Key words: language competence, linguistic competence, pragmatic competence

INTRODUCTION

Learners may face difficulties in acquiring and learning a second or foreign language. This is due to the fact that learning a new language is quite difficult. They must master the linguistic features of the target language, in this case English, as well as the discourse, in order for the learners to communicate in the target language.

There are numerous theories of second language acquisition (SLA) and second language learning (SLL) that explain how second language learners learn the target language as well as why some learners are more successful than others in mastering it (Dörnyei, 2014; Ellis, 1997, 2015; Ellis & Barkhuizen, 2005; Ellis & Ellis, 1994; Horwitz, 2014; Mitchell et al., 2019). It is expected that by understanding SLA and SLL theories, second language learners will be able to identify the sources of their difficulties in mastering the target language, which will be beneficial to their language development. (Dongyu et al., 2013).

There are two fundamental reasons why it is important to understand how the second language learners acquire and learn the target language (L2) (Anjomshoa & Sadighi, 2015; Ellis & Ellis, 1994; Mitchell et al., 2019). Firstly because it has the potential to contribute to a broader knowledge of the nature of language, human learning, and intercultural communication, as well as its correlations and effects on

one another (Mitchell et al., 2019). Secondly, "the knowledge will be useful" especially to understand some aspects which influence the learners to be successful or fail in learning the target language (Ellis, 2015; Mitchell et al., 2019).

The purpose of this paper is to examine and discuss a foreign language learner's language competence. The learner's two language competencies, linguistics (phonology, lexis, and grammar) and pragmatics, will be evaluated.

To begin, some SLA theories related to the learner's language analysis will be discussed, followed by an analysis and discussion of the learner's language competence, and finally, some implications of the analysis toward the development of language teaching and the development of the learner's language will be presented.

Second language acquisition (sla)

Second Language Acquisition is the study of how people learn another language after they have mastered their first. This could be a second, third, or foreign language (Ellis & Barkhuizen, 2005). English is regarded as a foreign language in Indonesia because it is not used as the primary language of communication in both formal and informal situations. However, Mitchell et al. (2019) do not believe it is necessary to distinguish between the terms second and foreign language. They believe that learning the target language is more likely to be similar, despite the fact that

the goal and circumstances may differ. As a result, the theory of second language acquisition could be applied to the study of Indonesian language development.

In support of this theory, (Aljumah, 2020; Ellis & Ellis, 1994) identify two purposes of SLA: "description," which is concerned with how learners' linguistic competence develops, and "explanation," which is concerned with the external and internal factors that may become the reasons "why the learners acquire the language the way they do." SLA's objectives are to "describe how learners acquire their second language" and "to explain this process," as well as to explain why some students are more successful than others (Ellis, 2015).

Contrastive analysis (first language theory)

Contrastive Analysis (First Language Theory) is basically in line with behaviourism theory which believes that "learning is a question of habit formation" (James, 1980; Jaszczolt, 2011; Johnson et al., 2020). In behaviourism theory, it is explained that the learners' prior habit will affect them in learning a new habit (Budiman, 2017; Horwitz, 2014; Johnson et al., 2020). Similarly, first language theory holds that difficulties in learning a second language are primarily caused by the learners' first language (L1) (Horwitz, 2008). Moreover, according to this theory, the degree of similarity between L1 and L2 is critical because two different speakers from two different countries may have different difficulties learning the target language (Horwitz, 2014). For instance, Spanish speakers may find it easier to learn English than Chinese speakers, as Spanish and English share a lot more similar grammar, vocabulary, and sound system than Chinese and English do. (Ellis, 1997; Horwitz, 2014).

Learners' first language, on the other hand, may have an impact on them negatively (or positively) during the process of mastering the language (Johnson et al., 2020). This effect is known as "the study of transfer" in psychology (Johnson et al., 2020; Murphy, 2003). It is classified into two types based on its effect: positive transfer and negative transfer. Positive transfer occurs when L1 and L2 share similar aspects, such that L1 assists learners in learning L2, whereas negative transfer occurs when L1 and L2 do not share similar aspects, such that L1 interferes with learners in learning L2, also known as L1 interference (Derakhshan & Karimi, 2015; Lekova, 2010).

Error analysis

Error analysis then can be used as the alternative method for "identifying, describing, and explaining learner errors" (Ellis & Barkhuizen, 2005; Richards, 2015). However, to analyse the learners' language errors, it is necessary to understand which ones should be identified as errors error occurs when learners do not produce language forms in the same way that native speakers do. Some of the second learners' errors cannot be explained by using contrastive analysis, one of the examples is "Did she wanted?" (Johnson et al., 2020). These errors are referred to as "intralingual errors" by Richard, which refer to errors that occur "within language itself", he also uses the term

"developmental" to describe these types of errors (Richards, 2015). The opposite of intralingual error is 'interlingual error', which derives from "the differences between L1 and FL" (Ellis & Barkhuizen, 2005; Richards, 2015).

In relation to interlingual errors, the effects of "transfer" and "borrowing" have to be distinguished (Ellis & Barkhuizen, 2005). Transfer happens when the learners' L1 forms have an effect on their use of the second language, whereas borrowing occurs when learners utilize their L1 form briefly as a communication tactic but does not result in the form being incorporated into the interlanguage system (Ellis & Barkhuizen, 2005).

Significances of errors in sla

There are some significances of errors in SLA according to Ellis & Barkhuizen (2005). Firstly, they can assist the teachers in determining what the students have learned and what they have yet to master for pedagogical purposes. Second, they provide evidence of how languages are learned for the purpose of research. Finally, they serve as a tool for learning purposes, allowing students to investigate the rules of the target language.

RESEARCH METHOD

This study used qualitative descriptive method. The researcher collected the data by interviewing the participant using English. The interview was recorded and then transcribed. The data gathered was then analyzed to investigate the participant's English language competence.

During the interview session with the participant, three topics with varying degrees of difficulty were discussed. The first discussion focused on the participant's motivation for attending the University of Leeds and what she found interesting and annoying during her time there. The second topic was a description of a film or television show she had seen. Finally, she talked about recent news that she had read or seen. The interview was recorded and then transcribed in order to analyze the learners' ability to use English as a foreign language.

PARTICIPANT

The participant in this language analysis was an Indonesian master's student at the University of Leeds' School of Media and Communication. Maya is her name (pseudonym).

She communicates with her family and friends in Indonesia by speaking Indonesian. However, because she lives in Bandung, West Java, her first language is influenced by her native tongue, "Sundanese," as locals in her hometown frequently communicate in their native tongue and only use the national language in formal situations or when speaking to people who do not speak it.

The participant was asked how she learned English after the interview session. The participant stated that she began learning English in elementary school but had never used it to communicate with others. She also admitted that in her spare time, she enjoys watching western movies and listening to English music. She stated that she learned new vocabulary as well as how to pronounce the words correctly as a result of this activity. She had to take an IELTS preparation course before going to Leeds because she realized she wasn't very good at writing in English. Her overall IELTS score was 7.0, but her speaking score was only 6.0, indicating that she had done well in her preparation. She believes it is due to the fact that she rarely speaks English and only uses it frequently during her studies in Leeds, where she was the only Indonesian in her class. She also lived with an Indian who required her to communicate in English.

RESULTS AND DISCUSSION

Linguistics competence

Phonology

When using the language, the participant made a few phonological errors. It became clear when she attempted to pronounce the words which consists of interdental fricatives, they are /θ/ and /ð/. She also had a habit of mispronouncing these two sounds. Examples of errors of /θ/ sound are "thing", "think", "nothing", and "with". Examples of errors of /ð/ sound are "though", "the", "they". These are L1 negative transfer errors because the sounds /θ/ and /ð/ do not exist in Indonesian, and she is likely unaware of how to articulate these sounds correctly. Indonesian will simply articulate /θ/ sound the same as /t/ sound and /ð/ sound the same as /d/ sound without any phonological knowledge.

Another instance was discovered when "M" uttered the words "think" and "thing." She omitted the /k/ sound when articulating "think," making the word "think" sound similar to "thing." As a result, if we don't pay attention to the context, we won't be able to distinguish between the two words' sounds. The cause of this error is not L1 interference, because many Indonesians add the /k/ sound to some words that should not have one, such as "ibu," which is frequently articulated as /ibuk/. As a result, the cause of this error could be a lack of understanding of how to pronounce consonant clusters correctly.

When "M" attempted to say "tongue," she made a mispronunciation. The word should be pronounced /tʌŋ/, but she said /tong/. The cause of this error could be L1 negative transfer, as Indonesian words beginning with the letter "o" can only be articulated in two ways: /o/ in "shop" and /o/ in "lump."

The final case was the errors that are related to word stress. "M" was unable to utter the word "money" and "consider" in a correct stress. The fact that "money" was articulated incorrectly (/mʌ'ni/ instead of /'mʌn.i/) was surprising enough as this word is very familiar and

"M" should have heard this word many times. However, if this case was linked to the complexity of the question, the cause of the error might be because "M" was under pressure causing her to lose her ability to pronounce the familiar word correctly (Lightbown & Spada, 2021). While her failure in articulating "consider" (/kənsɪd.ər/ instead of /kən'sɪd.ər/) correctly appears to be a "intralingual error," or she may have no idea how to articulate the word correctly.

Despite a few mispronunciations, the participant's overall pronunciation was clear and understandable. She was able to correctly pronounce the majority of the words. She does, however, need to work on articulating some sounds, particularly those that aren't found in her native tongue.

Lexis

There were also some lexical errors discovered. To begin, it was discovered that "M" was occasionally confused when using the words "Chinese" in "from Chinese" and "Indian" in "from Indian." It is assumed that she was aware of when to use the two words because she could also correctly convey the words, such as "from China" and "from India." As a result, the cause of this error is determined to be intralingual.

On a few occasions, "M" also failed to use the correct collocation. For example, "different" is supposed to go with "from," but she used other words to go with "different," such as "different with" and "different in." It's presumed that L1 interference was to blame, as "M" translated "word for word" from her L1 (Krashen, 1981).

There were also some offensive words to be found. "Admit" and "receive," for example. It was assumed that she was attempting to say "accept." Furthermore, she frequently said "back" when she meant "when I was." The reason for these errors was that the participant most likely couldn't think of a better word to use when uttering the sentences, so she relied on communication strategy to assist her in performing the language. As a result, these are not interlingual errors.

In terms of lexis, the participant has demonstrated a high level of proficiency. She could also use some unfamiliar words, such as "slapstick." Even though there were some errors caused by L1 negative transfer, it appears that her L1 did not really interfere with her mastering English vocabulary.

Grammar

When "M" used the target language, there were numerous grammatical errors to be found. To begin with, she frequently forgot to use past tense when discussing her reasons for attending Leeds University. "I choose," for example, rather than "I choose". The cause of this error is not L1 negative transfer because she could also use past form correctly, such as "as I said" and "lecturers taught us". Therefore, this error is classified as an intralingual error.

The second, errors in bound morphology were discovered, such as omission of plurals on nouns,

adjective-nounagreement (Krashen, 1981). For example, "two public relation major", "... many free time", "I'm a fans", "other foreign language", "all the book". However, because she could also perform some utterances correctly, such as "my classmates are...", these errors could be both interlingual and intralingual. Besides, because she made these errors so frequently, it also indicated that her L1 has a significant impact on her ability to communicate in the second language.

The third, it was also discovered some errors related to "word for word translations" (Krashen, 1981). For example, instead of saying "they have known each other," she said "they already know each other." Because she followed her L1's word order, this error is classified as an L1 negative transfer.

Finally, the auxiliary verb of this utterance "there so much essay" was omitted. Because there are no auxiliary verbs in Indonesia, it could be caused by L1 interference. She did, however, understood the rules for constructing this utterance. She also frequently made errors in sentence construction, such as "it's requires," "it's still make," "it's still give," and "it's still like entertain." These errors were caused by intralingual interference rather than L1 interference.

Overall, it is clear that "M" was still having difficulty with English Grammar. She made the most grammatical mistakes in the present and past tense. The difficulties in mastering these tenses may be due to L1 interference, as Indonesian does not distinguish between verb and structure forms when expressing events that occur at different times.

Pragmatics competence

The theory of politeness is one of pragmatics' theories. According to this politeness theory, people's "social distance" and "closeness" influence how they communicate (Leech, 2016; Taguchi, 2019). According to this theory, the purpose of saying "sorry" is not only to apologize, but also to request that the interlocutor repeat his or her utterance. She also showed respect by saying "would" rather than "will."

When people in Indonesia speak to someone who isn't close to them, they tend to speak more politely, for example, by using more formal utterances. In Indonesia, when people talk to someone who do not really close to them, they often speak more politely, for example, using more formal utterances. However, it appears that the participant's previous habit has an impact on how she speaks English, as she tended to use informal rather than formal utterances during the interview session. This means, there was L1 interference in mastering this competence.

CONCLUSION

According to Krashen (1981), L1 learners find it more difficult to speak accurately than second language learners because their first language has a strong

influence on them (L1). This explains why the learner's English proficiency appeared to be heavily influenced by her first language. It has been proven that L1 negative transfer caused a large number of grammatical errors among learners. It's also possible that she's making intralingual errors because she can speak the language correctly on occasion. This analysis suggests that the participant needs to work harder at learning, particularly grammar, in order to communicate more effectively in the target language.

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ONLINE SHOPPING VS OFFLINE SHOPPING: COMPARISON ANALYSIS OF PURCHASE INTENTION ON CONSUMERS DURING PANDEMIC IN GEMPOL PASURUAN

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ABSTRACT

Pandemics cause many sectors to experience difficulties including regulations in the form of restrictions on activities making many disruptions in the community activities including activities in transactions to meet daily needs that experience a shift in buying interest from offline shopping to online shopping. This study is an independent comparative quantitative study that compares two online sample groups and offline sample groups, with the aim of the study being to find out the difference in the buying interest of offline and online consumers during the pandemic and the buying interest index between online and offline groups. The research population is consumers in the Gempol region who have shopped offline or online with the number of samples is 38 and offline is 39 with sampling techniques using random sampling. Research instruments using questionnaires with the Likert scale and analysis tools used are validity tests, reliability, normality tests, homogeneity tests, and independent-sample t-tests. The results showed that there was no difference in consumer spending interest between the offline group and the online group during the pandemic as well as the value of the buying interest index also existed in the same category between online buying interest and offline buying interest, namely, there was high buying interest.

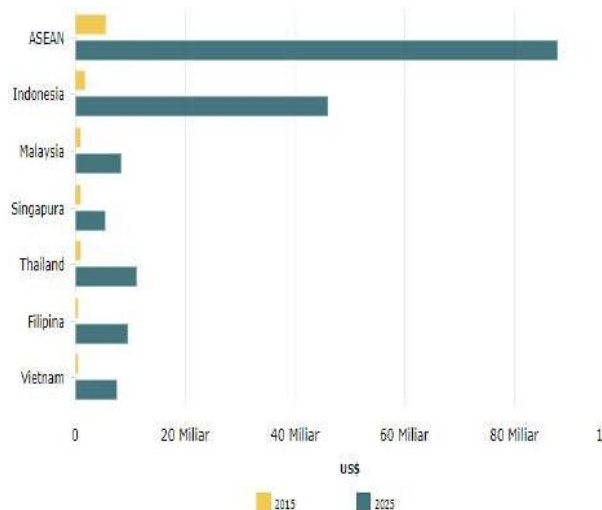
Key words: offline, online, purchase intention

The number of covid-19 cases rose rapidly in the world (Yamali and Putri 2020) and had an impact on the Indonesian economy (Hadiwardoyo 2020). PPKM is one of the government's efforts to reduce the spread of covid where lockdown and physical distancing (PPKM) (Hadiwardoyo 2020) makes people's mobility very limited so that many daily activities switch from manual to digital such as school activities, lectures from face-to-face meetings to online including office and business activities from WFO to WFH. People's daily activities are also disrupted such as basic needs fulfillment habits and various other activities are diverted from offline to online purchases through digital media, people rely on products and services through digital media, people rely on products and services through digital platforms including online shopping behavior conditioned restrictions because of concerns about health especially in the industrial revolution 4.0 People are spoiled with easy access to digital technology (Moon, Choe, and Song 2021). The purchase decision is inseparable from buying interest as the results of research (Kumadji, Kumadji, and Yulianto 2015) that a person's decision to make a purchase is inseparable from the existence of buying interest while based on research (Nulufi 2015) found that buying interest has a

positive and significant influence on purchasing decisions. Of course, the higher the interest in buying, the higher the purchase decision. Understanding the interest in buying according to (Duriyanto 2013) is the desire to have a product, buying interest will arise if a consumer has been affected by the quality and quality of a product, information about the product.

There is a positive trend of transactions in e-commerce based on Bank Indonesia (BI) issued in 2018-2022 where e-commerce transactions in 2022 are projected to increase to Rp 530 trillion compared to Rp 2021 amounting to Rp 403 trillion, from this data it is clear that there is a positive and significant increase in e-commerce transactions during the pandemic and overall there is a significant shift in spending in e-commerce (Gu et al. 2021) moreover Indonesia is the largest e-commerce market in the world. Southeast Asia as presented in the following graph 1:

INTRODUCTION



Sources: Nielsen Indonesia, PT (The Nielsen Company), 2017 Graphic 1. e-commerce markets of Southeast Asian Countries 2015-2025

The positive trend in the form of rising e-commerce transactions is certainly good news because it shows economic activity still but what is worrying is the threat to the sustainability of offline businesses after all it has been proven that many outlets experience a decrease in sales and even out of business during the pandemic. The bad news about offline businesses that many consumers leave behind must be addressed wisely because offline purchases can still exist because offline can offer a shopping experience that is not found in online purchases i.e. consumers can touch, hold products, smell or try products (Gupta 2017) In addition to socialization opportunities with friends and even offline consumers can collect information from online to then shop offline.

The impact of the pandemic on online and offline sales is very visible but there must be a valid study on whether there is a difference in consumer buying interest between online buying interest in offline in the pandemic period.

The purpose of the study: to find out the difference in online buying interest compared to offline and the index of buying interest between online and offline groups in the pandemic.

Literature Review

Online shopping

Online or e-shopping is a type of electronic shopping that allows consumers to buy goods over

the internet directly from the seller using a web browser. (Gupta 2017). The characteristics of online shopping are not confronting, out of touch so that these conditions can cause concerns such as uncertainty, lack of control, which is potentially on the reluctance of consumers to make online transactions, Grabner-Kräuter & Kaluscha (Lan Ho and Chen 2014) Online channels have different

characteristics of physical - offline channels, Wang et al., in (Sarkar 2019)) such as the lack of experience of physically inspecting products that are not found in the Online shopping Alba et al. in (Sarkar 2019).

Offline shopping

In offline purchases, customers can make physical bargains to sellers and offline shopping is more authentic than online shopping (Gupta 2017) as well as give consumers to physically select and check what an item or product looks like (Sukhwinder and Kaur 2018). This is why some consumers still prefer traditional types of shopping over online shopping because it allows them to more carefully examine items (Rajalakshmi and Faiz 2021). But there are also disadvantages of offline shopping such as the limitations of choices when it comes to shopping, information is not as important as needed and offline shopping takes a lot of time so respondents prefer to do online shopping and research results (Moon et al. 2021) where consumers who value time will tend to shop online, while consumers who have enough time will usually shop offline.

Buying interest

Buying interest is a combination or relationship between the interests and hypocrisy of a prospective consumer to buy a product or something they want or need, Kim & Ko in (Selfia Ratna Kasih, Asep M. Ramdan 2020). According to (Hasan 2014) the buying interest relates to the consumer's plan in purchasing a particular product along with the number of products needed in a certain period of time and the buying interest also refers to the consumer's desire to consume or use goods in the future (Khan and Mehmood 2018). Purchasing intent is the consumer's preference to purchase a product or service (CATHCART and KILLEN 1940). Morinez et al. inside (Mirabi, Akbariyeh, and Tahmasebifard 2015) define buying intentions as situations in which consumers tend to buy certain products under certain conditions. Online purchasing intentions themselves are understood as the extent to which consumers are willing to buy products through online stores (Peña-García et al. 2020).

Buy interest indicator

According to (Selfia Ratna Kasih1, Asep M. Ramdan2 2020) there are several indicators of consumer buying interest, including:

- 1. Transactional interests
- 2. Referential interests
- 3. Preferential interests Ask for exploratory

Hypothesis

The hypothesis formulation is:

H0: $\mu_1 = \mu_2$ (No difference in online and offline buying interest)
 H1: $\mu_1 \neq \mu_2$ (There are differences in online and offline buying interests)

RESEARCH METHODS

This type of research is an independent unrelated comparative study where there are two data groups, namely the online shopping buying interest group and the offline shopping buying interest group. The research population is consumers who have shopped both online and offline in the Gempol Pasuruan region with the sample number being 38 for online buying interest groups and 39 for offline buying interest groups. Sampling techniques use random sampling or random to provide an opportunity to all those who have shopped online or offline to become respondents. Research instruments use questionnaires by spreading questioners and measuring scales using the Likert scale with a choice of answer scores between strongly disagreeing (1) to strongly agreeing (5)

Data analysis methods

Validity Test

The validity test is a test to see the degree of accuracy between the actual data and the data collected with the assessment criteria, if the value of r calculates > r table then the research data is said to be valid.

Reliability test

A Reliability test is a set of measuring instruments to assess consistency, accuracy, and accuracy, and research instruments are said to be reliable if they have an Alpha Cronbach value of > 0.6.

Normality test

The normality test is used to find out whether the variable disruptor has a normal distribution or not. The normality test in this study used Shapiro Wilk considering the study sample < 50 which is 38 for online buying interest and 39 for offline buying interest Testing criteria: if Sig. calculates > 0.05 then the data is said to be normal and vice versa if Sig. calculates < 0.05 then the data is said to be abnormal.

Homogeneity test

The study used the Levene Statistics technique homogeneity test (Imam Ghozali, 2001: 30) which is a measure to test whether the two research data are homogeneous or not by comparing the variance of the two study groups.

Independent sample t

Test Independent sample t-test is a parametric statistical test in the form of a test of two sample groups not correlated with the conditions that the data tested is quantitative data in the form of interval data or ratio data (Sugiono 2013).

Assessment criteria:

1. Significance value (2 tails) > 0.05 means there is no difference in average between the research subjects.
 2. Significance value (2 tails) < 0.05 means that there is an average difference between the research subjects.

Buy Interest Index

The buy interest index is based on data on the level of buying interest as a result of the collection of quantitative data with the formula: Buy interest index =

$$\frac{F1 \times S1) + (F2 \times S2) + (F3 \times S3) + (F4 \times S4) + (F5 \times S5)}{\sum F \times S} \quad (1)$$

Where:

- F1 = Very low buying interest
- F2 = Low buying interest
- F3 = Medium buying interest
- F4 = High buying interest
- F5 = Buying interest is very high

Table 1. Category index numbers

Value	Information
<0,2	Buying interest is very low
0, 21 - 0,40	Low buying interest
0,41 - 0,60	Buying interest is
0,61 - 0,8	High buying interest
>0,81	Buying interest is very high

RESULTS AND DISCUSSIONS

Online and offline validity tests

The validity test is conducted using Pearson Product Moment.

Table 2. Result of online and offline buying interest validity tests

Indicator	Purchase intention		r-count	
	Online	Offline	Online	Offline
Transactional interests	I'm still interested in buying	I'm still interest ed in	0,718	0,715

	online because I like	buying offline because I like		
	I am still interested in buying online when I want to buy a product.	I remain interested in buying offline (directly) because I want to see directly the goods I will buy	0,867	0,746
<i>Referential interest</i>	I still recommend my friends and family to buy online.	I still recommend my friends and family to buy offline because it is safer	0,747	0,850
	I still recommend others to buy online because they are satisfied and there is a positive impression	I still recommend others to buy offline because of the fun shopping experience and can even sometimes bargain	0,768	0,723
<i>Preferential interest</i>	I'm still interested in buying online because it's more practical	I still buy offline (directly) because I feel comfortable	0,885	0,903

		with the previous shopping experience		
	I'm still interested in buying online because purchases can be made anywhere.	I still buy offline (directly) because I can interact directly with the seller	0,813	0,849
	I am still interested in buying online because purchases can be made at any time.	I still buy offline because I can see directly the product to be purchased	0,780	0,886
<i>Eksploratif interest</i>	I keep looking for information before buying online by looking at reviews or experiences of friends and family.	I still seek information from friends and family about the various products sold before making a purchase offline (directly)	0,647	0,699
	Before buying online, I carefully examine first about the explanation	I still seek information from friends about the quality	0,789	0,798

	n of the product I will buy.	of the product before making a purchase offline (directly)		
	Before buying online, I carefully examine first the explanation of the product I will buy.	I still seek information from friends about the service before making a purchase offline (directly)	0,854	0,682
		I still seek information from friends and family about prices before making a purchase offline (in person)	-	0,840
		I look for information in advance to other people (family, friends) who have offline shopping experience	-	0,689

		(instantly)		
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Source: Data processed 2022

Validity Test

1. Online : Table value for sample number 38 with DF = 38-2 = 36 by 3,202 so it is concluded that all question items are valid
2. Offline: Table value for sample number 39 with DF = 39-2 =37 of 3.16 so it is concluded that all question items are valid Online and Offline

Reliability Tests

Reliability tests are conducted by looking at Cronbach alpha values.

Table 3. Online and offline reliability test result

Variable	Alpha Cronbach's	N of Items	Information
Online purchase intention	0,780	11	Reliable
Offline purchase intention	0,776	13	Reliable

Source: Data processed 2022

Based on Table 3 above, the Cronbach alpha value for online buying interest and offline buying interest has a value of > 0.6, so it is concluded that all game items are reliable.

Description of respondents

Based on gender

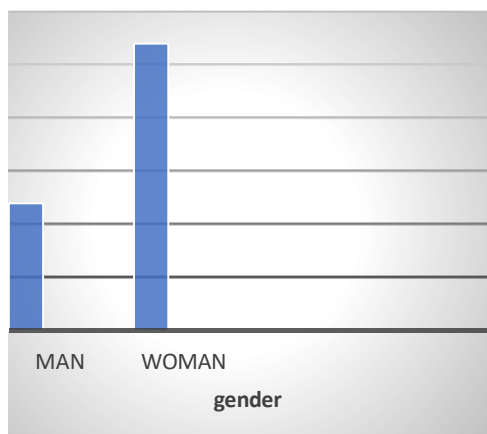


Figure 2. Respondent data by Gender

The study respondents consisted of 27 more women than the number of male respondents and the composition of gender respondents could determine the interest of buying online or offline

considering the results of research (Gupta 2017; Moon et al. 2021) provided findings that women prefer to shop online than men.

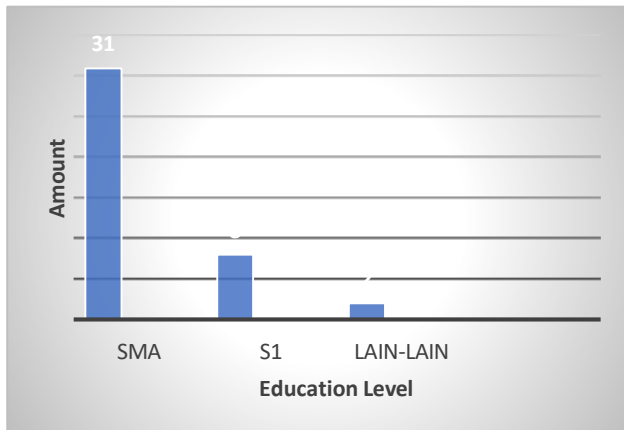


Figure 3. Respondent Data Based on Education Level

Study respondents have the highest school education numbering 31, educated S1 8 and others 2 and the composition of education level these respondents can determine buying interest online or offline considering that based on research (Gupta 2017) it is said that in general, the population with higher education and income will prefer to shop online.

Normality test

The normality test is used to find out whether the variable disruptor has a normal distribution or not normal data distribution or not. The normality test in this study used the Shapiro Wilk method which is an effective and valid normality test method used for small amounts. Testing criteria: if Sig. calculate > 0.05 then the data is said to be normal and if Sig. calculate < 0.05 then the data is said to be abnormal.

Table 4. Normality test results of online and offline buying interest data

Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Online	.101	38	.200*	.956	38	.138
Offline	.135	39	.071	.959	39	.170

Source: Data processed 2022

The sig value on Shapiro Wilk > 0.05 so it was concluded that the interest in buying online and offline during the covid pandemic was a normal

distribution. The basis for decision-making using Shapiro Wilk is because the study sample < 50 Homogeneity Test Homogeneity tests are used to determine whether or not a data variance is homogeneous. The study used the homogeneity test of the Levene Statistics technique (Imam Ghozali, 2001: 30).

Table 5 Test results of homogeneity of online and offline buying interest

Levene Statistic	df1	df2	Sig.
1.523	1	75	.221

Source: Data processed 2022

Based on Table 5 above, online and offline buying interests have significant >0.05 concluded that the buying interest of two groups online and offline is the same or homogeneous.

Independent Sampel T Test

Table 6. Independent samples test

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Purchase intention	Equal variances assumed	1.523	.221	-1.57	75	.122	-2.935	1.874	-6.669	.7986
	Equal variances not assumed			-1.57	72.5	.121	-2.935	1.869	-6.660	.7903

Source: Data processed 2022

Based on Table 6 sig Levene test value 0.221 > 0.05 is said to be a homogeneous data group so that the assessment guidelines using Equal Variance assumed with sig (2 tailed) values of 0.122 > 0.05 can be concluded that Ho is accepted and Ha is rejected meaning there is no significant difference between buying interest between consumers who shop online and offline during the pandemic. While the mean difference value of -2.9352 indicates the average difference in the online and offline group-buying interest the value of this difference is

insignificant. These results are in accordance with the results of the study (YANG 2021) where there is no difference in online buying interest in offline and there is an interesting opinion in the study (Moon et al. 2021) that online and offline shopping channels generally have complementary relationships depending on the specific needs of consumers.

Online and offline buying interest index

Table 7. Online and offline buying interest index

Purchase in tension	Online		Offline	
	Index	Criterion	Index	Criterion
Transactional	0,6237	High Buying interest	0,605	medium Buying interest
Referential	0,5842	Medium Buying interest	0,621	High Buying interest
Preferential	0,6816	High Buying interest	0,617	High Buying interest
Eksploratif	0,6711	High Buying interest	0,6287	High Buying interest
Average Buying interest	0,6401	High Buying interest	0,618	High Buying interest

Source: Data processed 2022

Based on Table 7 above it can be seen that the value of the offline buying interest index on transactional indicators has a moderate category while in online the buying interest index is at a high position and this can happen because the pandemic makes people limited in their wiggle room so that they in transacting prefer through online. The offline buying interest index on the reference indicator has a better value than the online buying interest index and this can be interpreted that the public still likes to recommend transacting offline. Based on the average index value both online and offline entered the same category, namely high buying interest, in accordance with the results of the independent sample t-test and on average the buying interest of the community during the COVID-19 outbreak. There is a position of high buying interest but unfortunate that the condition of people's purchasing power at the same time has decreased (Khusnul 2021; Yuniati and Amini 2020).

CONCLUSIONS AND SUGGESTIONS

Based on the results and discussion using independent analysis tools, the sample t-test was found to be a conclusion where there is no difference in buying interest between online and offline groups as well as the value of the buy interest index also exists in the same category between online buying interest and offline buying interest that there is high buying interest. The advice that can be given is that offline entrepreneurs should still look for breakthroughs so that their business is not eroded by online business and they need to offer something different such as revamping the store space to a different shopping experience space than before to survive. Online business must continue to improve because there are still many complaints from consumers such as delays in delivery, the quality of products delivered is not in accordance with consumer expectations. Research can then use other variables outside the research variable and research can be done in other areas or places because different places allow different research results.

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THE MOZART'S CLASSICAL INSTRUMENT EFFECT IN WRITING DESCRIPTIVE TEXT

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ABSTRACT

The purpose of this study was to see if using Mozart's classical instrument could help students learn to write descriptive prose. A quasi-experimental approach was used, with two seventh-grade classes from SMPN 1 Balocci Pangkep regency, chosen as a sample via purposive sampling. A test was used to gather the information. The experimental group had a mean score of 70.6 while the control group had a score of 68 before the therapy. Teachers may find it easier to employ a Mozart classical instrument to inspire students to learn writing descriptive prose if the learning objective is adequately designed, taking into account the students' needs and language level. Teachers may strive to include Mozart's classical instrument into their classroom activities in order to create an effective and engaging learning environment.

Key words: classical instrument of mozart, descriptive text, writing,

INTRODUCTION

The department of education at the nationally has established a competence requirement in the curriculum, which specifies that students in Indonesia must be able to grasp and communicate information, ideas, and séances in English, as well as enhance their knowledge, technology, and culture. As a result, English serves not just as a means for communication and information access, it can be a tool for communication interchange and a feeling of English beauty in culture.

In Senior High School, there are four language skills and the writer focuses on writing ability, namely how to write descriptive content with proper language and organization. Writing descriptive writing strives to provide vivid details of how something or someone appears, as well as inform readers on what the thing is or does. Salsabila, Sumarni, & Dewanti, (2021) mentions that It is characterized the appearance of things that occupy space, whether they be objects, people, buildings, or cities. Students are asked to enumerate the features of anything in this type of text, which typically refers to physical look of the object in question. Writing is a productive talent that is critical in the development of SMP Negeri 1 Balocci students' competency and language performance. Based on the preceding remark, the author would like to introduce a strategy that teachers can use to

inspire pupils (particularly when teaching English) and to aid students in learning English by writing descriptive material It's a Mozart instrument that's been put to use.

The usage of a Mozart instrument will assist pupils in writing a descriptive prose more actively. The content is appropriate for students at that level. The Mozart effect has hundreds of benefits, including improving test scores, cutting learning time, calming hyperactive children and adults, reducing errors, and increasing creativity and clarity. Sinta, Harahap, and Harahap, (2020)

Does using a classical instrument like the piano enable first-year students at SMP Negeri 1 Balocci to learn how to write descriptive texts? The study's goal is to see if using a classical instrument like the piano may help first-year students at SMP Negeri 1 Balocci learn to write descriptive texts. The outcome of this research is expected to be useful or valuable information, as well as a beneficial contribution employing an acceptable strategy in teaching writing descriptive writings to acquire a greater knowledge. The writer is limited to the use of Mozart's classical instruments to inspire students in learning to create descriptive texts at SMP Negeri 1 Balocci first-year students, with this technique focusing on content and arrangement of writing. According to Zimmermann (2019), "a meta-analysis of 16 Mozart effect study [that] found no change in IQ or spatial reasoning skills," the Mozart effect has been difficult to replicate since. Regrettably,

Wininger, Redifer, Norman, and Ryle (2019) discovered that the majority of the research he examined used inappropriate tasks, music, and a variety of study procedures.

A study published by Sundari, Prasetyo, Shiva, and Mahpur (2022) reported "no difference in the spatial IQ scores of kids who listened to a Mozart sonata as compared to control participants." They looked at how well the kids could do in a certain area before and after listening to Mozart, popular songs for kids, or soothing music. No matter how much youngsters liked listening to popular music, there were no significant differences in their lives. Waterhouse omitted a study that discovered that listening to Mozart sonatas and J. S. Bach compositions greatly improved primary school children's spatial-temporal scores. In this case, the young people's musical backgrounds had no effect on the outcome Suyadi, (2021). According to May, Miner, and Young (2019), a third study compared the impacts of listening to Mozart or popular music with the effects of participating in an experiment discussion. Researchers found that children who listened to popular music performed better on a spatial-temporal exam than children who listened to Mozart sonatas or talks.

"When the listener appreciates the music, positive benefits of music listening on cognitive skills are most likely to be visible," they discovered (p. 6). Further evidence for the idea that Mozart's effect is linked to arousal or mood is provided by Maftukhah, Arief and Sakitri (2016). Given the mixed results of the child studies, we agree with Waterhouse that this field of research should not have an impact on educational practice. Children were not included in many studies, the benefit may be confined to certain types of labor, and the outcomes are temporary.

Mozart's instrument is a work of musical brilliance; After Mozart's death, most of his compositions became well-known, and people of all ages continue to love Mozart approach is vibrant and energetic. The musician wrote the piece. nearly every type of music that was popular at the period. More than 40 symphonies were written by him. Some were simply overtures to operas that lasted only a few minutes.

Choose music by Hayden or Mozart, or possibly Bach, that has regular periods (repeated phrases and patterns). Students will be distracted if they listen to melodic music with musical patterns, but they will be distracted if they listen to loud, disharmonic music as their mind in feeling the sense of the dissonance. It is rare to use the word "classical music" to describe traditional musical styles from outside of Europe and the classical music of Europe and its offshoot genres, such as jazz and popular music. A similar argument may be made for concert music composed during the time periods of

Wolfgang Amadeus Mozart, Joseph Haydn, and those who followed them. In consequence, the music of the Baroque and succeeding Romanticism eras varies from the Classical era. In the 1820s and 1830s, the term "classical music" was established to describe a corpus of music that was analogous to traditional sculptors traditions.

Classical music has eight limits, according to May, Miner, and Young (2019). Here are some specifics: Classical Mood in Opposition Classical music's mood can shift gradually or dramatically, conveying conflicting waves of joy and sorrow. The classical composer has complete control over conflict and contrast in his work. In their music, great artists like Haydn, Mozart, and Beethoven were able to blend harmony and logic with a wide range of emotions. Rhythm in the Classical Style The classical style includes surprising stops, rhythms, and numerous transitions from long to short notes. The transition from one note length pattern to the next can be either rapid or gradual. With a Classical Feeling Texture The nature of classical music is primarily homophonic. Texture, on the other hand, is given the same amount of leeway as rhythm. A smooth or abrupt shift from one texture to another is possible. Homophony may begin with a melody and a simple accompaniment, but the move to a more advanced polyphonic texture with two simultaneous melody or melodic fragments duplicated among the numerous instruments adds tension and excitement. Melody with a Classical Influence Classical music is one of the most appealing and unforgettable genres. Even the most complex compositions can have a folk or popular character. Mozart did so in these variations on "Twinkle, Twinkle Little Stars," which he first heard as the French ballad Ah, Vous dirai-je. Dynamics of Piano and Classical Music Due to the classical requirement for progressive dynamic change, the harpsichord was supplanted by the piano Music can be louder or softer depending on how much pressure is applied to the piano keys.

The author used Mozart's classical music to conduct the study, which is well-known for its Mozart effect. Alfred A. Tomatis invented the term "Mozart influence." If you're trying to get your brain working as hard as possible, you might want to listen to more serious music. Or if you can improve your performance at certain mental activities called 'patio-temporal reasoning' by listening to this kind of music for a short time, it might help (15 minutes). The Mozart effect was first hypothesized in 1993 at the University of California, Irvine, by physicist Gordon White and Frances Rauscher, a professional concert cellist and cognitive development researcher who worked together as a team. They played Mozart's Sonata for Two Pianos in D Major for a group of college students for the first 10 minutes to find out how it made them feel (K.448).

Using the Stanford Binet IQ test, they identified a transient boost in spatial-temporal reasoning. When students are using a Mozart instrument, they are more likely to engage in the process of writing descriptions Degrave (2019). For children at that level, the topic is appropriate. The Mozart effect offers a long list of advantages, including improved test results, reduced learning time, calming hyperactive children and adults, lowering errors, and increasing creativity and clarity. Instrumental Music helps students write descriptive prose by making learning more fun and improving "right" brain learning. Furthermore, high results are expected whether learning takes place in a classroom or outside, and the school environment should be comfortable, shady, and away from congested locations. When children learn in a natural setting, they are exposed to natural fragrances, plants, bird cries, and the wind blowing around them. The brain is connected to things like greenery, energy, and flowers when learning in a natural atmosphere. Our brain works well in an outside Because of the oxygen, there are numerous plants in this area that produce oxygen to the air. The students' minds will be able to perform more effectively if they have more air. Natural scents from the environment can also help with brain function. Because writing is a way of structuring words, phrases, and sentences in a way that is different from talking, it is a good way to convey concepts based on experiences and knowledge Batubara, Herwanis & Safitriana (2021). The use of a Mozart instrument could be recommended as a means of bolstering writing. Poetry is one type of literature that can benefit from the usage of a Mozart instrument to enable students to learn to create descriptive texts.

Writing, according to Lestari (2020), is a method of learning a language that mimics what you naturally do when you speak, whereas wring is a method of teaching a language through written or electronic communication. Writing is also a process of uncovering and organizing your thoughts, as well as putting them on paper, altering, and editing them. According to Laili (2022), descriptive text is used to describe a person, place, or thing. The parts of a descriptive text's generic structure are as follows: Identification, Description Identification distinguishes itself from description by identifying the phenomenon to be described, whereas description describes the parts, qualities, and characteristics.

The lexico grammatical features of descriptive texts, according to Gujer & Afnita (2019) and Huda (2021), using attributive and identifying processes, using epithets and classifiers, and using the simple present tense are all examples. We can deduce from some of the arguments above that using Mozart's classical instrument can help

students write better descriptive texts. With descriptive text material, we can select an appropriate instrument.

RESEARCH METHODS

Using a quasi-experimental design and an unequal control group, the researcher conducted this investigation. The pretest-posttest control group approach resembles the non - equivalent control group design pretty closely Erna (2018). The only distinction is that instead of randomly assigning individuals to treatments, it entails randomly assigning complete groups to treatments. Each group receives a therapy before being retested in a nonequivalent control group design. The purpose of employing an The goal of this original study instrument was to generate and record all of the participants' ideas. pertinent information Arikunto (2006). Writing descriptive prose was used as an instrument in this study. The students were given the writing descriptive text as a pretest in the first meeting and as a posttest in the last meeting. Preparing the material, doing a pre-test, administering treatment, and administering a post-test are all part of the data collection procedure.

RESULTS AND DISCUSSION

The rate percentage

No	Classification	Pre-Test		Post-Test	
		F	%	F	%
1	Excellent	0	0 %	4	15.3%
2	Very Good	4	15.3 %	15	57.6%
3	Good	3	11.5 %	7	26.9%
4	Fairly Good	10	38.4 %	0	0%
5	Fair	4	15.3 %	0	0%
6	Poor	5	19.2 %	0	0%
Total		26	100 %	26	100 %

Table 1. Percentage in Experimental Class

The data reveals that four pupils (15.3 percent) received "Very Good" before the treatment. 3 students (11.5%) received "Good," 10 students (38.4%) received "Fairly Good," 4 students (15.3%) received "Fair," and 5 students (19.2%) received "Poor." After the treatment, 4 students (15.3 percent) received "Excellent," 15 students (57.62 percent) received "Very Good," and 7 students (26.9 percent) received "Fair" (26.9 percent). According to the data, the post-test rate

was greater than the pre-test rate.

No	Classification	Pre-Test		Post-Test	
		F	%	F	%
1	Excellent	0	0 %	0	0%
2	Very Good	1	3.8 %	5	19.2 %
3	Good	5	19.2 %	17	65.3 %
4	Fairly Good	13	50 %	4	15.3 %
5	Fair	4	15.3 %	0	0 %
6	Poor	3	11.5 %	0	0 %
Total		32	100 %	32	100 %

Table 2. Percentage in Control Class

Before the treatment, 1 student (3.8 percent) received "Very Good," 5 students (19.2 percent) received "Good," 13 students (50 percent) received "Fairly Good," 4 students (15.3 percent) received "Fair," and 3 students (11.5 percent) received "Poor." Based on the findings, it can be stated that the post-test rate percentage was higher than the pre-test rate percentage. After the treatment, five students (19.5%) received "Very Good," seventeen students (65.3%) received "Good," and four students (15.3%) received "Fairly Good." Based on the findings, it can be stated that the post-test rate percentage was higher than the pre-test rate percentage.

The result of mean score and standard deviation in pre-test

Class	Mean Score	Standard Deviation
Experimental	70.6	11.26
Control	68	9.17

Table 3. The Mean Score and Standard Deviation of the Students

The control class used to have a mean score of 68 and a variance of 9.17, whereas the experimental class had an average score of 70.6 and a variance of 11.26. The degrees of freedom (df) = (n1 + n2 - 2) were utilized in a T-test analysis for independent sample to see if the mean scores of both classes were considerably different at the level of significance 0.05.

The result of mean score and standard deviation in post-test

Class	Mean Score	Standard Deviation
Experimental	89.66	4.98
Control	79.31	4.97

Table 4. The Mean Score and Standard Deviation of the Students

The experimental group's mean score was 89.66, with a standard deviation of 4.98, while the control

group's mean score was 79.31, with a standard deviation of 4.97. The degrees of freedom (df) = (n1 + n2 - 2) were used to assess if the mean scores of both groups are considerably different at the significance level 0.05.

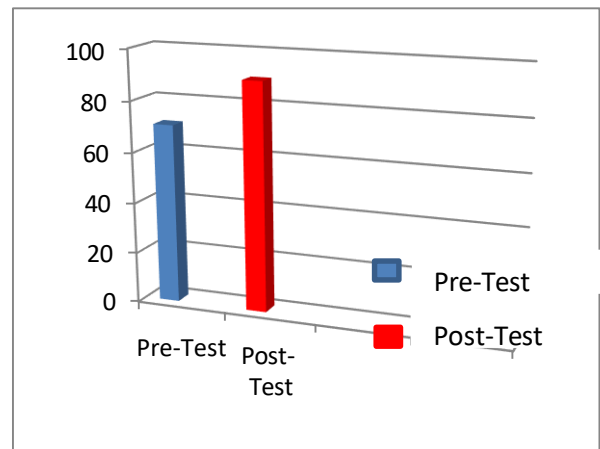


Figure 1.

The figure above illustrates how the pre-test and post-test mean scores differed dramatically. The experimental class had a mean score of 70.6 prior to the therapy (pre-test). Its mean score after treatment was 89.66. It can be suggested that the development made following the use of a classical instrument by Mozart can motivate students in the experimental class to learn how to write descriptive texts.

Finally, it is reasonable to conclude that using a classical instrument such as the piano can inspire students to learn how to write descriptive texts among first-year students at SMP Negeri 1 Balocci. The study's second goal is to find out what students think about SMP Negeri 1 Balocci and how they may enhance their writing skills.

Discussion

The use of the Mozart's classical instruments is used to encourage pupils to learn to write descriptive texts in able to educate writing skills is predicted to be the primary goal of this study. There is an improvement in the experimental group's pre-test and post-test means, as shown in the appendix.

According to the findings, there was a substantial difference in pre-test scores between the experimental and control groups. The experimental class had a mean score of 70.6 before treatment, while the control class had a score of 68. It was discovered that the pupils' writing abilities in both groups differed significantly.

After the treatment, the experimental class's mean score was 89.66, whereas the control class's was 79.31. It means that the writing of the pupils in both classes differed greatly. The experimental group outperformed the control group. These findings show that using a classical instrument like

the piano can help students learn to write descriptive texts.

As a result, it can be stated that using a classical instrument like the piano to assist children to learn how to write descriptive texts in SMP Negeri 1 Balocci improves the students' writing skills.

CONCLUSION

The employment of a classical instrument, such as a piano, to encourage first-year students at SMP Negeri 1 Balocci to learn how to write descriptive texts improves the students' writing skills. The researcher believes that, because of their improved writing skills, first-year students at SMP Negeri 1 Balocci have improved their data analysis and discussion of their findings, as indicated by a t-test value of 9.95, which is greater than the t-table value of 2.00. The research also concludes that the experimental and control groups' post-test outcomes are significantly different. In other words, using a classical instrument like the piano to motivate students to learn how to write descriptive texts on the first-year students of SMPN 1 Balocci improves the students' writing skills, and the students usually love learning how to write descriptive texts. The pupils are encouraged to learn how to write descriptive texts by using a classical instrument by Mozart.

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AN ANALYSIS OF STUDENTS' ENGLISH VOCABULARY MASTERY IN LAW FACULTY, SAWERIGADING UNIVERSITY

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ABSTRACT

English is one of the disciplines offered at the institution, even to students who do not major in English. English is a required subject at Sawerigading University, particularly in the Law Department. According to observations in the English subject, students continue to struggle with English vocabulary since they could not completely comprehend the legal text due to a lack of vocabularies linked to legal terminology. Additionally, students struggle with communicating due to a lack of legal vocabulary. The objectives of this research are to 1) ascertain the difficulties encountered by Sawerigading University Law Faculty students in mastering the law English vocabularies, 2) to elaborate on the factors that contribute to students' difficulties in mastering the law English vocabularies, and 3) to ascertain the efforts made by the English lecturer in the Law Faculty in resolving the problem of students' vocabularies. This research used a qualitative technique and case study design. The author gathered qualitative data via observation and interviewing. The results indicated that: 1) The challenges encountered by students in acquiring legal vocabularies included those encountered in comprehending the meaning of words, remembering vocabulary, appropriately employing vocabulary references, and writing and pronouncing the words. 2) The causes that contributed to students' challenges with legal vocabulary mastery were: a) that they did not learn before, b) they found that it was boring to search the meaning in the dictionary, c) they lost interest in learning vocabulary, and d) they did not pay much attention while the lecturer described the topics. 3) The lecturer's classroom tactics included vocabulary development and the use of English teaching digital media, which aided students in developing their critical thinking abilities. Utilizing digital media is enjoyable, and it allows students to break away from the traditional vocabulary session pattern.

Key words: difficulties, law, vocabulary.

INTRODUCTION

English is taught at the institution to all students, including those who are not majoring in English. The goal of teaching English to non-English majors is to help them improve their language abilities so that they can get a job when they leave college. Vocabulary, grammar, pronunciation, and spelling are all necessary components for mastering any aspect of the English language, including writing, speaking, reading, and listening. It's impossible to teach these skills and linguistic components separately since they are intertwined. Vocabulary is one of the most critical components for children to learn. As described by Douglas (2017), vocabulary is the set of words that must be learned in order to establish successful communication. It was further divided into two categories: oral vocabulary, which included terms used in conversation, and reading vocabulary, which included words used in writing. People can't talk, write, listen, or read in English if they lack vocabulary, which is the language's foundation. Following this basic definition of vocabulary, Bobrizal (2017) described the stock of words used by individuals or a specific individual, or a list of the terms from a language, the books, the authors, and discipline of science alphabetically. Achmad (2013) noted that students

should be able to communicate effectively, whether verbally or in writing, if they have a good grasp of terminology. In spite of this, many kids have left school with just rudimentary command of the English language, according to Fika (2013) Because of a lack of vocabulary, this is a contributing factor. Finding work these days isn't tough if you're fluent in English, thanks to globalization. For individuals who lack proficiency in English, getting a job will be a major challenge. Students must be constantly on the lookout for information from a wide variety of sources, most of which are in English.

At Sawerigading University, especially for Law Department, English is a required course of study. It seems that students at the Law Faculty are still struggling with their vocabulary in English. Law-related texts were not completely comprehended by the students because they lacked relevant vocabulary. Students often struggled to express themselves since they lacked the words to do so. Furthermore, classroom observations revealed that the students are still having difficulty distinguishing vocabulary words. They're still unsure about which is an adverb, verb, adjective, or noun, exactly. As a result, it's critical to help children improve their vocabulary. If you don't have grammar or language to express yourself, "very little can be transmitted," argues Wilkins (in Rohmatillah: 2014). Several recent studies, such as

Hidayat (2016), which used classroom action research in generating this study's state-of-the-art declaration. He used three indications to determine the effectiveness of his research: students' involvement of 90% or more, students who completed the exam with a score of 64% or higher, and students' interest in the mind mapping approach of 90%. Because all of the findings meet the standards for a good study, we may conclude that this one was a success. Students' Vocabulary Problems in Eighth Grade at One of Junior High Schools in Jambi, by Ningrum (2018). Thus, she was able to sort the students' issues into four main categories: spelling, pronunciation, use, and meaning of terminology. Another study by Rahmat (2016) sought to discover the method utilized by the lecturer to teach vocabulary to children with slight mental disability. Text and images were employed in context technique, while the lecturer provided students with a list of noun vocabularies to learn. According to MTs IKA-PGA students in Pontianak West Borneo Province, Syarifuddin (2014) used measurement and indirect communication to characterize the students' vocabulary knowledge. Results indicated that the vocabulary knowledge of the children ranged from inadequate to average.

Budiman (2020) was also curious in the students' worry about memorizing and connecting English vocabulary in order to construct successful sentences at MTsN Sengeti. He discovered that students were uninterested in mastering or memorizing English vocabulary since memorizing a large number of vocabularies was too challenging for them. Kusumaningrum (2015) also did study in the Eighth Grade at One of Jambi's Junior High Schools titled "Students' Problems with Vocabulary Learning." She conducted her study using tests and interviews and determined that the eighth grade students at SMP N 10 Jambi were classified into sufficient groups for English vocabulary. The last researcher, Wulandari (2020), was interested in examining the problems associated with vocabulary acquisition and the solutions used by seventh-grade students at Wahid Hasyim Malang Junior High School. The results demonstrated that each student had a technique for overcoming their issues with vocabulary acquisition, including a memorizing approach, a note-taking strategy, a media strategy, and a guessing strategy. Given the existence of numerous previous researchers interested in discussing and classifying students' vocabulary mastery, the writer attempted to establish the novelty of this research by stating that it not only attempted to investigate various aspects of students' vocabulary mastery but also examined the result of a certain method called "vocabulary building" used by the lecturer in teaching vocabulary in order to determine the gaps between students' vocabulary mastery. Three fundamental research problems were explored in this section: 1). What are the difficulties encountered by Sawerigading University Law Faculty students in mastering the law English vocabularies? 2) What are the factors that

contribute to students' difficulties in mastering the law English vocabularies, and 3) What efforts made by the English lecturer in the Law Faculty in resolving students' vocabularies problems? The purposes of this research were 1) To find out the difficulties encountered by Law Faculty students of Sawerigading University in mastering the law English vocabularies, 2) To elaborate the factors that cause students' difficulties in mastering the law English vocabularies, and 3) To know the efforts of English lecturer in Law Faculty in solving the students' problems in vocabularies.

RESEARCH METHODS

1. The Research Plan. Researcher's choice of qualitative method was based on its ability to detect characteristics that may not be immediately evident, such as socioeconomic position, gender roles, ethnicity and religion; these factors may play a part in the study topic. The study of society is also a subject of qualitative research. In addition, qualitative research, which was used in this instance to analyze Sawerigading University law students, focuses on social phenomena and on eliciting the thoughts and emotions of those being studied. Case studies are qualitative approaches in which the researcher investigates one or more systems over time, using thorough, in-depth data gathering from numerous sources, in order to get an understanding of a bounded system (a case) (e.g., observations, interviews, audiovisual material, and documents and reports), Creswell is (2007). The researcher aimed to investigate a scenario that occurred at a law school, namely in an English class, where students were having difficulty learning legal terminology language. During one semester of the English for Law class, the lecturer worked tirelessly to resolve this matter. Two. The Setting for a Research Project Sawerigading University's Faculty of Law, situated at Jalan Kande I No. 27, was the site of this investigation. From January 2020 until May 2021, this study was carried out. Third, the Sample Size. Sawerigading University's second-semester law students were the subjects of the study. A random sampling of the second semester's students was used to choose the sample size of 25 individuals from an English class. 4. Methods of Data Gathering Observation and interviews were used to gather qualitative data. Students at Sawerigading University's Law Faculty were interviewed directly to learn about the challenges they faced learning legal terminology and about the lecturers' efforts to help them overcome those challenges. After completing the teaching and learning process, the English lecturer was interviewed in an organized manner. The purpose of the interview was to verify that the data gathered from the observation were accurate. 5. Data Mining and Data Analysis Methods. The researcher went through a series of steps while assessing the data: Reducing the amount of data. The information gathered from the students' observations and interviews concerning their struggles

with vocabulary acquisition and the lecturer 's attempts to address those struggles was written down and organized into categories. 2) Presenting the information. The data was then presented in narrative form by the researcher once it had been reduced. 3) Coming to a Final Decision. A final set of conclusions were reached based on the study questions and data analysis performed in accordance with established theories.

pronouncing difficult terms that were unknown to them."

RESULTS AND DISCUSSION

Follow 1. Interview with The English Lecturer.

To address the study questions, the researcher conducted an interview with an English lecturer who taught Law English to students at the Law Faculty. According to the outcome of the interview with the English lecturer, the following conclusion was reached:

Table 1: Teacher's Comments

TOPIC	Comments
Students' difficulties in the class	"Due to the difficulty students had in comprehending legal terminology, the instructional material cannot be ideal. From the first, when I gave a brief paragraph on legal articles, the students struggled to translate the text into Indonesian. When they discovered the complex phrase, they attempted to decipher its meaning by consulting dictionaries. Regrettably, the definitions they discovered in dictionaries were generic in nature and did not correspond to legal terms. The result indicated that the article's Indonesian translation was peculiar. Following that, I selected a legal theme, such as the instances involving laborers in Makassar. I selected the subject for pair discussion, after which they would go into the group. I was immediately surprised when I discovered that the students were unable to continue their group discussion because they claimed they had nothing to say on the assigned subject. 1) The kids had a restricted vocabulary and have trouble comprehending the meaning of some legal phrases. 2) The student struggled to recall legal terminology. 3) Students were unable to appropriately apply word references. 4) Students had problems writing and

The above-mentioned interview with the English lecturer backs up Rohmatillah's earlier results (2014). She acknowledged that some kids struggled with vocabulary for a variety of reasons, including (1) their trouble pronouncing the words, (2) their difficulty writing and spelling, and (3) their difficulty comprehending the many grammatical forms of a word. (4) their trouble in selecting the acceptable meaning for the words, (5) their difficulty in determining the suitable context for the word, and (6) their difficulties in comprehending the perplexing phrases when they discovered idiomatic expressions.

The lecturer's statements above also confirm what Wulandari (2020) previously indicated, based on her study, that the majority of students she saw reported they struggled to grasp her explanations and were mostly inactive throughout English class. When she questioned students about their challenges with English, she discovered that some of them had with retaining new words and spelling them since the sound of their first language and English were so unlike.

2. Interview with the Students

The researcher also got the data from the students by conducting direct interview with samples.

Table 2: Students' Comments

Participants	Comments
MA	<i>I have problems acquiring vocabulary since I have a limited grasp of legal terminology. As a result, it is hard to comprehend the legal articles discussed by the lecturer.</i>
CK	<i>When the lecturer asks me a question, I have no idea how to pronounce the words.</i>
KN	<i>I am unable to comprehend the meaning of a large number of words. As a result, I am unable to respond to the module's questions.</i>
SA	<i>There are other vocabulary that I was unfamiliar with, and as a result, I was unable to comprehend the definition of a term in the Law textbook.</i>
NA	<i>I find that English vocabulary is complicated.</i>
AA	<i>Without a dictionary, it's tough for me to comprehend some vocabularies.</i>
N	<i>My vocabulary is limited, and I am unable to comprehend when the lecturer delivers the articles in English. As a result, I</i>

	<i>am unable to respond to the textbook question.</i>
HH	<i>I had difficulties identifying the article's theme or main theme.</i>
AF	<i>I am unable to answer the module's question because I am unable to organize the vocabulary and am unfamiliar with the functions of the terms.</i>
SR	<i>I was still unable to type the words accurately because I am unable to say them.</i>
SM	<i>There are several vocabulary in the English module, and when I recall some new ones, I rapidly forget the previous ones.</i>
FR	<i>Acquiring vocabulary is challenging since what I say or pronounce differs from what I will write.</i>
KD	<i>I struggle with vocabulary since the pronunciation of words is tough.</i>
JM	<i>My difficulty in memorizing vocabulary is retaining them for an extended period of time.</i>

Following an in-depth interview, researchers discovered that students were unable to comprehend lessons on legal terms and articles due to a lack of vocabulary. Students may not be able to decipher the dictionary definition of a term, yet they continue to use it in their translations anyhow. As a consequence, even after being translated into Indonesian, the articles' meaning remained obscure, as noted by MA, KN, SA, HH, and AA in table 2. When students approached the lecturer for clarification, the lecturer had no choice but to assist them. The effort of comprehending even a single legal English article would take a long time if the lecturer did not provide a help. Puspita (2017) found that there were a number of factors that hindered students' comprehension of reading, including their reliance on lecturers to explain the main topic directly, their inability to comprehend strategies for reading for different purposes, and related vocabulary. Vocabulary has a significant influence in understanding English legal papers, according to the results of the interview.

They also indicated in their interview that they struggled with the capacity to learn new vocabulary that they had never heard before, like CK, SM, and JM mentioned. Previous study by Sanayah confirmed their difficulties with memorization and long-term retention of vocabulary (2011). Researchers found that students at IAIN Sunan Ampel Surabaya's English Department had difficulty mastering vocabulary. In order to make sense of the complex term, Sanayah divided it into many

subcategories: classes; homonym; homophone; homograph; polysemy; and word constructions. In the meanwhile, she discovered that students had difficulty recalling new terms and associated terminology. The kids' third challenge in learning vocabulary was that they struggled to write and pronounce the terms correctly. Based on discussions with KD, SM, and SR, all of them admitted that learning new words is challenging since their written and spoken words are so different. As a consequence, Rohmatillah (2014) was able to confirm the findings of her earlier study, which used a questionnaire to gather data on the challenges experienced by first-year students at IAIN Raden Intan Lampung. She discovered that the majority of kids struggle with pronunciation, writing, and spelling. The grammatical structure of the terms, particularly in relation to tenses, was also a source of confusion. As a result, many students struggled to choose the right meaning of the phrases; in fact, many were confused when they came across idiomatic expressions.

3. The factors that caused students' difficulties in vocabulary mastery for Law Faculty students of Sawerigading University.

The students had some factors that caused difficulty in vocabulary mastery. The interview results are as follows:

Table 3: The Factors That Caused Students' Difficulties

NO	Factors that caused student's difficulties in vocabulary mastery
SR	There is no motivation for the students to master the English vocabularies since the law terms are difficult and confusing.
SM	Students were lazy to repeat their material at home.
FR	They were wasting time opening dictionaries to try to comprehend the unfamiliar terminology.
KN	Remembering law vocabularies was useless since they will just stay in Indonesia, not in abroad.
SA	Since studying law is stressful and boring, even for English subject. It was supported also by the boring learning process.
NA	The lecturer method was monotonous.
AA	The habits to repeat the material only if there will be an exam.
N	Cheating is the best way to do if there is homework.
HH	There are many subjects in the campus for each day. It is tiring and exhausting, so no more time to repeat the material.

Information gleaned from the student Even while she was at home, the only time AA would sit down to study English was when she had an exam or some homework to do. Because of his exhaustion from school, HH stated he didn't study English at home. Relaxing at home would be his priority. An further source of information was FR's account of his time spent opening dictionaries to decipher the difficult jargon. Even he had trouble finding the words he was looking for since certain legal phrases had Dutch roots. Because the legal jargon is difficult to understand, SR was discouraged. Because he didn't want to carry about a bulky legal dictionary, he merely assumed when he didn't understand the meaning of the terminology used in the module. Because of this, he was unable to comprehend the English module's content. The researcher concluded that the students' love for reading was low after monitoring the classroom scenario and attempting to determine the cause-and-effect link between the students and the lecture. With this, we are in agreement with Safura (2020) who clearly argued that reading involves more than just interpreting written words. Perception and cognition are necessary to grasp the articles. Students will be taught vocabulary, grammar, prior information, and other skills to help them comprehend written texts. In order to read well in English reading material text, the reader must think about what the text means. Reading is not only about understanding the words or the grammar, but it is also about thinking about what the text means, and the reader must think about what the text means in order to read well in English reading material text. To grasp a legal article, students must have a high level of proficiency in deciphering the meanings of words, phrases, and paragraphs, all of which might be difficult for students who are still learning to read.

4. The lecturer' efforts in solving the students' problems

Because it was apparent in interviews with both English teachers and student participants that the students had lost interest in the subject of vocabulary acquisition, the researcher sought to learn more about the efforts of the lecturers to help students improve their vocabulary retention. After conducting interviews with students about their English for law-related issues, the English lecturer next sought to use several approaches to pique the students' interest in learning the language.

Table 4. The lecturer' efforts in solving the students' problems

No	Efforts in solving the student's problems
1.	The lecturer wrote the list of vocabularies related to the topic for one meeting on the whiteboard.
2.	The lecturer taught the students the way to pronounce the English vocabularies such as justice, court, prison, criminal, code, law enforcement, etc.
3.	The students repeated to read the vocabularies given by the lecturer.
4.	The lecturer gave the meaning of the words by wrote them on the whiteboard.
5.	The lecturer gave time 10 minutes for the students to memorize the words and the meaning.
6.	The lecturer gave some games to check students understanding about the vocabularies such as completing the meaning with their partners in the class, playing hangman, playing asking and answer, guessing words, playing hot chair, or playing Kahoot via handphone.

This whole process has been referred to as a "vocabulary building" throughout. When all of this was completed, the lecturer began teaching the course based on module and lesson plan. In order to get the necessary information, the writer made some notes during the observation. The following are the steps the lecturer took to teach English as observed: In the beginning, there were pre-activities such as thelecturerwelcoming thestudents and encouraging them to keep their spirits up during the course. After that, the lecturer went through several words and phrases that were relevant to the subject. Lastly, the lecturer demonstrated how to enunciate the words. Fourth, the lecturer quizzed the class on their knowledge of vocabulary words. In the same way as Aristya (2018) has explained that students may comprehend the meaning of language via questioning approach, this step was beneficial. Among other things, students may learn to think critically, gather knowledge from many sources, and collaborate with other students. Students benefited from this method by developing respect for others, recognizing their own limits, and accepting people for who they are. Every student's vocabulary development improved as a consequence of using the questioning strategy. In an interview with an English teacher of ninth grade, Aristya (2018) found that using the questioning technique helped students become better communicators and improved their ability to memorize English vocabulary since it was fun for them to learn. It was simpler for the lecturer to teach the vocabulary since students were more relaxed and the learning process was more appealing. Finally, the lecturer used a few other methods. Finally, students were given homework to complete the module's assignment.

After speaking with the lecturer about students' boredom, the lecturer decided to include media into her English classes. Students were more likely to study English if they could use the internet to look up vocabulary and play games like Kahoot, Duolingo, match-up, and the like. Students were able to grasp the topic more quickly because to the usage of media in the classroom, as well as get a deeper understanding of the subject matter. Kahoot Game is more successful than traditional methods in enhancing students' word understanding, according to Putri (2019). This method of teaching vocabulary to students was successful since most students disliked memorizing procedures because they found it monotonous, whereas playing a game was enjoyable and allowed students to relieve the monotony of vocabulary lessons. Using games in the classroom to teach vocabulary may have positive results, as students not only retain information, but also enjoy themselves while doing so. Similar claims were made by Wichadee & Pattanapichet (2018) on the benefits of incorporating digital games into an English language classroom for improving student performance and motivation. Using a digital game, Wichadee and Pattanapichet stated that students' learning performance and motivation in English might be improved by using it. Students learned new and intriguing things in the classroom, which sparked an interest in expanding their vocabulary in English. Digital games may also be used as a way to overcome the difficulties that English teachers experience when they are trying to help their students expand their vocabularies.

CONCLUSION

Based on the data analysis and the discussion above, the researcher came with several conclusions:

- 1) The challenges encountered by students in acquiring the legal vocabularies include those encountered in comprehending the meaning of words, remembering vocabulary, appropriately employing vocabulary references, and writing and pronouncing the words.
- 2) The causes that contribute to students' challenges with legal vocabulary mastery are that they did not learn before the class at home, they found it was boring to search the meaning in the dictionary, they lost interest in learning vocabulary, and they did not pay much attention while the lecturer described the topics.
- 3) The lecturer's classroom tactics included vocabulary development and the use of English teaching digital media, which aided students in developing their critical thinking abilities. Utilizing digital media is enjoyable, and it allows students to break away from the traditional vocabulary session pattern.

Suggestions:

For English lecturers

- a. The lecturer may devote more time to teaching students vocabulary.

- b. Teachers must encourage students to be pleased while studying English and not fearful of making a mistake.
- c. It is intended that lecturers would be able to access a variety of vocabulary resources relevant to teaching English.

2. for the students

- a. Students attempt to debate the issue with one another in order to inspire each other to learn.
- b. Students should take an active role in vocabulary acquisition.
- c. Students grow more engaged and self-assured in their pronunciation and memorization of the material.

3. For the readers.

This study is designed to serve as a useful reference for readers seeking to expand their knowledge or undertake further research.

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APPLICATION OF SELF DETERMINATION THEORY E-LEARNING ON LISTENING SKILLS

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ABSTRACT

Self-determination theory e-learning is e-learning designed to enable students to learn independently, with the aim of delivering learning for independent learners. This research was conducted on the application of using self-determination theory e-learning and face-to-face in the classroom, this research was also conducted for one semester on 67 students using the same topic but with different learning methods. This study carried out the results of student responses to the two learning methods carried out. The results showed that learning using self-determination theory e-learning could improve students' listening skills. The stages in the application of this method start from the preparation of learning materials and accounts of the learning process, at the stage of the learning process, students can do independent learning anywhere and anytime and directly get the results of the learning that has been done, and evaluation as a monitoring stage from the instructor to the learner as a follow-up to the learning process. learning activities carried out.

Key words: e-learning, face-to-face, learning outcomes, self-determination theory

INTRODUCTION

Listening skills are an important part of communication and the basis for learning a second or foreign language. The essence of the ability to interact between humans is the ability to understand what other people are saying and be able to provide balanced responses and answers according to the context of the conversation. The estimated time in adult human communication activities is 45% used listening (listening), 30% for speaking (speaking). 16% for reading (reading), and 9% for writing (writing) (Rivers & Temperley, 2016). Listening skills are also applied as one of the English subjects at SMA Negeri 1 Jakarta.

The English subject listening (Listening 1) is an integrated English subject from the Intensive English Course 1 which includes all four language skills and as an English subject, it must be taught in semester 1 and consists of Listening 2 and Listening 3. Listening to English texts is a language skill that is considered difficult by students, because students are not familiar with the intonation and speed of native speakers. Based on the researcher's experience as a teacher of English listening 1 subject, many students have

some difficulties in participating in listening English lessons assisted by speakers as native speakers through loudspeakers even though the audio repeater has been performed 2 to 3 times. The difficulties faced, especially in listening to short and long conversations (listening to shorter and longer conversations) and listening to long discourses (listening to mini-talks) are caused by various obstacles, including: inadequate teaching facilities, the media used is still very low. simple, low student motivation and teaching methods that watch.

Currently, the Department of English Education has been equipped with internet facilities that can be accessed by students and teachers. However, the support for the success of student learning outcomes is still very minimal. In connection with this, the researcher wants to optimize the use of self-determination theory e-learning which can improve students' knowledge and skills in order to enrich learning materials that are expected to be able to overcome problems faced by students with independent learning systems.

Self-determination theory of e-learning or learning independence is one of the skills that must be possessed by distance education students or e-learning users. The meaning of this definition is to provide opportunities for students to determine learning goals, plan the learning process, use

selected learning resources, make academic decisions, and carry out activities to achieve learning goals (Seamolec, 2018).

Several researchers have also examined the impact of online learning on the self-determination theory learning process (in Gibbons, 2017). Three main areas have been explored, namely (a) planning, in e-learning learning students still have the flexibility to choose the most comfortable place to participate in the learning process. Learning activities, unlike in the classroom where time, place, specifics and schedule of activities are arranged for classes that require students, with online learning to create learning spaces and determine the speed and accuracy of their own learning, (b) monitoring, some things can be felt immediately by students in monitoring their learning. Unlike in a classroom where instructors can easily see if students are paying attention or actively participating in class activities by observing their physical cues (such as facial expressions; and (c) evaluating, through online learning an evaluation can be done. as feedback for the learning carried out.

According to Rosenberg in Suyanto (2015) e-learning refers to the use of internet technology to integrate all elements that can increase knowledge and skills. In addition, Michael (2018) explains that e-learning is learning that is structured with the aim of using an electronic or computer system so that it can support the learning process. According to the two experts, e-learning in a broad sense can include learning carried out on electronic media (internet) both formally and informally. Formal e-learning, for example, is learning with curriculum, syllabus, subjects, and tests that have been arranged and arranged based on a schedule that has been agreed upon by the relevant parties (e-learning managers and learners themselves). This kind of learning is usually high level of interaction and is required by students or distance learning and teachers managed by the School.

Good use of e-learning will encourage a student-centred learning environment, because e-learning requires students to learn independently and construct their own knowledge. This is in accordance with the characteristics of e-learning proposed by Riyana (2019), namely the ability of students to grasp learning material does not depend on the instructor/teacher, because students construct their own knowledge through teaching materials delivered through the website interface; sources of knowledge are scattered everywhere and can be accessed easily by everyone. This is due to the global nature of internet media and can be accessed by anyone connected to it; teachers/educational institutions function as mediators/supervisors; a restructuring of education system policies, curriculum and management is needed that can support the optimal

use of information and communication technology for education. These four characteristics are the things that distinguish e-learning from conventional learning activities.

In e-learning, students' grasping power of learning materials is no longer dependent on instructors/teachers, because students construct their own knowledge through teaching materials delivered through e-learning application interfaces. In e-learning, teachers/educational institutions also function as mediators/supervisors. This is in contrast to conventional learning activities where teachers/educational institutions serve as the main source of knowledge. At UBT already have an e-learning account, it's just that it has not been used to the fullest, only equipped with a few English subjects but rarely has learning and teaching activities in it. Supported by facilities and infrastructure in the English Language Laboratory which does not have the proper equipment as a language laboratory. So, to improve students' listening skills, teachers and first semester students apply e-learning in learning English Listening 1.

Several studies that have been conducted previously include quasi-experimental research by Dian Nurul Safitri (2014) where the results of this study are the self-determination theory learning model is more effective than the Determination theory Learning model both in general and for each category of personal intelligence. Then the research from Maulidini Nazlely and Filia Dina Anggraeni (2017) entitled the difference in Self Determination theory Learning in terms of e-learning learning patterns. With the results of the study, there were differences in Self Determination theory Learning in terms of e-learning learning patterns in students ($p = 0.19$; $p < 0.05$).

The two studies described above have discussed the problem of self-determination theory. Safitri (2014) places more emphasis on self-determination theory learning, while Nazlely and Anggraeni (2017) explore using e-learning methods. In contrast to the two studies, this research focuses on the application of self-determination theory of e-learning

RESEARCH METHODS

The research method uses quantitative research methods as stated by Sugiyono (2017) quantitative research is a research method based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, data analysis is quantitative/statistical, with the aim of to test the established hypothesis. The population in this study were the first semester students of the English Education Department, FKIP UBT, totaling 67

students and divided into 2 classes, namely local A and local B, totaling 35 students at local A and 32 students at local B. Researchers will take the entire class as a sample, namely local A and local B. The instrument in this study is to use test and non-test techniques. The first instrument is a test. This is done to measure student learning outcomes through self-determination theory of e-learning. The types of tests used are various, such as multiple choice, fill in the blank, guess the sequence event, etc. The second instrument is a non-test in the form of a questionnaire. The questionnaire was conducted with the aim of obtaining data and information in relation to the use of self-determination theory of e-learning. The form of the questionnaire is in the form of structured questions with answers that are open to respondents.

Data collection in this study was carried out from the beginning to the end of English lessons in the even semester of the 2019/2020 academic year. The data processing technique in this study aims to change the raw data that has been collected in the form of tests and non-tests into data that has been analyzed by following several steps according to Wrhatmala (2017). The steps used are Editing, which is checking or correcting the data that has been collected, the aim is to eliminate errors in data collection in the field and are corrective. Editing in this study is to check or correct the research questionnaires that have been distributed; Coding is the provision of codes for each data that belongs to the same category. Code is a sign made in the form of numbers or letters that provide clues or identity on an information or data to be analyzed. Coding in this study is to provide a code for the questionnaire to be analyzed, from the 67 questionnaires that have been distributed, each questionnaire is given a number 1-67 which provides answers from each respondent; Tabulation is the creation of tables containing data that has been coded according to the required analysis.

The tabulation in this study is that students' test results are entered into tables according to the analysis such as overall student scores, percentages and so on; Analysis of the data in this study, namely the questionnaire data will be described based on the table to determine the distribution of responses to the questions that have been given; and The results of the findings in this study will be interpreted in the form of a description of each instrument used. This interpretation is used to maintain the balance of a research, meaning to link the results of a study with other research findings and to create or produce an explanatory concept.

RESULTS AND DISCUSSION

SMA Negeri 1 Jakarta already has an account for teaching and learning processes electronically using e-learning with the portal address <http://learning.borneo.ac.id>. The implementation of e-learning refers to the schedule for implementing English lessons starting in English lessons in the even semester of the 2019/2020 academic year. Optimization activities begin through the preparation of training materials in the form of quizzes and independent learning materials. This preparatory stage includes several stages with the ultimate goal of achieving learning outcomes and student motivation in this case the use of e-learning.

a. Preparation phase

At this stage, participants or students are required to first have an account on the e-learning system. There are two ways to register, namely by registering through the Central Information System Unit (PSI) of SMA Negeri 1 Jakarta by including the borneo email (example: 15601010001@siswa.borneo.ac.id). This email is an email that is also used in the Academic Information System. The second way is by registering independently. After registering, the teacher will register (enroll) the student to be able to access the English lesson in question. At this stage students can view or download English subject matter that has been uploaded by the teacher, then students can also view a list of tasks given by the teacher. But before that, the teacher must prepare learning materials and assignments first, as shown in Figure 1.

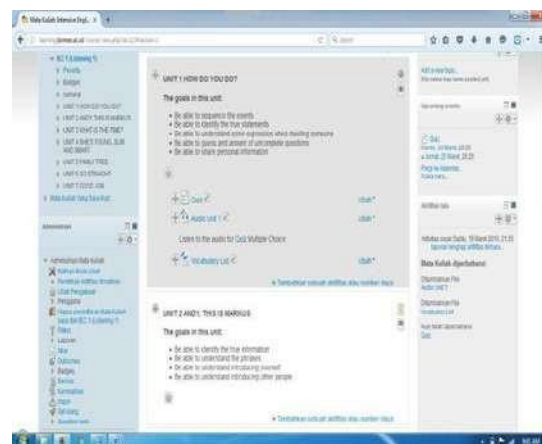


Figure 1. Display of Learning Materials and Activities.

In each unit as shown in Figure 1, the duration of an online activity is determined when the unit starts or is opened until the end of the unit where participants can no longer carry out activities on that unit. This open and close system applies student discipline in terms of doing the assignments given. Each unit is given 1 x 24 hours after the

English lesson in class ends. In this English subject, the teacher has prepared several variations of assignments such as true or false, multiple choice, short answers and matching. In each unit there are also audio (multimedia files) and files (full-text) which are uploaded and can then be accessed by students to make it easier for students to study independently, where the limited time in face-to-face English lessons, students can spend more time in carrying out the assigned task. All materials uploaded in the English Listening 1 subject in this e-learning were previously also applied to face-to-face English lessons. So that the English language learning material includes the materials contained in the Semester Lesson Plan.

b. Stages of the learning process

The next stage is the stage of the learning process carried out by students through e-learning independently and can be done anywhere and anytime according to a predetermined time. Audio can also be repeated according to the needs of participants. After students complete the learning activities in each unit, the students concerned will immediately receive feedback in the form of scores (scores) obtained in doing the quizzes that have been prepared and comments from the teacher. At this stage the teacher has also prepared several materials to support the independent learning process that has been adapted to the ongoing topic. This material is in the form of a file (full-text) in the form of a pdf or word and can be downloaded by students before working on the prepared assignments or quizzes. In addition to learning materials in the form of files (full-text), the teacher also prepares materials in the form of audio in mp3 or mp4 format because this English subject is an English listening subject by prioritizing listening skills. quiz. In contrast to the audio that has been applied to face-to-face English lessons, the audio provided in e-learning still refers to the topic being discussed. Students will also be more flexible in terms of audio playback where in face-to-face English lessons in class the audio playback is only limited to a maximum of 3 rounds considering the time provided is not much. Through this e-learning, students can repeat the audio so that students can answer and understand what the speaker has said.

c. Evaluation stage

Through e-learning not only makes it easier for students to be able to study independently whenever and wherever but makes it easier for teachers to carry out monitoring activities that have been prepared in the administration button where teachers can evaluate each unit and quizzes that have been done by students without having to make corrections. manually which takes a long time. And

control the time students take the quiz provided and or learn using e-learning.

Based on the results of the implementation of the use of e-learning above, it can be concluded that this activity is carried out in three stages, namely the preparation stage as the first stage starting with registration of participants in English lessons in two ways, namely how to register with the operator and independently. The next preparation is that the teacher will register the student and begin to prepare materials and some forms of exercise/quiz which are then carried out by the students. The second stage is the stage of the learning process, where at this stage each student learns independently wherever and whenever according to a predetermined deadline. At this stage, students can download materials and audio for each unit. Third phase namely the evaluation stage, this stage is the stage to be able to assist teachers in monitoring and learning outcomes of each student and all learning outcomes.

The learning objectives of English listening subject 1 are students are able to listen to specific personal information, listen to be able to predict, listen to introductions, listen to complete and take notes, listen to evaluate, compare the other person's reactions as well as assess and listen to specific information carefully. . The topics contained in the English listening subject 1 are the same as the topics contained in e-learning. Students do face-to-face activities first and then learn through e-learning. From the test results obtained by comparing students' scores when doing assignments in face-to-face English learning activities and through e-learning which can be seen in table 1.

Table 1. Student Test Results through Face-to-face and e-learning.

Unit/Topik	Nilai Siswa Keseluruhan		Persentase	Keterangan
	TM	E-learning		
Unit 1 (How do you do?)	3.268	4.730	21,82%	Meningkat
Unit 2 (Andi, this is Markus)	3.750	4.352	64,96%	Meningkat
Unit 3 (What is the time?)	3.790	4.625	12,46%	Meningkat
Unit 4 (She's Young, Slim and Smart)	4.268	5.630	20,33%	Meningkat
Unit 5 (Family Tree)	3.981	5.387	20,98%	Meningkat
Unit 6 (Go Straight)	3.682	4.375	10,34%	Meningkat

Based on table 1, it shows the difference in the scores of all students taking face-to-face English lessons and using e-learning. One of the causes of the difference in grades is that students only have limited time to study for 2 x 50 minutes with the opportunity to listen to the audio 3 times in each unit. In Unit 1 with the topic "How do you do?" students are asked to organize activities in sequence and identify true or false sentences, students also learn about expressions when meeting people for the first time. In this unit, the average student gets a score of 48.8 from the overall

score 3,268. Using the same topic with different exercises or quizzes on e-learning, the average student gets a score of 70.6 out of an overall score of 4,730 with a percentage increase of 21.82%.

Unit 2 in English Listening 1 uses a different topic from Unit 1, namely "Andi, this is Markus". The exercise on this topic is that students are asked to identify correct and accurate information and be able to use expressions when introducing themselves and introducing others and being able to rewrite examples of expressions contained in the video. Learning outcomes 67 students in a class of 3,750 with an average of students getting 56 while the overall student learning outcomes using e-learning were 4,352 with an average of 65 and an increase of 64.96%.

The topic for unit 3 is "What is the time?" This unit provides practice for students to be able to read time and understand the use of time in English and be able to complete missing sentences based on audio. In this unit, students also get an increase in the value of learning in class (face to face) with learning through e-learning, where the value in class (face to face) is 3,790 and 4,625 in learning through e-learning with an increase of 12.46%. "She's Young, Slim and Smart" is a topic in unit 4. In this unit students are asked to be able to describe a person and understand the difference between comparative and superlative. Students get an increase of 20.33% with the value of learning in class (face to face) 4,268 and 5,630 in learning through e-learning. Unit 5 with the topic "Family Tree" was given to students so that students are able to identify the correct information, complete the missing sentences based on the audio and describe each family member. In this unit, students also experienced an increase in grades between learning in class (face to face) 3,981 and through e-learning 5,387 with a percentage of 20.98%. "Go Straight" is a topic in unit 6, students are asked to understand traffic signs in English, be able to give directions according to the map and identify the correct directions on the map. In this unit, the value obtained by students also changed as in other units which experienced an increase by using e-learning, this increase was 10.34%.

From the test results above, the researcher concluded that there were differences in student scores from learning activities even though they used the same topic with different exercises/quizzes. This happens because in classroom learning (face-to-face) students are limited to audio repetition with a limited time (2 x 50) while in e-learning learning students can repeat audio as needed for a long time, namely 1 x 24 hours. Thus, optimizing utilization through e-learning can help and improve listening skills (Listening 1).

The questionnaire was given after the meeting in the even semester of the 2015/2016 academic year ended with all students participating in learning either in class or using e-learning in English Listening 1. This questionnaire is in the form of an open questionnaire by not providing answer choices and providing opportunities for respondents to be free to answer according to the actual situation. There are six questions on the questionnaire. The first question aims to determine the experience of respondents about the use of e-learning. The second question aims to find out the opinion of respondents about the appearance and operation of the e-learning owned by SMA Negeri 1 Jakarta. The third question aims to determine the opinion of respondents using e-learning to support teaching and learning activities. The fourth question aims to find out the respondents' constraints during the teaching and learning process through the application of e-learning. The fifth question aims to find out the advantages of using e-learning. And the sixth question aims to determine the motivation of respondents in learning to use e-learning.

Table 2. Student Experience in Using e-learning

Answer Choice	Frequency
ever	11
Never	56
Total	67

Table 2 shows the respondents' answers to students' experiences in the use of e-learning. Based on the results of the questionnaire given to 67 respondents for the first question, 56 respondents answered that they had never used e-learning applications and 11 respondents had never. In this question, respondents were also asked to give their opinion about e-learning. From the respondents' answers openly, it can be concluded that the use of e-learning applications can help students in the learning process anywhere and anytime and can improve students' listening skills. 11 respondents have used e-learning when they were still in school.

Table 3. Students' opinions about the appearance of e-learning

Answer Options	Frequency
Easy	61
Easy Enough	5
Not Easy	1
Total	67

Table 3 explains the respondents' answers to the second question, which was given to find out the respondents' opinions about the appearance of the UBT e-learning. Based on the results of the questionnaire, as many as 61 respondents gave easy answers to operate UBT e-learning, 5

respondents answered quite easily or quite easily and 1 respondent answered not easy because they often experienced errors when doing quizzes/practices on English listening subjects 1 via e-learning. UBT learning. The overall results of respondents' answers on average answered that they were easy to operate with an uncomplicated or simple e-learning interface.

Table 4. Students' opinions about the content of e-learning

Answer Options	Frequency
Meets	57
Does not meet	7
Does not meet	3
Total	67

The results of the questionnaire for question number three as can be seen in table 4, have varying results, namely 57 respondents answered that the content of the e-learning application already supports teaching and learning activities, while 7 respondents and 3 respondents answered less and did not fulfill due to unavailability other learning resources such as books that can be downloaded for free. In this case the teacher has prepared learning materials as a guide in doing exercises/quizzes but does not provide a website link that provides other learning resources that can be accessed by students to support teaching and learning activities through e-learning.

Table 5. Students' opinions about the content of e-learning

Answer Options	Frequency
Internet network	53
Login	7
Limited time	2
Power outage	1
Speakers that are too fast	2
Instructions not clear	1
No problem	1
Total	67

In this section, researchers have compiled several obstacles faced by students during the learning process through e-learning, as can be seen in table 5, and from the results of the questionnaire, 53 respondents responded if the internet network was the biggest obstacle for respondents to be able to learn through e-learning. this. The e-learning system is a teaching and learning process using electronics, especially the internet as a learning system, thus enabling students and teachers to experience technical problems, namely the internet network.

The second biggest obstacle is when participants or students try to log in to this e-learning system. Basically, the slow or fast response

to the e-learning system, especially when logging in, depends on the internet network or the full quota that comes in at the same time. With the same number of respondents, each 2 respondents answered that the time was limited and speakers who were too fast became an obstacle in the learning process through e-learning. In the learning process through e-learning, participants are given time for 1 x 24 hours after class learning is given, this is done because without being given a time limit students are not disciplined in collecting assignments. This often happens when classroom learning is carried out. If the student does not work up to the time given, the unit in the ongoing e-learning is automatically closed so that students cannot access it again.

Power outages, unclear instructions and no problems answered by 1 respondent for each answer. The next obstacle is a power outage. This happened because in the City of Tarakan there were rotating blackouts but students should have anticipated based on the schedule of rotating blackouts that had been announced by the Tarakan City Government. Because the e-learning learning process can be done anywhere and anytime without having to meet face-to-face with the teacher, this is one of the obstacles faced by students, namely the lack of clear instructions/questions for exercises/quizzes. The teacher provides space to be able to ask questions through messages prepared by the teacher and question and answer interactions occur such as the learning process in class.

Table 6. Students' opinions on the benefits of using e-learning

Answer Options	Frequency
Helping the learning process	51
Can learn anywhere and anytime	11
As new knowledge	5
Total	67

The fifth question in the questionnaire is what do you think the benefits of using UBT's E-learning are? Based on the results of the questionnaire as can be seen in table 6, as many as 51 respondents answered the learning process through e-learning can help students in the learning process where students can do exercises/quizzes more focused and can repeat the audio as needed. Another benefit based on the opinions of 11 respondents is that learning through e-learning can be done anywhere and anytime by students and as new knowledge, especially the use of internet-based learning media is also a benefit of learning through e-learning by 5 respondents.

Table 7. Students' opinions on learning motivation through the use of e-learning

Answer Choice	Frequency
Motivated	58
Less motivated	4
Not motivated	5
Total	67

Based on the results of the questionnaire, especially on the last question regarding motivation when learning through e-learning, which can be seen in table 7. A total of 58 respondents answered through e-learning that the learning process became motivated due to the many benefits obtained. 4 respondents also answered that they were less motivated, especially when experiencing some obstacles and 5 respondents answered that they were not motivated to learn through the use of e-learning because the teaching and learning process should be supported by face-to-face interactions between teachers and students.

Self-determination theory e-learning has an influence on student learning outcomes, especially in teaching and learning activities carried out. This agrees with Loo and Thorpe (2017) electronic learning activities have the same meaning as the meaning of education in general. This is supported by Welker (2017) that technology basically (whatever its form) has a neutral nature so that in teacher education (teachers) in implementing various educational or pedagogical approaches to the technology.

CONCLUSION

Optimization activities begin through the preparation of training materials in the form of quizzes and independent learning materials. The first stage is the preparation stage by starting to create accounts and learning materials, the second stage is the stage of the learning process carried out by students through e-learning independently and can be done anywhere and anytime according to a predetermined time. The third stage is the evaluation stage, this stage makes it easier for teachers to carry out monitoring activities that have been prepared in the administration button where teachers can evaluate each unit and quizzes that have been done by students.

Based on the results of student tests in the application of e-learning, it showed differences in the scores of all students who took face-to-face English lessons and using e-learning. One of the causes of the difference in grades is that students only have limited time to study for 2 x 50 minutes with the opportunity to listen to the audio 3 times in each unit.

The results of the questionnaires that have been distributed to all respondents show varied answers, namely in the first question as many as 56 respondents answered that they had never used e-learning applications and 11 respondents had never. The second question, as many as 61 respondents gave easy answers to operate UBT e-learning, 5 respondents answered quite easily or quite easily and 1 respondent answered not easy because they often experienced errors when doing quizzes/exercises on English listening subjects 1 via e-learning. UBT learning. The third question as many as 57 respondents answered that the content of the e-learning application already supports learning and teaching activities, while 7 respondents and 3 respondents answered less and did not meet due to the unavailability of other learning resources such as books that can be downloaded for free.

The fourth question, as many as 53 respondents responded if the internet network was the biggest obstacle for respondents to be able to learn through e-learning, the second biggest obstacle was when participants or students tried to log in to the e-learning system, with the same number of respondents, namely each 2 respondents answered that time was limited and speakers who were too fast became obstacles to the learning process through e-learning and power cuts, instructions were not clear and there were no obstacles answered by 1 respondent for each answer.

The fifth question as many as 51 respondents answered the learning process through e-learning can help students in the learning process where students can do exercises / quizzes more focused and can repeat the audio as needed. Another benefit based on the opinion of 11 respondents is that learning through e-learning can be done anywhere and anytime by students and as new knowledge, especially the use of internet-based learning media, 5 respondents also benefit from learning through e-learning. The sixth question is that a total of 58 respondents answered through e-learning that the learning process became motivated because of the many benefits that were obtained. 4 respondents also answered that they were less motivated, especially when experiencing some obstacles and 5 respondents answered that they were not motivated to learn through the use of e-learning because the teaching and learning process should be supported by face-to-face interactions between teachers and students.

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THE ROLE OF LAW IN ASYMMETRIC WARFARE (CASE STUDY ON NARCOTICS CRIME IN INDONESIA)

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ABSTRACT

Narcotics crime is a transnational crime that has a very extraordinary impact. Illicit drug trafficking in Indonesia is deliberately carried out by certain parties to damage and destroy the Indonesian nation, especially the younger generation. This crime is part of an asymmetric warfare strategy to weaken national defense. International law on drug exist in the single United Nations convention in 1961 on narcotics and illicit drugs. In Indonesia, the rules are contained in Law Number 35 of 2009 concerning Narcotics. This study uses qualitative analysis methods, with data collection techniques in the form of literature studies. The purpose of this study is to analyze the role of law in asymmetric warfare in the form of narcotics crimes. The theory used is role theory and asymmetric warfare theory. The results of the study indicate that the law plays a role in asymmetric warfare that its form is narcotics crimes. Law No. 35 of 2009 regulates how perpetrators of narcotic crimes are given maximum legal sanctions up to the death penalty and victims of narcotics crimes are given treatment in the form of rehabilitation. Maximum punishment for drug offenders aims to reduce supply, while treatment for victims and drug abusers aims to reduce demand.

Key words: asymmetric warfare, narcotics crime, role of law

INTRODUCTION

The war that is happening today is no longer using the conventional methods of ancient warfare by prioritizing the military and weapons. The current war is more directed to an asymmetrical war. The Indonesian National Research Council defines asymmetric warfare as a war model developed from an unusual way of thinking, and outside the prevailing rules of war, with a very broad spectrum of war and includes aspects of *astagatra* which is a combination of "*trigatra*" namely aspects of geography, demography, and natural resources and "*Pancagatra*" namely aspects of ideology, politics, economy, socio-culture and defense and security (Pranoto & Hendrajit, 2016). The target of asymmetric war has various aspects that can be carried out simultaneously or with different intensities with the estuary of the target being to control the economy and control the natural resources of a country. The effects of asymmetric war are very powerful, the impact is in addition to complete paralysis for the nation and state, it also requires high costs and takes a long time to recover. In the Regulation of the National Narcotics Agency Number 4 of 2018 concerning the Grand Design of the National Narcotics Board 2018-2045 is mentioned that one form of asymmetric war that is happening in Indonesia today is through drugs.

Drugs have an extraordinary impact from the demographic, economic, socio-cultural aspects to defense and security. In the demographic aspect, the impact of narcotics crime causes a lost generation, where due to drug abuse the state can lose a generation of the

nation, considering the effects caused by drugs are very dangerous for physical and mental health such as the emergence of lung disease, heart disease, stroke, cancer, HIV, Hepatitis (United Nations Office on Drugs and Crime, 2017), and on mental health can lead to mental disorders (Pusat Penelitian Data dan Informasi Badan Narkotika Nasional, 2019). While in the economic aspect, state losses due to drug crimes reach 57 trillion per year, the loss is calculated from the amount of medical costs for victims of drug abuse, deaths caused by drugs and lost productive time due to drug use (Firmanzah et al., 2011).

In the socio-cultural aspect, narcotics crimes indirectly have a bad influence on the native culture of the nation. Many of the drug abusers who apply foreign cultures that are not in accordance with the personality of the Indonesian people such as free sex behavior, deviant behavior, hedon culture, and so on. On the security aspect, the effects of narcotics abuse can have an impact on the criminal behavior of its users. So it is not uncommon for criminal behavior that occurs in Indonesia, such as theft, robbery, rape, to be caused by drug use by the perpetrators. They can't think straight, so they are desperate to do anything to be able to buy drugs and use them. This also affects the aspect of national defense, where the younger generation of the nation's successors who should participate in national defense efforts become weak due to drugs, they are unable to think logically, resulting in a weak state defense which has the concept of a universal people's defense system. Moreover, according to data from the National Narcotics Agency, the prevalence of drug abusers in Indonesia

reaches 1.8 percent, meaning that if the total population of Indonesia is around 250 million people, then around 4.5 million people are drug abusers.

In fact, narcotics crimes are used by terrorist organizations to fund their actions. As is the case in Afghanistan, the Taliban finance their action through the sale of opium (Cimeta, 2016). In addition to terrorism, UNODC also sees that world narcotics crimes are also used to fund rebellions, money laundering and corruption (United Nations Office on Drugs and Crime, 2017). In Indonesia, the link between narcotics crime and terrorism has been revealed, namely when Fadly Sadama, one of the leaders of a terrorist group who is directly related to Imam Samudera, the perpetrator of the 2001-2002 Bali Bombing terrorism attack, conducted a drug business. Then the money from the drug business was used to buy weapons and finance robberies in Medan, North Sumatra and Aceh. The money from the robbery is used to support financing related to the activities of terrorist groups, namely Majelis Mujahidin Indonesia Timur and Majelis Mujahidin Indonesia Tengah (Akmalina et al., 2019).

Seeing the enormous domino effect caused by narcotics crime, which is one form of asymmetric war that occurs in Indonesia, it is not wrong if former Defense Minister Ryamizad Ryacudu once said that the impact of asymmetric war can exceed military war (Pranoto & Hendrajit, 2016). Where the impact of asymmetric warfare is very wide, and to recover it takes a long time. Thus, in the Indonesian Defense White Paper, the state includes the threat of drugs as a serious form of non-military threat considering that it has a major impact on security stability (Kementerian Pertahanan RI, 2015). In accordance with the national defense doctrine, the national defense system in dealing with conditions when the state faces actual threats in the form of non-military threats places a non-military defense layer as the main element. The non-military defense layer which is the main element is played by the department/Non-Departmental Government Board whose function is directly or most dominantly related to the non-military threat faced (Departemen Pertahanan Republik Indonesia, 2007). In the case of narcotics crimes, the non-military defense layer is carried out by the National Narcotics Board, a non-ministerial government agency that has the main task and function in terms of prevention and eradication, abuse and illicit trafficking of narcotics and narcotics precursors. (Undang - Undang Nomor 35 Tahun 2009 Tentang Narkotika, 2009).

Data on Disclosure of Drug Cases in Indonesia

Data	2020	2021
Number of Cases	806 cases	760 cases
Number of Suspects	1247 suspects	1.109 suspects
Number of Networks Revealed	88 Networks	85 Networks

Evidence of Narcotics Types of Shabu	1,12 Ton	3,313 Ton
Evidence of Narcotics Types of Marijuana	2,36 Ton	115,1 Ton
Evidence of Narcotics Type Ecstasy	340.357 pills	191.575 pills

Source : BNN RI

Data shows that the handling carried out by BNN is quite massive through the arrests of perpetrators of narcotics crimes. However, even though the number of suspects has decreased, the amount of evidence seized has experienced a fantastic increase where in 2020 the seized cannabis weighed 2.36 tons, in 2021 it increased to 115.1 tons. Methamphetamine-type drugs also experienced an increase where in 2020 1.12 tons were confiscated, in 2021 to 3,313 tons. Seeing this phenomenon, raises the assumption that the main actors in the asymmetric war through drugs have not been revealed considering that they are still able to produce drugs in large quantities and distribute them in Indonesia through new hands. In addition, there are many cases where the perpetrators of drug crimes with fantastic evidence are not given the maximum sanctions (Badan Narkotika Nasional, 2017), even those who have been convicted are still carrying out their actions by controlling the drug business from inside the prison (Taufiqurrahman, 2019). On this basis, the researcher tries to examine what is the role of the law in asymmetric warfare in the form of narcotics crimes in Indonesia?

RESEARCH METHODS

This study uses a qualitative method with a descriptive approach. In qualitative research methods, researchers propose research questions be answered through understanding, not with hypotheses, because the essence of qualitative research is understanding a phenomenon, not proving a phenomenon (Herdiandyah, 2011). The data collection technique used is from a literature study. In literature study, there are at least four main characteristics that the author need to pay attention to, among others: First, that the author or researcher is dealing directly with the text or numerical data, not with direct knowledge from the field. Second, library data is "ready to use" means that the researcher does not go directly to the field because the researcher is dealing directly with data sources in the library. Third, that library data is generally a source of secondary, in the sense that the researcher obtains material or data from second hands and not data original from the first data in the field. Fourth, that the condition of the library data is not limited by space and time (Zed, 2014). According to Creswell (Creswell & Poth, 2018), a literature study is research conducted by examining qualitative documents

such as books, journals, newspapers, magazines, reports, and other documents relevant to the research. Based on the foregoing, the data collection in the research. This is done by reviewing and/or exploring several journals, books, and documents (either in the form of print or electronic) as well as other sources of data and/or information considered relevant to the research or study. The data analysis technique used in this study consists of three steps, namely data collection, data presentation, and concluding/verification (Miles et al., 2014).

RESULTS AND DISCUSSION

A. Role of law theory

Role theory is widely used in psychology, anthropology and sociology which is combined in various theories, orientations and disciplines. The term "role" is commonly used in the theater world, where an actor in the theater must play a certain character and in his position as a character he is expected to behave in a certain way. The position of an actor in theater is analogous to one's position in society, and both have the same position (Wirawan, 2015). The role itself according to Soerjono Soekanto is a dynamic aspect of position (status), if a person carries out his rights and obligations according to his position, then he carries out a role (Soekanto, 2002). A psychologist, Gerungan said that the role is a function that is realized if someone is in a certain social group. Role is a behavior that has a status and can occur with or without job description limitations for the perpetrators (Gerungan, 1998). While the sociologist Raph Linton defines a role as "the dynamic aspect of status" a person carries out a role when he carries out the rights and obligations which constitute status, while a status is a "collection of rights and duties" a collection of rights and obligations (Berry, 1995).

Based on the opinion of the experts above, the researcher prefers the opinion expressed by Gerungan, where the role is a function that is realized if someone is in a certain group. In relation to the role of law, the researcher takes the understanding that the role of law is a function that is realized from the law itself in a particular legal problem.

1. International law on narcotics crime

a. *Single convention on narcotic drugs 1961*

Fathurrohman in his book entitled *The Face of Drug Crime in Indonesia* (2020) explained that the United Nations Single Convention of Drug 1961 (Drug Convention 1961) produce decisions regarding the classification of hazardous substances or drugs by dividing them into four based on the level of harm (Harmfulness). In summary, the classification of drugs according to the single convention session in 1961 is as follows:

1. The first group is substances with addictive properties, resulting in a serious risk of abuse. Control is very tight, drugs that fall into this category are marijuana and its derivatives, cocaine, heroin, methadone, morphine, and opium.
 2. The second group is substances that are usually used for medical purposes and are given the lowest risk of abuse. The level of control of the Second group is less stringent. Included in the second category are codeine, dihydrocodeine, and propiram.
 3. The third group is materials or preparations of substances (codeine, dehydrocodein, propiram) and materials or preparations of cocaine. The level of control for this third category is soft. According to WHO, this preparation does not pose a risk of abuse.
 4. The fourth group is the most dangerous substance, the level of control of this fourth category is very strict. Control leads to a total ban on the production, manufacture, export and import, trade, possession or use of these drugs. Use should only be used if it is for medical and scientific research. Included in this category are: marijuana, cannabis resin, and heroin.
- b. ***ASEAN declaration of principles to combat the abuse of narcotic drugs***

This Declaration was implemented in Manila – Philippines on 26 June 1976 (*ASEAN Declaration of Principles to Combat The Abuse of Narcotic Drugs*, 1976). The signing of this declaration was carried out by the Ministers of Foreign Affairs of ASEAN Countries. The contents of this declaration include:

1. The implementation of cooperation among ASEAN countries in an effort to combat drug abuse, such cooperation includes: exchange of information, education, research, eradication of illicit drug trafficking, making legislation related to drug eradication.
2. Cooperation between agencies that deal with narcotics nationally in each member country with agencies that handle narcotics at the regional level, in this case Colombo.
3. Each member country is obligated to exchange information and experience in dealing with narcotics crimes, including: research, modus operandi of perpetrators of narcotics crimes, technical skills in eradicating narcotics, education in the community, prevention, treatment and rehabilitation.

In order to carry out the convention, each ASEAN member country forms a national body that deals with narcotics problems in its territory. This agency will work together with other narcotics agencies in the ASEAN region in

terms of narcotics control. This is one of the reasons for the formation of the National Narcotics Board in Indonesia.

c. *The Narcotics drug and psychotropic substance law for asean*

Agreement on the application of penalties for drug trafficking activities agreed by ASEAN members (Sari & Putrawan, 2016):

1. Cultivation, processing, transportation, distribution, delivery, transfer, forced to cause abuse, bad behavior towards narcotic drugs and exhibits of psychotropic substances. 5 years imprisonment minimum, maximum 10 years and may also be subject to a fine.
2. Possessing narcotics for resale with a minimum sentence of 10 years in prison, the maximum period of imprisonment is not limited to the maximum
3. The production, distribution, sale, import and export of narcotics is subject to a minimum sentence of 15 years imprisonment, an unlimited maximum term of imprisonment or death.

2. Indonesian national law on narcotics crime law no. 35 of 2009 concerning narcotics

The 1961 United Nations Convention had a major influence on how the world's countries regulate drug regulations. In Indonesia, the 1961 United Nations Convention was adopted into Law No. 35 of 2009 concerning Narcotics. In Law No. 35 of 2009 it is explained that the classification of narcotics is divided into three groups, namely::

1. Narcotics class I (narcotics that can only be used for the purpose of developing science and technology, are not used in therapy and have a very high potential, causing addiction/dependence effects. Types of narcotics belonging to group I include: marijuana, cocaine, morphine, opium , and some of them are contained in the attachment of Law Number 35 of 2009 as narcotics class I.
2. Narcotics class II (narcotics that are used as a last resort and can be used in therapy/medical, which have a high potential to cause dependence). Types of narcotics that are included in group II include: pethidine benzethidine, betamethadol, and so on which are listed in Law No. 35 of 2009 as narcotics class II.
3. Narcotics Class III (narcotics used in medicine and have a mild potential to cause dependence). Types of narcotics included in narcotics class III include: codeine and its derivatives, as well as other narcotics listed in narcotics class III in Law No. 35 of 2009.

In addition to classifying narcotics into 3 groups, Law No. 35 of 2009 also regulates punishment for drug dealers and dealers as well as treatment for victims of narcotics abuse. Articles 111 to 126 of Law No. 35 of 2009 regulate legal provisions for narcotics dealers and dealers. The threat of punishment in Law No. 35 of 2009 concerning Narcotics consists of a minimum penalty of 3 years in prison and the heaviest sentence of death, with a minimum fine of 400,000,000 (Four Hundred Million Rupiah) and a maximum fine of 10,000,000,000 (Ten Billion Rupiah). In Law No. 35 of 2009 concerning Narcotics, the handling of narcotics abuse victims is also explained. Article 54 states that addicts and victims of narcotics abuse are required to undergo medical rehabilitation and social rehabilitation.

B. Asymmetric warfare

The Indonesian National Research Council defines asymmetric war as a war model developed from an unusual way of thinking, and outside the prevailing rules of war, with a very wide spectrum of war and includes aspects of "astagatra" which is a combination of "trigatra", namely aspects of geography, demography. and natural resources and "Pancagatra" namely aspects of ideology, politics, economy, socio-culture and defense and security (Pranoto & Hendrajit, 2016). Asymmetric warfare always involves between two or more actors, with a prominent feature of unequal power.

Meanwhile, according to Satrio Arismunandar that asymmetric war is a war between parties who have significant differences in military strength, strategy, or tactics. Such wars often involve unconventional war strategies and tactics, where the weaker party tries to use strategies to compensate for its shortcomings in quantity and quality. The strategy probably doesn't have to be military in nature (Arismunandar, 2013).

Sullivan defines asymmetric warfare as a condition of armed conflict in which one actor has a destructive capacity that is more threatening than the physical survival of the other actor (Sullivan, 2007). In relation to narcotics crime, that destructive capacity is used to destroy and weaken the younger generation to weaken the defense of the Indonesian state which adheres to the concept of a universal people's defense system. This is in line with Buffalo's opinion which explains that asymmetric warfare is not like conventional warfare which is enemy-centric or terrain-centric (Buffaloe, 2006). Narcotics crime as an asymmetric threat is population-centric. So that the threat of narcotics is considered to exploit the vulnerability of the state, and is very dangerous for the safety of the general public. The

results of a limited discussion at the Global Future Institute in Jakarta in 2015 formulated the notion of asymmetric warfare, namely a new non-military style of warfare but its destructive power is no less and even more devastating than military war and has a broad battlefield covering all aspects of life (astagatra)(Pranoto & Hendrajit, 2016).

From several definitions from various sources above, it can be concluded that asymmetric warfare is a new style of non-military warfare but its destructive power is no less even more devastating than military war and has a wide battlefield or field covering all aspects of life including astagatra aspects which are blend of trigatra (geography, demography, and natural resources/SDA) and pancagatra (ideology, politics, economy, socio-culture and defense and security). Many methods are used in carrying out asymmetric warfare, one form of strategy is through narcotics crimes (Regulation of the National Narcotics Board Number 4 of 2018 concerning the Grand Design of the National Narcotics Board 2018-2045).

C. The role of law in asymmetric warfare in the form of narcotics crime

The role of law is a function that is manifested by the law itself in a particular legal problem. The legal issues discussed in this study are related to the asymmetric warfare that occurred in Indonesia in the form of narcotics crimes. The rule of law that regulates narcotics in Indonesia is Law Number 35 of 2009 concerning Narcotics. In the law, it has been regulated in such a way as to deal with narcotics crime. The countermeasures regulated in Law No. 35 of 2009 are related to punishment with a maximum penalty for narcotics crime perpetrators, in this case drug dealers. Meanwhile, addicts and victims of narcotics abuse are given access to health in the form of rehabilitation to cure their dependence so that the demand for drugs decreases along with the recovery of addicts and victims of drug abuse.

Articles 111 to 126 of Law Number 35 of 2009 regulate the legal provisions for narcotics dealers and dealers. The threat of punishment in Law No. 35 of 2009 concerning Narcotics consists of a minimum sentence of 3 years in prison and the heaviest sentence of death, with a minimum fine of 400,000,000 (Four Hundred Million Rupiah) and a maximum fine of 10,000,000,000 (Ten Billion Rupiah).). With law enforcement in accordance with Law Number 35 of 2009, the number of narcotics trafficking in Indonesia should be reduced, considering that drug dealers who are arrested will receive a maximum sentence of up to the death penalty. This will be a deterrent effect for perpetrators of narcotics crimes in Indonesia.

But in fact, there are many cases where drug dealers are still able to carry out their actions by controlling them from inside the prison. As revealed by Komjen Pol Heru Winarko in an interview who said that 90 percent of drug trafficking is controlled from within prisons (Taufiqurrahman, 2019). Even some big drug dealers don't get the maximum sentence, namely the death penalty (Badan Narkotika Nasional, 2017). This makes the perpetrators of narcotics crimes not have a deterrent effect. Law enforcement does not work as it should, even though law enforcement is one way to deal with the non-military threat faced by Indonesia in accordance with the Indonesian Defense White Paper (Kementerian Pertahanan RI, 2015). The supply-reducing method with law enforcement should be effective in tackling narcotics crime if it is not tainted by the dirty behavior of law enforcement officers.

In addition to regulating eradication efforts, Law Number 35 of 2009 concerning Narcotics also regulates the handling of victims of narcotics abuse. Article 54 states that addicts and victims of narcotics abuse are required to undergo medical rehabilitation and social rehabilitation. With treatment efforts in this case rehabilitation for addicts and victims of narcotics abuse, it is hoped that it will reduce the level of demand (demand), in accordance with the objectives of Law No. 35 of 2009. This is in accordance with the opinion of Komjen Pol (Purn) Anang Iskandar as former Head of the National Narcotics Agency who said that imprisonment for drug abusers is contrary to Law Number 35 of 2009 concerning Narcotics, because the Narcotics Law which is special in nature has abolished or does not use prison sanctions for drug abusers, instead they will undergo rehabilitation and rehabilitation is a principal crime, the same as a prison sentence (*Anang Iskandar : Penyalahguna Narkotika Tak Boleh Dipenjara*, 2020). In fact, 70 percent of prisons are inhabited by narcotics criminals, including in this case addicts and drug abusers, so BNN recommends that addicts be rehabilitated, not imprisoned. This is in accordance with the UNODC report in the World Drug Report 2011 which emphasizes that law enforcement to reduce supply (Supply Reduction) must be accompanied by policies to reduce demand for drugs (*Badan Narkotika Nasional, 2021*).

Basically, Law Number 35 of 2009 concerning Narcotics, which is a legal instrument in dealing with narcotics problems, has clear rules regarding the punishment of narcotics criminals, in this case dealers and dealers, by giving punishments up to a maximum of the death penalty. In addition, addicts and victims of narcotics abusers are given access to health

services to treat their dependence on drugs through rehabilitation, and rehabilitation itself is a form of punishment similar to imprisonment. However, the fact is that in the field, many law enforcers do not carry out punishments in accordance with applicable laws. The role of the law in this case Law Number 35 of 2009 concerning narcotics is very clear in dealing with narcotics problems in Indonesia, but law enforcement is still lacking.

CONCLUSION

The illicit trafficking of narcotics in Indonesia is classified in the form of asymmetric war which aims to destroy human resources in Indonesia so that it will weaken the national defense. Indonesia has legal regulations that regulate the handling of narcotics problems in Indonesia, namely Law Number 35 of 2009. In Law Number 35 of 2009 concerning Narcotics, it is regulated the classification of narcotics, legal rules for narcotics circulation, penalties for narcotics producers and dealers and treatment for victims of narcotics abuse in the form of medical rehabilitation and social rehabilitation.

Through Law No. 35 of 2009 concerning Narcotics, the legal role is clearly visible, where perpetrators of narcotics crimes such as dealers and dealers are subject to a maximum sentence of up to the death penalty. Meanwhile, the victims of narcotics abusers are given treatment in the form of rehabilitation. With the maximum punishment, it can provide a deterrent effect for dealers and dealers so as to reduce the supply of narcotics in Indonesia (supply reducing). Treatment for victims of narcotics abuse in the form of rehabilitation regulated in Law Number 35 of 2009 is useful for reducing demand (demand reducing). So that by limiting supply and demand, it can eradicate the circulation and abuse of narcotics as a form of facing the asymmetrical wars that occur in Indonesia so that it will increase national defense in the form of universal people's defense.

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IMPLEMENTATION OF EDUCATION IN THE ESTABLISHMENT OF THE INDEPENDENT CHARACTER OF STUDENTS (CASE STUDY AT THE MARDHATULLAH AL-ISLAMY ISLAMIC BOARDING SCHOOL, YOGYAKARTA)

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ABSTRACT

Entrepreneurship Education (Edupreneurship) in Islamic boarding schools aims to prepare students to be mentally and materially independent in facing life after graduating from Islamic boarding schools. This research is a case study with a qualitative approach. The data was obtained from interviews with the Head of the Mardhotullah Al-Islamy Islamic Boarding School. Edupreneurship activities at the Mardhotullah Al-Islamy Islamic Boarding School are trading, namely chicken farming, organic fertilizer management, catfish cultivation, and minimarkets. Each field has formed a study group for students and a supervisor coordinator. Edupreneurship activities for minimarkets on Sundays from 13.00-16.00. Agribusiness activities are carried out every morning and evening. The learning methods used include the lecture method (in coordinator coaching activities), discussions, peer tutoring, demonstrations, and direct involvement practices.

Key words: business, economic value, edupreneurship, mardhotullah al-islamy islamic boarding school, students' character

INTRODUCTION

Fifteen centuries ago, the Qur'an was revealed by Allah to the Prophet Muhammad, gradually over 23 years. The revelation of the best scriptures to the best prophet is none other than to guide humans to become the best people (Halil, 2021). For this reason, various aspects of human life have been described to achieve the goal, including economic problems. Regarding the economy, the Qur'an also provides its perspective on entrepreneurship as one of its branches (Assingkily & Rohman, 2019).

Entrepreneurship is applying creativity and innovation to solve and seek opportunities from problems faced by everyone in everyday life. Based on this definition, the essence of entrepreneurship is creativity and innovation. Creativity is the ability to create new ideas by combining, changing, or reconstructing old ideas. While innovation is the application of the discovery

of a new production process or the introduction of a new product (Tamam & Muadin, 2019).

Entrepreneurship, also known as entrepreneurship, is an economic behaviour to manage owned resources by opening new markets, developing products, creating jobs, and developing innovation and thinking smart in economic activities. Therefore, education is needed to realize and cultivate an entrepreneurial spirit (Isrososiawan, 2018). Entrepreneurship education (Edupreneurship) needs to be held as a solution to the problem of high unemployment. Entrepreneurship always emphasizes developing internal resources to fuel a successful business. In entrepreneurship, we are trained to become reliable, creative and innovative human resources (Khairunnisa & Husaain, 2021). In addition, the advantage of entrepreneurship in tackling the problem of unemployment is that the emergence of new entrepreneurs will create new jobs and thereby reduce the number of unemployed in Indonesia. In

addition to providing skills, entrepreneurship education can instil entrepreneurial values. Through entrepreneurship education, it will also grow entrepreneurial character (Isrososiawan, 2018).

The entrepreneurial character in humans does not just appear without a stimulant (habituation or training) and is shaded by a forum. Therefore, a challenge arises in national education, namely how to give birth to human entrepreneurs from educational institutions, both formal and non-formal. According to national education, Islamic boarding schools are one of the educational subsystems with unique characteristics. The spirit of the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System (Sisdiknas) is a legal acknowledgement of the existence of Islamic boarding schools (Halil, 2021). One of the characteristics of the life of Islamic boarding schools listed in the goals of the National Education is regarding the independence of students, as subjects who deepen religious knowledge in Islamic boarding schools (Khoirunnisa, 2019).

Based on the statement above, independence is one of the goals to be achieved in the educational process. Because it is clearly stated that in addition to aiming to develop the potential of students to become human beings who believe, fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, become democratic and responsible citizens. National education also aims to form students as independent human beings (Sutrisno & Cokro, 2018).

Pesantren is considered the oldest Islamic educational institution in Indonesia, which has no doubt its role in developing Islam in the archipelago. Because pesantren has existed since the pre-independence period of Indonesia and as part of the National Education institution, the emergence of pesantren in its history has been hundreds of years old and is allegedly an institution with uniqueness and authenticity (indigenous) Indonesia. As an indigenous institution, pesantren emerges and continues to develop from the sociological experience of the community around its environment. This cultural root is perhaps the essential potential that has made pesantren survive and is highly expected for the community and the government (Sanjaya et al., 2021).

The importance of entrepreneurship development has been illustrated by the current reality, which reveals that entrepreneurship education (Edupreneurship) in Indonesia still does not receive adequate attention, both from the world of education, society, and the government. Many education practitioners ignore the aspects of students' mental growth, attitudes, and

entrepreneurial behaviour, both in vocational and professional schools. Their orientation is generally only on efforts to prepare a ready-made workforce. Meanwhile, a feudal culture (priyayi) has developed within the community itself, inherited by Dutch colonialism (Darwis, 2017).

Most people have perceptions and expectations that graduates from educational institutions can become employees. Because, in their view, an employee has a fairly high social status and is respected by the community. However, the perception and orientation of most people must be changed because it does not match the changes and demands of competitive life. The mindset and life orientation for entrepreneurship development are important to start building (Fadillah, 2019).

The purpose of Islamic boarding school education, in general, is to maintain and develop the nature of students to obey Allah SWT, prepare them to have good Muslim personalities, equip them with various knowledge and training so that they can live well with community members, be happy physically and mentally in the world and hereafter. The character-based and entrepreneurial model of Islamic boarding school education is a model of pesantren education to be achieved (Bashith et al., 2022). The pesantren education model in this globalization era is required to have specific skills to compete and survive in their environment. The model and implementation of pesantren education (Edupreneurship) are different from the general pesantren education model. The educational model in this pesantren aims to produce students who are clear-minded, independent, responsible, have a leadership spirit, have an entrepreneurial spirit, and apply Islamic values in everyday life (Sanjaya et al., 2021).

RESEARCH METHODS

Research on Edupreneurship to build independent character in students at the Islamic Boarding School Mardhotullah Al-Islamy Yogyakarta can be categorized into a qualitative research type with a field research approach and is naturalistic. This research was conducted naturally, not manipulated by circumstances to describe the phenomenon at the research location. This type of qualitative research is case study research. This research explores problems with clear boundaries, has in-depth data collection, and includes various sources of information. This research is limited by time, place, and the case studied in the application of the concept of Edupreneurship as an effort to form independent character in students at the Mardhotullah Al-Islamy Islamic Boarding School Yogyakarta.

Sources of data in this study consisted of primary and secondary data. Primary data comes from information on employees who function as key informants. The data obtained through the informants are soft data. Secondary data are relevant to the research focus, such as pictures, notes, or writings related to the research focus. Data obtained through documents is hard data. The subject of the research was the Head of the Islamic Boarding School Mardhotullah Al-Islamy Yogyakarta, Ustadz Abdurrohman, S.H.I., M.P.I. The data collection technique used observation techniques by observing the activities of students in applying the concept of Edupreneurship or entrepreneurship at the Mardhotullah Al-Islamy Islamic Boarding School Yogyakarta. Furthermore, the informant interview technique is Ustadz Abdurrohman.

RESULTS AND DISCUSSION

Implementation of edupreneurship at pondok pesantren mardhotullah al-islamy yogyakarta.

Indonesian people are not all aware of the importance of entrepreneurship. In some developed countries, entrepreneurship is an important aspect of the economy. In Indonesia, most of the population prefers to be workers rather than entrepreneurship. They prefer easy and comfortable jobs, even though the ease of working causes individuals to become weak and less competitive (Ash-shiddiqy, 2020).

The purpose of establishing the Mardhotullah Al-Islamy Islamic Boarding School is to make it easy for all people to study both from the able and the less fortunate and equip the students to find work or set up a business easily. For this reason, this pesantren applies Edupreneurship. Caregivers and teachers train students to learn independently through entrepreneurship education practices. The hope is that after they graduate from the pesantren, they can apply the knowledge of entrepreneurship and develop it to prosper their lives.

The concept of Edupreneurship applied at the Islamic Boarding School Mardhotullah Al-Islamy Gunungkidul is to practice working independently and depending only on Allah SWT to create something of economic value as managing and developing it with a group. This is done so that they are mentally prepared to face the problems of life in society after graduating from the pesantren, both problems of life in the social, religious, and economic fields. Edupreneurship activities carried out by students are in the form of trading and carpentry. However, based on the notion of Edupreneurship, not all activities are included in the Edupreneurship category if the activity has no economic value. Growing the concept of pesantren is not an easy job. First of all, it must be remembered that there is no absolute rational concept that can be applied in pesantren. Both because of its unique

growth history and lagging behind other social institutions in technical activities. A systematic and organized concept will face tremendous obstacles in practice.

The existence of pesantren in the community was initially as an educational institution, religious broadcasting institution, and socio-religious. This flexible nature makes Islamic boarding schools able to adapt to society and meet the demands of society. It is proven by the emergence of various activities in Islamic boarding schools that teach not only religious knowledge, such as entrepreneurship education. Following Dhofier's statement in his book "Tradition of Islamic Boarding Schools", pesantren also have strong social networks with the community and fellow pesantren. Because most pesantren caregivers are bound to the same mindset, understanding of religion, and have a fairly close kinship (Dhofier, 1982).

For this reason, Mardhotullah Al-Islamy Islamic Boarding School Yogyakarta has entrepreneurial activities known as Edupreneurship activities. Because entrepreneurial activities at Pondok Pesantren Mardhotullah Al-Islamy Yogyakarta aim to form students' independent attitudes, the results have economic value in society to be used as a provision for students and become a field for students to practice entrepreneurship independently after graduating from pesantren.

The implementation of Edupreneurship activities at the Mardhotullah Al-Islamy Islamic Boarding School in Yogyakarta focuses on trading, divided into two units. Business in the trade sector is a relevant field to be managed in Islamic boarding schools. The learning is easy for students to follow, and the number of human resources in Islamic boarding schools can fill this field to the fullest.

Edupreneurship in agribusiness

The business unit is located at the Mardhotullah Al-Islamy Islamic Boarding School, which includes chicken farming, fertilizer sales, and catfish cultivation. Ustadz Abdurrohman, S.H.I., M.P.I. as Mudir Pondok said (Interview, 2022):

There are several kinds of efforts that have been carried out. At first, we only engaged in chicken farming because our cottage focused on animal husbandry and agricultural product management. Still, we are increasing manure management and catfish farming, where these activities are carried out by utilizing residual waste from chickens. The hope is that students become more creative and independent with this activity.

To manage chicken farms, manufacture manure, and cultivate catfish properly, adequate human resources is needed in quantity and quality. The number

of students living at the Mardhatullah Al-Islamy Islamic Boarding School is sufficient to manage the business. Then regarding the implementation time of Edupreneurship activities and tasks carried out outside the hours of the Al-Qur'an, namely in the morning and evening. The activities they carry out include feeding and drinking, regulating the temperature of the cage, regulating the circulation of the cage, controlling the temperature of the cage, regulating the circulation of the cage, controlling the condition of husks, controlling the condition of chickens, conducting chicken selection, doing daily records, processing chicken manure into organic fertilizer, and keep catfish. So that this activity does not interfere with students' time to recite the Al-Qur'an.

Edupreneurship in mini market

This mini market business is also a sector managed by the students. Although the process is considered more complicated, the knowledge gained from the work is more widely applied by the students if they later choose this field to be one of the jobs that can help the economy in their respective regions. This is because it does not have to have special skills and is a business that is recommended by Islam, all the needs for the work can be done in the yard around the house or the house itself. While the mini market at the Mardhotullah Al-Islamy Islamic Boarding School has 2 units, which are located in front of the boys' cottage and in front of the girls' cottage. What is sold in this minimarket is all the needsof studentsconsisting of toiletries, washing, snacks, school supplies, basic necessities. The following is an interview we conducted with Ustadz Abdurrohimi, he said (Interview, 2022):

Each store has many kinds, basically weprovidetheneedsof students so they don't go far.

For the learning process, each student is educated in managing minimarkets. Several students from several complexes are trained by senior students on good minimarket management, starting from the layout of goods, recording incoming and outgoing goods, financial records, and many others. Learning starts every Sunday at 13.00 WIB - 16.00 WIB.

Formation of independent character in santri as a result of edupreneurship implementation at pondok pesantren mardhotullah al-islamy yogyakarta

They were referring to the Edupreneurship activities carried out by the students of Pondok Pesantren Mardhotullah Al-Islamy Yogyakarta that this entrepreneurial activity makes a person have a great desire to become mentally and financially independent and can contribute to the surrounding community. This can be seen from the work output produced by the students and the dissimilarity of attitudes and characters possessed by students who take part in Edupreneurship activities. This statement was conveyed by Ustadz

Abdurrohimi, S.H.I., M.P.I. as Mudir of the Islamic Boarding School Mardhotullah Al-Islamy Yogyakarta (Interview, 2022):

The difference between students who participate in this business unit activity and those who do not are those who actively participate in field activities are much more independent and have a better attitude of responsibility than those who do not. If the student returns home, they already have deep insight to open a business while at home.

In addition to producing independent attitudes and characters in students, they are also trained to be creative in managing their duties, including finding ideas and solutions to any problems that arise. In essence, the purpose of education is to provide skills to students so that they are not awkward in facing the future (Prestyadi & Wiyono, 2021). The function of education is to shape students' character to have high integrity with noble character and love for religion, nation and state. Thus, education is the most expensive property of a nation. Because the nation's leader is an educated person, it is hoped that education can produce national children who have character and have high independence and integrity.

Independence is not only formed by internal factors. External factors can influence specific individuals or communities to be independent. For example, economic conditions make a person work independently to make ends meet. If it is associated with pesantren, students do the cooking process themselves, look for their ingredients, and process the food themselves in meeting their food needs. Independent is not taught without any help at all, but independence is not easy to depend on others for their needs. In essence, to answer the economic problems students face, the Islamic boarding school manager can apply Edupreneurship as applied at the Mardhatullah Al-Islamy Islamic Boarding School. This Islamic boarding school has provided a place to practice entrepreneurship learning for students to later face the more comprehensive community.

If you look at the problems student alumni face after receiving a boarding school education, it turns out that they are not only social or educational problemsthey face. However, economic problems become an essential point in social life. It won't be easy to develop if economic problems are solved with economic solutions. Finally, the problem is deadlocked or even lost, so they justify any means of surviving in the crush of problems.

The existence of entrepreneurial activities for these students is nothing but to teach them to be ready to face life's challenges after they graduate from the pesantren. According to the analysis of Ustadz Abdurrohimi, S.H.I., M.P.I. against pesantren alumni when they are considered diligent in worshipping, reading the Al-Qur'an, praying, fasting. After graduating from the Islamic boarding school, he faced life's problems, including economic problems. They are willing to leave prayer, fasting, and even willing to open aurat to meet the

needs of their lives. So that with the entrepreneurial activity at the Mardhatullah Al-Islamy Islamic Boarding School, it is hoped that students can continue to maintain *istiqomah* in worshipping Allah S.W.T. In addition, this activity also teaches students to be sincere in their work without expecting material rewards even though in the end, the results of the activities carried out by these students can have high economic value in the community and can help their economy.

Regarding the entrepreneurial practices carried out by students at the Mardhatullah Al-Islamy Islamic Boarding School, Gunungkidul Yogyakarta, as explained by Ustadz Abdurrohman, S.H.I., M.P.I. that the purpose of educating students for entrepreneurship in Islamic boarding schools is none other than being mentally independent. Because after graduating from the pesantren, they will be faced with various conditions and life situations that are not always comfortable. With the provisions they already have, it is hoped that they can be independently prepared to face all the possibilities of life that will occur. Then if later they become students who can be financially independent, that is not a goal but a "gift" of good destiny from God for their persistence and sincerity during their work.

The Edupreneurship activities carried out at the Mardhatullah Al-Islamy Islamic Boarding School did have a significant impact on students' character. The author focuses on the independent character of the student that the student in the Islamic boarding school has indeed been proven to be independent both emotionally, economically, and intellectually.

CONCLUSION

Edupreneurship is carried out at the Mardhotullah Al-Islamy Islamic Boarding School in Yogyakarta as an effort by the Islamic boarding school to shape independent students' character. Edupreneurship activities at the Mardhatullah Al-Islamy Islamic Boarding School are carried out according to the schedule determined by the pesantren, which is engaged in trading. The business units at the Mardhatullah Al-Islamy Islamic Boarding School are chicken farming, organic fertilizer management, catfish cultivation, and minimarkets, each of which has formed a study group for students and a supervisor coordinator. The learning methods used include the lecture method (in coordinator coaching activities), discussions, peer tutoring, demonstrations, and direct involvement practices. This Edupreneurship activity is one of several activities at Pondok Pesantren Mardhotullah Al-Islamy Yogyakarta to shape the character of independent, disciplined, hardworking, creative, and responsible students, ready to face all situations and conditions of life after graduating from the Islamic boarding school.

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SOFTSKILL ENTREPRENEURSHIP DEVELOPMENT MANAGEMENT AT PESANTREN LINTANG SONGO OF YOGYAKARTA

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ABSTRACT

Pesantren is a piece of public instruction that has existed since pre-autonomy, and it is even claimed to be an educational institution with distinctiveness and authenticity in Indonesia. Pesantren is additionally viewed as the most established Islamic instructive foundation which without a doubt assumes a part in the improvement of Islam Nusantara. As part of the national educational institution, the emergence of pesantren in its history has been hundreds of years old, and allegedly as an institution that has the distinctiveness, authenticity (indigenous) of Indonesia. As in indigenous institution, pesantren emerged and kept on developing from the humanistic experience of the local area around its current circumstance. This social root might be the essential potential that has created pesantren can get by, and is particularly expected for both the local area and the public authority. Pesantren's establishment was a strategic opportunity that existed in people's social lives from the beginning.

Key words: entrepreneurship, management, pesantren, soft skill

INTRODUCTION

Pesantren is a piece of public training that has existed since pre-freedom, and being an instructive foundation with peculiarity and validness in Indonesia is even asserted. Pesantren is also considered the oldest Islamic educational institution which undoubtedly plays a role in the development of Islam Nusantara. As part of the national educational institution, the emergence of pesantren in its history has been hundreds of years old, and allegedly as an institution that has the distinctiveness, authenticity (indigenous) of Indonesia. As an indigenous institution, pesantren emerged and continued to grow from the sociological experience of the community around its environment. This cultural root may be the basic potential that has made pesantren can survive, and is very much expected for both the community and the government. Pesantren was born as a cultural institution that was born on the initiative and initiative (leaders) of the community and is autonomous, from the beginning, the establishment of pesantren is a strategic potential that exists amid people's social life (Historis Terhadap Pesantren et al., n.d.).

Pesantren continues to metamorphose and develop effective learning because society does not abandon it and go to another heart. Pesantren, with its various perceptions and conditional statements, leads the three main functions that are always carried out, namely:

- (1) as a center of religious intellectuals (center for research),
- (2) as an institution that produces human resources, and
- (3) as an institution with the power to empower the community (Mahmudah, 2017).

Pesantren might be interpreted as a subject participating in the process of social change among processes that result, particularly, the function of Islamic boarding education is crucial for motivators, innovators, and public dynamists in their engagement with the roles, functions, and changes in question. The culture interactionist relations between pesantren and the community make the existence and presence of the pesantren institution in changing and empowering the society will indeed be stronger. Although, it must be acknowledged that not all of the pesantren's great potential has been fully recognized, particularly as it relates to the pesantren's contribution to solving the people's economic challenges. Students are expected to have occupation and professional skills so that they might gain accustomed to meeting their own interests later in life. Religious education should still be emphasized beyond skills education (or job) in Islamic boarding schools because religious education is the basis that all children must learn (Khoiruddin, 2018). The scope of the religious field will encourage students to become role models for the Muslim community and to organize traditional living that is contradictory to Islamic principles. Students in the economics profession are expected to begin and never teach the separation of ceremonial devotion and employment. Work is a sort of jihad to acquire peace in ritual worship because both are the requirements of each Muslim.

The pesantren majority's economic development has made a significant contribution to encouraging entrepreneurship. Students are educated in the pesantren environment to become self-sufficient individuals with an entrepreneurial behavior. Islamic

boarding schools are active and self-sufficient, depending on no one else or privately government institutions. Systemically, Islamic boarding schools have set a good example (bi al-haal) by putting the spirit of independence into action through the formation of various separate economic business units for pesantren (Sari, n.d.). In general, the development of various business firms in Islamic boarding schools tries to maximize Islamic boarding school funding, student training, and boost the community's entrepreneurship mindset.

The economic growth Changes of Islamic boarding schools continue, including the implementation of professional and relevant management in their development because the phrase "management" has infected all aspects of human life. Innovation of pesantren people management, development of pesantren communication, economic development of pesantren, and development of pesantren information technology are among the developments that must be carried out by pesantren (Tinggi et al., 2020).

The current reality demonstrates the urgency of entrepreneurship development, as it illustrates that entrepreneurship education (entrepreneurship) in Indonesia still does not receive appropriate attention, both from the world of education, society, and the government. Many education practitioners, both in vocational and professional schools, do not pay attention to components of students' mental development, attitudes, and entrepreneurial attitude. In general, they focus is entirely on efforts to create a ready-made workforce. Furthermore, inside the village, a feudal culture (priyayi) had emerged, which Dutch colonialism adopted.

A few local area individuals sincerely accept that the result of instructive organizations would be laborers (representatives, executives, or representatives) since laborers (workers) are priyayi who have a generally high economic wellbeing and are esteemed by the local area. In any case, thinking about the common goal conditions, the previously mentioned insights and directions should be adjusted on the grounds that they are not generally affected by the changing requests of life that are expanding in a particularly cutthroat way. It is fundamental to start creating a pattern of thinking and life orientation for the development of entrepreneurship.

According to the leadership of the educational boarding school, one of the modern pesantren that has played a role as a counter-culture of the dynamics of education in Indonesia is the Lintang Songo Wirokerten Piyungan, Bantul, Yogyakarta. Meanwhile, most Islamic boarding schools in the area only teach religious normative values to their students. As a result, the santri do not have provisions for their lives and this, according to him, weakens the Islamic generation itself because pesantren graduates only give birth to poor unemployed people.

RESEARCH METHODS

This examination is a field study. It is supported by the speculations of different specialists. The information gathering procedures utilized in this exploration are through documentation and meetings. The documentation technique is planned to track down information as notes, accomplishments, plan, etc while the meeting is the most common way of acquiring data for research by performing Q & An up close and personal between the analyst and the object of examination. The specialist used subjective portrayals. It depicts the information got in a basic structure that can be effortlessly perceived.

The data analysis techniques used by the researcher were two types of frameworks of thinking, those are as below:

(1) Inductive is the intelligent interaction that leaves from empiric through perception toward a hypothesis. What's more, inductive is the method involved with getting sorted out isolated realities or perceptions into a progression of connections or a speculation.

(2) Logical is the method involved with moving toward that withdraws from the overall truth about a peculiarity (hypothesis) and sums up reality at an occasion time or certain information that is portrayed by the peculiarity which was found being referred to (expectation). Also, derivation implies the determination of a relationship that seemed in view of existing speculations.

The stages of data analysis refer to the following stages:

(1) The principal stage was direction or depiction. At this stage, the scientists depicted what was seen, heard, felt, and inquired.

(2) The subsequent stage was a decrease. At this stage, the scientists diminished all data that has been gotten in the primary stage. In this stage, specialists arranged the information by choosing which ones are intriguing, significant, helpful, and new. Unused information was eliminated. Then, at that point, the information were gathered into different classes characterized in the examination center.

(3) The third stage is determination. In the third stage, analysts depicted the center that has been set to be more itemized. After the specialist examines inside and out the information and data acquired, the scientist can track down the subject by developing the information got into an information building, speculation, or new science.

RESULTS AND DISCUSSION

Entrepreneurship islamic boarding school management

Management

Management is derived from the word "to manage."

Management can be defined as the process of achieving the desired goal. Management is defined in a variety of approaches. According to Malayu Hasibuan,

management is the science and art of quickly and successfully applying human relations (HR) and other resources to achieve a specific purpose. As per Andrew F. Sikula, the board is by and large connected with the preparation, sorting out, controlling, setting, coordinating, rousing, imparting, and dynamic exercises did by every association to organize different assets claimed by the organization so an item or administration can be delivered productively (Cowdrey, 2012).

Management can be defined in a variety of ways, and some of them can be understood by management. Three perspectives on management can be seen from three understanding below:

- a. Management as a process
- b. Management as a human collectivity
- c. Management as a science and as an art

Management as a process

Understanding management as a process can be seen from the understanding according to (Giannakas et al., 2019):

- a. Encyclopedia of the social sciences, which is a process in which the implementation of a particular goal is carried out and monitored.
- b. Haiman said that management is a function to achieve a goal through the activities of others, overseeing the efforts of individuals to achieve goals
- c. Georgy R. Terry added that management is the way to achieve predetermined goals through the activities of others.

Management as a collectivity

The executives as a collectivity is an assortment of individuals who cooperate to accomplish a shared objective. This collectivity or assortment of individuals is called administration, while the individual who is liable for the execution of an objective or the running of the executives exercises is known as a director. The board as a science and workmanship perceives how the executives exercises are connected with the standards of the board. Meaning of the executives as a science and workmanship of (Rivera-santos et al., 2021):

- a. Chaster I Bernard in his book entitled The capacity of the leader, that administration is a workmanship and a science, likewise Henry Fayol, Alfin Brown Harold, Koontz Cyril O'Donnell, and Geroge R. Terry.
- b. Mary Parker Follett defines management as the art of getting things done through other people.

Management, according to the description above, is the coordination of all resources through the act of planning, organizing, determining manpower, directing, and overseeing to achieve predetermined goals. Meanwhile, multiple textual meanings of Islamic education exist. Islamic education, according to Athiyahture Al-Abrasy, is to train individuals to live flawlessly and cheerfully, to love their homeland, to be physically fit, to have perfect character, to have a neatly structured mindset, and to be smooth, professional at work, and pleasant in speech.

Meanwhile, Ahmad D. Marimba defines Islamic education as physical and spiritual counseling based on Islamic laws toward the creation of the primary personality in accordance with Islamic standards. Furthermore, Syed Muhammad Naquib Attas argues that education is a process of naming something into the human body referring to the method and system of naming gradually, and to the human recipient of the process and content of education.

From that definition and understanding, three elements make up education, namely the process, content, and recipient. Then it is further concluded that "something that is gradually implanted into humans".

So the definition of Islamic education is the introduction, guidance of treatment gradually implanted into humans, so that it leads to the introduction and acknowledgment of God (History, 2011).

According to those explanatios, Islamic education management is a way and art of a group of people to organize and guide students to become human beings who are close to their God within the framework of an institution (Kamaluddin & Manusia, 2016).

Management function

Management functions according to several authors include:

- a. Ernest Dale: Planning, Organizing, Staffing, Directing, Innovating, Representing dan Controlling.
- b. Oey Liang Lee: Planning, Organizing, Directing, Coordinating, Controlling.
- c. James Stoner: Planning, Organizing, Leading, Controlling.
- d. Henry Fayol: Planning, Organizing, Commanding, Coordinating, Controlling.
- e. Lindal F.Urwich: Forecasting, Planning, Organizing, Commanding, Coordinating, Controlling.
- f. SP. Siagian: Planning, Organizing, Motivating, Controlling.
- g. Prayudi Atmosudirjo: Planning, Organizing, Directing/ Actuating, Controlling.
- h. Winardi: Planning, Organizing, Coordinating, Actuating, Leading, Communicating, Controlling.
- i. The Liang Genie: Planning, Decision Making, Directing, Coordinating, Controlling, Improving.

In essence, the functions have described above can be combined into 10 functions that are also suitable for use in Islamic education management, namely (Wry et al., 2017):

- a. Forecasting is the activity of predicting, projecting against the possibilities that will occur when something is done.
- b. Arranging is the assurance of a progression of activities and exercises to accomplish the normal outcomes.
- c. Arranging (association) is a gathering of exercises to accomplish objectives, remembering for this

case the assurance of the authoritative construction, obligations, and capacities.

- d. Staffing or Assembling Resources (faculty plan) is the arrangement of work force since the withdrawal of new specialists. preparing and advancement to endeavors so every official gives greatest proficiency to the association.
- e. Coordinating or Commanding (coordinating or directing) is a work to give direction, ideas, and orders in the execution of the obligations of each subordinate (designation of power) to be done appropriately and accurately by the objectives that have been set.
- f. Leading is the director's responsibility to request that others act by the objectives that have been set.
- g. Planning (coordination) is adjusting assignments or work so there is no disarray and tossing liabilities at one another by interfacing, incorporating, and adjusting crafted by subordinates.
- h. Spurring (inspiration) is giving support, motivation, and consolation to subordinates to do exercises that have been resolved willfully.
- i. Controlling (management) is the revelation and utilization of techniques and gear to guarantee that the arrangement has been done by the goals.
- j. Revealing is the conveyance of the consequences of exercises both recorded as a hard copy and orally

Management of Islamic Boarding School Entrepreneurship soft skills

Soft skills are the main material developed in Islamic boarding schools. Therefore, to be systematic, there are rules of the game using the principles of management science. The following is an explanation of the results of field research that the author did base on the data obtained.

The executives of delicate ability improvement of business venture.

The board is the science and craft of dealing with the most common way of using HR and different assets really and effectively to accomplish a specific objective. A craft of getting sorted out and overseeing so that objectives are accomplished successfully and productively.

Management of the development of soft skills of entrepreneurship in the process of educational activities starting from program planning, program organization, program implementation, and finally the evaluation of learning programs for one academic year (one batch).

a. Soft skill of entrepreneurship development planning

Planning is selecting and relating facts, making and using assumptions about the future by describing and formulating the activities needed to achieve the desired results. The final result is very likely to be seen from the planning that was prepared in advance. Pesantren

managers can target and measure the quality of the results from the plans they make (Brown, 2008).

From the data obtained in the field, the authors found several stages in planning the curriculum for developing soft skills of entrepreneurship. The stages in question are as follows:

Evaluation of the previous soft skills development curriculum

Management activities are like an endless loop. The journey will revolve around the starting point again. The planner that was at the beginning of the series will also look at the last series before starting again. Likewise, with the plan to make the concept of a soft skills entrepreneurship curriculum, the managers evaluated the previous year and then developed it again to make it more perfect.

Based on the results of interviews and some documentation data, it can be concluded that several things are evaluated related to curriculum planning for the development of soft skills of entrepreneurship, namely:

- a. Curriculum content
- b. Human resources (managers who are trusted in their fields)
- c. Teaching staff
- d. Supporting facilities
- e. Learners
- f. Stages of curriculum material
- g. Practicum place
- h. Execution time
- i. Scheduling

Formation of curriculum compilation team

This step is a continuation of the previous curriculum evaluation activities. The educational plan advancement group is chosen by the chief in view of the consequences of thought toward the finish of the past learning year assessment. Educational plan Foundation Principles.

The basic principle of making a curriculum for developing soft skills of entrepreneurship is used as a reference and spirit that exists in a Muslim entrepreneur. The values carried are as follows (Seabright, 2016):

1. Values of tawhid

Santri should have mindfulness as workers of Al Khaliq, animals from the Creator, and the place of people who are furnished with reason by Allah SWT is better than others. In view of that mindfulness, each person who exists has a comprehension that each action is managed by the All-Knowing, in particular Allah SWT. From this understanding, it is also hoped that the resulting students have a strong foundation of faith that is generated/born from the process of thinking clearly and deeply. Thus, daily actions / daily behavior will reflect and be based on the values of faith/monotheism as an appearance of understanding that must be bound by the rules of the Creator.

2. High obedience

The implication of the highest level of faith and attachment to the Shari'ah of Allah SWT is obedience. This obedience can be understood as a form of one's trust and devotion to something outside of oneself by the rules of Allah SWT. The obedience will be manifested in the daily life of students such as worship, clothing, behavior, teaching and learning processes, exams, interaction with others, and others (Mahmudah, 2017).

3. Islamic brother

The distinctive nature of Muslims is the installation of the spirit and high values of *ukhuwah Islamiyah* in them. These values will also be instilled in students as a form of awareness process that they are part of the Muslims who must know what *Ukhuwah* and *Ukhuwah Islamiyah* are. The spirit of *Ukhuwah Islamiyah* appears in an attitude of helping each other in truth and piety and not helping each other in crime and sin, as well as advising each other in truth and patience, correcting fellow students, and being generous when they receive criticism from others (Dianna, 2020).

4. Hard work

Students are expected to have the spirit to work hard and never give up. This spirit needs to be instilled from an early age to educate students so that they are ready to face the realities of life in the future, challenges, obstacles, and all kinds of life problems that will be encountered. This spirit is based on the Prophet's *Sirah* where the Prophet was very happy and praised the companions whose palms were hard as a form of their hard work. So the work ethic must animate the spirit of life of the students (Dianna, 2020).

5. Science

As a Muslim, it is an obligation of seeking knowledge, both personal knowledge and knowledge related to society. The knowledge that is connected to the person will be useful if a Muslim will fulfill obligations related to the individual with the Creator. The other knowledge will be very useful if the individual will interact with the community. On other hand, this scientific attitude must animate every student. Santri must have sufficient scientific basic concepts as a pillar of reference from the community. In this scientific case, Islamic *tsaqafah* absolutely must be more understanding than other sciences. It means that the understanding of Islamic *Tsaqafah* in all aspects will be a very potential and brilliant capital for the process of interaction and change of society by Islamic law. The spirit of reading and *mutabaah* must be ingrained in the souls of the students (Tlaiss, 2015).

6. Struggle and sacrifice

The spirit that never left to the companions of the Prophet was the fighting spirit and the high fighting spirit in defending Islam. This fighting spirit will also be

the spirit of the students in daily life. Santri must have the awareness that Islam requires struggle, hard work, and sacrifice. The spirit to fight is also instilled from the side that they will plunge into a real-life that is very hard, ignorant, and brutal, and it influences the students to always have a high fighting spirit and never give up (Tlaiss, 2015).

7. Sincerity

As a Muslim, it is appropriate for a student to have noble qualities as exemplified by the Prophet SAW. One of the qualities that were always exemplified by the Apostle was sincerity. This sincere attitude is one of the conditions for charity to be accepted by Allah SWT.

8. Honesty

The nature and characteristics that must be possessed by students are honesty. Honesty is not merely a norm that applies in society, but an honest attitude that is indeed based on Syria's commands. This trait will instill perceptions and views in the community that the resulting santri are indeed people who have characteristics that are by Islamic views. From this attitude will emerge trust from the community, sympathy, and cooperation based on honesty as one of the moral foundations in society (Chuang, 1994).

9. Independence

Santri is equipped with enthusiasm and determination to have independence in their lives. This means that in dealing with all life's problems, it is very emphasized to behave and do as much and optimally as possible with their strengths and resources. If they can prioritize to be resolved with their resources. An independent attitude is a basic capital for students to be successful in entrepreneurship when their education period has finished (Rath et al., 2000).

10. Exemplary

If it has mingled and blended with the community, what is needed is *istiqomah* and role models. Likewise, for the students, the attitude to always *istiqomah*, adhere to Allah's rules, and apply them in daily actions will give a positive image in society. This example needs to be instilled in the students because they are elements of the community who incidentally have a sufficient understanding of Islam and have been educated to be wah for the community. For this reason, reading and studying the life stories of successful people is one of the habits that must be instilled in students

Determining graduate competency standards

Students who have completed their education at Lintang Songo Islamic Boarding School are expected to have the following qualifications:

A. Islamic personality

The Islamic personality is composed of two elements, namely the mindset (*alimah*) and the attitude pattern

(nafsiah), then the expected personality qualities of the students are as follows:

1. Aqliyah

Santri is expected to understand Islam which will lead them to always think Islamically. Santri can understand contemporary events within the framework of Islamic understanding

2. Nafsiah

Santri is expected to have an Islamic nafsiah, namely to behave following Islamic teachings which is the embodiment of obedience to Islamic teachings in the aspects of worship, food, drink, morality, muamalah, aqidah, shari'ah, and da'wah, as well as contemporary fiqh. Have supporting abilities such as language Arabic, memorizing the Qur'an at least memorized selected verses, memorizing 40 selected hadiths. Has the ability to provide Islamic material both in the form of lectures and sermons.

B. Professionalism

Santri has adequate capability requirements to run a business professionally (*Islamic Economics : A Survey of the Literature Author (s): ASAD ZAMAN REFERENCES Linked References Are Available on JSTOR for This Article : You May Need to Log in to JSTOR to Access the Linked References. Islamic Economic, 2010*).

1. Santri has a high work ethic
2. Santri has a trustworthy attitude in carrying out their responsibilities
3. Santri can develop business plans.
4. Santri can prepare business feasibility or business proposals by financial institution standards.
5. Santri can solve problems systematically
6. Santri can plan and implement a simple accounting and financial analysis system.
7. Santri can establish relationships with various parties for business interests and the interests of the people.
8. Santri have basic computer skills and they can apply them in business, including business on the internet.
9. Santri has some skills for transactions so that they can generate income equivalent to three times the regional UMR.

C. Independence

Santri has basic applicable management and leadership skills which will encourage them to be independent in the application of the principles of planning, organizing, implementing, and controlling activities (Shihab, 1996).

1. Santri has the habit of living disciplined, orderly, neat, and orderly
2. Students have high self-confidence.
3. Students can measure their potential, formulate their vision, and develop their potential.
4. Students can act and behave as entrepreneurs who are ready to work
5. Santri can read business opportunities, manage them, and market or sell them to consumers.

6. Santri has the basic ability to run a business independently.
7. Santri dares to start and run a business in any situation and condition.

D. Moslem entrepreneur mind setting

An entrepreneur is someone who carries out entrepreneurial activities and can market, develop and be able to regulate the course of the business so that it can last a long time and can continue to issue the latest ideas and innovations through the times. According to experts, the meaning of entrepreneur is: first, according to Thomas W Zimmerer, the notion of an entrepreneur is the application of creativity and innovation to solve problems and take advantage of opportunities that people face every day (Iman, 2019).

Second, Peter F Drucker defines the notion of the entrepreneur as the ability to create something new and different, the cool language is the ability to create the new and different. Third, according to Kasmir, the notion of an entrepreneur is a person who dares to take risks to open a business on various occasions, and finally, according to Soeparman Spemahamidjaja, the notion of an entrepreneur is an ability to think creatively and behave innovatively which is used as the basis, resource, the driving force for goals, tactics, tips, and processes in dealing with life's challenges (Sulisno & Abdullah, 2019). An entrepreneur must be able to regulate his mindset or what is commonly called a mindset. The mindset of an entrepreneur must be instilled from an early age because the mindset is one of the important things for an entrepreneur that makes someone successful. The initial mindset that an entrepreneur must-have, the first is positive reasoning, by thinking decidedly, we can shape our self-assurance and can know the nature of ourselves to assemble an inspiration to be more evolved. Positive reasoning can make us center around accomplishing an objective to move beyond the impediments to progress. The second is being answerable for the choices taken where a business person has the chance to make numerous developments without contemplating things that can hurt an organization. organization. This outlook should be changed by a business person. Since, a business person should be answerable for all angles connected with his business, as well as the government assistance of his business and group (Dianna, 2020).

No entrepreneur is immediately successful when starting a business. By having the spirit to move forward and an unyielding attitude, we can overcome the many obstacles that stand in our way and can achieve the goals we want to achieve. Fourth is being ready and daring to fail. Everyone successful must have experienced what is called failure. To start a business, don't be afraid of failure and the losses that will be obtained because these are all initial things to achieve success. The way to minimize failure is to be willing to learn from Kailahun and criticism from outsiders, never repeat the same Kailahun a second time and the last is to

have a strong commitment or determination, to start something we must have a strong commitment and determination so that we can focus on a goal to be achieved. By having a strong commitment, we can achieve goals easily and we can be more professional in doing or running a business so that it can be more developed,

Mindset or way of thinking is a basic way or step that will lead us to a goal, dream, or big goal that we want to achieve. Start changing our mindset from wrong to better, think positively, believe that we can do what we want, and don't give up on achieving success.

Entrepreneurs who have the capital of creative thinking skills will produce creative works if they have attitudes, motivations, interests, personalities, and habits of supportive behavior. Entrepreneurship initially emerged from the invention of science and technology which was used by people who were able to sell and market the inspiration and invention into a business. It then changes from offering discovery benefits to discovering information benefits that occur in the form of advertising and so on. Then change again by creating a unified concept to meet the needs, wants, and expectations of diverse people (Tlais, 2015). So entrepreneurship has shifted from creating benefits (creator as an entrepreneur) from something that does not yet exist (create something from nothing) to increasing something that already exists to be added value (create something new from something) to meet market needs; and changing the pattern of competition, trendsetter, change driver, and innovator (innovator as an entrepreneur).

CONCLUSION

Pesantren is one of the Islamic educational institutions whose ability is to adapt to all contemporary contexts. This institution acts as a support for religious foundations and presents solutions to contemporary problems by placing the characteristics of entrepreneurship training. The author finds the urgency of soft skill management development entrepreneurship as a dominant factor of being successful in vision entrepreneurship of pesantren graduated students. Second, the mental development of entrepreneurship (Soft skills of entrepreneurship), can't be reached if there is no spiritual cultivation implemented by the students. Third, plan and manage an entrepreneurship curriculum of the Moslem Entrepreneur Mind Setting (reshuffling the mindset of each student that success is everyone's right).

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RELIGIOUS MODERATION BETWEEN PESANTREN AND CHINESE SOCIETY (STUDY AT KAUMAN ISLAMIC BOARDING SCHOOL, LASEM, REMBANG)

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ABSTRACT

This field research is motivated by the practice of religious moderation that has been carried out between the Kauman Islamic Boarding School and the people of Chinese ethnic descent. There are 5 (five) research focuses, namely, first, the urgency of the practice of religious moderation between the Kauman Islamic Boarding School and the Chinese community. Second, the urgency of the practice of religious moderation between the Kauman Islamic Boarding School and the Chinese community. Third, the practice of religious moderation between the Kauman Islamic Boarding School and the Chinese community. Fourth, the factors supporting and inhibiting the practice of religious moderation between the Kauman Islamic Boarding School and the Chinese community. Fifth, the strategy of religious moderation between the Kauman Islamic Boarding School and the Chinese community. The urgency of religious moderation between the Kauman Islamic Boarding School and the ethnic Chinese community can be mapped into 2 (two), namely theological and sociological urgency. The practice of religious moderation between the Kauman Islamic Boarding School and the ethnic Chinese community is reflected physically in the acculturation of Javanese-Arabic-Chinese buildings, as well as non-physically in the inculcation of Islamic values of rahmatan lil 'alamin. The values of religious moderation between the Kauman Islamic Boarding School and the ethnic Chinese community include *infitah* (inclusive), *tawassuth* (moderate), *musawah* (equality), and *tawazun* (balanced). There are 3 (three) factors supporting the practice of religious moderation between the Kauman Islamic Boarding School and the Chinese ethnic community, namely upholding religious harmony, upholding tolerance, and pesantren rituals in public spaces. The strategy of the Kauman Islamic Boarding School in carrying out the practice of religious moderation includes adaptation, goal attainment, integration, and latency.

Key words: chinese community, islamic boarding school, religious moderation

INTRODUCTION

Internationally, Indonesia is the country with the highest level of diversity in southeast Asia, in addition to Singapore and Malaysia. Therefore, in the era of 1930 and 1940, these three countries were seen as the classic locus of world pluralism. In his development, JS Furnivall

(Mustafida, 2021) neatly introduces the three countries to the international community as the most plural countries, so that Indonesia is also automatically included in it. But in its development, as described by Azra, in 1997, there was a multidimensional crisis, so there was also a socio-cultural crisis that resulted in society as a fabric of society (Akhmadi, 2019) eroded due to the socio-cultural crisis. For this reason, it is important to conduct massive

research on opportunities in the form of solutions to the socio-cultural crisis.

Socio-cultural conditions of increasingly diverse societies will certainly be directly proportional to the high potential for horizontal conflict (Muhtarom, Fuad, Latif, & Soefihara, 2020) that occurs in the midst of society. Indonesia as a country with the highest plurality rate in the world should consider it, so that preventive measures can be taken. Even the potential for conflict between religions has also manifestly occurred in various regions of Indonesia. For example, the case of rejection of Easter celebrations in Gunung Kidul in 2014, the burning of the IPR church in Aceh Singkil in 2015, (Rohman & Nugraha, 2021) as well as the largest interfaith conflict cases in Ambon and Poso that have claimed many lives. Prevention measures against interfaith conflict in Indonesia one of which can be explored through the study of best practice of religious moderation conducted by pondok pesantren.

For example, the case of rejection of Easter celebrations in Gunung Kidul in 2014, the burning of the IPR church in Aceh Singkil in 2015, (Rohman & Nugraha, 2021) as well as the largest interfaith conflict cases in Ambon and Poso that have claimed many lives. Prevention measures against interfaith conflict in Indonesia one of which can be explored through the study of best practice of religious moderation conducted by pondok pesantren.

Pondok pesantren is the most important educational institution in Indonesia because it became the first educational institution in Indonesia to be established, long before school or madrasah (M. Husni, n.d.). Pondok pesantren as the oldest Islamic educational institution in Indonesia must be able to answer the challenges of globalization, so that the Islamic education model that is run must dynamically adjust the needs of the times. Historically, the educational journey of pondok pesantren begins with the salaf model, meaning that the ongoing education emphasizes more on the aspect of *tafaqquh fii ad diin*. Furthermore, in order to strengthen the existence of boarding school education in the community, the education of pondok pesantren develops a khalaf or modern model of education, but still guided by the principle of *al-muhafadhotu 'ala al-qodimi al-sholih wa al-akhdzu bil jadidi al-ashlah*, so that the characteristics of boarding school education are maintained neatly.

Socio-historically, the existence of pesantren huts was initially only focused in the field of Islamic da'wah as mujammil Qomar stated that the founders of pesantren huts were originally figures of Islamic propagandists (Qomar, 2005). This substantive goal is what further leads to the high level of interaction between boarding schools and the surrounding community, even the existence of pesantren huts themselves are widely considered as part of society. Socio-anthropologically, the structure of society in the archipelago consists not only of indigenous peoples, but also tribes, nations, and ethnic immigrants or foreigners (Husna Nashihin, 2017). One of

them is ethnic Chinese who are already part of Indonesian citizens today.

As an indigenous educational institution, pondok pesantren has an existence in the community because of the magnitude of functions and benefits provided to the community. Nevertheless, the existence of pesantren huts has a big challenge, especially for boarding schools that are in the middle of non-Muslim communities. One of them is Pondok Pesantren Kauman. Pondok Pesantren Kauman is located in Karangturi Village which is also known as Chinatown village. The name is pinned because in Karangturi Village the majority of the population is of non-Muslim Chinese descent. Pondok Pesantren Kauman maintains harmonious relations with non-Muslim Chinese communities by practicing religious moderation through a multicultural approach (Nasihin & Puteri Anggita Dewi, 2019), so that the values of religious moderation are put forward in building harmonious interaction.

As a boarding school located in a non-Muslim neighborhood, Pondok Pesantren Kauman has a challenge in maintaining harmonious relations with the surrounding community. This challenge is strengthened by Wekke who asserts that the challenge of Muslims who are in minority areas is about social identity (Majid, 1998). The social identity of Pondok Pesantren Kauman in the midst of a community of non-Muslim ethnic Chinese descent is a challenge, so the care is carried out by practicing religious moderation in building interaction between the two.

Currently Pondok Pesantren Kauman is led by Abah Zaim, grandson of Simbah Kyai Ma'shum, precisely the youngest son of KH. Ahmad Shakir and Nyai Faisah. Historically, the existence of Pondok Pesantren Kauman which has Chinese cultural peculiarities is closely related to the ancestors of Abah Zaim are descendants of Arabs who married Chinese descendants. The existence of Pondok Pesantren Kauman as a boarding school characterized by Chinese culture if examined deeply is strongly influenced by heredity or heredity factors. However, with the development of ethnic Chinese around the boarding school, it eventually also causes environmental factors of the surrounding community that affect the existence of Chinese culture in this boarding school.

Geographically, the peculiarities of Pondok Pesantren Lasem as an ethnic Chinese boarding school are strongly influenced by Lasem District which is the district with the highest level of diversity when compared to other sub-districts in the Rembang region. Based on *dindukcapil* data, Lasem district number of Muslims as many as 49,276 people, Christians 1,008 people, Catholics as many as 590 people, Hindus 2 people, Buddhists 161 people, Konghuchu 42 people, and adherents of other beliefs 18 people (*Dindukcapil* Year 2020). Although the majority of believers are still predominantly Muslim, but the diversity of religions in Lasem Subdistrict is seen with the existence of other

religions such as Christianity, Catholicism, Hinduism, Buddhism, Confucianism, and other faiths.

Lasem is famous as the city of Santri because it has 21 boarding schools. In addition, Lasem is also known as a small Chinese city, because it has the largest Confucian religion in Rembang. Interaction between boarding schools and ethnic Chinese communities in Lasem is inevitable. Logical consequences, the interaction between Islam and Confucianism also occurred, resulting in the need for a moderate attitude to be put forward. The practice of religious moderation between boarding schools and ethnic Chinese communities is an important thing to raise, furthermore it can be an example of religious moderation practices elsewhere.

The practice of religious moderation carried out between Pondok Pesantren Kauman and people of ethnic Chinese descent is actually also in accordance with QS. al-Hujurat verse 13 which affirms that Allah Almighty created people of different sexes, tribes / ethnicities, and nations to be able to know each other (Prof. Dr. Mujamil Qomar, 2021). Based on the explanation of the above verse, diversity is a natural thing and cannot be changed, so that moderate attitude becomes the price of death in building harmonious relationships amid existing differences. The practice of religious moderation implemented by Pondok Pesantren Kauman is an ideal attitude that must be developed in Indonesia.

Taking into account the practice of religious moderation that has been implemented between Pondok Pesantren Kauman and the people of ethnic Chinese descent above, this study seeks to analyze 5 (five) research focuses, namely, first, the urgency of religious moderation practices between Pondok Pesantren Kauman and Chinese communities. Second, the urgency of moderation practices religion between Pondok Pesantren Kauman and Chinese society. Third, the practice of religious moderation between Pondok Pesantren Kauman and Chinese society. Fourth, the supporting factors and inhibitions of religious moderation practices between Pondok Pesantren Kauman and Chinese society. Fifth, the strategy of religious moderation between Pondok Pesantren Kauman and the Chinese community.

Based on the focus of the above research, the purpose of this study is to analyze the best practice of religious moderation practices between Pondok Pesantren Kauman and Chinese society, so that the results of the study can be a model of diverse moderation practices elsewhere.

RESEARCH METHODS

This field study uses descriptive qualitative data analysis (Nasrudin, 2019), so the purpose of this study describes the practice of religious moderation between Pondok Pesantren Kauman and the Chinese community in Lasem Rembang. This research uses the phenomenological approach as a typical approach to

qualitative research (Prof. Dr. Ir. Santosa, 2019) in studying the phenomenon of religious moderation in the interaction between Pondok Pesantren Kauman and Chinese society. In addition, this study also used the Islamic Education Nusantara approach in exploring the values of religious moderation contained in the interaction between Pondok Pesantren Kauman and Chinese society.

In order to get comprehensive data, researchers use participant observation methods, meaning that researchers participate in the role of educators in Pondok Pesantren Kauman Lasem Rembang located in the middle of the Chinese community. In addition, researchers also use in-depth interview methods (Prof. H.M. Sukardi, 2021) so that the data obtained can be valid in accordance with the actual reality. Observations were made on the interaction process between Pondok Pesantren Kauman and the Chinese community in Lasem Rembang. Furthermore, the interview was conducted to all personnel of Pondok Pesantren Kauman Lasem Rembang, consisting of kyai, administrators, educators, ustadz, and santri. With regard to documents, researchers use documentative data collection methods. This method is done to obtain data related to santri activity programs with the community at Pondok Pesantren Kauman Lasem Rembang.

RESULTS AND DISCUSSION

Overview of pondok pesantren kauman and Chinese society

Pondok Pesantren Kauman is located in Karangturi Village of Lasem District of Rembang Regency, precisely behind Lasem Mosque. Based on Karangturi village statistics, 94% of the residents in the village have ethnic Chinese backgrounds, so it is not surprising that this village is referred to as a Chinatown village.

Pondok Pesantren Kauman was established by KH. Muhammad Zaim Ahmad Ma'shoem who is familiarly called Gus Zaim on the 27th of Ramadan 1424 H or precisely on November 21, 2003. The name of kauman is propagated in the area where kyai live as the naming of the previous kyai-kyai.

Pondok Pesantren Kauman has a vision of "Berakhlakul Karimah, Berilmu Diniyyah and Beramal Shalih". This vision represents an emphasis on morals, Islamic religious science, and charity that must be owned by students. Furthermore, the vision is spelled out into 4 (four) missions, namely realizing santri who preaches to Allah and is equipped with the knowledge of Shari'ah and imu tawhid, printing santri tahfidz that mamapu memorizes the Qur'an, realizes santri who is able to read the yellow book correctly, accompanied by memorization of Nadzam Imrithi and Alfiah, and create santri that can provide benefits for the environment and society. One of the missions developed in Pondok Pesantren Kauman emphasizes on the aspects of

environmental and social diversion. The environmental and social diversion of the students in Pondok Pesantren Kauman can be realized by the implementation of religious moderation practices between pesantren hutsand chineseeniscommunitiesin Lasem Rembang.

The physical building of Pondok Pesantren Kauman started from a house given by a citizen of ethnic Chinese descent. Furthermore, in its development the physical building of this boarding school has an ethnic Chinese feel, even Lasem is referred to as a "Small Chinese City" (Education, Di, Non, Chinese, & Rohmah, 2021) due to the nuances of ethnic Chinese inherent in its community environment. The majority of the people in Lasem are of non-Muslim Chinese descent. As an Islamic educational institution located in the midst of a community of ethnic Tinghoadescent, Pondok Pesantren Kauman conducts a cultural culture-based approach (Mustafida, 2021), so that this boarding school can blend together with ethnic Chinese culture in Lasem Village.

Socio-culturally, ethnic Chinese in Lasem are not new entities. Quite the opposite, javanese people in Lasem have historically been immigrant communities who became workers of batik cloth companies owned by ethnic Chinese communities. After the arrival of Pondok Pesantren Kauman, then the barrier The flash is fading. Pondok Pesantren Kauman built a pattern of moderate relations between the majority Muslim Javanese community and the ethnic Chinese community. The practice of religious moderation carried out between the two is realized in various activities of social life (Prof. Dr. Mujamil Qomar, 2021). Harmony in social life activities between Pondok Pesantren Kauman and ethnic Chinese community is the key word of success in maintaining a harmonious life between the two.

The number of ethnic Chinese in Indonesia is increasing (Pendidikan et al., 2021). Historically, the existence of ethnic Chinese has increasingly merged into the indigenous community since suharto's leadership for 32 years carried out assimilation programs. Through this program, Suharto abolished the pillars of ethnic Chinese culture such as Chinese schools, ethnic Chinese organizations, and chinese mass media in Indonesia. The existence of ethnic Chinese in Indonesia since the assimilation program began to erode, so that ethnic Chinese in social life mixed with the indigenous people of Indonesia (Suryadinata, 2010: 210).

This condition becomes an external factor that makes the ethnic Chinese community in Kauman Village also easily accept the existence of Pondok Pesantren Kauman. This is even stronger when supported by the pattern of relationships built by Pondok Pesantren Kauman which promotes religious moderation (Prof. Dr. H. Nasaruddin Umar, 2021). Interaction between ethnicities Chinese and Pondok Pesantren Kauman certainly also have obstacles caused by different cultural, religious, and language backgrounds. Tolerance (Ramli, 2019) must be put forward in looking at these differences, so that background differences between the

two can be understood as a common challenge, not an obstacle.

Urgency of religious moderation practices between pondok pesantren kauman and chinese society

The urgency or level of importance of religious moderation between Pondok Pesantren Kauman and ethnic Chinese society can be mapped into 2 (two), namely urgency through theological and sociological approaches (Rosmini, Shamsidar, & Haniah, 2017). Theologically, the urgency of religious moderation is approached by the texts of the Qur'an and hadith, resulting in an understanding of Islam's view of proper religious moderation. Through this understanding, it is expected that the practice of religious moderation implemented can be understood in accordance with Islamic sharia.

Abah Zaim in accustoming the practice of religious moderation to the managers and students in Pondok Pesantren Kauman using a theological approach. In the view of Abah Zaim, the practice of religious moderation (Bedong et al., 2020) such astakziyah to non-Muslims is an effort to uphold multicultural values that do not violate Islamic sharia. Islamic Sharia teaches its people to do good to their neighbors, regardless of their differences in ethnicity, nation, and religion.

The practice of religious moderation Abah Zaim pinned with the name of cultural da'wah by the community around the boarding school. Based on an interview with Abah Zaim it is known that cultural da'wah becomes the term attached to Pondok Pesantren Kauman, although actually this boarding school also has no cultural proselytizing activities, it's just that social interaction to ethnic Chinese based on science and religion is believed.

Abah Zaim added that the approach used mimics the prophet's tauladan, when the Prophet (peace be upon him) led the plural and plural city of Medina into Darussalam which is a safe and peaceful country. The model of interaction that promotes religious moderation is contained in Qs. al-Mumtahanah which describes interactions between religious people, Qs. al-Kafirun on religious tolerance, Qs. al-Hujurat on plurality, Qs. Jonah on non-monolithic life (Abror, 2020). Muhammad Husein al-Taba'taba'i explained that the matter of faith is a person's business with Allah Almighty that cannot be forced (Yani, 2018).

In relation to Qs. al-Hujurat verse 13, Abah Zaim explained that in the context of humanity, the phrase *li ta'arofu* means *ukhuwah Islamiyyah*, *ukhuwah wathaniyyah*, and *ukhuwah insaniyyah*. This widespread meaning is what causes the practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities can run well. Based on the presentation of santri, there is a message of Abah Zaim which is used as the basis of Religious moderation in Pondok Pesantren Kauman, namely *daarhim maa dumta fii daarhim, wa ardlhim maa dumta fii ardlhim*, (Pendidikan et al., 2021) means that when you are in a

place, group, or organization, then adapt without overriding faith. The concept of Abah Zaim is in accordance with Lawrence Blum's opinion with regard to multiculturalism which is essentially that respecting and respecting other ethnic cultures is a form of expression of respect (Blum, 1991).

One form of religious moderation practice carried out between Pondok Pesantren Kauman and ethnic Chinese community is related to the celebration of Chinese New Year, Cap Gomeh festival, Ceng-Beng, Duan Wu, and so forth carried out by ethnic Chinese communities, as well as the celebration of Eid al-Fitr, Eid al-Adha, Maulid Nabi, Isra Mi'raj, Haul, Pilgrimage, and so on carried out by Pondok Pesantren Kauman with other Muslim communities.

The sociological approach to the urgency of religious moderation is based on the fact of diversity that must be addressed wisely in order to live a harmonious and harmonious life. The activities of ethnic Chinese communities, Pondok Pesantren Kauman, and other Muslim communities around Kauman can run well without conflict because it promotes tolerance (Bedong et al., 2020) among others. This attitude of tolerance is what underlies the realization of religious moderation in Kauman.

The practice of religious moderation that takes place well between Pondok Pesantren Kauman and ethnic Chinese communities is also supported by the concept of santri living panca that can be interpreted well by santri in Pondok Pesantren Kauman. Panca santri life found in Pondok Pesantren Kauman among others the soul of sincerity, simplicity, independence, ukhuwah Islamiyah, and freedom. Philosophically, the five souls of santri life become the philosophy of santri life in Pondok Pesantren Kauman. Panca live santri which becomes the philosophy of santri life greatly affects the acceptance of santri to the diversity around Pondok Pesantren Kauman.

More specifically, the philosophy of santri life is described by Nurcholish Majid (Cahyono, 2017) into 12 (twelve) principles, including theocentric, sincere in devotion, wisdom, simplicity, collectivity, organizing joint activities, independence, freedom of leadership, where to study and serve, practice religion, study in pesantren to seek diplomas, and adherence to kiai.

The practice of religious moderation is also reflected in the physical buildings of Pondok Pesantren Kauman which is artistically full of Chinese nuances, such as lanterns inscribed with asma'ul husna, wall hangings in the form of Chinese letters and writings, and so on. Chinese ornaments contained in Pondok Pesantren Kauman is a form of adjusting Pondok Pesantren Kauman as an Islamic educational institution in the midst of ethnic Chinese society.

Religious moderation practices between pondok pesantren kauman and chinese society

The practice of religious moderation carried out between Pondok Pesantren Kauman and ethnic Chinese

communities can be interpreted as intercultural communication which is a function of differences between inter-culturally concerned (Mulyana and Rakhmat, 2003: 21). Intercultural communication that occurs between Pondok Pesantren Kauman and ethnic Chinese communities can take place well because both prioritize differences as a wealth that should be appreciated, not as a potential division.

The practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities is a form of cultural acculturation that is in line with the motto of the Indonesian State "Bhineka Tunggal Eka". This practice becomes very interesting to be excavated to be used as the best practice of Islamic educational institutions in a plural country such as Indonesia.

Historically, the existence of Pondok Pesantren Kauman has the purpose of subtly expelling gambling and drunken activities in kauman village. Changing the bad habits of kauman people into the main work carried out by the founders of Pondok Pesantren Kauman. Based on observations, the practice of religious moderation in Kauman is seen in Arabic calligraphy and Chinese meanings about the strict prohibition of harming neighbors.

In order to maintain good relations with the ethnic Chinese community in Kauman, Abah Zaim set up a tolerance stall. The santri interact with ethnic Chinese communities in tolerance stalls. Warung Tolerance is located ±250 m from Pondok Pesantren Kauman. This stall is referred to as a tolerance stall because of the interaction between sellers and buyers, as well as interaction between fellow buyers of different religions. The tolerance stall is run by Jing Hai or Karjin, a Chinese Catholic.

The practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities is reflected in takziah activities. Takziah in Kauman is used between Muslims and Non-Muslims. In regards to the custom of takziah between Muslims and Non-Muslims, Abah Zaim teaches prayer that is "may those who are left guided and the dead be placed in a proper place". Abah Zaim explained that takziah between Muslims and Non-Muslims is *hablun min an-nas* (relationship between humans) not *hablun min Allah* (relationship with Allah).

However, there are prohibitions that must still be maintained in takziah against Non-Muslims, including waiting for the cremation of the body, attending to church, and following the process of sending the body to the tomb. Abah Zaim explained that Pondok Pesantren Kauman carries out the concept of intercultural *dahwah* (Shihab, 2019), which means *da'wah* is done by combining sharia with community culture. Sharia and culture go hand in hand while still ruling out aspects of sharia rules that apply.

The concept of intercultural *da'wah* can also be equated with the indigenization of Islam, meaning that Islam in its development must always be related to

the context of place and time. Through the concept of Islamic indigenization, Islam can responsively and intensely answer universal humanitarian problems regardless of ethnic or cultural differences.

The two-way relationship between Pondok Pesantren Kauman and non-Muslim Ethnic Chinese communities is embodied in the involvement of non-Muslim Tinghoa residents in all boarding school activities. Activities at Pondok Pesantren Kauman that require consumption, service, and energy that always involve ethnic Chinese citizens around pesantren huts. Stratgei is what has effectively succeeded in making the practice of religious moderation in Kauman well maintained.

The practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities is reflected in the following activities;

1. Acculturation of javanese, arabic, and chinese cultural architecture.

The application of acculturation of Javanese, Arabic, and Chinese cultures is reflected in several things as follows;

- a. The main building of the boarding school is in the shape of a colonial era with Chinese architecture
- b. Santri room has three forms, namely the princessantri room in the form of a mini temple, the barn/gladak-shaped men's santri room, and Javanese style with lantern decorations.
- c. Kamplang post has a red color and curved roof, with calligraphy decorations and mandarin writing
- d. Chinese roof in the princess room that is a characteristic of Chinese buildings
- e. Lantern light trinkets decorated with lafad asmaul husna
- f. Wall hangings made from batik paintings with a blend of mandarin and Arabic writing (kaligarfi).

2. Consistency instills the islamic concept of rahamatan lil alamin

Islam Rahamatan Lil Alamin means a gentle and peaceful Islam. Hashim Muzadi explained that the term Islam Rahamatan Lil Alamin has been listed in the Qur'an attached to the teachings brought by the Prophet Muhammad Saw. The teachings of Islam since the beginning of its delivery already have the characteristics of positive impact, inclusive, comprehensive, and holistic in overcoming problems in social society. Consistency of planting of Islamic concepts Rahamatan Lil Alamin between Pondok Pesantren Kauman and ethnic Chinese community is manifested in other attitudes;

- a. Be nice with neighbors

Being kind to neighbors becomes an attitude that is upheld by Pondok Pesantren Kauman. In fact, hadith which means "Not one's faith if the neighbors are still disturbed by us", is used as a guideline that is permanently attached to various buildings, such as entrances and ronda posts.

- b. Upholding the value of tasamuh (tolerance)

Abah Zaim in instilling tasamuh (tolerance) attitude to santri through special preaching. Khudwah

khasanah means to set a good example or example. This means that santri in pondok Pesantren Kauman will see the daily life of kiai or teacher and it will be a lesson for santri.

- c. Build harmonious relationships with all people regardless of ethnicity, ethnicity, class and religion.

Abah Zaim built harmonious relations with ethnic Chinese citizens. One way to create a harmonious relationship is to greet each other when meeting, and provide mutual assistance. How to mingle done by students such as in social activities, such as devotional work, night patrol, njagong and coffee in Chinese stalls.

Values in the practice of religious moderation of pondok pesantren kauman and chinese society

The values upheld in the practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities refer to the Islamic characteristics of Rahmatal Lil' Alamin. These values include infitah (inclusive), tawassuth (moderate), musawah (equation), and tawazun (balanced). Through these values, the role of pondok pesantren in the midst of plural Indonesian people's lives becomes very important (An-Nahidl, 2017). Religious moderation practices Conducted by Pondok Pesantren Kauman with ethnic Chinese community is a religious message as well as an agent of culture of moderate values in Indonesia.

In its implementation, the development of inclusive values (Hasan, 2016) in Pondok Pesantren Kauman is the key to the success of respect and respect for the existence of non-Muslim Ethnic Chinese communities. The attitude that is put forward between Pondok Pesantren Kauman and ethnic Chinese community is an alumssuth attitude in positioning themselves in terms of worship and social.

Tawassuth attitude that prioritizes the value of musawah (equality), means looking at all human beings in the same position of rights and obligations, by abandoning partisanship in groups, tribes, races, ethnicities, and religions (Safitri, 2017). In addition, the value of tawazun (balanced), meaning the attitude of putting forward a balance between vertical worship with Allah Swt and social worship that is horizontally related to fellow humans. Tawassuth and tawazun attitude (Wahyudi & Novita, 2021) puts forward a mixture of 'aqli (akal) and naqli (verse). When viewed from the side of the jurisprudential approach, then the values developed prioritize the anthropocentric jurisprudential approach, not theocentric fikih.

Supporting factors in religious moderation practices between pondok pesantren kauman and chinese society

Factors supporting the existence of Pondok Pesantren Kauman able to survive in the midst of ethnic Chinese society, among others;

- a. Upholding religious harmony

Upholding religious harmony conducted between Pondok Pesantren Kauman and ethnic Chinese

community is done with an attitude of care, care, respect, peace, and not disputing in various differences.

b. Upholding tolerance

The attitude of upholding tolerance carried out between Pondok Pesantren Kauman and ethnic Chinese community is the ability of Pondok Pesantren Kauman in accepting differences in terms of religion, ethnicity, ethnicity, race, and language contained in Kauman.

c. Pesantren rituals in public spaces

Pondok Pesantren Kauman as an Islamic educational institution NU has pesantren rituals based on NU activities, such as mujahadah, tahlilan, hadroh, prophet's maulid warning, and so on. The pesantren ritual is carried out in public spaces, so that there is interaction between the Pondok Pesantren Kauman and ethnic Chinese communities.

Religious moderation strategy between pondok pesantren kauman and chinese society

Historically, the establishment of Pondok Pesantren Kauman has experienced contradictory rejection from the surrounding community. However, the outplicing was further used as a motivation to build good relations with non-Muslim ethnic Chinese communities. The strategy of Pondok Pesantren Kauman in implementing religious moderation practices include building good relations with all circles, conducting relations with the surrounding community, maintaining salaf education and developing formal schools. Good relations are built through interactive discussions between Pondok Pesantren Kauman and ethnic Chinese communities.

a. Adaptation

Adaptation carried out by Pondok Pesantren Kauman becomes a necessity as an Islamic educational institution that is in the middle of the ethnic Chinese community. The adaptation carried out by Pondok Pesantren Kauman paid off with a similar adaptation carried out by the ethnic Chinese community to the boarding school. Such two-way adaptation patterns eventually resulted in moderation practices. Religion that produces a community of people who live side by side and harmoniously.

b. Goal Atteinment

Goal attainment is the achievement of the goals that have been set by Pondok Pesantren Kauman. Related to the practice of religious moderation, Pondok Pesantren Kauman has the aim of teaching the teachings of Islam that rahmatan lil' alamin. The teachings of Islam rahmatan lil' alamin are conveyed through examples of acts in the form of religious moderation practices. The teachings of Islam rahmatan lil' alamin are conveyed through examples of acts in the form of religious moderation practices. The teachings of Islam rahmatan lil' alamin applied in Pondok Pesantren Kauman to non-Muslim ethnic Tinghoa people still consider the limits of Islamic sharia, so that its implementation has more to do with the muamalah region.

c. Integration

Integration is a cooperative relationship between Pondok Pesantren Kauman and ethnic Chinese communities that is implemented consciously to achieve the goal of coexistence and harmony. Cooperation is carried out in various fields, such as the social field by maintaining environmental security, as well as the art of architecture with Javanese-Arab-Chinese acculturation building design.

d. Latency

Latency is an expression generated in the relationship between Pondok Pesantren Kauman and the non-Muslim ethnic Chinese community. Pondok Pesantren Kauman becomes a pesantren educational institution as well as a social institution, proven by the existence of Pondok Pesantren Kauman in encouraging a helpful attitude between citizens despite different religions.

CONCLUSION

Pondok Pesantren Kauman has an ethnic Chinese feel located in Lasem which is referred to as the "Small Chinese City". The urgency of religious moderation between Pondok Pesantren Kauman and ethnic Chinese community can be mapped into 2 (two), namely urgency theologically and sociologically. The practice of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities It is reflected physically in the acculturation of Javanese-Arab-Chinese buildings, as well as non-physical in the cultivation of Islamic values of rahmatan lil' alamin. The values of religious moderation between Pondok Pesantren Kauman and ethnic Chinese communities include infitah (inclusive), alumssuth (moderate), musawah (equality), and tawazun (balanced). There are 3 (three) factors supporting the practice of religious moderation Between Pondok Pesantren Kauman and ethnic Chinese community, namely upholding religious harmony, upholding tolerance, and pesantren rituals in public spaces. The strategy of Pondok Pesantren Kauman in implementing religious moderation practices include adaptation, goal attainment, integration, and latency.

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ANALYSIS OF MATHEMATIC REPRESENTATION ABILITY BASED ON STUDENTS ERRORS IN WORKING ON STATISTICS MATERIALS

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ABSTRACT

Mathematical representation ability is one of the abilities related to mathematical understanding ability in constructing students' knowledge and understanding in understanding a mathematical concept. This study aims to analyze the ability of mathematical representation based on students' errors in working on problems on statistical material. The method used in this research is a type of qualitative or descriptive research. The subjects in this study were students of SMA Negeri 5 Singkawang as many as 3 students. The instrument used in this research is in the form of 3 questions about the ability of representation. The object in this study is the ability of mathematical representation based on students' errors in working on problems on statistical material. The data in this study were obtained from students' answers. The data analysis technique used in this research is calculating the average, category, analysis, and drawing conclusions. From the results of the research conducted, the results of the analysis of the level of students' mathematical representation abilities were 33.33% in the low category.

Key words: mathematical representation abilities, statistics, student errors

INTRODUCTION

Education is currently one of the most important needs for humans, because education provides knowledge and understanding that will be useful for everyday life. According to (Hendriana, 2014) Education is one of the efforts to improve the quality of human resources that play an important role in shaping the mindset of intelligent humans in modern society which plays an important role in everyday life. One of the important educations to learn is mathematics. Mathematics is one of the subjects that serves to develop the ability to calculate, measure and use mathematical formulas that can be applied in life. Mathematics provides opportunities for students to train their mental and will affect their intellectual development. Through mathematics lessons students will be able to learn to acquire knowledge systematically. Mathematics is important to learn because it can help in everyday calculations. According to NCTM (2005: 29), there are five mathematical abilities that must be mastered by students in learning mathematics, including: (1) problem solving abilities, (2) reasoning and proof abilities, (3) mathematical communication skills (communication), (4) mathematical connection abilities (connections), and (5) mathematical representation abilities (representation). Mathematical representation ability is one of the abilities related to mathematical understanding abilities. Representation is the main focus in constructing students' knowledge and understanding in understanding a mathematical concept. Mathematical representation is something that always appears when

someone studies mathematics at all levels of education. The indicators of mathematical representation ability used in this study are 1) visual representation aspects: students can present data or information in the form of tables and diagrams; 2) aspects of symbol representation: students can solve problems involving mathematical expressions; 3) verbal representation aspect: students can compose a story and state a mathematical statement or idea by using words or written text. During the process of learning mathematics, the ability to express mathematical ideas is something that must be done by everyone who is studying it. However, most students avoid math because it is considered difficult and unpleasant. One of the difficult mathematics materials is statistics. Generally, statistics is also referred to as a special science that studies data, develops techniques for processing numbers, and attempts to describe them (Inayah, 2016).

In answering math problems, students often find mistakes in working on the questions. We need to know and analyze errors in answering questions so that later we can avoid these mistakes so that students' abilities in learning can increase.

RESEARCH METHODS

The method used in this research is descriptive research with qualitative methods. This research was conducted to determine the ability of mathematical representation based on students' errors in working on problems on statistical material. The instrument used in

this study is a matter of mathematical representation of statistical material for class XI odd semesters as many as 3 questions. The subjects in this study were students of SMA Negeri 5 Singkawang as many as 3 students. The object in this study is the ability of mathematical representation based on student errors in working on problems on statistical material. The data obtained comes from students' answers to the questions that have been given. The data analysis technique used in this study is calculating the average, category, analysis, and drawing conclusions.

RESULTS AND DISCUSSION

RESULTS

The following is a table of the percentage of student answers in mathematical representation abilities based on students' errors in working on questions on statistical material.

Table 1 Data on the percentage of mathematical representation ability

Student	Questions			Amount
	Visual Aspect	Symbol Aspect	Verbal Aspect	
S-1	2	2	1	5
S-2	2	1	1	4
S-3	1	1	1	3
Amount	5	4	3	12
Mean	1,67	1,33	1	4
Percentage	13,91 %	11,08 %	8,33 %	33,33 %

From the percentage results table above, we can know that students' mathematical representation abilities are in indicator 1), namely the visual representation aspect: students can present data or information in the form of tables and diagrams; got a percentage of 13.91%. In indicator 2), namely the aspect of symbol representation: students can solve problems involving mathematical expressions; got a percentage of 11.08%. As for indicator 3) aspects of verbal representation: students can compose stories and state a mathematical statement or idea by using words or written text; is at a percentage of 8.33%. After adding up the percentage results of the mathematical representation ability of the three questions, each of which represents the three indicators of mathematical representation ability, is 33.33%.

DISCUSSION

Students' answers to question number 1 which lead to indicators 1) Visual representation aspect: students can present data or information in the form of tables and diagrams. Question number 1 leads to indicators of visual representation aspects, namely students can present data or information in the form of tables and diagrams. In

question number 1, the average percentage result is 13.91%. The results of the analysis for question number 1 are that there are still students who cannot solve the problem correctly, namely students do not write down the steps in making a frequency distribution table, where students only write down the largest data minus the smallest data, and for the bar chart students do not understand how make a bar chart and only rewrite the data in the problem.

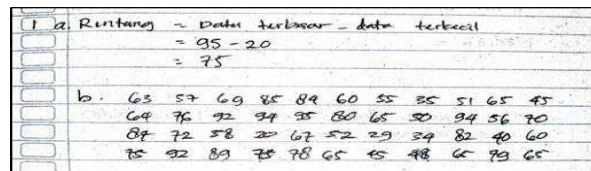


Figure 1. Students' answers to question number 2 are indicators of symbol representation aspects: students can solve problems involving mathematical expressions.

Students' answers to question number 3 which lead to indicators 3) verbal representation aspects: students can compose stories and state a mathematical statement or idea by using words or written text. In question number 3 using indicators on aspects of verbal representation, students can compose stories and state a statement or mathematical idea using words or written text. The average percentage in solving the third question got the lowest result, which was 8.33%. The results of the analysis on question number 3 show that there are still students who cannot solve the problem correctly. Where students do not make stories from the tables in the questions, and only write down the location of the mode but cannot provide the final conclusion of the answer.

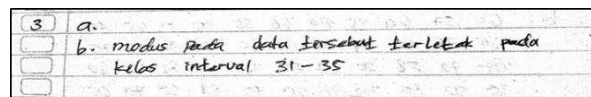


Figure 3. Students' answers to question number 3 are indicators of verbal representation aspects: students can compose stories and state a mathematical statement or idea by using words or written text.

From the results of the analysis that has been carried out, it can be seen that the percentage of students in working on and solving problems is 33.33%, this means that there are still many students who make mistakes in working on the questions given. For this reason, students still need to be guided in learning so that errors in working on the questions given can be reduced. Students are also expected to need to improve their understanding of the principle, so that students can understand and understand what the questions ask for, so that students can more easily work on the questions given.

CONCLUSION

Based on the research and analysis results that have been carried out, there are still many students who

make mistakes in solving statistical problems on mathematical representation abilities with the level of students' mathematical representation abilities of 33.33% which are in the low category. Many students still make mistakes in working on the questions given, such as conceptual and principle errors, not understanding what the questions are asking for, only writing what they know, not knowing the formula, and not writing the final conclusion of the answer. From the results of these studies, the role of the teacher is needed in learning so that in the future mistakes in working on the questions given can be avoided or reduced. The factors that influence and cause student errors in solving the questions given are due to lack of understanding of the questions given, not knowing the rules in mathematical formulas, principal errors concerning reasons and final conclusions.

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If there is (optional), write Acknowledgments here.

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ANALYSIS OF CREATIVE THINKING ABILITY FROM LEARNING INTEREST

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ABSTRACT

This study aims to describe the ability to think creatively in terms of students' interest in learning. The method used in this research is descriptive research with a qualitative approach. Subject and object of creative thinking ability to describe students' mathematical creative thinking skills based on aspects of fluency, flexibility, and originality. The data analysis technique is the result of the research on mathematical creative thinking abilities that the mathematical creative thinking ability of class VII students is low.

Key words: creative thinking ability, student's interest in learning

INTRODUCTION

One of the fields of study that plays an important role in life is mathematics. Mathematics is one of the basic subjects that has been applied to students when entering elementary school to college and also has a role in the world of education. According to Siagian, M. D. (2016) mathematics is a branch of science that has an important role in the development of science and technology, both as a tool in the application of other fields of science and in the development of mathematics itself. Because with education, humans will have a clearer and more focused view and direction of life. This is in accordance with the educational objectives stated in Law No. 20 of 2003, namely developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, capable, creative, independent and become democratic and responsible citizens..

In addition, one of the goals of mathematics is that students are expected to be able to think creatively. In mathematics students are trained and taught to think rationally, critically, creatively in order to be able to apply mathematics in solving problems in everyday life. In addition, another goal of learning mathematics is to prepare students to be able to use mathematics and mathematical thinking patterns in everyday life in studying various sciences (Suherman, 2001). One of the focuses of the research in this article is the creative thinking ability of students, which can be seen from their interest in learning because so far students have always considered mathematics a difficult subject and difficult to understand. This is a homework for educators so that the learning presented must be fun but provide a critical and creative effect for each student. In learning mathematics, it can be seen that students' abilities are still weak in understanding thinking and solving a problem. So one of the cognitive aspects that are needed and quite important

in supporting learning based on the 2013 curriculum, one of which is the ability to think creatively. The ability to think creatively is one of the most important things for students, especially in the teaching and learning process of mathematics. Firdausi, Y. N., Asikin, M., & Wuryanto, W. (2018, February). According to Andiyana, et al. (2018) The importance of studying mathematics in managing students' creative thinking skills, reasoning, solving problems, communicating, relating mathematical material to real situations, and being able to use and utilize technology.

But in fact the students' mathematical thinking ability is still low. According to Nurjanah, S, et al. (2019). One factor in a person that might influence student learning outcomes is interest in learning. So if the interest in learning is high, it can increase students' creative thinking skills. According to Fimansyah, D. (2015) interest in learning can be interpreted as a desire or need that arises from one's participation and learning experience created by a sense of security in the teaching and learning process so that learning outcomes are fully controlled by students, and teachers must be able to create conditions so that students always need and want to keep learning. High interest in learning will make it easier for students to understand and solve problems, otherwise if students' interest in learning is low, it will be difficult for students to understand and solve a problem. Therefore, if students' interest in learning is possessed by students, they will slowly grow students' mathematical creative thinking skills.

This study aims to determine the ability to think creatively in terms of students' interest in learning. Will students' interest in learning affect their creative thinking skills and students can understand and solve the problems given.

RESEARCH METHODS

The type of research used in this research is descriptive research with a qualitative approach, the instrument used in this study is a matter of creative thinking. This creative thinking question consists of 3 questions on fractional number operations for class VII odd semesters based on indicators of creative thinking ability. This research was conducted to determine the students' creative thinking ability in solving problems seen from students' interest in learning. The indicators of creative thinking skills used in this study are 1) Students are able to answer questions with more than one answer (various answers) and correctly (fluency). 2) Students are able to answer questions in a variety of ways, or answer questions in different ways (flexibility). 3) Students are able to give answers other than the usual or new ideas (authenticity).

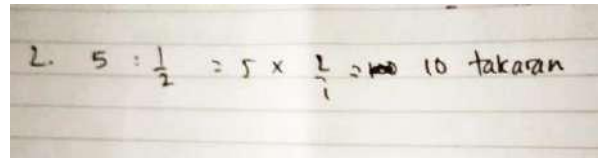


Figure 2. Students have not been able to answer more than one question correctly.

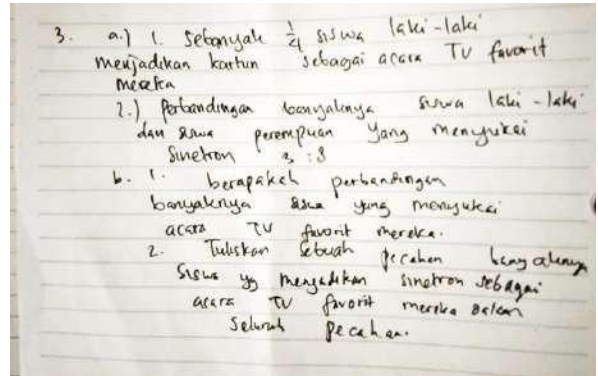


Figure 3. Students are able to provide other answers with new ideas.

RESULTS AND DISCUSSION

Table 1. Students' Creative Thinking Ability Results

Subject	Question			Total Score	Value
	No 1	No 2	No 3		
S1	2	2	2	6	50
S2	2	2	2	6	50
S3	0	1	2	3	25

Based on the table above, it can be seen that students' mathematical creative abilities are still low. The following table shows the categories of students' creative thinking ability test results.

Table 2. Students' Creative Thinking Ability Results

Value	Value < 55	55 ≤ Value < 75	Value ≥ 75
Category	Low	Medium	High
Frequency	3	0	0
Percentage	100	0	0

So, the overall average score of students is 41.6. It means that students' creative thinking ability is included in the low category. Based on the analysis that researchers have done, students who are categorized as low do not meet indicator 1. Students are still wrong in answering questions and have not been able to answer in different variations and ways.

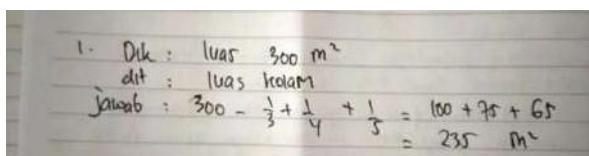


Figure 1. Students are still wrong in answering questions and have not been able to answer in different variations and ways

CONCLUSION

Based on the results and discussion above, it can be obtained that mathematical creative thinking skills are included in the low category. Because the better the student's interest in learning in mathematics, the students' creative thinking abilities can be achieved.

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INCREASING TRAVEL REPORT WRITING SKILLS THROUGH JIGSAW TYPE COOPERATIVE LEARNING IN CLASS VIII E SMP NEGERI 1 SELAKAU 2015/2016 ACADEMIC YEAR

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ABSTRACT

The problems studied in this study are (1). How is the learning planning for writing travel report skills through Jigsaw cooperative learning for class VIII E students of SMP Negeri 1 Selakau (2). How is the implementation process of learning report writing skills through cooperative learning of Jigsaw type in class VIII E SMP Negeri 1 Selakau (3). What are the results of learning report writing skills through Jigsaw Cooperative learning in class VIII E SMP Negeri 1 Selakau. The form of this research is classroom action research (CAR). This research is a qualitative research, using descriptive qualitative method. The research was carried out in two stages, namely the first cycle and the second cycle. The research data is in the form of the learning process of writing travel reports and student learning outcomes through Jigsaw Cooperative learning. The data collection technique uses measurement, observation, and documentation. The research procedure in this study consisted of two cycles with the following steps: (1) planning, (2) action, (3) observation, (4) reflection. The conclusion in this study is that through cooperative learning the Jigsaw type in classroom action research can improve the quality of the learning process in writing travel reports. This is evidenced by the increased ability of teachers in managing learning, and activities in student participation in the learning process. Teacher performance in managing learning also continued to increase from 72.82% in the first cycle to 80.43% in the second cycle, meaning an increase of 7.61%. Learning outcomes through Jigsaw cooperative learning. The increase in student learning outcomes can be seen after comparing the results of pre-action, cycle I, and cycle II. The average value obtained by students in the first cycle was 74.81 with a percentage of completeness 69.44% in the sufficient category, and in the second cycle the average value of 80 with a completeness percentage of 80.56% was in the good category, meaning that there was an increase in the score. the average is 5.19 and the percentage of completeness is 11.12%, so that it reaches the expected increase.

Key words: jigsaw, writing travel reports

INTRODUCTION

Education is a continuous learning process that contains elements of teaching, training, guidance, and leadership with a specific focus on transferring various knowledge, religious and cultural values, as well as useful skills to be applied by individuals (teachers or educators to individuals who need education). that). The learning process will result in changes in the cognitive domain (reasoning, interpreting, understanding, and applying information), increasing competence (intellectual and social skills), as well as conscious selection and acceptance of values, attitudes, appreciation, and feelings, as well as a willingness to do something. The process of change (learning) can occur intentionally or unintentionally. Education is an important part of the Indonesian government's development agenda. Improving the quality of education is felt as a need for a nation that wants to progress. Quality education can support development in all fields. Active and interesting learning is needed by students so that the learning

process can take place well and the learning objectives are achieved. In this case, special attention to the material and the way it is delivered needs to be studied and developed again in various innovative ways. Therefore, the government continues to organize and improve the education system in Indonesia.

Teachers in realizing educational goals have a very important role. Teachers in their daily life in order to teach effectively, teachers must increase learning opportunities for students and improve the quality of their teaching. Learning opportunities can be increased by actively involving students in learning. Using lesson time effectively means providing more and more optimal learning opportunities and the teacher shows his seriousness when teaching, so that it can arouse students' interest or motivation to learn. The more students are actively involved in learning, the higher the learning achievement achieved, while in improving the quality of teaching, teachers should be able to plan teaching programs and be able to also carry out teaching and learning interactions. This requires the teacher's skill in

using learning variations, so that students do not feel bored to participate in the teaching and learning process. According to Usman (2001:84) states that "Variation is a teacher activity in the teaching-learning interaction process aimed at overcoming student boredom so that, in teaching and learning situations, students always show perseverance, enthusiasm, and are full of participation". especially in terms of writing, a teacher must innovate in learning so that students do not tend to be bored to take part in writing lessons.

Learning Indonesian language skills includes listening skills, speaking skills, writing skills, and reading skills (Saddhono and Slamet, 2012: 3). Writing skill, which is the last skill acquired by students, needs to provide opportunities for students to be directly involved in writing activities. Regular writing practice will stimulate thinking and familiarize students to be able to express their ideas and ideas through writing in a coherent and good manner. The researcher chose the material for writing travel reports and applying the jigsaw type cooperative learning model. This material is interesting and not too difficult for beginners to increase students' interest in writing. In addition, this material is certainly very important, because it comes from real-life realities that occur and by applying the jigsaw type cooperative learning model, it is hoped that students can further improve their writing skills, especially in writing travel reports. This learning model is also able to enable students to learn to work together. In the learning process, each student has their own responsibility for the parts of the material being studied so that it is easy to understand, so as to achieve completeness. In addition, the researcher collaborated with the Indonesian language teacher at the school, Lidya Norita, S.Pd. The number of class VIII consists of 5 classes, namely A, B, C, D, and E. The researcher chose class VIII E because the score was lower than these classes. The researchers chose SMP Negeri 1 Selakau as the place of research because the material for writing travel reports had never been studied by others and helped the teacher in improving students' writing skills, especially writing travel reports.

According to the results of the researcher's interview with the Indonesian teacher, it turns out that the writing skills of class VIII E SMP Negeri 1 Selakau students are still low, especially in writing travel reports. In class VIII A achieved completeness of 80.56% which means 29 students who completed from 36 students, class VIII B 64.86% which means 24 students who completed from 37 students, class VIII C 77.78% which means 28 students who completed from 36 students, class VIII D 62.16% which means 23 students who complete from 37 students, class VIII E 52.78% which means 19 students who complete from 36 students. While the minimum mastery value specified minimum completeness criteria (KKM) is 75. The low skill of students in writing is because they find it difficult to develop and express their ideas in written form. In addition, students' interest in learning is still low in

writing lessons. This is because students assume that writing is difficult. The learning model applied by the teacher is only conventional (lecture) which is only teacher-centered, so that its implementation does not pay attention to the overall learning situation and individual mastery.

Activities of students' writing skills need to be improved, so the teacher must be able to create teaching and learning process with appropriate learning strategies or models. In addition, it must also be able to arouse students' motivation to take lessons in Indonesian language and literature. In choosing a learning strategy, teachers should be able to choose, adjust, and develop appropriate learning strategies, so that they can lead students to achieve the competencies to be achieved. The selection of the right learning model is an important thing that teachers need to think about, in order to be able to make students more active and productive. The jigsaw type of cooperative learning model is a learning model that can be used as an alternative. Therefore, the authors chose the jigsaw type cooperative learning model to be applied in class VIII E as a learning model to improve student learning outcomes in writing travel report materials.

Through the jigsaw cooperative learning model, it is expected that students can improve their travel report writing skills, create a pleasant atmosphere, and train students to be responsible and can train students to solve problems for the common good. As revealed by Lie (in Majid, 2013: 182), the jigsaw cooperative type is cooperative learning in which students study in small groups consisting of four to six people heterogeneously, and students work together in positive interdependence and are responsible independently. In the application of the jigsaw type, students are divided into groups with four to six members of heterogeneous study groups. The subject matter is given to students in the form of text. Each member is responsible for studying a certain part of the given material. Members of other groups get the task of the same topic, which is to gather and discuss about the topic and this group is named the expert group. With this jigsaw type of cooperative learning model, students can work together, complement each other, and can master the lessons delivered optimally.

The selection of the jigsaw type of cooperative learning model is very appropriate in improving students' writing skills, this is evidenced by previous research compiled by Rohemi Fitria Nur with the title "Improving Memo Writing Skills by Using Jigsaw Models and Comic Media Containing Character Education" with research results stating that the results of the first cycle test obtained an average value of 72.78 and the second cycle obtained an average value of 83.35 which means that it has increased by 10.57 and teacher activities and student activities with the jigsaw type cooperative model have a significant increase and are in the criteria very good. Therefore, the jigsaw cooperative model has been directed and planned effectively to increase the intensity of student involvement in active and fun learning so that

students can improve learning outcomes. So it can be concluded that the jigsaw cooperative model is an alternative learning model to improve the ability to write memos. Therefore, to achieve maximum achievement influenced by effective and efficient teaching methods.

RESEARCH METHODS

This research plan uses descriptive method. Arikunto, et al (2014:26) reveal that "Descriptive method is a method intended to collect information or data about the phenomenon under study, for example the condition of something or an event, accompanied by information about the causative factors so that events are described in detail, sequence, and honest". The purpose of using the descriptive method in this study is to investigate the state of the object of research under study, so that the information obtained actually happened, not the result of guessing about the circumstances that occurred and the author can find the factors that cause it, then it can be described clearly, systematic and based on facts in the field, namely in the implementation of learning to write travel reports by applying the jigsaw type cooperative learning model to class VIII E students of SMP Negeri 1 Selakau in the 2015/2016 academic year. Research Form

The form of research used in this study is a form of qualitative and quantitative research. In qualitative research not based on statistical analysis, the data collected is descriptive data in the form of a description of spoken, written words and the behavior of the observed subject and the data collection is very dependent on the author's observation process (Zuldafril and Born, 2012:21). Meanwhile, in quantitative research, it is used to calculate students' completeness scores. Thus, in this research plan, it will be explained about improving the skills of writing travel reports by applying the jigsaw type cooperative learning model to class VIII E students of SMP Negeri 1 Selakau in the 2015/2016 academic year.

RESULTS AND DISCUSSION

A. Description of research results

The research relates to the improvement of travel report writing skills through jigsaw cooperative learning which was carried out at SMP Negeri 1 Selakau in the 2015/2016 academic year. The researcher collaborated with a teacher of SMP Negeri 1 Selakau named Lydia Norita, S.Pd. In the implementation, the researcher chose class VIII E as the object of research with a total of 36 students. This research was conducted in two cycles, each cycle consisting of two meetings.

The research was conducted because there were problems in class VIII E regarding students' writing skills. The low writing results of students in class VIII E of SMP Negeri 1 Selakau can be seen from the results of students in writing previously who have not reached the criteria for completeness. Of the 36 students who achieved

completeness scores, only 20 students, which means the percentage is 55.56%. While those who have not achieved completeness are 16 students, which means the percentage is 44.44%.

In addition to the students' scores not achieving completeness, in this case the use of the learning model used by the teacher is also still not appropriate which is one of the causes of the low skills of students in the writing aspect. Based on these problems the researchers applied a cooperative learning model that could provide opportunities for students to work together in solving problems in writing activities. The cooperative model that researchers use with collaborators is the jigsaw model.

1. Description of research results cycle 1

a. Planning to improve travel report writing skills through jigsaw type cooperative learning

Through the planning stage of learning activities, researchers and collaborators discussed to arrange learning activities which were carried out from November 25, 2015 to November 26, 2015. In this activity, researchers and collaborators planned the following things.

- 1) Planning learning materials in accordance with the Education Unit Level Curriculum (KTSP) which includes Basic Competencies 4. Writing reports in good and correct language. 4.3. Disclosing information in the form of reports, official letters, and instructions.
- 2) Planning the organization of travel report teaching materials to achieve common goals in teaching and learning activities.
- 3) Before carrying out the teaching and learning process, the teacher first plans learning activities.
 - a. The teacher explains the main points of the travel report along with examples.
 - b. The teacher instructs the students to determine the main points of the report in the text.
 - c. The teacher instructs the students to form groups, each group consists of 4-6 members.
 - d. The teacher gives the numbering of the members of each home group and the expert group (jigsaw cooperative type) to each member of each group.
 - e. The teacher instructs to remember the trip or visit to SMP Negeri 3 Selakau that has been done.
 - f. The teacher gives different subject matter to each member in each group.
 - g. The teacher instructs students to discuss with expert groups to determine the main points of the trip report.
 - h. After finishing the discussion, as a team of experts, each member returned to the original group and took turns teaching their teammates about the subject matter they mastered, and each other member listened carefully.
 - i. The teacher instructs each student from each home group to determine the main contents of the trip report.

- j. After determining the main points of the trip report, the teacher instructs students from each home group to prepare the main points of the trip report independently.
 - k. The teacher ensures that students have the results of the main travel reports that have been discussed.
 - l. The teacher re-instructs the students from each home group to read the main contents of the trip report that has been prepared.
 - m. The teacher instructs students individually to write trip reports.
 - n. Guru merefleksikan kegiatan pembelajaran yang telah dilakukan.
 - o. Guru mengevaluasi hasil menulis laporan perjalanan yang dibuat siswa.
 - p. Guru menutup kegiatan pembelajaran.
4. The selection of learning resources and learning media is carried out to get an overview of the learning process that will be carried out. The sources used to write travel reports are books, and media that can help in the teaching and learning process.
 5. Planning an evaluation of learning to write a travel report through a jigsaw cooperative is as follows.
 - a. Assessment of the learning process of travel reports through jigsaw cooperative learning was obtained during the learning process of travel reports, namely assessing students' writing skills and attitudes.
 - b. Assessment of the results of the learning activities of travel reports through jigsaw cooperative learning is obtained through activities of determining points, compiling and writing travel reports.
 6. Planning evaluation activities for travel report learning through jigsaw cooperative learning which is carried out by uniting all aspects assessed in the travel report learning process. Planning activities are assessed using the Teacher Performance Assessment Tool in Planning learning (APKG 1). As well as student activities assessed using an attitude assessment sheet which includes, activeness, seriousness, cohesiveness.
 7. Plan the assessment of the results of the learning activities of the travel report through the jigsaw type cooperative learning which is obtained through writing the travel report.

b. Implementation of learning to write journey reports through jigsaw . cooperative learning

The researcher collaborated with the Indonesian language teacher, Lydia Norita, S.Pd.. in improving the skills of writing travel reports. This research was conducted in two cycles consisting of four stages, namely planning (planning), action (acting), observation (observing), and reflection (reflecting).

1) Planning (Planning)

Cycle 1 planning was carried out from November 25, 2015 to November 26, 2015 researchers and Indonesian language teachers discussed the lesson plan that will be carried out during the teaching and learning process. The Learning Implementation Plan (RPP) includes the preparation of indicators, formulating learning objectives, selecting methods, selecting

materials, and determining assessment guidelines. Researchers and Indonesian language teachers also discussed making student worksheets (LKS). In addition to the lesson plan, researchers and teachers prepare observation guidelines that will be used by researchers to observe activities when teachers and students carry out learning journey reports through jigsaw cooperative learning. Observation guidelines are prepared as follows.

- a) Learning syllabus.
- b) Learning implementation plan (RPP).
- c) Student Worksheet (LKS).
- d) Student Answer Sheet.
- e) Observation guidelines for assessing the ability of teachers to plan learning journey reports through jigsaw cooperative learning.
- f) Observation guidelines for assessing the ability of teachers to carry out learning journey reports through jigsaw cooperative learning.
- g) Guidelines for observing jigsaw cooperative attitudes in the process of learning journey reports through jigsaw cooperative learning.
- h) Guidelines for analyzing the results of the learning evaluation process.

The teacher performance assessment tool (APKG 1) in planning is carried out on Wednesday, November 25, 2015. In the teacher performance assessment tool (APKG 1) the aspects assessed are determining lesson materials and formulating learning objectives or indicators of travel reports, using learning materials in accordance with the curriculum, formulating learning indicators for travel reports, formulating learning objectives for reports, developing and organizing learning resources for travel report materials through jigsaw cooperative learning, selecting travel report learning resources, determining learning activities through jigsaw cooperative learning, compiling learning steps through cooperative learning types jigsaw, determine time allocation, prepare questions, plan techniques, forms of instruments, and assessment instruments, determine assessment techniques, determine forms of assessment instruments, determine assessment instruments, make student absences, make assessment guidelines other.

2) Implementation (Acting)

The implementation of cycle 1, the first meeting was held on Friday, November 27, 2015 at 07.00 – 08.20 WIB, the time allocation used was 2 x 40 minutes. The second meeting was held on Saturday, November 28, 2015 at 09.15 – 10.35 WIB, the time allocation was 2 x 40 minutes.

The first meeting

1. Initial Activity (15 minutes)
 - a. Pray before starting the lesson.
 - b. Say greetings.
 - c. Attend students.

Apperception :

1. Delivering learning objectives.
 2. Doing questions and answers about trip reports.
2. Core Activities (50 minutes)
 - a. Exploration

In exploration activities:

1. The teacher explains the main points of the report.
2. The teacher instructs each student to determine the main points of the travel report in the text.
3. The teacher instructs the students to form groups, each group consists of 4-6 members.
4. The teacher gives the numbering of the members of each home group and the expert group (jigsaw cooperative type) to each member of each group.
5. The teacher instructs to remember the trip or visit to SMP Negeri 3 Selakau that has been done.
6. The teacher gives different subject matter to each member in each group.
7. The teacher instructs the students to discuss with the expert group to determine the main points of the trip report.

b. Elaboration

In elaboration activities:

1. After finishing the discussion, as a team of experts, each member returns to the original group and takes turns teaching their teammates about the subject matter they are good at, and each other member listens carefully.
2. Each student from each home group determines the main contents of the trip report.
3. After determining the main points of the trip report, students from each home group prepare the main contents of the trip report independently.
4. Students present their work.

c. Confirmation

In confirmation activities:

The teacher and students discuss the main points of the contents of the trip reports made by students.

3. Final Activity (15 minutes)

In closing activities:

1. Teachers and students reflect on learning activities.
2. The teacher closes the learning activity.

Second meeting

1. Initial Activity (15 minutes)
 - a. Pray before starting the lesson.
 - b. Say greetings.
 - c. Attend students.

Apperception :

1. Delivering learning objectives.
2. Conducting questions and answers about the forms and framework of travel reports.

2. Core Activities (50 minutes)

a. Exploration

In exploration activities:

1. The teacher explains about the report and the main points of the trip report to remind students' knowledge.
2. The teacher instructs students to form groups according to the previous meeting.
3. The teacher ensures that students have the main results of the trip reports that have been discussed.

b. Elaboration

In elaboration activities:

1. Students from each home group read out the main contents of the trip report that has been prepared.
2. Students individually write trip reports.

c. Confirmation

In confirmation activities:

Teachers and students reflect on the learning activities that have been carried out.

3. Final Activity (15 minutes)

In closing activities:

1. The teacher evaluates the results of the trip reports made by students.
2. The teacher closes the learning activity.

3) Observation (observing)

Observations were made when the teacher carried out the action, the first meeting was held on Friday, November 27, 2015 at 07.00 - 08.20 WIB. The second meeting was held on Saturday, November 28, 2015 at 09.15 - 10.35 WIB. Researchers make observations by observing and recording events during the learning process using the observation guidelines that have been prepared. The results of observations in cycle 1 are as follows.

a. Observation of Teacher's Ability to Plan Learning (APKG 1) Cycle I

Most of the aspects assessed in planning the implementation of the learning carried out have reached good criteria because of the 16 aspects assessed on the teacher's ability to plan learning journey reports using jigsaw cooperative learning there are 5 aspects of very good criteria (31.25%), 7 aspects of good criteria (32.81%), 2 aspects the criteria are quite good (6.25%), and 2 aspects of the criteria are not good (3.125%). The percentage is 73.43% (good enough).

Table 1. Recapitulation (APKG 1) Cycle I

Kategori	Frekuensi	Skor	Nilai	Persentase	Rata-rata
Sangat baik	5	4	20	31,25%	73,43 %
Baik	7	3	21	32,81%	
Cukup baik	2	2	4	6,25%	
Kurang baik	2	1	2	3,125%	
Jumlah	16	4	47	73,43%	

b. Observation of Teacher's Ability to Implement Learning (APKG 2) Cycle I

Most of the aspects assessed in the implementation of the learning carried out have reached good criteria because of the 23 aspects assessed on the teacher's ability to carry out learning journey reports using jigsaw cooperative learning, there are 3 aspects of very good criteria (13.04%), 14 aspects of good criteria (45.65%), 5 aspects of the criteria are quite good (10.86%), and 1 aspect of the criteria is not good (1.09%). The percentage is 70.65% (enough).

Table 2. Recapitulation (APKG 2) Cycle I

Kategori	Frekuensi	Skor	Nilai	Persentase	Rata-rata
Sangat baik	3	4	12	13,04%	70,65 %
Baik	14	3	42	45,65%	
Cukup baik	5	2	10	10,86%	
Kurang baik	1	1	1	1,09%	
Jumlah	23	10	65	70,65%	

c. Observation of Students' Jigsaw Type Cooperative Attitude in Learning Travel Report

Observations on the cooperative attitude of the jigsaw type of students in the process of learning the trip report were grouped into four categories, namely very good, good, not good, and not good. The results of observations made in cycle 1 were obtained from attitude observation sheets which included 1) activeness, 2) sincerity, 3) cohesiveness. The results of the researchers' observations on attitudes in jigsaw cooperative learning are as follows.

1. Active Aspect with a score of 4 as many as 6 students (16.67%), students with a score of 3 as many as 15 students (41.67%), students with a score of 2 as many as 11 students (30.56%), students with a score of 1 as many as 4 students (11.10%).
2. The seriousness aspect of the score 4 was 6 students (16.67%), students who got a score of 3 were 18 students (50%) students with a score of 2 were 9 students (25%), students with a score of 1 were 3 students (8,33%).
3. Aspects of cohesiveness score 4 as many as 2 students (5.56%), students with a score of 3 as many as 13 students (36.11%), students with a score of 2 as many as 18 students (50%), students with a score of 1 as many as 3 students (8.33%).

The results of the researcher's observations on the attitudes of students in learning journey reports using jigsaw cooperative learning in cycle 1 can be seen in the following table.

Table 3. Results of Student Attitudes in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 1

No	Aspek Yang Dinilai	Skor				Jumlah Siswa
		4	3	2	1	
1	Keaktifan	6 siswa (16,67%)	15 siswa (41,67%)	11 siswa (30,56%)	4 siswa (11,10%)	36

2	Kesungguhan	6 siswa (16,67%)	18 siswa (50%)	9 siswa (25%)	3 siswa (8,33%)	36
3	Kekompakan	2 siswa (5,56%)	13 siswa (36,11%)	18 siswa (50%)	3 siswa (8,33%)	36
Persentase		12,96%	42,59%	35,20%	9,25%	100%
Nilai Rata-rata Sikap		55,56%				

Table 3 states that the percentage of students' attitudes in participating in learning journey reports using jigsaw cooperative learning in cycle 1 is quite good. Students with a score of 4 overall reached 12.96%, students with a score of 3 overall reached 42.59%, students with a score of 2 overall reached 35.20%, and students with a score of 1 reached 9.25%. Thus, overall in cycle 1, most of the students were motivated in participating in learning activities using jigsaw cooperative learning.

d. Observation of Travel Report Writing Skills Through Jigsaw . Cooperative Learning

Observations on writing skills in the journey report learning process through cooperative learning of the jigsaw type of students in the travel report learning process were grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 1 were obtained from student worksheets with the number of questions determined by the researchers and collaborators, namely 3 questions.

1. Item number 1 determines the main points of the trip report and the number of students who get a score of 3 is 8 students with a percentage of 22.22%. Students obtained a score of 2 as many as 28 students with a percentage of 77.78%. Students who get 1 are 0 students with a percentage of 0%.
2. Item number 2 compiles a travel report framework with a predetermined pattern and the number of students who get a score of 3 is 12 students with a percentage of 33.33%. There were 24 students who scored 2 with a percentage of 66.67%. Students who get 0 as many as 12 students with a percentage of 0%.
3. Item number 3 develops a travel report framework by taking into account the coherence, EYD, and the suitability of the content. In the aspect of coherence, the number of students who got a score of 3 was 12 students with a percentage of 33.33%. Students who get a score of 2 are 24 students with a percentage of 66.67%. Students who get a score of 1 are 0 students with a percentage of 0%. In the EYD aspect, the number of students who got a score of 3 was 17

students with a percentage of 47.22%. Students who get a score of 2 are 11 students with a percentage of 30.56%. Students who get a score of 1 are 8 students with a percentage of 22.22%. In the aspect of content suitability, the number of students who got a score of 3 was 10 with a percentage of 27.78%. Students who get a score of 2 are 19 students with a percentage of 52.78%. In students who get a score of 1 as many as 7 students with a percentage of 19.44%.

Table 4. Aspects of Assessment of Students' Writing Skills in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 1

No	Butir Soal	Skor			Jumlah Siswa	
		3	2	1		
1	Soal nomor 1	8 siswa (22,22%)	28 siswa (77,78%)	0 siswa (0%)	36	
2	Soal nomor 2	12 siswa (33,33%)	24 siswa (66,67%)	0 siswa (0%)	36	
3	Soal nomor 3	Keruntutan	12 siswa (33,33%)	24 siswa (66,67%)	0 siswa (0%)	36
		EYD	17 siswa (47,22%)	11 siswa (30,56%)	8 siswa (22,22%)	36
		Kesesuaian Isi	10 siswa (27,78%)	19 siswa (52,78%)	7 siswa (19,44%)	36
Persentase		32,76%	58,892%	8,332%	100%	

Table 5. Results of Assessment of Students' Writing Skills in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 1

No	Nama Siswa	Siklus 1
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		Nilai	Keterangan
1	Andri Yani	80	Tuntas
2	Avi Rubin	60	Tidak Tuntas
3	Azzis	73,33	Tidak Tuntas
4	Dedi	53,33	Tidak Tuntas
5	Desti Ramadhani	80	Tuntas
6	Eliza Carolina	80	Tuntas
7	Enggye Rahayu	80	Tuntas
8	Fadilah	86,66	Tuntas
9	Ferri Ferba Valentino	80	Tuntas
10	Fhobby Franzona	86,66	Tuntas
11	Friani	80	Tuntas
12	Gelsy Chania	53,33	Tidak Tuntas
13	Gilang Ari Pratama	80	Tuntas
14	Januardi	80	Tuntas
15	Lisa Aprilianti Sabila	86,66	Tuntas
16	Lisa Nur Ella	60	Tidak Tuntas
17	Marlina	80	Tuntas
18	Mely Adriyan	86,66	Tuntas
19	Muhammad Fajrul Islam	80	Tuntas
20	Mulyani	80	Tuntas
21	Natasha Juniarti	86,66	Tuntas
22	Nazarudin	60	Tidak tuntas
23	Nurhafiza	53,33	Tidak tuntas
24	Prisca Valentina	53,33	Tidak tuntas
25	Puspa	80	Tuntas
26	Randa	60	Tidak Tuntas
27	Rexy Prayoga	53,33	Tidak Tuntas
28	Rien Rizky Ananda	86,66	Tuntas
29	Rino Nandio	80	Tuntas
30	Riski Kamaruna	86,66	Tuntas
31	Siti Nurdiana	80	Tuntas
32	Tiara	80	Tuntas
33	Toni Hidayat	60	Tidak Tuntas
34	Uray Dea Triani	86,66	Tuntas
35	Uray Reski	80	Tuntas
36	Vidia Pargeta	80	Tuntas
Jumlah		2693,26	
Nilai Terendah		53,33	
Nilai Tertinggi		86,66	
Rata-rata Kelas		74,81	
Persentase Ketuntasan		69,44%	

Table 5 states that the percentage of students' writing skills in learning journey reports using jigsaw cooperative learning in cycle 1 is sufficient. Students with the lowest score were 5 students, namely Dedi, Gelsy Chania, Nurhafiza, Prisca Valentina and Rexy Prayoga with a value of 53.33, while the highest score was 8 students, namely, Fadilah, Fhobby Franzona, Lisa Aprilianti Sabila, Mely Andriyan, Natasha Juniarti, Rien Rizky Ananda, Riski Kamaruna, Uray Dea Triani, and with a score of 86.66. The average grade value obtained in cycle 1 reached 74.81 and the percentage value of completeness reached 69.44%. This means that it has not met the KKM standard set by the school, which is 75%. Thus, overall in cycle 1 in participating in the learning activities of travel reports through cooperative learning the jigsaw type has not been successful and will be improved and improved in cycle 2.

4) Reflection

The reflection activity was carried out by the researcher with Lydia Norita, S.Pd. On Monday, November 30, 2015. Reflection is a follow-up to the results of observations. Researchers and collaborators reflect on learning activities that include planning, implementing, and implementing learning outcomes.

a) Reflection on Planning

Most of the aspects assessed in the lesson plan (RPP) that have been made have reached good criteria because 16 aspects assessed in the teacher's ability to plan learning journey reports there are 5 aspects of very good criteria, 7 aspects of good criteria, 2 aspects of quite good criteria and 2 aspects the criteria are not good, so it reaches a percentage of 73.43% with a fairly good category. Nevertheless, there are still things that need to be improved as follows.

1. The teacher is not good at formulating the learning objectives of the travel report. Teachers should be able to formulate learning objectives well, so that the direction and goals in learning can be achieved optimally.
2. Teachers are not good at developing and coordinating learning materials and resources. Teachers should be able to develop and coordinate learning materials and resources properly according to student needs, so that the expected goals can be achieved.
3. The teacher is quite good in choosing travel report learning sources. Teachers should be able to choose learning resources that are in accordance with the environment and students' abilities, in order to provide encouragement and stimulate student interest.
4. The teacher is quite good in preparing questions. Teachers should be able to prepare questions that can grow the knowledge that students have previously had with the knowledge they will learn so that they can connect and understand learning easily.

b) Reflection on Implementation

Most of the aspects assessed in the implementation of the learning carried out have reached good criteria because of the 23 aspects assessed on the teacher's ability to carry out learning journey reports through jigsaw cooperative learning, there are 3 aspects of very good criteria, 14

aspects of good criteria, 6 aspects of quite good criteria, and 1 aspect of the criteria is not good, so it reaches a percentage of 70.65% (enough). Nevertheless, there are still things that need to be improved as follows.

(1) Teachers are not good at checking students' readiness. The teacher should check the readiness of students properly or optimally, so that the learning process can run actively and effectively.

(2) The teacher is good enough to instruct students to discuss with the expert group to determine the main points of the trip report. The teacher should be able to instruct students to discuss with expert groups to determine the main points of the trip report properly, so that the discussion process runs actively and effectively.

(3) The teacher is quite good at instructing each member of the expert group to return to the original group and take turns teaching a group of friends about the sub-chapters they are good at, and each other member listens carefully. The teacher should be able to instruct it well, so that when returning to the original group, one friend to another can arrange the main points of the trip report properly.

(4) The teacher is quite good at reflecting on learning activities. The teacher should be able to reflect well and more deeply the results of the implementation of learning, in order to know the achievement of the learning objectives that have been carried out.

(5) The teacher is quite good at explaining the report and the main points of the trip report to remind students' knowledge. The teacher should be able to explain well about the report and the main points of the trip report to remind students of their knowledge, in order to encourage students' thinking processes and understanding.

(6) The teacher is good enough to make sure the students have the main results of the travel reports that have been discussed.

c) Assessment Results on the Learning Process Journey Report Through Cooperative Learning Jigsaw . Type

(1) Results of Observations on Writing Skills in the Learning Process Journey Reports Through Jigsaw . Cooperative Learning

Observations of writing skills in the learning process through jigsaw cooperative learning of students in the process of learning journey reports are grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 1 were obtained from student worksheets with the number of questions determined by the researchers and collaborators, namely 3 questions.

(a) Item number 1 determines the main points of the travel report and the number of students who get a score of 3 is 8 students with a percentage of 22.22%, namely Azzis, Enggye Rahayu, Friani, Lisa Aprilianti Sabila, Natasha Juniarti, Rien Rizky Ananda, Uray Dea Triani, and Vidia Pargeta. Students obtained a score of 2 as many as 28 students with a percentage of 77.78%, namely Andri

Yani, Avi Rubin, Dedi, Desti Ramadhani, Eliza Carolina, Fadilah, Ferri Ferba Valentino, Fhobby Franzona, Gelsy Chania, Gilang Ari Pratama, Januardi, Lisa Nur Ella, Marlina, Mely Adriyan, Muhammad Fazrul Islam, Mulyani, Nazarudin, Nurhafiza, Prisca Valentina, Puspa, Randa Remy Prayoga, Rino Nandio, Riski Kamaruna, Siti Nurdiana, Tiara, Toni Hidayat and Uray Reski.

(b) Item number 2 compiles a travel report framework with a predetermined pattern and the number of students who get a score of 3 is 12 students with a percentage of 33.33%, namely Andria Yani, Eliza Carolina, Enggye Rahayu, Fadilah, Fobby Franzona, Januardi, Lisa Aprilianti Sabila, Natasha Juniarti, Rien Rizky Ananda, Rino Nandio, Uray Reski, and Vidia Pargeta. There were 24 students who scored 2 with a percentage of 66.67%, namely Avi Rubin, Azzis, Dedi, Desti Ramadhani, Ferri Ferba Valentino, Friani, Gelsy Chania, Gilang Ari Pratama, Lisa Nur Ella, Marlina, Mely Adriyan, Muhammad Fajrul Islam, Mulyani, Nazarudin, Nurhafiza, Prisca Valentina, Puspa, Randa, Remy Prayoga, Reski Kamaruna, Siti Nurdiana, Tiara, Toni Hidayat, and Uray Dea Triani.

(c) Item number 3 develops a travel report framework by taking into account the orderliness, EYD, and content suitability. In the aspect of coherence, the number of students who got a score of 3 was 12 students with a percentage of 33.33%, namely Andri Yani, Desti Ramadhani, Ferri Ferba Valentino, Fobby Franzona, Friani, Gilang Ari Pratama, Januardi, Mely Adriyan, Mulyani, Riski Kamaruna, Tiara, and Uray Dea Triani. Students who get a score of 2 are 24 students with a percentage of 66.67%, namely Avi Rubin, Azzis, Dedi, Eliza Carolina, Enggye Rahayu, Fadilah, Gelsy Chania, Lisa Aprilianti Sabila, Lisa Nur Ella, Marlina, Muhammad Fajrul Islam, Natasha Juniarti, Nazarudin, Nurhafiza, Prisca Valentina, Puspa, Randa, Remy Prayoga, Rien Rizky Ananda, Rino Nandio, Siti Nurdiana, Toni Hidayat, Uray Reski, and Vidia Pargeta. In the EYD aspect the number of students who got a score of 3 was 17 students with a percentage of 47.22%, namely Desti Ramadhani, Eliza Carolina, Fadilah, Fobby Franzona, Gilang Ari Pratama, Lisa Aprilianti Sabila, Marlina, Mely Adriyan, Muhammad Fajrul Islam, Mulyani, Natasha Juniarti, Puspa, Rien Rizky Ananda, Rino Nandio, Riski Kamaruna, Siti Nurdiana, and Uray Reski. Students who got a score of 2 were 11 students with a percentage of 30.56%, namely Andri Yani, Avi Rubin, Azzis, Enggye Rahayu, Ferri Ferba Valentino, Friani, Januardi, Nazarudin, Tiara, Uray Dea Triani, and Vidia Pargeta. Students who got a score of 1 were 8 students with a percentage of 22.22%, namely Dedi, Gelsy Cahnia, Lisa Nur Ella, Nurhafiza, Prisca Valentina, Randa, Remy Prayoga, and Toni Hidayat. In the aspect of content suitability, the number of students who got a score of 3 was 10 with a percentage of 27.78%, namely Fadilah, Ferri Ferba Valentino, Marlina, Mely Adriyan, Muhammad Fajrul Islam, Puspa, Riski Kamaruna, Siti Nurdiana, Tiara, and Uray Dea Triani. 19 students with a score of 2 with a percentage of 52.78%, namely Andri Yani, Azzis, Desti Ramadhani, Eliza

Carolina, Enggye Rahayu, Fobby Franzona, Friani, Gilang Ari Pratama, Januardi, Lisa Aprilianti Sabila, Lisa Nur Ella, Mulyani, Natasha Juniarti, Randa, Rien Rizky Ananda, Rino Nandio, Toni Hidayat, Uray Reski, and Vidia Pargeta. The students who got a score of 1 were 7 students with a percentage of 19.44%, namely Avi Rubin, Dedi, Gelsy Chania, Nazarudin, Nurhafiza, Prisca Valentina, and Remy Prayoga.

The results in cycle 1 stated that the percentage of students' writing skills in learning journey reports through jigsaw cooperative learning in cycle 1 was sufficient. The students with the lowest score were 5 students, namely Dedi, Gelsy Chania, Nurhafiza, Prisca Valentina and Remy Prayoga with a score of 53.33, while the highest score was 8 students, namely Fadilah, Fobby Franzona, Lisa Aprilianti Sabila, Mely Andriyan, Natasha Juniarti, Rien Rizky Ananda, Riski Kamaruna, and Uray Dea Triani with a score of 86.66. The average percentage value of the class obtained in cycle 1 reached 74.81 and the percentage value of completeness reached 69.44%. This means that it has not met the KKM standard set by the school, which is 75%. Thus, overall in cycle 1 in participating in the learning activities of travel reports through cooperative learning the jigsaw type has not been successful and will be improved and improved in cycle 2.

(2) Observation Results on Students' Jigsaw Type Cooperative Attitude in Learning Journey Reports

Observations of the cooperative jigsaw type attitude of students in the process of learning journey reports were grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 1 were obtained from attitude observation sheets which included 1) activeness, 2) sincerity, 3) cohesiveness. The results of the researchers' observations on attitudes in the jigsaw cooperative type are as follows.

(a) Active Aspect with a score of 4 as many as 6 students (16.67%), students with a score of 3 as many as 15 students (41.67%), students with a score of 2 as many as 11 students (30.56%), students with a score of 1 as many as 4 students (11.10%).

(b) The seriousness aspect of the score 4 was 6 students (16.67%), students who got a score of 3 were 18 students (50%) students with a score of 2 were 9 students (25%), students with a score of 1 were 3 students (8.33%).

(c) Aspects of cohesiveness score 4 as many as 2 students (5.56%), students with a score of 3 as many as 13 students (36.11%), students with a score of 2 as many as 18 students (50%), students with a score of 1 as many as 3 students (8.33%).

2. Description of Research Results Cycle 2

a. Learning Planning Journey Report Through Jigsaw Cooperative Learning

Through the planning stage of learning activities, researchers and collaborators discussed to arrange learning activities which were carried out on December 1, 2015. In this activity, researchers and collaborators planned the following things.

- 1) Planning learning materials in accordance with the education unit level curriculum (KTSP) which includes Basic Competencies 4. Writing reports in good and correct language. 4.3. Disclosing information in the form of reports, official letters, and instructions.
- 2) Planning the organization of travel report teaching materials to achieve common goals in teaching and learning activities.
- 3) Before carrying out the teaching and learning process, the teacher first plans learning activities.
 - a) The teacher explains the main points of the travel report along with examples.
 - b) The teacher instructs the students to determine the main points of the report in the text.
 - c) The teacher instructs the students to form groups, each group consists of 4-6 members.
 - d) The teacher gives the numbering of the members of each home group and the expert group (jigsaw cooperative type) to each member of each group
 - e) The teacher instructs to remember the trip or visit to Parit Pasir Selakau that has been done.
 - f) The teacher gives different subject matter to each member in each group.
 - g) The teacher instructs students to discuss with the expert group to determine the main points of the trip report.
 - h) After finishing the discussion, a team of experts, each member returns to their original group and takes turns teaching their teammates about the subject matter they are good at, and each other member listens carefully.
 - i) The teacher instructs each student from each home group to determine the main points of the contents of the trip report.
 - j) After determining the main points of the trip report, the teacher instructs students from each home group to prepare the main points of the trip report independently.
 - k) The teacher ensures that students have the main results of the trip reports that have been discussed.
 - l) The teacher re-instructs the students from each home group to read the main contents of the trip report that has been prepared.
 - m) The teacher instructs students individually to write travel reports.
 - n) The teacher reflects on the learning activities that have been carried out.
 - o) The teacher evaluates the results of writing travel reports made by students.
 - p) The teacher closes the learning activities.
- 4) Selection of learning resources and learning media is carried out to get an overview of the learning process that will be carried out. The sources used to write travel reports are books, and media that can help in the teaching and learning process.
- 5) Planning the evaluation of learning to write travel reports through jigsaw cooperative learning is as follows.
 - a) Assessment of the learning process of travel reports through jigsaw cooperative learning was obtained during the learning process of travel reports, namely assessing students' writing skills and attitudes.

b) Assessment of the results of travel report learning activities through jigsaw cooperative learning is obtained through activities of determining points, compiling and writing travel reports.

6) Planning the evaluation of travel report learning activities through jigsaw cooperative learning which is carried out by uniting all aspects assessed in the travel report learning process. Planning activities are assessed using the Teacher Performance Assessment Tool in Planning learning (APKG 1). As well as student activities assessed using an attitude assessment sheet which includes, activeness, seriousness, cohesiveness.

7) Planning the assessment of the results of the learning activities of the travel report through jigsaw cooperative learning which is obtained through writing the travel report.

b. Implementation of Learning to Write Journey Reports Through Jigsaw . Cooperative Learning

The researcher collaborated with the Indonesian language teacher, Lydia Norita, S.Pd. in improving the skills of writing travel reports. This research was conducted in two cycles consisting of four stages, namely planning (planning), action (acting), observation (observing), and reflection (reflecting).

1) Planning (Planning)

Planning in cycle 2 was carried out on December 1, 2015 researchers and Indonesian language teachers discussed the implementation plan of learning that would be carried out during the teaching and learning process. The lesson plan (RPP) includes the preparation of indicators, formulating learning objectives, selecting methods, selecting materials, and determining assessment guidelines. Researchers and Indonesian language teachers also discussed making student worksheets (LKS). In addition to the lesson plan, researchers and teachers prepare observation guidelines that will be used by researchers to observe activities when teachers and students carry out learning journey reports through jigsaw cooperative learning. Observation guidelines are prepared as follows.

- a) Learning syllabus.
- b) Learning implementation plan (RPP).
- c) Student worksheets (LKS).
- d) Student answer sheets.
- e) Observation guidelines for assessing the ability of teachers to plan learning journey reports through jigsaw cooperative learning.
- f) Observation guidelines for assessing the ability of teachers to carry out learning journey reports through jigsaw cooperative learning.
- g) Guidelines for observing the jigsaw type of cooperative attitude in the journey report learning process through the jigsaw type of cooperative learning.
- h) Guidelines for analyzing the results of the learning evaluation process.

The teacher performance appraisal tool (APKG 1) in planning was carried out on Wednesday, December 2, 2015. In the teacher performance appraisal tool (APKG 1) the aspects assessed were determining lesson materials

and formulating learning objectives or indicators for travel reports. In addition, the aspects assessed were developing and organizing learning resources for travel report materials through jigsaw cooperative learning, determining the time allocation to determine how to motivate students, preparing questions, planning techniques, forms of instruments, and assessment instruments.

The second cycle of reflection activity was carried out by researchers and Indonesian language teachers on Monday, December 7, 2015. Reflection activities were carried out to discuss the teacher's ability to carry out learning, students' jigsaw cooperative attitudes in learning travel reports, and learning outcomes of travel reports through jigsaw cooperative learning.

2) Implementation (acting)

The implementation of cycle 2, the first meeting was held on Friday, December 4, 2015 at 07.00 – 08.20 WIB, the time allocation used was 2 x 40 minutes. The second meeting was held on Saturday, December 5, 2015 at 09.15 – 10.35 WIB, the time allocation was 2 x 40 minutes.

The first meeting

1. Initial Activity (10 minutes)
 - a. Pray before starting the lesson
 - b. Say greetings
 - c. Attend students

Apperception :

1. Delivering learning objectives.
2. Doing questions and answers about trip reports.
2. Core Activities (60 minutes)

a. Exploration

In exploration activities:

1. The teacher explains the main points of the report.
2. The teacher instructs each student to determine the main points of the travel report in the text.
3. The teacher instructs the students to form groups, each group consists of 4-6 members.
4. The teacher gives the numbering of the members of each home group and the expert group (jigsaw cooperative type) to each member of each group.
5. The teacher instructs to remember the trip or visit to Parit Pasir Selakau that has been done.
6. The teacher gives different subject matter to each member in each group.
7. The teacher instructs the students to discuss with the expert group to determine the main points of the trip report.

b. Elaboration

In elaboration activities:

1. After finishing the discussion, as a team of experts, each member returns to the original group and takes turns teaching their teammates about the subject matter they are good at, and each other member listens carefully.
2. Each student from each home group determines the main contents of the trip report.
3. After determining the main points of the trip report, students from each home group prepare

the main contents of the trip report independently.

4. Students present their work.

c. Confirmation

In confirmation activities:

The teacher and students discuss the main points of the contents of the trip reports made by students.

3. Final Activity (10 minutes)

In closing activities:

1. Teachers and students reflect on learning activities.
2. The teacher closes the learning activity.

Second meeting

1. Initial Activity (10 minutes)

- a. Pray before starting the lesson.
- b. Say greetings.
- c. Attend students.

Apperception :

1. Delivering learning objectives.
2. Conducting questions and answers about the forms and framework of travel reports.
2. Core Activities (60 minutes)

a. Exploration

In exploration activities:

1. The teacher explains about the report and the main points of the trip report to remind students' knowledge.
2. The teacher instructs students to form groups according to the previous meeting.
3. The teacher ensures that students have the main results of the trip reports that have been discussed.

b. Elaboration

In elaboration activities:

1. Students from each home group read out the main contents of the trip report that has been prepared.
2. Students individually write trip reports.

c. Confirmation

In confirmation activities:

Teachers and students reflect on the learning activities that have been carried out.

3. Final Activity (10 minutes)

In closing activities:

1. The teacher evaluates the results of the trip reports made by students.
2. The teacher closes the learning activity.

3) Observation (observing)

Observations were made when the teacher carried out the action, the first meeting was held on Friday, December 4, 2015 at 07.00 - 08.20 WIB. The second meeting was held on Saturday, December 5, 2015 at 09.15 – 10.35 WIB. Researchers make observations by observing and recording events during the learning process using the observation guidelines that have been prepared. The results of observations in cycle 2 are as follows.

a) Observation of Teacher's Ability to Plan Learning (APKG 1) Cycle II

Most of the aspects assessed in planning the implementation of the learning carried out have reached good criteria because of the 16 aspects assessed on the teacher's ability to carry out learning journey reports through jigsaw cooperative learning, there are 7 aspects of very good criteria (43.75%), 8 aspects of good criteria (37.5%), and 1 aspect of the criteria is quite good (3.125%), so it reaches a percentage of 84.37% (good).

Table 6. Recapitulation (APKG 1) Cycle I

Kategori	Frekuensi	Skor	Nilai	Persentase	Rata-rata
Sangat baik	7	4	28	43,75%	84,37 %
Baik	8	3	24	37,5%	
Cukup baik	1	2	2	3,125%	
Kurang baik	0	1	0	-	
Jumlah	16	4	54	84,37%	

b) Observation of Teacher's Ability to Implement Learning (APKG 2) Cycle II

Most of the aspects assessed in the implementation of the learning carried out have reached good criteria because of the 23 aspects assessed on the teacher's ability to carry out learning journey reports through jigsaw cooperative learning, there are 8 aspects of very good criteria (34.78%), 12 aspects of good criteria (39.13%), 3 aspects of the criteria are quite good (6.52%), so it reaches a percentage of 80.43% (good).

Table 7. Recapitulation (APKG 2) Cycle II

Kategori	Frekuensi	Skor	Nilai	Persentase	Rata-rata
Sangat baik	8	4	32	34,78%	80,43%
Baik	12	3	36	39,13%	
Cukup baik	3	2	6	6,52%	
Kurang baik	0	1	0	-	
Jumlah	23	10	74	80,43%	

c) Observation of Students' Jigsaw Type Cooperative Attitude in Learning Journey Reports

Observations on the cooperative attitude of the jigsaw type of students in the process of learning the trip report were grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 2 were obtained from attitude observation sheets which included 1) activeness, 2) sincerity, 3) cohesiveness. The results of the researchers' observations on attitudes in the jigsaw cooperative type are as follows.

(1) Aspect of Activity with a score of 4 as many as 9 students (25%), students with a score of 3 as many as 18 students (50%), students with a score of 2 as many as 7 students (19.44%), and students with a score of 1 as many as 2 students (5.56%).

(2) The seriousness aspect with a score of 4 was 8 students (22.23%), students with a score of 3 were 21 students (58.33%), students with a score of 2 were 7 students (19.44%), students with a score of 1 as many as 0 students (0%).

(3) Asek cohesiveness with a score of 4 as many as 6 students (16.67%) a score of 3 as many as 16 students (44.44%), students with a score of 2 as many as 13 students (36.11%), students with a score of 1 as many as 1 student (2.78%).

The results of the researchers' observations on the attitudes of students in learning journey reports through jigsaw cooperative learning in cycle 2 can be seen in the following table.

Table 8. Results of Students' Attitudes in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 2

No	Aspek Yang Dinilai	Skor				Jumlah siswa
		4	3	2	1	
1	Keaktifan	9 siswa (25%)	18 siswa (50%)	7 siswa (19,44%)	2 siswa (5,56%)	36
2	Kesungguhan	8 siswa (22,23%)	21 siswa (58,33%)	7 siswa (19,44%)	0 siswa (0%)	36
3	Kekompakan	6 siswa (16,67%)	16 siswa (44,44%)	13 siswa (36,11%)	1 siswa (2,78%)	36
Persentase		21,30%	50,92%	25%	2,78%	100%
Nilai Rata-rata Sikap		72,22%				

Table 8 states that the percentage of students' attitudes in participating in learning journey reports through jigsaw cooperative learning in cycle 2 is quite good. Students with a score of 4 overall reached 21.30%, students with a score of 3 overall reached 50.92%, students with a score of 2 overall reached 25%, and students with a score of 1 reached 2.78%. Thus, overall in cycle 2, most of the students were motivated in participating in learning activities through jigsaw cooperative learning.

d) Observation of Writing Skills in the Learning Process Journey Report Through Jigsaw . Type Cooperative Learning

Observations on writing skills in the process of learning journey reports through jigsaw cooperative learning of students in the learning process of travel reports are grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 2 were obtained from student worksheets with the number of questions determined by the researchers and collaborators, namely 3 questions.

(1) Item number 1 determines the main points of the trip report and the number of students who get a score of 3 is 12 students with a percentage of 30.33%. Students obtained a score of 2 as many as 24 students with a percentage of 69.67%.

(2) Item number 2 compiles a travel report framework with a predetermined pattern and the number of students who get a score of 3 is 17 students with a percentage of 47.22%. Students who get a score of 2 are 19 students with a percentage of 52.78%.

(3) Item number 3 develops a travel report framework by taking into account coherence, EYD, and conformity of content. In the aspect of coherence, the number of students who obtained a score of 3 was 15 students with a percentage of 41.67%. Students who get a score of 2 are 21 students with a percentage of 58.33%. In the EYD aspect, the number of students who got a score of 3 was 14 students with a percentage of 38.89%. Students who get a score of 2 are 19 students with a percentage of 52.78%. Students who get a score of 1 are 3 students with a percentage of 8.33%. In the aspect of conformity of the contents, the number of students who got a score of 3 was 19 with a percentage of 52.78%. Students who get a score of 2 are 15 students with a percentage of 41.67%. In students who get a score of 1 as many as 2 students with a percentage of 5.56%.

Table 9. Aspects of Assessment of Students' Writing Skills in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 2

No	Butir Soal	Skor			Jumlah Siswa
		3	2	1	

1	Soal nomor 1	12 siswa (30,33%)	24 siswa (69,67%)	0 siswa (0%)	36	
2	Soal nomor 2	17 siswa (47,22%)	19 siswa (52,78%)	0 siswa (0%)	36	
3	Soal nomor 3	Keruntutan	15 siswa (41,67%)	21 siswa (58,33%)	0 siswa (0%)	36
		EYD	14 siswa (38,89%)	19 siswa (52,78%)	3 siswa (8,33%)	36
		Kesesuaian Isi	19 siswa (52,78%)	15 siswa (41,67%)	2 siswa (5,56%)	36
Persentase		42,18%	55,04%	2,78%	100%	

Table 10. Results of Assessment of Students' Writing Skills in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycle 2

No	Nama Siswa	Siklus 2	
		Nilai	Keterangan
1	Andri Yani	80	Tuntas
2	Avi Rubin	86,66	Tuntas
3	Azzis	60	Tidak Tuntas
4	Dedi	80	Tuntas
5	Desti Ramadhani	86,66	Tuntas
6	Eliza Carolina	80	Tuntas
7	Enggye Rahayu	86,66	Tuntas
8	Fadilah	80	Tuntas
9	Ferri Ferba Valentino	80	Tuntas
10	Fhobby Franzona	86,66	Tuntas
11	Friani	86,66	Tuntas
12	Gelsy Chania	60	Tidak Tuntas

13	Gilang Ari Pratama	80	Tuntas
14	Januardi	86,66	Tuntas
15	Lisa Aprilianti Sabila	80	Tuntas
16	Lisa Nur Ella	80	Tuntas
17	Marlina	86,66	Tuntas
18	Mely Adriyan	86,66	Tuntas
19	Muhammad Fajrul Islam	93,33	Tuntas
20	Mulyani	80	Tuntas
21	Natasha Juniarti	93,33	Tuntas
22	Nazarudin	73,33	Tidak tuntas
23	Nurhafiza	80	Tuntas
24	Prisca Valentina	53,33	Tidak tuntas
25	Puspa	86,66	Tuntas
26	Randa	60	Tidak Tuntas
27	Rexy Prayoga	66,66	Tidak Tuntas
28	Rien Rizky Ananda	80	Tuntas
29	Rino Nandio	86,66	Tuntas
30	Riski Kamaruna	86,66	Tuntas
31	Siti Nurdiana	80	Tuntas
32	Tiara	93,33	Tuntas
33	Toni Hidayat	66,66	Tidak Tuntas
34	Uray Dea Triani	80	Tuntas
35	Uray Reski	86,66	Tuntas
36	Vidia Pargeta	80	Tuntas
Jumlah		2879,89	
Nilai Terendah		53,33	
Nilai Tertinggi		93,33	
Rata-rata Kelas		80	
Persentase Ketuntasan		80,56%	

Table 10 states that the percentage of students' writing skills in learning journey reports through jigsaw cooperative learning in cycle 2 is quite good. The student with the lowest score was 1 person, namely Prisca Valentina with a score of 53.33 while the highest score was 3 students, namely Muhammad Fajrul Islam, Natasha Juniarti, and Tiara with a score of 93.33. The average percentage value of the class obtained in cycle 2 reaches 80 and the percentage value of completeness reaches 80.56%. This means that it has met the KKM standard set by the school, which is 75%. Thus, overall in cycle 2 in participating in the learning activities of travel reports through jigsaw cooperative learning, it has been successful because it has increased.

(4) Reflection

The reflection activity was carried out by the researcher with Lydia Norita, S.Pd. On Monday, December 7, 2015. Reflection is a follow-up to the results of observations. Researchers and collaborators reflect on learning activities that include planning, implementing, and implementing learning outcomes.

(a) Reflection on Planning

Most of the aspects assessed in the lesson plans that have been made have reached good criteria because 16 aspects assessed in the teacher's ability to plan learning trip reports there are 7 very good criteria aspects with a percentage of 43.75%, 8 aspects of good criteria with a percentage of 37.5%, 1 aspect of the criteria is quite good with a percentage of 3.125%, so it reaches a percentage of 84.37% (good). At the planning stage of learning the travel report material hasgonewell, although thereisstill one aspect that has not been planned optimally. Onesuch aspect is preparing questions.

(b) Reflection on Implementation

Most of the aspects assessed in the implementation of the learning carried out have reached good criteria because of the 23 aspects assessed on the teacher's ability to carry out learning journey reports through jigsaw cooperative learning, there are 8 aspects of very good criteria with a percentage of 34.78%, 12 aspects of good criteria with the percentage is 39.13%, 3 aspects of the criteria are quite good with a percentage of 6.52%, so it reaches a percentage of 80.43% (good). The implementation of learning carried out by the teacher has been going well, although there are still 3 aspects that have not been implemented optimally. These three aspects are:

1. The teacher is quite good at checking students' readiness.
2. The teacher is quite good at reflecting on learning activities.
3. The teacher is quite good at making sure students have the main results of the travel reports that have been discussed.

(c) Assessment Results on the Learning Process Journey Report Through Jigsaw . Cooperative Learning

1. Results of Observations on Writing Skills in the Learning Process Journey Report Through Cooperative Learning Jigsaw . Type

Observations of writing skills in the learning process through jigsaw cooperative learning of students in the process of learning journey reports are grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 2 were obtained from student worksheets with the number of questions determined by the researchers and collaborators, namely 3 questions.

a) Item number 1 determines the main points of the travel report and the number of students who get a score of 3 is 12 students with a percentage of 30.33%, namely Enggye Rahayu, Fobby Franzona, Friani, Januardi, Marlina, Mely Adiyana, Muhammad Fajrul Islam, Natasha

Juniarti, Puspa, Rino Nandio, Tiara, and Uray Resi. Students obtained a score of 2 as many as 24 students with a percentage of 69.67%, namely Andri Yani, Avi Rubin, Azzis, Dedi, Desti Ramadhani, Eliza Carolina, Fadialah Ferri Ferba Valentino, Gelsy Chania, Gilang Ari Pratama, Lisa Aprilianti Sabila, Lisa Nur Ella, Mulyani, Nazarudin, Nurhafiza, Prisca Valentina, Randa, Remy Prayoga, Rien Rizky Ananda, Riski Kamaruna, Siti Nurdiana, Toni Hidayat, Uray Dea Triani, and Vidia Pargeta.

b) Item number 2 compiles a travel report framework with a predetermined pattern and the number of students who get a score of 3 is 17 students with a percentage of 47.22%, namely Andri Yani, Avi Rubin, Dedi, Desti Ramadhani, Eliza Carolina, Enggye Rahayu, Fadilah, Friani, Gilang Ari Pratama, Januardi, Marlina, Mely Adriyan, Muhammad Fajrul Islam, Natasha Juniarti, Riski Kamaruna, Tiara, and Uray Reski. 19 students who scored 2 with a percentage of 52.78%, namely Azzis, Ferri Ferba Valenyino, Fobby Franzona, Gelsy Chania, Lisa Aprilianti Sabila, Lisa Nur Ella, Mulyani, Nurhafiza, Puspa, Randa, Remy Prayoga, Rien Rizky Ananda, Rino Nandio, Siti Nurdiana, Toni Hidayat, Uray Dea Triani, and Vidia Pargeta.

c) Item number 3 develops the framework of the travel report by taking into account the coherence, EYD, and suitability of the contents. In the aspect of coherence, the number of students who got a score of 3 was 15 students with a percentage of 41.67%, namely Andri Yani, Avi Rubin, Desti Ramadhani, Fobby Franzona, Lisa Aprilianti Sabila, Mely Adriyan, Muhammad Fajrul Islam, Natasha Juniarti, Nurhafiza, Puspa, Rien Rizky Ananda, Rino Nandio, Siti Nurdiana, Tiara, and Uray Dea Triani. Students who got a score of 2 were 21 students with a percentage of 58.33%, namely Azzis, Dedi, Eliza Carolina, Enggye Rahayu, Fadilah, Ferri Ferba Valentino, Friani, Gelsy Chania, Gilang Ari Pratama, Januardi, Lisa Nur Ella, Marlina, Mulyani, Nazarudin, Prisca Valentina, Randa, Remy Prayoga, Riski Kamaruna, Toni Hidayat, Uray Reski, and Vidia Pargeta. In the EYD aspect the number of students who got a score of 3 was 14 students with a percentage of 38.89%, namely Avi Rubin, Dedi, Desti Ramadhani, Ferri Ferba Valentino, Fobby Franzona, Friani, Lisa Nur Ella, Muhammad Fajrul Islam, Mulyani, Puspa, Riski Kamaruna, Siti Nurdiana, Uray Reski, and Vidia Pargeta. 19 students with a score of 2 with a percentage of 52.78%, namely Andri Yani, Azzis, Eliza Carolina, Enggye Rahayu, Fadilah, Gilang Ari Pratama, Januardi, Lisa Aprilianti Sabila, Marlina, Mely Adriyan, Natasha Juniarti, Nazarudin, Nurhafiza, Remy Prayoga, Rien Rizky Ananda, Rino Nandio, Tiara, Toni Hidayat, and Uray Dea Triani. Students who got a score of 1 were 3 students with a percentage of 8.33%, namely Gelsy Chania, Prisca Valentina, and Randa. In the aspect of conformity of content, the number of students who got a score of 3 was 19 with a percentage of 52.78%, namely Eliza Carolina, Enggye Rahayu, Fadilah, Ferri Ferba Valentino, Gilang Ari Pratama, Januardi, Lisa Aprilianti Sabila, Lisa Nur Ella, Marlina, Mulyani, Nazarudin,

Nurhafiza, Rien Rizky Ananda, Rino Nandio, Riski Kamaruna, Tiara, Uray Dea Triani, and Vidia Vargeta. There were 15 students who got a score of 2 with a percentage of 41.67%, namely Andri Yani, Avi Rubin, Dedi, Desti Ramadhani, Fobby Franzona, Friani, Gelsy Chania, Mely Adriyan, Muhammad Fajrul Islam, Puspa, Randa, Remy Prayoga, Siti Nurdiana, Toni Hidayat, and Uray Reski. The students who got a score of 1 were 2 students with a percentage of 5.56%, namely Azzis and Prisca Valentina.

Stating that the percentage of students' writing skills in learning journey reports through jigsaw cooperative learning in cycle 2 is quite good. The student with the lowest score was 1 person, namely Prisca Valentina with a value of 53.33 while the highest score was 3 students, namely Muhammad Fajrul Islam, Natasha Juniarti, and Tiarawith a value of 93.33. The average percentage value of the class obtained in cycle 2 reaches 80.00 and the percentage value of completeness reaches 80.56%. This means that it has met the KKM standard set by the school, which is 75%. Thus, overall in cycle 2 in participating in the learning activities of the journey report through Jigsaw Cooperative learning, it has been successful because it has increased.

2. Results of Observations on Students' Jigsaw Type Cooperative Attitude in Learning Travel Reports

Observations on the cooperative attitude of the jigsaw type of students in the process of learning journey reports were grouped into four categories, namely very good, good, quite good, and not good.

The results of observations made in cycle 2 were obtained from attitude observation sheets which included 1) activeness, 2) sincerity, 3) cohesiveness. The results of the researchers' observations on attitudes in the jigsaw cooperative type are as follows.

a. Aspects of Activity with a score of 4 as many as 9 students (25%), students with a score of 3 as many as 18 students (50%), students with a score of 2 as many as 7 students (19.44%), and students with a score of 1 as many as 2 students (5,56%).

b. The seriousness aspect with a score of 4 was 8 students (22.23%), students with a score of 3 were 21 students (58.33%), students with a score of 2 were 7 students (19.44%), students with a score of 1 were 0 students (0%).

c. Aseck cohesiveness with a score of 4 as many as 6 students (16.67%) a score of 3 as many as 16 students (44.44%), students with a score of 2 as many as 13 students (36.11%), students with a score of 1 as many as 1 student (2,78%).

B. Discussion on the results of the implementation of actions

After conducting 2 research cycles on students' writing abilities in class VIII E of SMP Negeri 1 Selakau in the 2015/2016 academic year through jigsaw cooperative learning conducted by researcher and Indonesian

teacher Lydia Norita, S.Pd., the following results were obtained.

1. Results of Teacher Ability to Plan and Implement the Learning Process Journey Report Through Cooperative Learning Jigsaw Type Cycle 1 and Cycle 2

Table 11. Improving Teachers' Ability to Plan the Learning Process Journey Report Through Jigsaw . Cooperative Learning

No	Keterangan	Siklus 1	Siklus 2	Peningkatan
1	APKG 1	73,43 %	84,37 %	10,94%

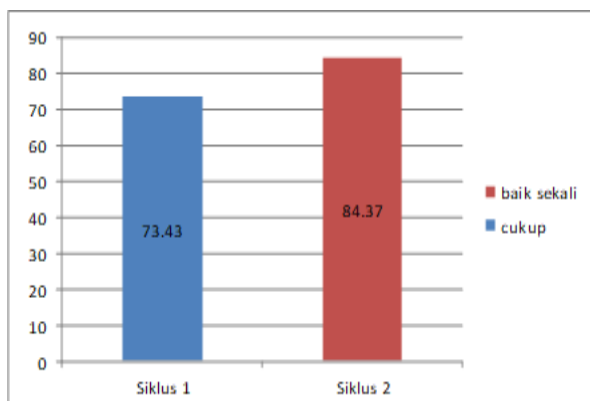


Figure 1. Improving Learning Planning Journey Reports Through Jigsaw . Cooperative Learning

Based on table 11 and diagram 1 it can be seen that the teacher's ability to plan interview learning through jigsaw cooperative learning has increased. In cycle 1, the teacher's ability to plan the learning process of travel reports through jigsaw cooperative learning reached 73.43% and cycle 2 reached 84.37%, meaning an increase of 10.94%.

2. The results of the teacher's ability to carry out the learning process Journey Report through Cooperative Learning Jigsaw Type Cycle 1 and Cycle 2

Table 12. Improving Teacher Ability to Implement the Learning Process Journey Report Through Jigsaw . Cooperative Learning

No	Keterangan	Siklus 1	Siklus 2	Peningkatan
1	APKG 2	70,65 %	80,43 %	9,78%

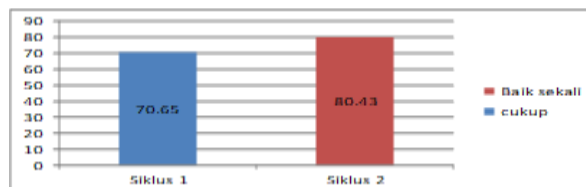


Figure 2. Improving the Implementation of Learning Journey Reports Through Jigsaw . Cooperative Learning

Based on table 12 and diagram 2 it can be seen that carrying out the journey report learning process through jigsaw cooperative learning has increased. The teacher's ability to carry out the learning process of travel reports through jigsaw cooperative learning reached 70.65% in cycle 1 and cycle 2 reached 80.43%, meaning an increase of 9.78%.

3. Results of Writing Skills in Learning Journey Reports Through Cooperative Learning Jigsaw Type Cycles 1 and 2

The results of the learning process can determine the level of students' skills in writing. The average score of students in learning to write through jigsaw cooperative learning.

Table 13. Assessment of Learning Outcomes Writing a Journey Report Through Cooperative Learning Jigsaw Type Cycles 1 and 2

No	Nama Siswa	Siklus 1		Siklus 2	
		Nilai	Ket.	Nilai	Ket
1	Andri Yani	80	Tuntas	80	Tuntas
2	Avi Rubin	60	Tidak Tuntas	86,66	Tuntas
3	Azzis	73,33	Tidak tuntas	60	Tidak Tuntas
4	Dedi	53,33	Tidak Tuntas	80	Tuntas
5	Desti Rama dhani	80	Tuntas	86,66	Tuntas
6	Eliza Carolina	80	Tuntas	80	Tuntas
7	Enggy e Rahayu	80	Tuntas	86,66	Tuntas
8	Fadhilah	86,66	Tuntas	80	Tuntas
9	Ferri Ferba Valentino	80	Tuntas	80	Tuntas
10	Fhobby	86,66	Tuntas	86,66	Tuntas

	Franzona				
11	Friani	80	Tuntas	86,66	Tuntas
12	Gelsy Chania	53,33	Tidak Tuntas	60	Tidak Tuntas
13	Gilang Ari Prata ma	80	Tuntas	80	Tuntas
14	Januar di	80	Tuntas	86,66	Tuntas
15	Lisa Aprilia nti Sabila	86,66	Tuntas	80	Tuntas
16	Lisa Nur Ella	60	Tidak Tuntas	80	Tuntas
17	Marlin a	80	Tuntas	86,66	Tuntas
18	Mely Adriya n	86,66	Tuntas	86,66	Tuntas
19	Muha mmad Fajrul Islam	80	Tuntas	93,33	Tuntas
20	Mulya ni	80	Tuntas	80	Tuntas
21	Natas ha Juniart i	86,66	Tuntas	93,33	Tuntas
22	Nazar udin	60	Tidak Tuntas	73,33	Tidak Tuntas
23	Nurha fiza	53,33	Tidak Tuntas	80	Tuntas
24	Prisca Valent ina	53,33	Tidak Tuntas	53,33	Tidak Tuntas
25	Puspa	80	Tuntas	86,66	Tuntas
26	Randa	60	Tidak Tuntas	60	Tidak Tuntas
27	Rexy Prayo ga	53,33	Tidak Tuntas	66,66	Tidak Tuntas
28	Rien Rizky Anand a	86,66	Tuntas	80	Tuntas
29	Rino Nandi o	80	Tuntas	86,66	Tuntas
30	Riski Kamar una	86,66	Tuntas	86,66	Tuntas

31	Siti Nurdia na	80	Tuntas	80	Tuntas
32	Tiara	80	Tuntas	93,33	Tuntas
33	Toni Hiday at	60	Tidak Tuntas	66,66	Tidak Tuntas
34	Uray Dea Triani	86,66	Tuntas	80	Tuntas
35	Uray Reski	86,66	Tuntas	86,66	Tuntas
36	Vidia Parget a	80	Tuntas	80	Tuntas
Jumlah		2693,26		2879,89	
Nilai Terendah		53,33		53,33	
Nilai Tertinggi		86,66		93,33	
Rata-rata		74,81		80	
Persentase Ketuntasan		69,44%		80,56%	

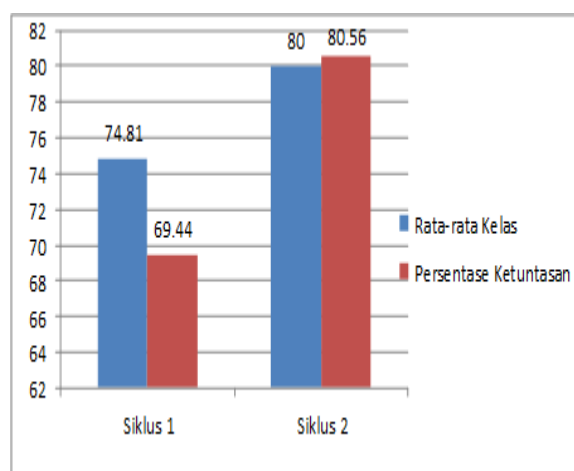


Figure 3. Assessment of Learning Outcomes Reports Journey Through Cooperative Learning Jigsaw Type Cycles 1 and 2

Based on diagram 3, it can be seen that with jigsaw type cooperative learning students' writing skills can be improved. In cycle 1, the average student reached 74.81 with the percentage of completeness reaching 69.44% and had not reached the KKM determined by the school. In cycle 2 the average student reached 80 with the percentage of completeness reaching 80.56%. It can be said that the average value of students in cycles 1 and 2 has increased by 5.19 and the percentage increase in student success reaches 11.12%.

4. Assessment of Students' Attitudes in the Learning Process Journey Reports Through Cooperative Learning Jigsaw Type Cycles 1 and 2

Observations on students' attitudes during the learning activities of travel reports through jigsaw cooperative learning have increased in each cycle. An explanation of the increase in student attitudes will be described in the following table.

Table 14. Student Attitude Values During the Learning Activity Process Cycles 1 and 2

No	Aspek yang dinilai	Skor Siklus 1				Skor Siklus 2			
		4	3	2	1	4	3	2	1
1	Keaktifan	16,67%	41,67%	30,56%	11,10%	25,00%	50,00%	19,44%	5,56%
2	Kesungguhan	16,67%	50,00%	25,00%	8,33%	22,23%	58,33%	19,44%	0,00%
3	Kekompakan	5,56%	36,11%	50,00%	8,33%	16,67%	44,44%	36,11%	2,78%

Based on the table above, it can be seen that there was an increase in student scores during the process of learning activities in cycles 1 and 2 through jigsaw cooperative learning. Assessment for cycle 1 on the aspect of activity with a very good percentage of 16.67%, good 41.67%, quite good 30.56% and not good 11.10%. The seriousness aspect with a very good percentage of 16.67%, good 50%, quite good 25%, and not good 8.33%. Aspects of cohesiveness with a very good percentage of 5.56%, good 36.11%, quite good 50%, and not good 8.33%. Cycle 2 assessment for the aspect of activity with a very good percentage of 25%, good 50%, quite good 19.44%, and not good 5.56%. The seriousness aspect with a very good percentage of 22.23%, good 58.33%, quite good 19.44%, and not good 0%. Aspects of cohesiveness with a very good percentage of 16.67%, good 44.44%, quite good 36.11%, and not good 2.78%.

CONCLUSION

Based on the data analysis and the results of research conducted in two cycles, it can be concluded that jigsaw cooperative learning can improve writing skills for

class VIII E students of SMP Negeri 1 Selakau. Based on the results of the research that has been done, it can be concluded that through cooperative learning the jigsaw type can improve the skills of writing travel reports in class VIII E students of SMP Negeri 1 Selakau.

The focus of learning planning in this research is to prepare everything that supports the implementation of effective and efficient learning. The things prepared in this research are to determine the schedule carried out between researchers and collaborators to discuss the planned activities to be carried out, determine subject matter, make learning steps, determine learning models, and determine learning media. In particular, the description of the results of the discussion of classroom action research is concluded as follows.

1. Learning planning through jigsaw cooperative learning.

Learning planning through jigsaw type cooperative learning in this study can be learning to write travel reports. This is evidenced by an increase in the ability of teachers in planning lessons. Teacher performance in learning planning continues to increase from 73.43% in the first cycle to 84.37% in the second cycle, which means an increase of 10.94%

2. Implementation of learning through jigsaw cooperative learning.

The application of jigsaw cooperative learning in classroom action research can improve the quality of the journey report learning process. This is evidenced by the increased ability of teachers in managing learning, and activities in student participation in the learning process. The teacher's performance in managing learning continues to increase from 70.65% in cycle 1 and cycle 2 to 80.43%, meaning an increase of 9.78%.

3. Learning outcomes through jigsaw cooperative learning

The average student learning outcomes of class VIII E SMP Negeri 1 Selakau in participating in learning journey reports through jigsaw cooperative learning has increased. In cycle 1 the average value of the class is 74.81 with a completeness percentage of 69.44% increasing to 80 with a completeness percentage of 80.56%. So, there was an increase in the average value of 5.19 and the percentage of completeness of 11.12%.

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INCREASING TRAVEL REPORT WRITING SKILLS USING THE CONTEXTUAL TEACHING AND LEARNING APPROACH TO COMPONENT INQUIRY FOR CLASS VIII A STUDENTS OF JUNIOR HIGH SCHOOL 8 SINGKAWANG 2016 ACADEMIC YEAR

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ABSTRACT

This research is motivated by the low skills of students in writing. This is due to the lack of student interest in writing activities and difficulties in developing ideas and ideas. This study focused on writing travel reports using the inquiry component CTL approach. The formulation of the problem is how the planning, implementation, and results of learning to write travel reports using the CTL inquiry component approach with the aim of research describing the planning, implementation, and learning outcomes of writing travel reports using the inquiry component CTL approach. This research method is descriptive with a qualitative form. This research was carried out in 2 cycles. Each cycle carried out 2 meetings. The procedure for carrying out this research consists of planning, actions, observations, reflections, and results of activities. Cycle 1 learning planning includes, formulating learning objectives, determining learning approaches, selecting materials, preparing Learning Implementation Plans, and assessment guidelines. In cycle 2, most of the planning carried out is the same as in cycle 1, but more emphasis is placed on understanding the material and applying the inquiry component CTL learning approach. Implementation is adjusted to the plans that have been prepared. The implementation of cycle 1 experienced problems in delivering benefits and motivation to students, the teacher did not provide reinforcement and enrichment about the material that had been studied, the teacher asked and answered questions with students who were still lacking. The implementation of cycle 2 went well, all aspects of planning had been carried out by the teacher. Based on data analysis in this Classroom Action Research, the average score of students before the action was 67.833333 (not completed), after cycle 1 the average score of students became 71.901333 (unfinished), and cycle 2 became 79.518333 (completed). Based on this research, it is suggested that teachers can apply the inquiry component CTL approach to improve students' writing skills. Teachers must also pay attention to learning approaches that are in accordance with the characteristics of students. Based on this research, it is suggested that teachers can apply the inquiry component CTL approach to improve students' writing skills. Teachers must also pay attention to learning approaches that are in accordance with the characteristics of students. Based on this research, it is suggested that teachers can apply the inquiry component CTL approach to improve students' writing skills. Teachers must also pay attention to learning approaches that are in accordance with the characteristics of students.

Key words: contextual teaching, , inquiry component, learning approach, writing skill

INTRODUCTION

Writing is a means of developing thinking or reasoning by collecting facts, connecting them and then drawing conclusions. Writing can also clarify something to the writer students' ability to communicate using good and correct because the ideas that were originally scattered and not Indonesian, both orally and in writing. In accordance with coherent in the mind can be poured coherently and the objectives of teaching Indonesian, students are expected systematically. Writing is very important because writing is to be able to develop their potential according to the one way to make someone smart and talented and abilities, needs, and interests and be able to understand knowledgeable. The reason the researchers chose writing skill and apply it appropriately in communicating. Language skills learning aimed at class VIII A SMP Negeri 8 Singkawang, because the students of SMP Negeri 8 (1) listening or listening skills, (2) speaking skills, and (3) Singkawang especially class VIII A have low ability in writing skills. Each of these skills is closely related to the writing activities. Based on conventional observations, the other three skills in various ways. Writing activity is one of researchers found that the students of class VIII A of SMP Negeri 8 Singkawang were lacking in writing activities the learning process carried out by students in studying because the strategies or methods used by teachers in

learning were still conventional so they did not attract three results of the pre-test showed an average score of attention of students in generating enthusiasm for learning 6,8.88%. This means that the students of Marisi Private especially on the system of planning, implementation, and junior High School Medan Helvetia have not been able learning outcomes. From the results of writing activities so learn to write reports because the average value is carried out before using the CTL method of inquiry still included in the sufficient category. Besides that, component, the percentage of students who complete minimum completeness criteria (KKM) in the school grades only reached 67.83% of 30 students, while this has not been achieved. While the post-test results expected Minimum Completeness Criteria (KKM) was 75 show that the average value achieved is 81.11%. This Therefore, The researcher took the initiative to apply this means that the students of Marisi Medan Helvetia inquiry component CTL approach to writing learning Private Junior High School are able to learn to write especially writing travel reports for class VIII A students or reports because the average value is included in the SMP Negeri 8 Singkawang starting from planning, good category. In addition, the Minimum implementation, and learning outcomes. The reason this completeness criteria (KKM) at the school has been researcher chose the skill of writing travel reports in this achieved, even exceeding the specified value, which is study was because learning about writing travel reports. There is a significant difference between students' had been included in the KTSP curriculum of SMP semester ability in writing and after the application of the 1 on the Basic Competence of writing, namely: 4.1 Writing contextual approach to inquiry elements, namely an reports in good and correct language with teaching increase in the average score of pre-test results. -test to materials for writing travel reports.

CTL learning is an approach that helps teachers relate the content of the subject matter to the real world situation of students. This learning motivates students to relate the knowledge gained in class, and its application in students' lives as family members, as well as members of society. The CTL approach has seven main components, namely: (1) Constructivism, (2) Inquiry, (3) Questioning, (4) Learning Society, (5) Modeling, (6) Reflection, and (7) Actual Assessment. Here the researcher chooses one of them, namely the inquiry component. Inquiry is a core part of contextual-based learning activities. The knowledge and skills acquired by students are expected not to be the result of remembering a set of facts, but the result of finding out for themselves. Teachers should always design activities that refer to finding activities, regardless of the material being taught. The inquiry stages consist of: 1. Observation, 2. Asking, 3. Submitting allegations, 4. Data collection, 5. Conclusion. In inquiry learning, students are instructed to visit a place by making observations, if the data from the observations have been collected then a travel report is made in good and correct language, the use of Enhanced Spelling (EYD), and in accordance with the writing systematics that have been written. determined. According to the researcher, the CTL approach of the inquiry component is very suitable to be applied in the activity of writing travel reports. Other research shows that the inquiry component CTL learning approach is very effective in teaching writing as in the research conducted by Simangunsong Merrydonna Christina with the research title "Application of the Contextual Approach of Inquiry Elements in Writing Reports by Class VIII Students of Marisi Private Junior High School Medan Helvetia 2012/2013 Academic Year ". This research shows that the results of students' learning abilities using the CTL Element of Inquiry approach are getting better. Based on the results of the research that has been carried out, it can be concluded that the

post-test of 12.21%. Marisi Medan Helvetia Private Junior High School students are able to learn to write reports because the average value is included in the good category. In addition, the Minimum Completeness Criteria (KKM) at the school has been achieved, even exceeding the specified value, which is 70. There is a significant difference between students' ability in writing and after the application of the contextual approach to inquiry elements, namely an increase in the average score of pre-test results. -test to post-test of 12.21%. Marisi Medan Helvetia Private Junior High School students are able to learn to write reports because the average value is included in the good category. In addition, the Minimum Completeness Criteria (KKM) at the school has been achieved, even exceeding the specified value, which is 70. There is a significant difference between students' ability in writing and after the application of the contextual approach to inquiry elements, namely an increase in the average score of pre-test results. -test to post-test of 12.21%.

RESEARCH METHODS

This research uses a descriptive method. According to Sukmadinata (in Muhadi, 2011: 34) says that the descriptive method is "a form of research that is shown to describe existing phenomena, both natural phenomena and man-made phenomena. The phenomena can be in the form of forms, activities, characteristics, changes in the relationship of similarities, and differences between one phenomenon and another. Furthermore, according to Furchan (in Muhadi, 2011: 34) that descriptive research is "Research designed to obtain information about the status of a symptom when the research is conducted. Further explained, in descriptive research there is no treatment given or controlled and no hypothesis testing as contained in experimental research. Descriptive research is a research method

that seeks to describe and interpret objects in accordance with what is Best (in Muhadi, 2011: 34). Descriptive research is research that has the aim of making systematic, factual and accurate notes about the facts and characteristics of a particular population or area (Musa, Mohammad and Nurfitri, Titi 1998: 8). From these several definitions above, it can be concluded that descriptive research is research that is shown to describe or describe phenomena according to the object as it is. So, the selection of this descriptive method is very appropriate because this descriptive method focuses on the actual problems when the research is carried out.

This research is in the form of qualitative because it will produce descriptive data with written or spoken words and observed behavior. Kirk and Miller (in Hadi, Amirul and Haryono, 2005: 56) define that qualitative research is "a certain tradition in social science that fundamentally depends on observing humans in their own area and relating to these people in their language and in terms". Denzin and Lincoln (in Satori, Djam'an and Komariah, Aan 2011: 23) say that: "Qualitative research is research that uses a scientific background, with the intention of interpreting phenomena that occur and is carried out by involving various existing methods. with various unique characteristics, Qualitative research has its own uniqueness so that it is different from quantitative research. From some of the definitions above, it can be concluded that qualitative research is research that uses a scientific background that interprets phenomena in human observations, and this qualitative research has its own uniqueness that is different from quantitative research. The behavior observed was the students' skills in writing travel reports using the inquiry component CTL approach in class VIII A students of SMP Negeri 8 Singkawang in the 2015/2016 academic year. and this qualitative research has its own uniqueness, different from quantitative research. The behavior observed was the students' skills in writing travel reports using the inquiry component CTL approach in class VIII A students of SMP Negeri 8 Singkawang in the 2015/2016 academic year. and this qualitative research has its own uniqueness, different from quantitative research. The behavior observed was the students' skills in writing travel reports using the inquiry component CTL approach in class VIII A students of SMP Negeri 8 Singkawang in the 2015/2016 academic year.

Data Collection Techniques Direct Observation Techniques According to Hadi, Amirul and Haryono (2005: 94) said that observation is "Systematic observation and recording of the symptoms studied. Observation will be one of the data collection techniques if: a) In accordance with the objectives of the study, b) Planned and recorded systematically, c) Constraints can be controlled (reliability) and validity (validity). The tool used is an observation guide or

observation sheet. Direct Measurement Techniques According to Djojuroto, Kinayati and Sumaryat, ML A (2010: 52) says that: "Direct measurement as a data collection technique is carried out by measuring people/objects studied or observed using various measuring instruments according to the object, Then the measurement results are recorded one by one. The collection of records will later become a collection of data that will provide the information that will be needed. Direct Communication Techniques According to Hadi, Amirul and Haryono (2005: 135) said that "Direct communication techniques are data collection techniques by using interviews as a tool. Documentation Study Techniques According to Satori, Djam'an & Komariah, Aan (2011: 149) stated that: "Document studies in qualitative research are complementary to the use of observation and interview methods. Documentation studies are collecting documents and data needed in research problems and then examining them intensely so that they can support and increase trust and proof of an incident. According to Lexy J. Moleong (in Paizaluddin and Ermalinda, 2012: 135) said that "Documents have long been used in research as data sources because in many cases documents are data sources and are used to test, interpret, and even predict". From some of the definitions above, it can be concluded that the study of documentation is collecting documents and data needed in a research problem and then intensely examining the document as a data source and used to test, interpret, and even predict.

RESULTS AND DISCUSSION

Improved travel report writing skills using the approach CTL This inquiry component was conducted at SMP Negeri 8 Singkawang in 2015/2016. The collaborators in this study were Indonesian language teachers, namely Suryati, S. Pd, Ind. The research subjects were students of class VIII A with a total of 30 people consisting of 14 males and 16 females with 2 research cycles. Each cycle consists of two meetings. This research was conducted on the problems that arise in the classroom, namely (1) Students have difficulty in using spelling, punctuation, and the use of capital letters, (2) Students have difficulty compiling a travel report framework, (3) Students have difficulty developing a travel report framework, (4) Teachers still use conventional learning methods, (5) Lack of student interest in writing activities, (6) Students' writing scores are still below the average of 67, 83 while the Minimum Completeness Criteria (KKM) is 72. Based on these problems the researcher uses an inquiry component CTL learning approach which emphasizes the ability of students to find

everything when they go into the field in order to improve students' skills in writing travel reports in good and correct language. and conforms to Enhanced Spelling (EYD) guidelines. The learning approach that the researcher applies with his collaborators is the inquiry component Contextual Teaching and Learning (CTL) approach. Inquiry is a core part of contextual-based learning activities. The knowledge and skills acquired by students are expected not to be the result of remembering a set of facts, but the result of finding out for themselves. Teachers should always design activities that refer to finding activities, regardless of the material being taught. In this study, learning was carried out in two cycles. Each cycle consists of four stages, namely planning (planning), implementation (action), observation (observing), and reflection (reflecting). For more research on each cycle as follows.

1. Description of Research Results Cycle 1

a. Planning to Improve Students' Travel Report Writing Skills Using the Inquiry Component CTL Approach

Researchers and collaborators discuss to plan the activities to be carried out. Cycle 1 planning was carried out on Saturday, October 24, 2015. In this case, researchers and collaborators planned the following things.

- 1) Researchers and collaborators plan learning materials including formulating learning objectives, formulating learning in accordance with the curriculum, formulating learning objectives, and formulating learning objectives.
- 2) Researchers and collaborators plan to organize teaching materials which include developing learning materials, determining learning materials according to student characteristics, and organizing learning time allocations in two meetings.
- 3) Researchers and collaborators plan learning steps scenarios which include determining learning activities using the CTL inquiry component approach, compiling learning steps, preparing student worksheets, and assessment guidelines.
- 4) The selection of sources and media used in learning to write travel reports which include learning resources must be adjusted to the learning material and determine the learning media to be used.
- 5) Researchers and collaborators plan learning outcomes in writing travel reports using the inquiry component CTL approach, namely through the results in the learning process and at the end of the learning process to measure the extent to which students

understand the material that has been studied.

- 6) Researchers and collaborators plan learning evaluations by developing assessment techniques, assessment instruments, assessment tools, and assessment guidelines.

b. Implementation of Learning Writing a Journey Report of the inquiry component CTL approach

In this study, the researchers collaborated with Indonesian language teachers, namely Suryati, S. Pd, Ind. To improve students' skills in writing travel reports. The implementation of this research was carried out in two cycles consisting of four stages to be carried out namely planning (planning), implementation (action), observation (observing), and reflection (reflecting). The complete analysis of Classroom Action Research in class VIII A in cycle 1 is as follows.

1) planning (planning)

Planning cycle 1 on Saturday, October 24, 2015. Before making the plan, the researcher discussed with the Indonesian language teacher. After having the same understanding of learning using the inquiry component CTL approach, researchers and collaborators developed a lesson plan. In addition to lesson plans, researchers and collaborators also prepare observation guidelines that researchers will use to observe activities when teachers carry out the learning process of writing travel reports using the inquiry component CTL approach. Researchers and collaborators plan learning evaluation guidelines, namely preparing attitude observation sheets that are used to observe students' attitudes during the learning process. Researchers and collaborators determine the things that are observed, namely aspects of trustworthiness, respect, understanding, perseverance, responsibility, and courage. Researchers and collaborators also plan cycle 1 reflection activities which will be held on Monday, November 2, 2015. The reflection stage is intended to thoroughly examine all actions that have been taken based on the collected data, namely discussing the Learning Implementation Plan, teacher's ability to carry out learning and attitudes students in carrying out learning to write travel reports. The results of learning planning in cycle 1 are the teacher's ability to plan lessons using the CTL approach to the inquiry component is good, because of the 17 aspects assessed there are 3 aspects that get very good criteria, 12 aspects get good criteria, and 2 aspects get pretty good criteria. The percentage is 81.176471% (good). From the results of these observations, there are things that need to be improved, namely the determination of the time

allocation which is not clear at each learning step. It is advisable that the determination of the time allocation must be clear, so that learning can run according to the specified time and the teacher must prepare better answer sheets.

2) Action (acting)

Cycle 1 action was carried out on Tuesday, October 27, 2015 at 08.40-10.40 the time allocation used was 2x40 minutes. The second meeting was held on Saturday, October 31, 2015 at 08.40-09.40, time allocation was 2x40 minutes. Based on observations about the learning process of writing travel reports using the CTL approach, the inquiry component is as follows.

The first meeting

a) Preliminary activities

The teacher checks the students' readiness, the teacher greets the students, the teacher prays together and attends the students. Then the teacher carries out apperception activities by connecting students' previous knowledge with the material to be studied. Furthermore, the teacher motivates students with the teacher conveying the benefits and providing motivation for learning to write travel reports and convey the learning objectives to be achieved.

b) Core activities

The teacher explores students' abilities about writing travel reports, students are invited to pay attention to examples of travel report texts, the teacher explains the material for writing travel reports, the teacher asks questions with students. Based on the results of observations of the learning process activities, writing a travel report using the CTL approach of the inquiry component is as follows.

- 1) The teacher instructs students to visit the place according to the direction of the teacher.
- 2) The teacher distributes observation sheets.
- 3) Students are instructed to take notes on important things they find in the places they visit.
- 4) The teacher asks students to present their observations.
- 5) The teacher instructs students to prepare a report framework from the results of their observations.
- 6) The teacher and students discuss the results of their work in writing travel reports.

c) End activities

In the final activity the teacher and students make conclusions together, the teacher reflects on the learning activities and provides reinforcement about writing travel reports and follow-up for further learning.

Second meeting

a. Preliminary activities

In the initial activity the teacher checks the readiness of the students, the teacher greets the students, prays before learning begins and the teacher attends the students. The teacher conveys the learning objectives to be achieved and the teacher connects the previous lesson with the lesson that will take place.

b. Core activities

In this activity the teacher explores students' knowledge about the material that has been described previously, the teacher assigns students to make good and correct travel reports from the observations that have become the framework for reports that have been made and the results of student work are read in front of the class.

c. End activities

The teacher gives conclusions with the students, the teacher reflects on the learning and provides enrichment and reinforcement of the material that has been studied.

3) Observation

Observations were made simultaneously with the teacher carrying out actions at the first meeting which was held on Tuesday, October 27 2015 at 08.40-10.40 the time allocation used was 2x40 minutes. The second meeting was held on Saturday, October 31, 2015 at 08.40-09.40 with a time allocation of 2x40 minutes. Researchers conduct assessments and observations by recording things that are done during the learning process using the observation guidelines that have been prepared. The results of observations in cycle 1 are as follows.

a) Observation of Teacher's Ability to Plan Learning Cycle 1

The teacher's ability to plan learning to write travel reports using the inquiry component CTL approach in cycle 1 was overall good because in the 17 aspects assessed there were 3 aspects that received very good criteria, 12 aspects received good criteria and 2 aspects got quite good criteria, the overall percentage was 81,176471 % (good). For more details, see table 1 below.

Table 1. The results of the teacher's ability to plan learning cycle 1

No	Ca te go ry	Sc or e	Freq uenc y	Am ou nt	Per cen tag e	Average
1.	Ve ry go od	5	3	$\frac{15}{100}$	17.65 %	$\frac{69 \times 100}{85}$

2.	Well	4	12	$\frac{48}{100}$ 68	70.59%
3.	Pretty good	3	2	$\frac{60}{100}$ 51	11.77%
4.	Not good	2	-	-	-
5.	Very Not good	1	-	-	-
Amount		17	69	100%	81.18%

b) Observation of Teacher's Ability to Implement Cycle 1 Learning

1) Observation of Teachers Carrying Out Cycle 1 Learning at the First Meeting

The teacher's ability to carry out learning to write travel reports using the CTL approach to the inquiry component in the first cycle of the first meeting was overall good because of the 27 aspects assessed, 5 aspects received very good criteria, 18 aspects received good criteria, 2 aspects received quite good criteria, and 2 aspects who do not carry out learning activities. The overall percentage is 76.29% (good). For more details, see table 2 below.

Table 2. The results of the teacher's ability to carry out learning cycle 1

No	Category	Score	Frequency	Amount	Percentage	Average
1.	Very good	5	5	$\frac{25}{100}$ 125	20%	$\frac{103}{100}$ 135
2.	Well	4	18	$\frac{72}{100}$ 100	72%	
3.	Pretty good	3	2	$\frac{6}{100}$ 75	8%	
4.	Not good	2	-	-	-	
5.	Very Not good	1	-	-	-	

Amount	24	103	100%	76.29%
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2) Observation of the Teacher's Ability to Implement Cycle 1 Learning at the Second Meeting

The teacher's ability to carry out learning at the second meeting was overall good because of the 20 aspects assessed, 3 aspects got very good criteria, 15 aspects got good criteria, 1 aspect got pretty good criteria, and 1 aspect did not carry out learning activities. The overall percentage is 78% (good).

For more details, see table 3 below.

Table 3. The results of the teacher's ability to carry out learning in Cycle 1 at the Second Meeting

No	Category	Score	Frequency	Amount	Percentage	Average
1.	Very good	5	3	$\frac{15}{100}$ 95	15.79%	$\frac{78}{100}$ 100
2.	Well	4	15	$\frac{60}{100}$ 76	78.95%	
3.	Pretty good	3	1	$\frac{3}{100}$ 57	5.26%	
4.	Not good	2	-	-	-	
5.	Very Not good	1	-	-	-	
Amount			19	78	100%	78%

c) Observation of Students' Attitudes in Writing Travel Reports Using the CTL Approach Components of Inquiry Cycle 1

Observations on students' attitudes in learning to write travel reports are grouped into five aspects, namely 1) Trustworthy, 2) Respect and understanding, 3) Diligent, 4) Responsibility, and 5) Courage, with categories of assessment very good, good, quite good, not very good and very bad. The results of the researcher's observations on student attitudes in learning to write travel reports using the CTL approach of the inquiry component of cycle 1 are as follows.

1) Aspects can be trusted in finding the results of observations and doing the tasks given by the teacher with very good category 1 person, good category 19 people, good category 10 people.

2) Aspects of respect and understanding towards teachers, friends, and other people during the learning process in the classroom and outside the classroom with a good category of 12 people, with a fairly good

category 15 people, with a poor category 3 people.

3) Aspects of being diligent in doing the tasks given by the teacher with a good category of 14 people, with a fairly good category of 16 people.

4) Aspects of responsibility for the tasks given by the teacher with good category 9 people, with good enough category 20 people, not good category 1 person.

5) Aspects of being brave at the time of presentation, finding/looking for something during observation, and asking questions. With a good category of 4 people, a fairly good category of 26 people. The percentage

of completeness for the whole is 67.47% (Good Enough).

For more details, see table 4 below.

Table 4. Results of Observing Students' Attitudes in Writing Travel Reports in Cycle 1

No	Rated aspect	Category	Score	Frequency	Amount	Percentage	Average	
1.	Can be trusted	Very good	5	1 person	5	3.33%	11.1%	
			4	19 people	76	63%		
			3	10 people	30	25%		
			2	-	-	-		
			1	-	-	-		
			Amount	5	-	-		0%
			Very good	4	12 people	48		40%
2.	Respect and Understanding	Well	3	3 people	3	6%	50%	
			2	15 people	45	45%		
			1	9 people	9	9%		
			Amount	5	-	-		0%
3.	Aspects of being diligent in doing the assignments given by the teacher	Very good	5	-	-	-	69.33%	
			4	14 people	56	46.7%		
			3	16 people	48	53.3%		
			2	-	-	-		
			1	-	-	-		
			Amount	5	-	-		-
			Very good	4	9 people	36		30%
4.	Aspects of responsibility for the tasks given by the teacher	Well	4	20 people	80	66.7%	98%	
			3	10 people	60	60%		
			2	1 person	2	3.33%		
			1	-	-	-		
			Amount	5	-	-		-
			Very good	4	4 people	16		13.3%
			Well	3	26 people	78		86.7%
5.	Aspects of being brave during presentations, finding/looking for something during observation, and	Pretty good	3	3 people	3	6%	94%	
			2	15 people	45	45%		
			1	9 people	9	9%		
			Amount	5	-	-		0%

Not good	-	$\frac{1}{0}$	2	-
Very Not	-			
- Good	$\frac{0}{0}$		1	
		1		
		5		
		0		
	-			
	-			

	asking questions						3)
Amount			30 people	94	100%	62)	.67%
Final amount				506	506	67.46)	75%

It is better for the teacher to do question and answer to students well so that the learning process becomes more active.
 The teacher should deliver the next learning material. So that students know the material that will be carried out at the next meeting. Preferably in utilizing the time allocation it must be in accordance with learning so that the learning process becomes more organized.
 The teacher should convey the learning objectives so that students know about the aims and objectives of the learning to be carried out.

c) Reflection on Attitude Activities During Learning

The attitude of students in learning to write travel reports using the CTL approach, the inquiry component on the attitude of respect and understanding towards the teacher is still lacking because there are still many students who are busy themselves not listening to the teacher's explanation and disturbing other friends who are studying. The formulation of the solution given is that students should respect the teacher, listen to the teacher's explanation and not disturb other friends during the learning process.

From the results of the reflection above, the researchers and collaborators can conclude that the learning cycle 1 has not been successful. Therefore, researchers and collaborators agreed to carry out cycle 2. The problems obtained in cycle 1 will be used as a basis for consideration for carrying out learning activities in cycle 2 by correcting the shortcomings and weaknesses that occur in cycle 1.

d) Results of Writing a Trip Report Using the Inquiry Component CTL Approach

The description of the scores obtained by students in the assessment of the process of writing travel reports in cycle 1 is as follows.

1) Develop report framework

In compiling the travel report framework, the criteria were very good with a score of 5 (answered completely) 29 people, with good criteria with a score of 4 (answered only 7 criteria) 1 person.

For more details, see table 5 below.

Table 5. The results of students' work in writing trip reports using CTL-Inquiry

No	Category	Score	Amount	Frequency	Percentage
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4) Reflection (Reflecting)

a) Reflection on Learning Planning

Reflection activities were carried out on Monday, November 2, 2015. Reflection was a follow-up to the results of the learning planning observations. There are still things that need to be improved as follows.

- 1) Determination of time allocation is still not good and unclear.
- 2) Preparing answer sheets is also still lacking.

Solution
 The determination of time allocation should be good and clear and the preparation of answers should be even better.

b) Reflection on the Implementation of Learning

The implementation of learning that the researchers observed was that the teacher did not convey the benefits and motivation to students, the teacher should convey the benefits of learning and provide motivation to students, the teacher did not provide reinforcement and enrichment about the material that had been studied, the teacher should provide reinforcement and enrichment to students about the material being studied. , the teacher asking questions with students is also still lacking, the teacher should ask questions to students well so that the learning process becomes more active, the teacher conveys the next learning material is still lacking, the teacher should convey the next learning material so that students know the material that will be carried out at the next meeting . The formulation of the solution given:

- 1) Teachers should convey the benefits of learning and provide motivation to students.
- 2) Teachers should provide reinforcement and enrichment to students about the material being studied.

No	Criteria	Number of people	Score	Percentage	Assessment Aspect	Category	Score	Frequency	Amount	Percentage
1	Very good (complete answer)	29 people	$\frac{29 \times 100}{30}$	96.67%	<p>punctuation (spelling and punctuation according to EYD) to get very good criteria with a score of 4 totaling 2 people, good criteria amounting to a score of 3 totaling 10 people, poor criteria with a score of 2 totaling 18 people. For more details, see table 6 below.</p> <p>Table 6. The results of the assessment of the student travel report framework</p>	Very good	4	6 people	$\frac{6 \times 100}{30}$	20%
2	Well (answers only)	1 person	$\frac{1 \times 100}{30}$	3.33%		Well	3	15 people	$\frac{15 \times 100}{30}$	50%
3	Pretty good (answers only)	-	-	-		Not good	2	9 people	$\frac{9 \times 100}{30}$	30%
4	Not good (answers only)	-	-	-		Very Not Good	1	-	-	-
5	Very Not Good (answers only)	-	-	-		Very good	4	1 person	$\frac{1 \times 100}{30}$	3.33%
	Good (1-4 criteria)	30 people	30	100%	Sentence Structure	Well	3	10 people	$\frac{10 \times 100}{30}$	33.33%
					Not good	2	14 people	$\frac{14 \times 100}{30}$	46.67%	
					Very Not Good	1	5 people	$\frac{5 \times 100}{30}$	16.67%	
					Amount			30 people		100%
					Very good	4	-	-	-	-
					Well	3	16 people	$\frac{16 \times 100}{30}$	53.33%	
					Not good	2	14 people	$\frac{14 \times 100}{30}$	46.67%	
					Very Not Good	1	-	-	-	
					Amount			30 people		100%
					Very good	4	2 persons	$\frac{2 \times 100}{30}$	6.67%	
					Well	3	10 people	$\frac{10 \times 100}{30}$	33.33%	

score of 2 totaling 14 people, very bad criteria with a score of 1 totaling 5 people. For the aspect of coherence (tidily arrangement of reality and ideas, facts, and ideas become a logical strand so that it is easy to understand the message that is connected) to get good criteria with a score of 3						Not good	2	18 people	$\frac{18 \times 100}{30}$	60%
						Very Not Good	1	-	-	-
totaling 16 people, poor criteria with a score of 2 totaling 14 people. For aspects of spelling and						Amount		30 people		100%

2. Description of Research Results Cycle 2

a. Planning to Improve Students' Travel Report Writing Skills Using the Inquiry Component CTL Approach

Researchers and collaborators discuss to plan the activities to be carried out. Cycle 2 planning was carried out on Monday, November 2, 2015. In this case, researchers and collaborators planned the following things.

- 1) Researchers and collaborators plan learning materials including formulating learning objectives, formulating learning in accordance with the curriculum, formulating learning objectives, and formulating learning objectives.
- 2) Researchers and collaborators plan to organize teaching materials which include developing learning materials, determining learning materials according to student characteristics, and organizing learning time allocations in two meetings.
- 3) Researchers and collaborators plan learning steps scenarios which include determining learning activities using the CTL inquiry component approach, compiling learning steps, preparing student worksheets, and assessment guidelines.
- 4) The selection of sources and media used in learning to write travel reports which include learning resources must be adjusted to the learning material and determine the learning media to be used.
- 5) Researchers and collaborators plan learning outcomes in writing travel reports using the inquiry component CTL approach, namely through the results in the learning process and at the end of the learning process to measure the extent to which students understand the material that has been studied.
- 6) Researchers and collaborators plan learning evaluations by developing assessment techniques, assessment instruments, assessment tools, and assessment guidelines.

b. Implementation of Learning Writing a Journey Report of the inquiry component CTL approach

In this study, the researchers collaborated with Indonesian language teachers, namely Suryati, S. Pd, Ind. To improve students' skills in writing travel reports using the inquiry component CTL approach in cycle 2. The implementation of this research was carried out in two cycles consisting of four stages to be carried out, namely planning, action, observing, and reflecting.). The complete analysis of Classroom Action Research in class VIII A in cycle 2 is as follows.

1) planning (planning)

Cycle 2 planning on Monday, November 2, 2015. Before making the plan, the researcher discussed with the Indonesian language teacher. After having the same understanding of learning using the inquiry component CTL approach, researchers and collaborators developed a lesson plan.

In addition to lesson plans, researchers and collaborators also prepare observation guidelines that researchers will use to observe activities when teachers carry out the learning process of writing travel reports using the inquiry component CTL approach.

Researchers and collaborators plan learning evaluation guidelines, namely preparing attitude observation sheets that are used to observe students' attitudes during the learning process. Researchers and collaborators determine what is observed, namely aspects of trustworthiness, respect, understanding, perseverance, responsibility, and courage. Researchers and collaborators also plan reflection activities for cycle 2 which will be held on Monday, November 9, 2015. The reflection stage is intended to thoroughly examine all actions that have been taken based on the collected data, namely discussing the Learning Implementation Plan, the teacher's ability to carry out learning and attitudes students in carrying out learning to write travel reports. The results of learning planning in cycle 2, namely the ability of teachers to plan lessons using the CTL approach to the inquiry component in cycle 2 were very good from cycle 1, because of the 17 aspects assessed there were 12 aspects that received very good criteria, 4 aspects received good criteria, and 1 aspect received pretty good criteria. The percentage is 92.941176% (very good). From the results of this observation, there was an increase from the previous increase which reached 11.764705%. Teachers have been able to plan learning activities very well. 941176% (very good). From the results of this observation, there was an increase from the previous increase which reached 11.764705%. Teachers have been able to plan learning activities very well. 941176% (very good). From the results of this observation, there was an increase from the previous increase which reached 11.764705%. Teachers have been able to plan learning activities very well.

2) Action (acting)

Cycle 2 action was carried out on Tuesday, November 3, 2015 at 08.40 – 10.40 the time allocation used was 2x 40 minutes. The second meeting was held on Saturday, November 7, 2015 at 08.40-09.40, the time allocation was 2x40 minutes. Based on observations about the learning process of writing travel reports using

the CTL approach, the inquiry component is as follows.

The first meeting

a) Preliminary activities

The teacher checks the students' readiness, the teacher greets the students, the teacher prays together and attends the students. Then the teacher carries out apperception activities by connecting students' previous knowledge with the material to be studied. Furthermore, the teacher motivates students with the teacher conveying the benefits and providing motivation for learning to write travel reports and convey the learning objectives to be achieved.

b) Core activities

The teacher explores students' abilities about writing travel reports, students are invited to pay attention to examples of travel report texts, the teacher explains the material for writing travel reports, the teacher asks questions with students. Based on the results of observations of the learning process activities, writing a travel report using the CTL approach of the inquiry component is as follows.

- 1) The teacher instructs students to visit the place according to the direction of the teacher.
- 2) The teacher distributes observation sheets.
- 3) Students are instructed to take notes on important things they find in the places they visit.
- 4) The teacher asks students to present their observations.
- 5) The teacher instructs students to prepare a report framework from the results of their observations.
- 6) The teacher and students discuss the results of their work in compiling a travel report outline.

c) End activities

In the final activity the teacher and students make conclusions together, the teacher reflects on the learning activities and provides reinforcement about writing travel reports and follow-up for further learning.

Second meeting

a. Preliminary activities

In the initial activity the teacher checks the readiness of the students, the teacher greets the students, prays before learning begins and the teacher attends the students. The teacher conveys the learning objectives to be achieved and the teacher connects the previous lesson with the lesson that will take place.

b. Core activities

In this activity the teacher explores students' knowledge about the material that has been described previously, the teacher assigns students to make good and correct travel reports

from the observations that have become the framework for reports that have been made and the results of student work are read in front of the class.

c. End activities

The teacher gives conclusions with the students, the teacher reflects on the learning and provides enrichment and reinforcement of the material that has been studied.

3) Observation

Observations were made simultaneously with the teacher carrying out actions at the first meeting which was held on Tuesday, November 3, 2015 at 08.40-10.40 the time allocation used was 2x40 minutes. The second meeting was held on Saturday, November 7, 2015 at 08.40-09.40 with a time allocation of 2x40 minutes. Researchers conduct assessments and observations by recording things that are done during the learning process using the observation guidelines that have been prepared. The results of observations in cycle 1 are as follows.

a) Observation of Teacher's Ability to Plan Learning Cycle 2

The teacher's ability to plan learning to write travel reports using the CTL approach to the inquiry component in cycle 2 is overall very good because in the 17 aspects assessed there are 12 aspects that get very good criteria, 4 aspects get good criteria and 1 aspect gets pretty good criteria, the overall percentage is 92 ,94% (very good).

For more details, see table 7 below.

Table 7. The results of the teacher's ability to plan learning cycle 2

No	Cat ego ry	Sc or e	Fre que ncy	Am ou nt	Pe rc en ta ge	Average
1.	Ver y goo d	5	12	$\frac{60}{100}$ $\frac{10}{85}$	70 .5 9 %	$\frac{79 \times 100}{85}$
2.	Wel l	4	4	$\frac{16}{100}$ $\frac{10}{68}$	23 .5 3 %	
3.	Pre tty goo d	3	1	$\frac{3}{100}$ $\frac{10}{51}$	5. 88 %	
4.	Not goo d	2	-	-	-	

	d				
5.	Very Not good	1	-	-	-
Amount		17	79	100	92.94%

Overall, the teacher's ability to carry out learning activities in the second cycle of the second meeting was very good.

For more details, see table 9 below.

Table 9. The results of the teacher's ability to carry out learning in Cycle 2 at the second meeting

No	Category	Score	Frequency	Amount	Percentage	Average
1.	Very good	5	10	$\frac{50 \times 10}{100}$	50%	
2.	Well	4	10	$\frac{40 \times 10}{80}$	50%	
3.	Pretty good	3	-	-		
4.	Not good	2	-	-		
5.	Very Not good	1	-	-		
Amount		20	90	$\frac{90 \times 100}{100}$	90%	

b) Observation of Teacher's Ability to Implement Learning Cycle 2

1) Observation of Teachers Carrying Out Learning Cycle 2 at the First Meeting

The teacher's ability to carry out learning to write travel reports using the CTL approach to the inquiry component in cycle 2 of the first meeting was overall good because of the 26 aspects assessed, 14 aspects received very good criteria, 14 aspects received good criteria. The overall percentage is 90.37% (very good) from the results of this observation, it has increased from the previous to reach 14.07%. Overall, the teacher's ability to carry out learning activities at the first meeting of cycle 2 was very good.

For more details, see table 8 below.

Table 8. The results of the teacher's ability to carry out learning cycle 2

No	Category	Score	Frequency	Amount	Percentage	Average
1.	Very good	5	14	$\frac{70 \times 100}{135}$	51.85%	
2.	Well	4	13	$\frac{52 \times 100}{108}$	48.15%	
3.	Pretty good	3	-	-	-	
4.	Not good	2	-	-	-	
5.	Very Not good	1	-	-	-	
Amount		27	122	100	90.37%	

c) Observation of Students' Attitudes in Writing Journey Reports Using the CTL Approach Components of Inquiry Cycle 2

Observations on students' attitudes in learning to write travel reports are grouped into five aspects, namely 1) Trustworthy, 2) Respect and understanding, 3) Diligent, 4) Responsibility, and 5) Courage, with categories of assessment very good, good, quite good, not very good and very bad. The results of the researcher's observations on students' attitudes in learning to write travel reports using the CTL approach of the inquiry component of cycle 2 are as follows.

this observation an increase to reach 12%.

2) Observation of the Teacher's Ability to Implement Cycle 2 Learning at the Second Meeting

The teacher's ability to carry out learning at the second meeting was overall good because of the 20 aspects assessed, 10 aspects received very good criteria, 10 aspects received good criteria. The overall percentage is 90% (Very Good) from

- 1) Aspects can be trusted in finding the results of observations and doing assignments given by the teacher with very good category 2 people, good category 27 people, good enough category 1 person.
- 2) Aspects of respect and understanding towards teachers, friends, and other people during the learning process in the classroom and outside the classroom with a very good category of 10 people, with a good category 18 people, with a fairly good category 2 people.

- 3) Aspects of being diligent in doing the assignments given by the teacher with a very good category of 2 people, with a good category of 27 people, with a fairly good category of only 1 person.
- 4) Aspects of responsibility for the tasks given by the teacher with a very good category only 1 person with a good category 29 people.
- 5) Aspects of being brave at the time of presentation, finding/looking for something during observation, and asking questions in sequence are in the very good category 7 people, in the good category 20 people, and in the pretty good category 3 people. The percentage of completeness for the whole is 82% (Good) in the observation of cycle 2, it has increased from the previous to reach 14.53%.

4) Reflection (Reflecting)

a) Reflection on Learning Planning

Reflection activities were carried out on Monday, November 9, 2015. Reflection is a follow-up to the results of observations. Researchers and collaborators reflect on the learning planning obtained by researchers, namely the teacher is very good at planning all learning activities when compared to cycle 1.

b) Reflection on the Implementation of Learning

The implementation of learning that the researchers observed, namely the teacher was also very good at carrying out all learning activities from the previous one which was carried out in cycle 1.

c) Reflection on Attitude Activities During Learning

The attitude of students in learning to write travel reports using the inquiry component CTL approach in cycle 2 was also very good from cycle 1.

From the results of the reflection above, the researchers and collaborators can conclude that the learning cycle 2 has been successful. The ability of teachers to plan and implement learning activities has increased and student attitudes in participating in the learning process have also improved very well.

d) Results of Writing a Trip Report Using the Inquiry Component CTL Approach

The description of the scores obtained by students in the assessment of the process of writing travel reports in cycle 1 is as follows.

1) Develop report framework

In compiling the travel report framework, the criteria were very good with a score of 5 (complete answers) 29 people. Only 1 person got the good criteria with a score of 4.

For more details, see table 11 below.

Table 11. Results of writing trip reports using CTL-inquiry

- 2) Develop a travel report framework that has been made into a report with good and correct language, correct sentence structure and use of good punctuation.

What is assessed here is the writing aspect which includes four criteria, namely 1) Content accuracy, 2) Sentence structure, 3) Coherence, 4) Spelling and punctuation. For the accuracy aspect of the content (the content of the report is made in accordance with the observations obtained) which got very good criteria with a score of 4 totaling 16 people, good criteria with a score of 3 totaling 11 people, poor criteria with a score of 3 totaling 7 people. For the aspect of sentence structure (sentence structure must be good and neat) which got very good criteria with a score of 4 totaling 7 people, good criteria with a score of 3 amounting to 15 people, poor criteria with a score of 2 totaling 7 people, for very poor criteria with a score of 1 totaling 1 person. For the aspect of coherence (tidily arrangement of reality and ideas, facts, and ideas into one logical strand making it easier to understand the message that is connected) for very good criteria with a score of 4 totaling 3 people, good criteria with a score of 3 totaling 20 people, poor criteria totaling 7 people. For aspects of spelling and punctuation (spelling and punctuation are appropriate in writing travel reports) to get very good criteria totaling 1 person, good criteria totaling 15 people, not good criteria totaling 13 people, very bad criteria with a score of 1 amounting to 1 person. For more details, see table 12 below.

A. Discussion

After carrying out 2 cycles of Classroom Action Research conducted by researchers and collaborators namely Suryati, S. Pd, Ind on students' skills in writing travel reports using the CTL approach to the inquiry component of class VIII A students of SMP Negeri 8 Singkawang in 2015/2016, the results showed an increase in each year. The comparison of the cycle can be seen as follows.

1. Learning Planning Writing a Journey Report Using the CTL Approach Components of Inquiry Cycle 1 and 2

Learning planning that has been prepared from cycle 1 to cycle 2 has increased. The lesson plans that have been prepared are in accordance with the assessment criteria. This increase can be seen in Figure 1 below.

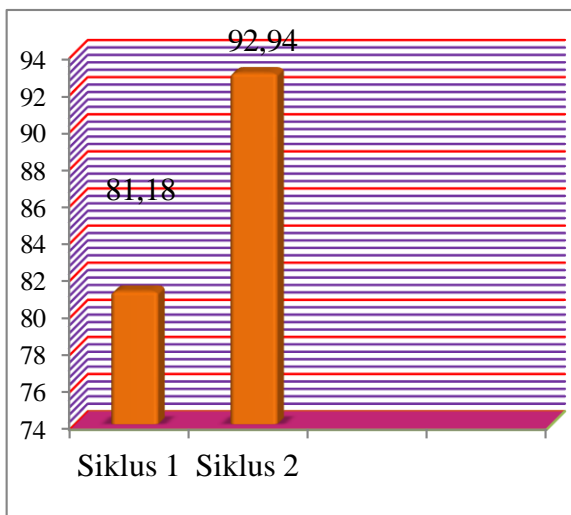


Figure 1. Improving learning planning for writing Journey Reports for each cycle

Source: Processed data based on the assessment carried out by researchers on learning planning for writing travel reports using the CTL approach of the inquiry component of cycle 1 and cycle 2 for class VIII A SMP Negeri 8 Singkawang.

Based on Figure 1 above, it can be seen that in planning learning to write travel reports using the CTL approach, the inquiry component in cycle 1 reached 81.18% and cycle 2 reached 92.94%, this shows that the learning planning carried out by the teacher has increased, namely 11.77%. From the results of the increased learning planning, learning outcomes will also increase for the better.

2. Implementation of Learning to Write Journey Reports Using the Inquiry Component CTL Approach

In the implementation of learning to write travel reports that have been carried out using the CTL approach, the inquiry component of each cycle has increased. Cycle 1 and cycle 2 of the first meeting was 14.07% while the second meeting was 12%. Thus the category of implementation achievement becomes very good. For more details regarding improving the results of the implementation of the learning process can be seen in Figure 2 below.

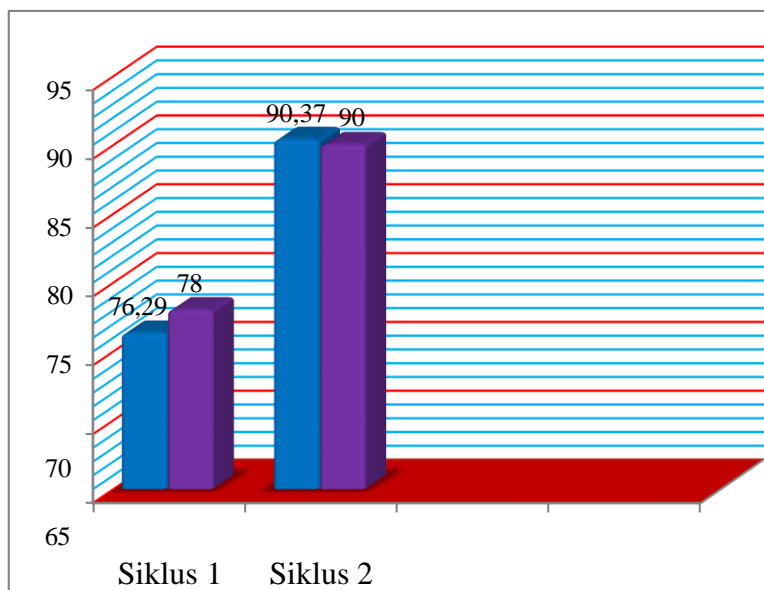


Figure 2. Improving the implementation of learning to write Journey Reports for each cycle

Source: Processed data from observations made by researchers when the teacher carried out learning to write travel reports using the CTL approach of the inquiry component of cycle 1 and cycle 2 for class VIII A SMP Negeri 8 Singkawang. Based on the results of diagram 4.2, it can be seen more clearly the improvement in the implementation of learning to write travel reports using the inquiry component CTL approach. The implementation carried out by the teacher has been very good. This increase in implementation has a good impact on students in understanding the material being studied, so that student scores also become better.

3. Improving Student Attitude Results Writing Journey Reports Using the CTL Approach Components of Inquiry Cycles 1 and 2

The increase in students' attitudes in participating in learning to write travel reports using the inquiry component CTL approach has increased every cycle, the increase in student attitudes in cycles 1 and 2 can be seen in Figure 3 below.

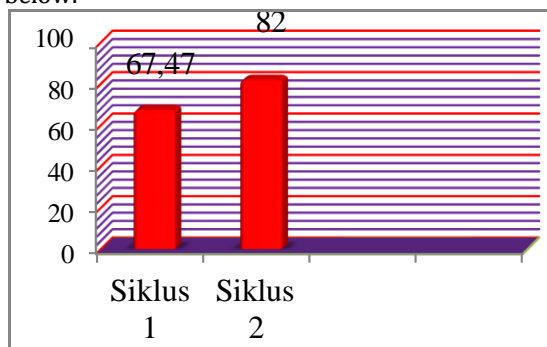


Figure 3. Improved students' attitudes in writing Travel Reports for each cycle

Source: Processed data on student attitudes in learning to write travel reports using the CTL approach to the inquiry component for class VIII A SMP Negeri 8 Singkawang

Based on diagram 4.3 above, the percentage of students' attitudes in participating in learning to write travel reports using the inquiry component CTL approach in cycle 1 is quite good overall. This shows that cycle 1 students are already motivated in participating in the learning process. Meanwhile, for cycle 2, students experienced an increase in participating in learning to write travel reports using the inquiry component CTL approach so that they reached the good category. With an increase of 14.53%.

4. Average Learning Outcomes of Writing Journey Reports Using the CTL Approach Components of Inquiry Cycles 1 and 2

Students' mastery in learning to write travel reports using the CTL approach of inquiry components cycles 1 and 2 can be seen in table 13 below.

Source: Processed data of students' writing learning completeness before the action and after the action using the inquiry component CTL approach in cycles 1 and 2

Based on table 13 above, it can be seen that prior to the action, the students' writing mastery results previously only reached an average of 67.83 (not complete), after taking action in cycle 1 using the inquiry component CTL learning approach, the students' writing mastery results reached an average of an average of 71.90 (unfinished), researchers and collaborators plan to take action in cycle 2 to see the success of the inquiry component CTL learning approach after the action of cycle 2, the completeness of students' writing results turns out to be increasing until it reaches an average of 79.52 (performance indicator achieved) cycles 1 and 2 increased to 7.62. For more details can be seen in the following diagram.

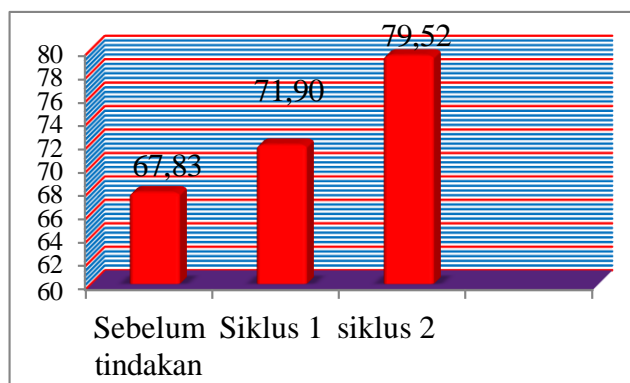


Figure 4. Student Writing Learning Outcomes before and after the action with CTL-Inquiry

Source: Processed data of students' writing learning completeness before the action and after the action using the inquiry component CTL approach in cycles 1 and 2

5. Teacher and Student Interview Results

The results of the researcher's interview with the Indonesian teacher after the action was taken. He said that the teaching and learning process using the inquiry component CTL approach was very good, the teacher had carried out learning according to the Learning Implementation Plan (RPP) that had been made using the inquiry component CTL approach. Learning using the inquiry component CTL approach is very good and can provide the latest insights for teachers. All aspects that have been done are good and must be maintained. The teacher believes that the planning, implementation, and results of learning using the inquiry component CTL approach provide the best results than before. This inquiry component CTL approach can be applied to other learning but must be adapted to the material.

The results of the researcher's interviews with students after the action was taken, namely learning using the CTL approach, the inquiry component was very fun, we were able to find out directly about the things we saw. We are very happy with this new learning because it can allow us to jump directly into a field that is different from the others. The teacher's way of teaching is very fun and easy to understand and we really understand this new material. We can make observations by walking around so it doesn't bore us in learning.

CONCLUSION

Based on the results of the Classroom Action Research conducted, it can be concluded as follows.

1. Lesson planning in improving travel report writing skills using the CTL inquiry component approach to class VIII A students of SMP Negeri 8 Singkawang in the 2015/2016 academic year.

Cycles 1 and 2 are planned for two meetings each with a time allocation of 2x40 minutes. The lesson plan for writing a travel report using the CTL approach of the inquiry component in cycle 1 achieved good criteria with a percentage of 81.18% (Good). Cycle 2 learning planning made improvements to the aspect of determining time allocation and preparing answer sheets in cycle 2 planning which was very good and in accordance with the criteria for assessing the ability of teachers to plan learning using the CTL approach, the inquiry component had a very good impact on improving student learning outcomes with a percentage of achievement of 92,94% (Very Good).

2. Implementation of learning in improving the skills of writing travel reports using the CTL approach of the inquiry component in class VIII A students of SMP Negeri 8 Singkawang in the 2015/2016 academic year.

Implementation of learning cycle 1 and cycle 2. In cycle 1 the first meeting the teacher did not convey the benefits and motivation in writing travel reports, the teacher also did not provide reinforcement and enrichment about the material that had been studied, the teacher asked questions with students who were still less active and the teacher was still less in delivering the next learning material. For the first meeting the percentage of achievement was 76.29% (Good). At the second meeting, the time allocation was still lacking and the teacher did not convey the learning objectives. For the second meeting the percentage of achievement is 78% (Good). While in cycle 2 for the first meeting, the overall teacher carried out learning was very good with an achievement percentage of 90,

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IMPROVEMENT OF ARGUMENTATION PARAGRAPH WRITING SKILLS USING COOPERATIVE INTEGRATED READING AND COMPOSITION (CIRC) LEARNING MODEL IN CLASS XA SMA NEGERI 10 SINGKAWANG ACADEMIC YEAR 2016/2017

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ABSTRACT

This research is motivated by the low writing scores of students. The low score of students' writing is due to the lack of students' interest in writing, lack of concentration in developing ideas. The formulation of the problem in this study includes how to plan, implement and learn outcomes using the Cooperative Integrated Reading and Composition (CIRC) model for Class XA students in semester 2 of SMA Negeri 10 Singkawang in the 2015/2016 academic year. This research method is descriptive qualitative. This research was carried out in 2 cycles. Each cycle is carried out once in a meeting. The research implementation procedure consists of planning, action, observation and reflection of work results. Cycle 1 learning planning includes formulating objectives, methods, materials, preparing learning implementation plans and assessment guidelines. The implementation of cycle 1 still has shortcomings, namely the teacher does not provide direction for learning objectives, the atmosphere is not conducive, learning has not been carried out systematically, the teacher does not give students the opportunity to ask questions, and the teacher does not conclude the material before ending the lesson. The implementation of cycle 2 went well, all aspects of planning had been carried out by the teacher. Based on data analysis in this classroom action research before the action, the average value was 68.90%. After the first cycle of action there was an increase to 74.19% and 78.38% in the second cycle. Based on this research, it is suggested that teachers can apply the Cooperative Integrated Reading and Composition (CIRC) learning model to improve students' skills in writing argumentative paragraphs.

Key words: argumentation paragraph, composition model, cooperative integrated reading

INTRODUCTION

Education is a process of change that occurs continuously towards better progress. Education functions to develop capabilities and shape the character and civilization of a dignified nation in order to educate the life of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent and become a democratic and responsible citizen (UU Sisdiknas, 2003: 7). The success of the teacher can not be separated from what is planned. Therefore, teachers are basically student-oriented, where students are the object of learning activities at school. An education system is called quality in terms of process, if the learning takes place effectively. Students can experience meaningful learning and are supported by adequate resources. The effectiveness of learning is described by the learning outcomes achieved by students. Teacher-student interaction is simply the transfer of knowledge from a teacher to a student. approach in learning is still instant and conventional. The conceptual and contextual

approach that uses real objects and problems in learning, which is a deeper but realistic study, has not been touched. Improving the quality of education is a very important and urgent task. Comprehensive handling is required and by using strategies and models of an integrated approach, namely by involving all related elements in the learning or education process such as: teachers, principals, parents, students and the community so that the goals of education or learning itself can be achieved. So far, Indonesian language learning is identified as boring learning in class, both in terms of strategies, methods and learning techniques. the learning process is only teacher center (teacher-centered). The teacher is positioned as the only primary source of information with conventional lecture and question and answer methods.

In learning Indonesian, students are expected to have good language skills covering aspects of listening, speaking, reading, and writing. According to Imron Rusadi (2009:2) states that: "Among the four skills above, writing skill is the highest skill possessed by a person. Writing skills are accepted by someone after he is able to read. Writing is an activity to express one's thoughts, ideas, and feelings expressed in written form which is

expected to be understood by the reader. Writing activities are very important in education because it can help students in practicing thinking, expressing ideas, solving problems, and writing is a form of thinking which is also a tool to make other people (readers) think. By writing, a student is able to construct a variety of knowledge possessed in a writing either in the form of paragraphs, articles, scientific reports and so on. It is not easy for someone to express his opinion clearly so that it is easily understood by others, to be easily understood, people need to learn and train themselves. One of the best exercises to develop the ability to express opinions is to learn to compose or write. In the standard content of Indonesian lessons in SMA class X semester 2, there are competency standards that require students to be able to express information in various forms of paragraphs (narrative, descriptive, expository and argumentative). One of the basic competencies taught is writing ideas to support an opinion in the form of argumentative paragraphs. The Competency Standard (SK) to be achieved is number 12. Disclosing information through writing paragraphs and speech texts with Basic Competence (KD) which is 12.1. write ideas to support an opinion in the form of argumentative paragraphs. The minimum completeness criteria (KKM) above is 70.

The low ability of students in writing activities in class XA, especially writing argumentative paragraphs, is clearly seen from the unsatisfactory results of student work, from 31 students who scored 70 or completed only 4 students or 13%, the remaining 27 students did not complete. This means that 87% have not achieved completeness according to the KKM. While the activity of writing argumentative paragraphs for class XB is 25 students or 81% of students have completed achieving the KKM score, while only 6 students or 19% of students have not finished reaching the KKM. This is caused by several problems, including students who do not give a positive response to writing learning, especially writing argumentative paragraphs, difficulties in distinguishing between expository paragraphs and argumentative paragraphs, difficulty expressing thoughts in written form, especially in argumentation paragraphs and conventional teacher teaching methods so that learning becomes monotonous. In addition, students do not ask and do not answer questions if they are not asked by the subject teacher, especially in the material for writing argumentative paragraphs. This is because the learning methods used by Indonesian language teachers have not been effective.

To overcome the low ability of students in the learning process both in terms of asking and answering questions to writing argumentative paragraphs, it is necessary to look for efforts to improve the learning process at SMA Negeri 10 Singkawang which is a place where researchers do PPL. The learning process that occurs in class XA, especially in Indonesian subjects, the material for writing argumentative paragraphs is still very low and there needs to be improvement in learning, namely by implementing classroom action research. In

this classroom action research, The researcher tries to use the Cooperative Integrated Reading and Composition (CIRC) learning model in writing argumentative paragraphs with the consideration that the Cooperative Integrated Reading and Composition (CIRC) learning model can support the Indonesian language learning process, especially writing argumentative paragraphs in Class XA SMA Negeri 10 Singkawang. By using the right learning model, it is hoped that students will have confidence that they are able to learn and utilize their potential. The right learning model to be used in writing argumentative paragraphs is to use the Cooperative Integrated Reading and Composition (CIRC) learning model. By using the right learning model, it is hoped that students will have confidence that they are able to learn and utilize their potential. The right learning model to be used in writing argumentative paragraphs is to use the Cooperative Integrated Reading and Composition (CIRC) learning model. By using the right learning model, it is hoped that students will have confidence that they are able to learn and utilize their potential. The right learning model to be used in writing argumentative paragraphs is to use the Cooperative Integrated Reading and Composition (CIRC) learning model.

RESEARCH METHODS

The research method used in this research is descriptive method. Descriptive method is a research method that seeks to describe and interpret objects as they are. This method is used to reveal the actual situation regarding the Improvement of Argumentation Paragraph Writing Skills using the Cooperative Integrated Reading and Composition (CIRC) Learning Model in class XA students at SMA Negeri 10 Singkawang. The forms of research used are qualitative and quantitative forms. Bodgan and Taylor (in Lexy J. Moleong, 2010: 4) defines qualitative methods as research procedures that produce descriptive data in the form of words or verbal from people and observable behavior while quantitative research is research that is asking for the relationship or influence of two or more variables that are causal (Sugiyono, 2007):55). The author chose a qualitative form in this study because it not only describes the data, but also observations, interviews or document review that can be used as an improvement in argumentation paragraph writing skills using the Cooperative Integrated Reading and Composition (CIRC) Learning Model in class XA students at SMA Negeri 10 Singkawang .

The data collection technique in this study was a test. The test is used to measure students' ability to write effective sentences in argumentative paragraphs through peer-correction activities. The test in question is to give assignments to students to write effective sentences in paragraph-arguments

by paying attention to the use of effective sentences, spelling and punctuation, conformity to the topic, use of conjunctions, and ways of inference. The students' writing results were then evaluated. The evaluation was carried out to determine an increase in student learning outcomes in the material of writing effective sentences in argumentative paragraphs. Direct Observation Technique, according to Sugiyono (2007:35) states that observation or observation is a human daily activity by using the five senses of the eye as the main tool in addition to the other senses. Therefore, observation is a person's ability to use his observations through the work of the five senses of the eye and assisted by other senses. This study uses direct observation. Direct observations are observations made directly on the object being observed. Observations made in this study were observing student activities in team work (groups) and presentation of the results of group work. This observation is to determine the extent of student cooperation in groups. Observations made in this study were observing student activities in team work (groups) and presentation of group work results. This observation is to determine the extent of student cooperation in groups. Observations made in this study were observing student activities in team work (groups) and presentation of the results of group work. This observation is to determine the extent of student cooperation in groups.

Furthermore, according to Hadari Nawawi (2005:54), states that direct observation techniques are: "the way of collecting data is done through observing and recording the symptoms that appear on the object of research whose implementation is directly at the place where an event is happening. The tool used for data collection in this technique is the observation sheet. Observations in this study not only observe students but also observe teachers. Observation of the teacher to see whether the application of the Cooperative Integrated Reading and Composition (CIRC) method is in accordance with the steps in the learning implementation plan. Direct Communication Techniques According to Sugiyono (2007:63) states that: Interviewing is a process of obtaining information for research purposes by means of face-to-face questions and answers between the interviewer and the respondent, with or without the use of interview guidelines. Interviews are used as a data collection technique if the researcher wants to conduct a preliminary study to find problems that must be investigated, but also if the researcher wants to know things from the respondents more deeply. Interviews in this study were to obtain data about the success rate of implementing Cooperative Integrated Reading and Composition (CIRC) learning, but also if the researcher wants to know

things from the respondents more deeply. Interviews in this study were to obtain data about the success rate of implementing Cooperative Integrated Reading and Composition (CIRC) learning, but also if the researcher wants to know things from the respondents more deeply. Interviews in this study were to obtain data about the success rate of implementing Cooperative Integrated Reading and Composition (CIRC) learning.

RESULTS AND DISCUSSION

A. Description of Research Results

The improvement of argumentative paragraph writing skills using the Cooperative Integrated Reading and Composition (CIRC) learning model was carried out at SMA Negeri 10 Singkawang. The collaborator in this study was the Indonesian language teacher, Sicily, S.Pd. The research subjects were students of class XA with 31 students consisting of 17 female students and 14 male students with 2 research cycles. Each cycle consists of one meeting with an allocation of one meeting time of 2 x 45 minutes (90 minutes). This research was conducted based on the problems that emerged in the classroom, namely the lack of students' writing skills, students' interest in writing was still low, students did not participate in learning, The writing learning model is still conventional because the teacher has not found the right learning model so that reading teaching becomes monotonous and children have difficulty understanding the content conveyed by the teacher, and students' writing skills are still below the KKM (Minimum Completeness Criteria). Based on the results of pre-research on January 30, 2016 showed that the average reading score of class XA students at SMA Negeri 10 Singkawang was 58.22% and did not meet the specified minimum completeness criteria, which was 70. Only 8 students completed. Therefore, the researcher applies a cooperative learning model that can improve students' writing skills, especially in the matter of writing argumentative paragraphs. The cooperative learning model that the researchers applied with the collaborating teachers was the Cooperative Integrated Reading and Composition (CIRC) learning model. In this study, learning was carried out for 2 (two) cycles. In general, the procedures for classroom action research are planning, acting, observing, and reflecting. Complete research on each cycle as follows.

1. Description of Research Results Cycle 1

a. Planning to improve Argumentation Paragraph Writing Skills using the Cooperative Integrated Reading and Composition (CIRC) Learning Model

Researchers and collaborators discuss to plan the activities to be carried out. Cycle 1 planning was carried out on Saturday, January 30, 2016. In this case, researchers and collaborators planned the following things.

- 1) Researchers and collaborators plan learning materials including formulating learning objectives, formulating learning materials in accordance with the curriculum, formulating learning indicators and formulating learning objectives.
- 2) Researchers and collaborators plan to organize teaching materials which include developing learning materials, determining learning materials according to student characteristics, and organizing learning time allocations with two meetings during learning improvement activities.
- 3) Researchers and collaborators plan scenarios of learning steps which include determining learning activities using the Cooperative Integrated Reading and Composition (CIRC) Learning model, compiling learning steps, preparing student worksheets, preparing student answer sheets, as well as assessment guidelines in learning improvement activities.
- 4) The selection of sources and media used in Cooperative Integrated Reading and Composition (CIRC) learning which includes learning resources is adjusted to the learning material and determines the learning media to be used.
- 5) Researchers and collaborators plan learning outcomes in writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model, namely through the results in the learning process and the final results of the learning process to measure the extent to which students understand the material that has been learned.
- 6) Researchers and collaborators plan evaluation of learning by developing assessment techniques, assessment instruments, assessment tools and assessment guidelines.

b. Implementation of Learning in Writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model

In this study, the researcher collaborated with the Sicilian Indonesian teacher, S.Pd. to improve students' ability in writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model. The implementation of this research was carried out in two cycles consisting of four stages to be carried out, namely planning, acting, observing, and reflecting. The complete analysis of classroom action research in class XA in cycle 1 is as follows.

1) Planning (Planning)

Cycle 1 planning was carried out on January 30, 2016. Before starting the plan, the researcher and Indonesian language teacher discussed the lesson plan that would be carried out during the teaching and learning process. The lesson plan (RPP) includes the preparation of indicators, formulating learning objectives, selecting methods, selecting materials, and determining research guidelines. Researchers and Indonesian language teachers also discussed making student test questions. In addition to the lesson plan, researchers and teachers prepare observational guidelines that will be used by researchers to observe activities when teachers and students carry out an argumentative paragraph writing lesson using the Cooperative Integrated Reading and Composition (CIRC) learning model. The observation guidelines prepared are as follows:

- a) Learning syllabus
- b) Learning implementation plan (RPP)
- c) Teacher ability assessment tool (APKG)
- d) Student learning activity observation sheet in the learning process using the Cooperative Integrated Reading and Composition (CIRC) learning model
- e) Cooperative Integrated Reading and Composition (CIRC) lesson plan assessment sheet
- f) Guidelines for scoring ability in writing argumentative paragraphs
- g) Teacher interview guide

The teacher performance assessment tool (APKG 1) in planning is carried out on Saturday, January 30, 2016. In the teacher performance assessment tool (APKG 1) the aspects assessed are determining learning materials and formulating learning objectives or indicators for writing argumentative paragraphs. In addition, the aspects assessed are developing and organizing learning resources for writing argumentative paragraphs, determining and compiling learning activities using the Cooperative Integrated Reading and Composition (CIRC) learning model, determining time allocation, determining how to motivate students, preparing questions, planning techniques, forms. instruments, and assessment instruments as well as making answer keys.

Observation of the teacher performance assessment tool (APKG 2) in carrying out the learning to write argumentative paragraphs using the cooperative integrated reading and composition learning model was carried out on Monday 1 February 2016. Aspects assessed in the teacher performance assessment tool (APKG) observation sheet were at the time of pre-learning including checking readiness of students, do apperception and provide motivation. The core learning activities include demonstrating mastery of the learning material, the

approach/strategy used, learning that triggers maintaining student engagement, assessment of learning processes and outcomes and the use of language. While the aspects contained in the closing activity are reflecting and carrying out follow-up by providing directions, activities or tasks as remedial/enrichment materials.

The reflection activity in cycle 1 was carried out by researchers and Indonesian language teachers on Wednesday, February 3, 2016. The reflection activity was carried out to discuss the teacher's ability to carry out learning, students' Cooperative Integrated Reading and Composition (CIRC) attitudes in learning to write argumentative paragraphs, and the results of learning to write argumentative paragraphs. using the Cooperative Integrated Reading and Composition (CIRC) learning model.

As a measure of student success, students can write argumentative paragraphs correctly according to the examples given by the teacher. This achievement can be seen from the teacher's performance indicators, the level of teacher activity, the achievement of a learning atmosphere, the success of students learning and responding/responding to students in learning to write argumentative paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Method.

2) Action (Acting)

The implementation of cycle 1 was held on February 1, 2016 at 08.30-10.00 WIB, the time allocation used was 2 x 45 minutes. In improving argumentative paragraph writing skills, researchers and Indonesian language teachers apply the Cooperative Integrated Reading and Composition (CIRC) model in classroom action research activities.

a) Initial activity

- The teacher opens the lesson by greeting and praying together before starting
- The teacher takes the attendance of students
- The teacher informs the competency standards, basic competencies and objectives about the material to be taught.

Apperception

- Students and teachers ask questions about argumentative paragraphs
- Students express knowledge about argumentative paragraphs
- Teachers link learning with students' knowledge of motivation
- The teacher conveys the benefits of writing argumentative paragraphs

b) Core activities

1) Exploration

- The teacher conveys the argumentation paragraph learning material.
- The teacher explains how to put the main idea into the main sentence.

- The teacher gives a way to put the main idea into the main sentence.
- The teacher explains how to write explanatory sentences based on the requirements for paragraph development.

2) Elaboration

- Students are grouped into small groups consisting of 4 heterogeneous people
- The teacher distributes worksheets in each group to be worked on by members of each group to be discussed together, and help each other so that other members in the group understand, while the teacher motivates, facilitates student work, and observes the cooperation of each member in the study group.
- Each group discusses and then writes the main sentence based on the main idea.
- After making the main sentence, each group makes an explanatory sentence based on the main sentence made.
- The main sentences and explanatory sentences that have been made are then arranged into an argumentative paragraph.
- The teacher goes around paying attention and guiding students in doing assignments
- The teacher makes observations by conducting a process assessment using the observation sheet

3) Confirmation.

- The teacher gives a test/quiz to each student individually. This test is done individually and should not work together. The test is in the form of the task of making argumentative paragraphs.
- The argumentation paragraphs that have been done by students are then presented in front of the class.
- Students from other groups listen and edit the work of their friends.
- The stage of giving awards to the teacher group calculates the highest score from each group that has presented the results of their work in front of the class.
- After each group or team gets a predicate, the teacher gives awards to each group according to their achievements

c) End activities

- Students and teachers conclude the material for writing argumentative paragraphs
- The teacher provides reflection by randomly appointing students to communicate their experiences during group discussions and during individual quizzes

3) Observation

Observations were made simultaneously with the teacher carrying out actions carried out on Monday, February 1, 2016 at 08.30-10.00 WIB. Researchers make assessments and observations by observing and recording things that are done during the learning process using the observation guidelines that have been prepared.

Observations on the teacher's ability to carry out learning cycle 1 as a whole are good from 10 aspects of observing student activities in the process of learning to write Argumentative paragraphs using the Cooperative Integrated Reading and Composition Learning Model (CIRC) with criteria very active 12.90%, active 22.58 % , quite active 9.67%, less active 38.70%, and inactive criteria 16.12%.

a) Observation of Teacher's Ability in Planning Learning (APKG)

There are several aspects that are assessed on the ability of teachers to carry out learning activities using the Cooperative Integrated Reading and Composition (CIRC) method, which are clearly seen in Table 1 below.

Table 1. Observation of Teacher's Ability in Planning Learning

Category	Score	Frequency	Mark	Percentage %
Very good	5	0	0	0
Well	4	19	76	61.3%
Pretty good	3	12	36	38.7%
Not good	1	0	0	0
Total				100%

Source: Processed Data Researchers in observing student attitudes in Cycle 1 in 2016

In observing the teacher's ability to plan lessons listed in table 1, there are 9 aspects with good criteria, while 13 aspects of the criteria are quite good. In this learning process there are several things that the teacher has not done, namely: In the preliminary activities the teacher is not detailed in fully explaining the learning steps using the Cooperative Integrated Reading and Composition (CIRC) method. In the learning process the teacher has not explained in detail the material related to learning, does not provide guidance and direction to all groups when working on group assignments and does not manage time efficiently and effectively.

b) Observation of Student Activities in the Implementation of Learning Activities.

Observations on student activities in the implementation of argumentation paragraph writing skills learning activities have not been fully active, including:

- Students do not fully understand the steps of Cooperative Integrated Reading and Composition (CIRC) learning.
- When the teacher explained the material some of the children did not listen to the teacher's explanation seriously.
- There are still students looking out of the classroom.
- When there is a question and answer session between the teacher and students about the material that has been delivered by the teacher, some students are still passive and shy to answer the teacher's questions.
- Students do not focus on recording work orders given by the teacher.
- The discussion did not run smoothly in the group because some students in the group were busy chatting outside the learning context.
- The teacher does not carry out learning in accordance with the specified time allocation and students cannot take advantage of the time that has been provided.
- Teachers and students have not concluded the learning material.

c) Observation of Student Attitudes in the Implementation of Learning Activities.

Observations on students' attitudes to learning with the Cooperative Integrated Reading and Composition (CIRC) method were grouped into five categories, namely: very active, active, moderately active, less active and inactive students, namely:

- Students are very active with indicators, students dare to answer the teacher's questions, students are brave / willing to respond to friends' answers and give their opinions. students are motivated and passionate about learning, students want to ask questions in the teaching and learning process, students are responsible and want to work together in their groups, students are brave / want to express ideas in their groups. Students try to do assignments/not directed (own initiative to learn)
- Students are active, with indicators, students are responsible and want to work together in their groups, students are brave/willing to convey ideas in their groups, try to do assignments/not directed (own initiative to learn).

- Students are quite active with indicators, students do not pay serious attention to the teacher's explanation of the learning steps, students do not seriously assess the results of their friends' work, students do not speak outside the context of the lesson.
- Students are less active, with indicators of passive students being silent, less active in asking questions, discussing, working together in groups. Students in this category learn not to focus, they are busy with themselves and even just looking at their friends' work without wanting to actively work.
- Students are not active, with indicators of students not participating in learning.

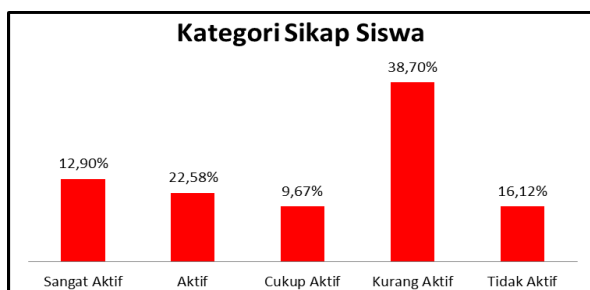
The results of the researchers' observations on students' attitudes in cycle 1 are as follows:

- Students with the very active category amounted to 4 (12.90%) students.
- Students with active categories amounted to 7 (22.58%) students.
- Students with moderately active categories amounted to 3 (9.67%) students.
- Students with less active categories amounted to 12 (38.70%) students.
- Students with inactive categories amounted to 5 (16.12%) students.

This can be seen clearly from the presence of 100% of students (31 students) who took part in the Indonesian language learning process using the Cooperative Integrated Reading and Composition (CIRC) method at that time.

Table 2. Attitudes of students in learning to Write Paragraph-Argumentation in Cycle 1

The number of students	Category Student Attitude					Categories of students who are classified as taking part in learning
	Very active	Active	Active enough	Less active	Not active	
31 students	4 students (12.90%)	7 students (22.58%)	3 students (9.67%)	12 students (38.70%)	5 students (16.12%)	31 students (100%)



Source: Data Processed by Researchers in observing student attitudes in Cycle 1 in 2016

Figure 1. Students' attitudes in learning to Write Paragraph-Argumentative in Cycle 1

d) Observation of the results of writing argumentative paragraph skills using the method Cooperative Integrated Reading and Composition (CIRC).

The results of observations on the results of argumentative paragraph writing skills using the Cooperative Integrated Reading and Composition (CIRC) method. Cycle 1 is a student's writing skill after participating in learning through the Cooperative Integrated Reading and Composition (CIRC) method. Students who participated in teaching and learning activities in cycle 1 amounted to 31 students. The value in cycle 1 is the sum of scores from the aspect of argumentative paragraph writing skills. Aspects of assessment include authenticity and logical opinion, completeness of facts, content of paragraphs, completeness of paragraph structure, then language and writing. The results of each aspect are as follows:

- 1) Registering opinion topics
Assessment of aspects of determining the topic correctly in writing argumentative essays got a score of 5 totaling 8 students and 23 students still getting a score of 4.
- 2) Arranging an argument paragraph
Assessment of this aspect emphasizes the correct order of words in the argument paragraph. Students who got a score of 5 were 1 student, who scored 4 was 1 student, 27 students got a score of 3 and 2 students who got a score of 2. Scores of 3 and 2 indicate that the paragraphs are not neatly arranged in the use of words so that the paragraphs made by students is still not conveyed clearly.
- 3) Develop a framework that has been compiled into an argumentative paragraph. This aspect emphasizes regularity in making paragraphs and parts of argumentation paragraphs in the form of introduction, body of argument and closing. In the development of making this paragraph, students who got a score of 5 only amounted to 8 students, a score of 4 was 12 students, 10 students got a score of 3 and 2 students got a score of 2. Scores of 3 and 2 indicate that the paragraphs are not neatly arranged and the paragraph section still not conveyed clearly
- 4) Using conjunctions
- 5) Assessment of this aspect emphasizes the use of the correct form of words in writing argumentative paragraphs made by students and the content is in accordance with the theme of the essay. Students who got a score of 4 consisted of 20 students and

students who got a score of 3 were 11 students.

Table 3. Student Learning Outcomes Writing Paragraph-Argumentation in Cycle 1

Figure 2. Student Learning Outcomes in Writing Argumentative Paragraphs in Cycle 1

No	Student's name	Cycle 1	Information
1	AF	70	Complete
2	ARR	74	Complete
3	US	74	Complete
4	AR	70	Complete
5	BR	71	Complete
6	dd	67	Not Complete
7	FM	58	Not Complete
8	FZ	64	Not Complete
9	Her	60	Not Complete
10	JS	75	Complete
11	kw	60	Not Complete
12	Mk	65	Not Complete
13	MR	74	Complete
14	Mus	65	Not Complete
15	NZC	79	Complete
16	NHF	60	Not Complete
17	OS	74	Complete
18	RIW	60	Not Complete
19	RP	77	Complete
20	RPL	74	Complete
21	RIM	65	Not Complete
22	RC	58	Not Complete
23	SR	60	Not Complete
24	SS	74	Complete
25	SK	60	Not Complete
26	SA	74	Complete
27	TR	65	Not Complete
28	WD	75	Complete
29	WW	93	Complete
30	WHICH	77	Complete
31	YS	64	Not Complete
	Average	68,90	

Based on the data above, there were 31 students who participated in the evaluation activities. Students who completed in cycle 1 amounted to 16 students or 51.61% while those who did not complete were 15 students or 48.38%.

4) Reflection (Reflecting)

Based on observations and analysis of the planning and implementation of learning and the results of observations from cycle 1 actions assisted by collaborators, reflection was carried out on Wednesday, February 3, 2016. Before carrying out the reflection, the researcher assessed the results of students writing argumentative paragraphs based on the assessment guidelines on February 3, 2016. The results of the argumentation paragraph writing skill test showed that the average score of students in cycle 1 was 68.90.

Reflection is a follow-up to the results of research and observations made. The reflection was held on Wednesday, February 3, 2014. The results of the reflection were used as a basis for consideration carrying out learning activities in the second cycle by correcting the shortcomings and weaknesses in the first cycle. The results of the reflection are as follows.

a) Reflection on the teacher's ability to plan lessons (APKG)

The problem that occurs in the teacher's ability to carry out learning in cycle 1 is that the teacher is still not optimal in checking student readiness and still not carrying out learning that fosters positive habits and the teacher's instructions about working on student worksheets are still not clear so that there are still students who ask many times.

The implementation of learning activities in cycle 1

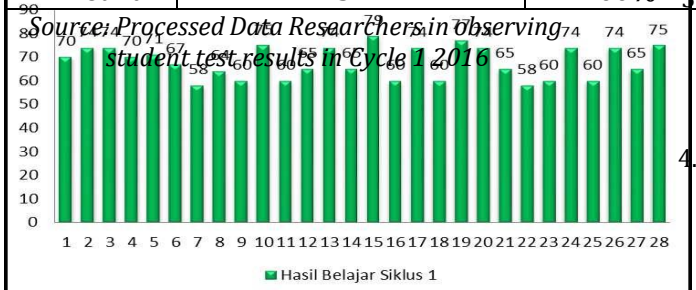
has not been carried out optimally. There are several aspects that have not been implemented by

teacher, namely:

1. Teachers are not used to creating a learning atmosphere that leads to the CIRC learning model. This is obtained from observations of student activities.
2. The teacher is not clear in detail the steps of learning Cooperative Integrated Reading and Composition (CIRC).
3. The teacher has not explained in detail the material related to the learning material. The teacher does not motivate students to ask questions when they encounter difficulties.
4. The teacher does not provide guidance and direction to all groups when working on

Table 4. Argumentative Paragraph Writing Skills Test Results

Mark	The number of students	Percentage
50 - 59	2	6.45%
60 - 69	13	41.94%
70 - 79	15	48.39%
80 - 89	-	-
90 - 100	1	3.23%
Amount	31	100%



group assignments.

5. The teacher does not motivate students in responding to the work of other groups.
6. Teachers do not manage time efficiently and effectively.
7. The teacher does not reflect on learning by involving students.

Based on reflection, this activity was not carried out because first, the teacher did not understand the students' low competence in understanding argumentative paragraphs. The two teachers have not been maximal in serving students individually so that not all students receive guidance. The solution is that teachers need to be more creative, and provide detailed understanding and understanding of the importance of writing. Teachers are more maximizing guidance to students.

b) Reflection on Student Activities in the Implementation of Learning Activities.

The implementation of learning activities in cycle 1 has not been carried out optimally. There are several obstacles that are monitored by collaborators during the teaching and learning process, namely:

1. students do not fully understand the steps of Cooperative Integrated Reading and Composition (CIRC) learning.
2. When there was a question and answer session between the teacher and students about the material for writing argumentative paragraphs, some students still looked passive and shy to answer the teacher's questions.
3. Some students seemed passive in their groups, so the discussion did not run smoothly, some students did not even carry out discussions because of difficulties in doing the assignments given by the teacher.
4. There are still groups that have not been able to complete the task in the allotted time. This is because the task is less serious in learning.
5. The teacher does not carry out learning in accordance with the specified time allocation and students cannot take advantage of the available time.
6. Teachers and students have not concluded the learning material.

Based on the reflection that this activity was not carried out, firstly, the teacher did not explain in detail the learning steps as a result, the students did not know the steps of Cooperative Integrated Reading and Composition (CIRC) learning. The solution is that the teacher explains in detail the steps of learning Cooperative Integrated Reading and Composition (CIRC). Second, some students in the group seemed passive so that when they found difficulties they were shy to carry out discussions. Third, students do not use the available time, Fourth, teachers and students have not concluded learning

materials because teachers do not manage time effectively and efficiently.

Overall, students' activities in learning to write argumentative paragraphs use the Cooperative Integrated Reading and Composition (CIRC) method already well. This is indicated by the involvement of students in group discussion activities. Based on these results, the teacher tries to maintain and even increase student activity so that all students are involved in group activities.

c) Reflection on Student Attitudes in the Implementation of Learning Activities.

Based on the reflections made by researchers and collaborators in the field, it was found that changes in actions occurred in student behavior from cycle I. After that the teacher would analyze the learning process, both in the form of tests and non-tests. The form of the test comes from the results of writing student argumentative essays, while the non-test form comes from the interview process, student and teacher diaries and documentation during the learning process.

Furthermore, at the stage of reflection on student attitudes, students are less enthusiastic in reflecting on the material, because there are still many students who are less active in concluding learning materials because there are still many students who are less active in concluding learning materials that have taken place. These results are better than the results at the pre-cycle stage where the ability of students to write effective sentences in argumentative paragraphs in cycle I can be said to have increased, even though they have not reached classical completeness as expected so that improvements need to be made in the next cycle.

2. Description of Research Results Cycle 2

a. Planning to improve Argumentation Paragraph Writing Skills using the Cooperative Integrated Reading and Composition (CIRC) Learning Model

Researchers and collaborators discuss to plan the activities to be carried out. Cycle 2 planning was carried out on Monday, February 6, 2016. In this case, researchers and collaborators planned the following things.

- 1) Researchers and collaborators plan learning materials including formulating learning objectives, formulating learning materials in accordance with the curriculum, formulating learning indicators and formulating learning objectives.
- 2) Researchers and collaborators plan to organize teaching materials which include developing learning materials, determining learning materials according to student characteristics, and organizing learning time allocations with two meetings.
- 3) Researchers and collaborators plan scenarios of learning steps which include determining

- learning activities using the Cooperative Integrated Reading and Composition (CIRC) Learning model, compiling learning steps, preparing student worksheets, preparing student answer sheets, and assessment guidelines.
- 4) The selection of sources and media used in Cooperative Integrated Reading and Composition (CIRC) learning which includes learning resources is adjusted to the learning material and determines the learning media to be used.
 - 5) Researchers and collaborators plan learning outcomes in writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model, namely through the results in the learning process and the final results of the learning process to measure the extent to which students understand the material that has been learned.
 - 6) Researchers and collaborators plan evaluation of learning by developing assessment techniques, assessment instruments, assessment tools and assessment guidelines.
- b. Implementation of Learning in Writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model**

In this study, the researcher collaborated with the Sicilian Indonesian teacher, S.Pd. to improve students' ability in writing Argumentation Paragraphs using the Cooperative Integrated Reading and Composition (CIRC) Learning Model. The implementation of this research was carried out in two cycles consisting of four stages to be carried out, namely planning, acting, observing, and reflecting. The complete analysis of classroom action research in class XA in cycle 2 is as follows.

1) Planning (Planning)

Cycle 2 planning was carried out on February 6, 2016. Before starting the plan, the researcher and Indonesian teacher discussed the lesson plan that will be carried out during the teaching and learning process. The lesson plan (RPP) includes the preparation of indicators, formulating learning objectives, selecting methods, selecting materials, and determining research guidelines. Researchers and Indonesian language teachers also discussed making student test questions. In addition to the lesson plan, researchers and teachers prepare observational guidelines that will be used by researchers to observe activities when teachers and students carry out an argumentative paragraph writing lesson using the Cooperative Integrated Reading and Composition (CIRC) learning model. The observation guidelines prepared are as follows:

- a) Learning syllabus
- b) Learning implementation plan (RPP)
- c) Teacher ability assessment tool (APKG)

- d) Student learning activity observation sheet in the learning process using the Cooperative Integrated Reading and Composition (CIRC) learning model
- e) Cooperative Integrated Reading and Composition (CIRC) lesson plan assessment sheet
- f) Guidelines for scoring ability in writing argumentative paragraphs
- g) Teacher interview guide

The teacher performance appraisal tool (APKG 1) in planning was carried out on Saturday 6 February 2016. In the teacher performance appraisal tool (APKG 1) the aspects assessed were determining learning materials and formulating learning objectives or indicators for writing argumentative paragraphs. In addition, the aspects assessed are developing and organizing learning resources for writing argumentative paragraphs, determining and compiling learning activities using the Cooperative Integrated Reading and Composition (CIRC) learning model, determining time allocation, determining how to motivate students, preparing questions, planning techniques, forms. instruments, and assessment instruments as well as making answer keys.

Observation of the teacher performance assessment tool (APKG 2) in carrying out the learning to write argumentative paragraphs using the cooperative integrated reading and composition learning model was carried out on Monday 1 February 2016. Aspects assessed in the teacher performance appraisal tool (APKG) observation sheet included checking readiness of students, do apperception and provide motivation. The core learning activities include demonstrating mastery of the learning material, the approach/strategy used, learning that triggers maintaining student engagement, assessment of learning processes and outcomes and the use of language. While the aspects contained in the closing activity are reflecting and carrying out follow-up by providing directions, activities or tasks as remedial/enrichment materials.

Reflection activities in cycle 2 were carried out by researchers and Indonesian language teachers on Wednesday, February 10, 2016. Reflection activities were carried out to discuss the teacher's ability to carry out learning, students' Cooperative Integrated Reading and Composition (CIRC) attitudes in learning to write argumentative paragraphs, and the results of learning to write argumentative paragraphs. using the Cooperative Integrated Reading and Composition (CIRC) learning model.

2) Action (acting)

The implementation of cycle 1 was held on February 1, 2016 at 08.30-10.00 WIB, the time allocation used was 2 x 45 minutes. In improving argumentative paragraph writing skills, researchers and Indonesian language teachers apply the

Cooperative Integrated Reading and Composition (CIRC) model in classroom action research activities.

a) Initial activity

- The teacher opens the lesson by greeting and praying together before starting
- The teacher takes the attendance of students
- The teacher informs the competency standards, basic competencies and objectives about the material to be taught.

Apperception

- Students and teachers ask questions about argumentative paragraphs
- Students express knowledge about argumentative paragraphs
- The teacher relates learning to students' knowledge

Motivation

- The teacher conveys the benefits of writing argumentative paragraphs

b) Core activities

Exploration

- The teacher delivers learning material about argumentative paragraphs.
- The teacher explains how to put the main idea into the main sentence.
- The teacher gives an example of how to put the main idea into the main sentence.
- The teacher explains how to write explanatory sentences based on the requirements for paragraph development.

Elaboration

- Students are grouped into small groups consisting of 4 heterogeneous people
- The teacher distributes worksheets in each group to be worked on by members of each group to be discussed together, and help each other so that other members in the group understand, while the teacher motivates, facilitates student work, and observes the cooperation of each member in the study group.
- Each group discusses and then writes the main sentence based on the main idea.
- After making the main sentence, each group makes an explanatory sentence based on the main sentence made.
- The main sentences and explanatory sentences that have been made are then arranged into an argumentative paragraph.
- The teacher goes around paying attention and guiding students in doing assignments
- The teacher makes observations by conducting a process assessment using the observation sheet

Confirmation.

- The teacher gives a test/quiz to each student individually. This test is done individually and should not work together. The test is in

the form of the task of making argumentative paragraphs.

- Stage of calculating individual development scores
- The argumentation paragraphs that have been done by students are then presented in front of the class.
- Students from other groups listen and edit the work of their friends.
- Stage of giving group awards. The teacher calculates the highest score from each group that has presented the results of their work in front of the class.
- After each group or team gets a predicate, the teacher gives awards to each group according to their achievements

c) End activities

- Students and teachers conclude about the material for writing argumentative paragraphs
- The teacher provides reflection by randomly appointing students to communicate their experiences during group discussions and during individual quizzes

3) Observation

Observations were made simultaneously with the teacher carrying out the actions carried out on Monday, February 8, 2016 at 08.30-10.00 WIB. Researchers make assessments and observations by observing and recording things that are done during the learning process using the observation guidelines that have been prepared.

Observations on the teacher's ability to carry out learning cycle 2 as a whole are good from 10 aspects of observing student activities in the process of learning to write Argumentative paragraphs using the Cooperative Integrated Reading and Composition Learning Model (CIRC) with criteria very active 41.94%, active 51.61% , moderately active 6.45%, less active 3.22%, and inactive criteria are no longer visible in cycle 2 learning.

a) Observation of Teacher's Activities Carrying Out Learning

Learning activities in cycle 2 have started to increase compared to cycle one. The aspects assessed in the implementation of cycle 2 have reached very good criteria because of the 27 aspects assessed on the teacher's ability to carry out learning using the Cooperative Integrated Reading and Composition (CIRC) Learning method in cycle 2 there are 14 aspects in the very good category, 13 aspects of the criteria good, so reaching a percentage of 90.37% (very good) in the preliminary learning activities the teacher has explained the material in detail and clearly, the learning steps using the Cooperative Integrated Reading and Composition Learning (CIRC) method have also been explained to students. in the learning process activities the teacher has guided and

directed students in working on group assignments and motivated students in responding to the results of the group work. while in the final activity the teacher has reflected on learning activities involving students and the time allocation used is in accordance with what was planned in Rp.

b) Observation of student activities on the implementation of learning activities.

During the process of learning activities there are still activities that do not go according to the planned scenario. Some of the activities that were not carried out well in cycle 2 were as follows:

- Some students still seem passive in their groups, so the discussion does not run smoothly in the group. probably because they had to readjust to the new group.
- In the question and answer activity there are only a few groups that provide responses.
- There are still students who in their groups are still busy working on assignments individually.
- Students still seem embarrassed and hesitant to express their opinions in group discussions.

c) Observation of Student Attitudes in the Implementation of Learning Activities.

Observations on students' attitudes in participating in the learning process are grouped into five categories, namely very active, active, moderately active, less active and inactive students, namely

- Students are very active with indicators, students dare to answer the teacher's questions, students are brave / willing to respond to friends' answers and give their opinions. students are motivated and passionate about learning, students want to ask questions in the teaching and learning process, students are responsible and want to work together in their groups, students are brave / want to express ideas in their groups. Students try to do assignments/not directed (own initiative to learn)
- Students are active, with indicators, students are responsible and want to work together in their groups, students are brave/willing to convey ideas in their groups, try to do assignments/not directed (own initiative to learn).
- Students are quite active with indicators, students do not pay serious attention to the teacher's explanation of the learning steps, students do not seriously assess the results of their friends' work, students do not speak outside the context of the lesson.
- Students are less active, with indicators of passive students being silent, less active in asking questions, discussing, working together in groups. Students in this

category do not focus on learning, they are busy with themselves and even just looking at their friends' work without wanting to actively work.

- Students are not active, with indicators of students not participating in learning.

The results of the researchers' observations on student attitudes in cycle 2 are as follows:

- Students with the very active category amounted to 13 students (41.94%).
- Students with active categories amounted to 16 students (51.61%).
- Students with moderately active categories amounted to 2 students (6.45%).
- Students with the less active category amounted to 1 student (3.22%).
- There are no students who are not active in learning cycle 2.

This can be seen clearly from the presence of 100% of students (31 students) who participated in the Indonesian language learning process using the Cooperative Integrated Reading and Composition (CIRC) Learning method at that time.

Table 5. Students' attitudes in learning to Write Argumentative-Paragraphs in Cycle 2

The number of students	Category Student Attitude					Categories of students who are classified as taking part in learning
	Very active	active	Active enough	Less active	Not active	
31 students	13 students (41.94%)	16 students (51.61%)	2 students (6.45%)	1 student (3.22%)	-	31 students (100%)

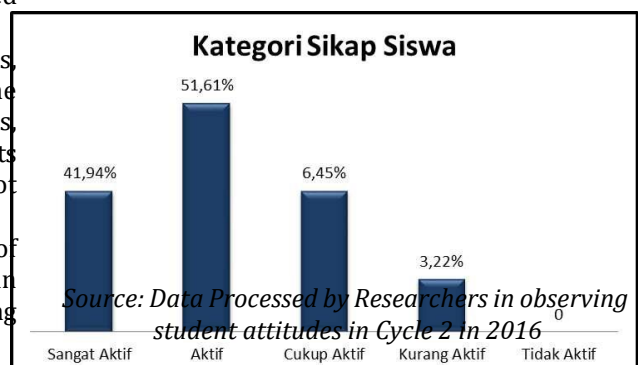


Figure 3. Attitudes of students in learning to write argumentative paragraphs in cycle 2

5) Reflection (Reflecting)

Based on observations and analysis of planning and implementation and the results of observations from cycle 2 actions assisted by collaborators, reflection was carried out on Wednesday, February 10, 2016. Before carrying out the reflection, the researcher assessed the results of students writing argumentative paragraphs based on the assessment guidelines on February 8, 2016. Results The assessment shows that the average score of students in cycle 2 is 74.19. The results of the reflection are used as the basis for the successful implementation of class actions in cycle 2. The results of the reflection are as follows.

a) Reflection on the ability of teachers to plan lessons (APKG)

The teacher's ability to carry out learning in cycle 2 has been carried out well, but there are some plans that have not been maximally implemented during the learning process. First, the teacher does not provide opportunities for all groups to report the overall results of group work in front of the class. the two teachers have not fully discussed the difficulties experienced by students in doing assignments. the three teachers did not give motivation to students who seemed silent (passive). The learning implementation activities in cycle 2 have been carried out optimally. Some aspects that have been implemented by the teacher, namely:

1. Teachers are used to creating a learning atmosphere that leads to the CIRC learning model. This is obtained from observations of student activities.
2. The teacher has explained in detail the steps for learning Cooperative Integrated Reading and Composition (CIRC). The teacher has not explained in detail the material related to the learning material.
3. The teacher has motivated students to ask questions when they encounter difficulties.
4. The teacher has provided guidance and direction to all groups when working on group assignments.
5. The teacher has motivated students in responding to the work of other groups.
6. Teachers have managed time efficiently and effectively.
7. The teacher has done reflection on learning by involving students.

Based on reflection, the implementation of this activity is due to first, the time available to present the results of each group's discussion has been used properly so that it is sufficient. Students are already open with the teacher so that the difficulties experienced by students are already known by the teacher. The teacher has given more motivation to

students who look passive in the learning process so that the learning process can run well as expected.

b) Reflection on Student Activities in the Implementation of Learning Activities

The learning implementation activities in cycle 2 have been carried out well, although not optimally. The learning atmosphere has led to Cooperative Integrated Reading and Composition (CIRC) learning. Several aspects have been implemented, including:

1. The task given by the teacher to the group by using a worksheet has been able to be done well.
2. Students in one group have shown to help each other to master the subject matter that has been given questions and answers, discussions between fellow in the group. Some students feel motivated to ask questions and respond to a presentation from another group.
3. Overall, students' activities in learning to write argumentative paragraphs using Cooperative Integrated Reading and Composition (CIRC) are good, although not all students are active in the learning process.
4. When there was a question and answer session between the teacher and students about the material for writing argumentative paragraphs, almost all of the students were active in answering the teacher's questions. so that the discussion can run smoothly.
5. Each group was able to complete the task in the allotted time. This is because the task has been taken seriously by the students.
6. The teacher has carried out learning in accordance with the specified time allocation and students have been able to take advantage of the available time. Teachers and students have concluded the learning material.

Based on the reflection that this activity has been carried out, firstly, students have started to feel the benefits of the importance of cooperation in groups. Students have fully used the Cooperative Integrated Reading and Composition (CIRC) learning steps in the learning process, especially in writing argumentative paragraphs. The questioning technique developed by the teacher has provoked students to ask questions and students have been given special guidance for students who have not fully used the Cooperative Integrated Reading and Composition (CIRC) learning steps.

The successes obtained during cycle 2 are as follows: first, student activities in the learning process have led to Cooperative Integrated Reading and Composition (CIRC) learning. Students have begun

to be able to build cooperation in groups to understand the tasks given by the teacher, second, students are starting to be able to participate in activities and be on time in carrying them out. Third, the teacher is enough to motivate students about the benefits of reading in their lives. Fourth, the teacher conditions students into conducive learning. Fifth, the teacher has implemented the Cooperative Integrated Reading and Composition (CIRC) learning steps. Sixth, students present the results of group work in front of the class. seventh, students carry out evaluations assessed by the teacher.

Overall, students' activities in learning to write argumentative paragraphs use the Cooperative Integrated Reading and Composition (CIRC) method. already well. This is indicated by the involvement of students in group discussion activities. Based on these results, the teacher tries to maintain and even increase student activity so that all students are involved in group activities. The learning outcomes of students' ability to write argumentative paragraphs in cycle 2 are students' writing skills after participating in learning through the Cooperative Integrated Reading and Composition (CIRC) method. Students who participated in teaching and learning activities in cycle 2 amounted to 31 students. The value in cycle 2 is the sum of scores from the aspect of writing argumentative paragraph skills. Aspects of assessment include authenticity and logical opinion, completeness of facts, content of paragraphs, completeness of paragraph structure, then language and writing. The results of each aspect are as follows:

1) Registering opinion topics

The assessment of aspects of determining the topic correctly in writing argumentative essays got a score of 5 totaling 13 students and 18 students still getting a score of 4.

2) Arranging an argument paragraph

Assessment of this aspect emphasizes the correct order of words in the argument paragraph. Students who got a score of 5 were 8 students, a score of 4 was 17 students, 4 students got a score of 3 and 2 students who got a score of 2. Scores of 3 and 2 indicate that the paragraphs are not neatly arranged in the use of words so that they are still not conveyed clearly.

3) Develop a framework that has been compiled into argumentative paragraphs. This aspect emphasizes the regularity of paragraphs and parts of argumentation paragraphs in the form of introduction, body of argument and closing. Students who got a score of 5 were 13 students, a score of 4 was 15 students, 2 students got a score of 3 and 1 student got a score of 2. Scores of 3 and 2 indicate that the paragraphs are not well organized and the paragraphs are still not conveyed clearly

4) Using conjunctions

Assessment of this aspect emphasizes the use of the correct form of words in writing argumentative paragraphs made by students and the content is in accordance with the theme of the essay.

The learning outcomes of class XA students after the second cycle was held, the data obtained were as follows.

Table 5. Student Learning Outcomes in Writing Argumentative Paragraphs in Cycle 2

No	Student's name	Cycle 2	Information
1	AF	80	Complete
2	ARR	76	Complete
3	US	80	Complete
4	AR	70	Complete
5	BR	75	Complete
6	dd	70	Complete
7	FM	58	Not Complete
8	FZ	75	Complete
9	Her	70	Complete
10	JS	75	Complete
11	kw	76	Complete
12	Mk	78	Complete
13	MR	74	Complete
14	Mus	75	Complete
15	NZC	79	Complete
16	NHF	70	Complete
17	OS	78	Complete
18	RIW	70	Complete
19	RP	77	Complete
20	RPL	74	Complete
21	RIM	70	Complete
22	RC	60	Not Complete
23	SR	70	Complete
24	SS	78	Complete
25	SK	70	Complete
26	SA	80	Complete
27	TR	70	Complete
28	WD	78	Complete
29	WW	95	Complete
30	WHICH	83	Complete
31	YS	70	Complete
	Average	74.19	

Table 6. Argumentative Paragraph Writing Skills Test Results

Mark	The number of students	Percentage %
50 - 59	1	3.23%
60 - 69	1	3.23%
70 - 79	24	77.42%
80 - 89	4	12.90%
90 - 100	1	3.23%
Amount	31	100%

Source: Processed Data Researchers in observing student test results in Cycle 1 in 2016



Figure 4. Student Learning Outcomes in Writing Argumentative Paragraphs in Cycle 2

Based on the data above, the number of students who participated in the evaluation was 32 students. Students who completed in cycle 2 amounted to 29 students or 93.54% while those who did not complete were 2 students or 6.45%. Thus, the learning process for writing argumentative paragraphs using the Cooperative Integrated Reading and Composition (CIRC) method is sufficient only until this second cycle because student learning outcomes are in accordance with what is expected. The learning process, the teacher's ability to carry out learning and student attitudes towards the learning process activities using the Cooperative Integrated Reading and Composition (CIRC) method have been fully achieved.

c) Reflection on Student Attitudes in the Implementation of Learning Activities.

Observation of students' attitudes in the implementation of learning in cycle 2 has increased compared to cycle 1, although it has not been maximized. This can be seen from the assessment process (observation of student attitudes) in this cycle the very active category was 13 people, the active category was 16 people, the quite active category was 2 people and the less active students were 1 person. The attitude of students in participating in learning has been maximized because almost some of the students answered the teacher's questions, carried out class discussions, had started to be confident. Some of them are already brave in giving suggestions and responses.

Based on the reflection the teacher has given the opportunity to ask students and the teacher has shown an open attitude.

Furthermore, at the stage of reflection on student attitudes, students are already enthusiastic in reflecting on the material, because almost all students are active in concluding the learning material. These results are better than the results at the stage of cycle 1 where the ability of students to write effective sentences in argumentative paragraphs in cycle I has not increased much, so the researchers feel that this classroom action research is sufficient only until cycle 2 only.

B. Discussion

1. Lesson Planning Writing Argumentative Paragraphs

Before the implementation of the learning improvement took place, it was known that the initial learning process of students, especially in writing argumentative paragraphs in the learning process was still low. Students who actively ask as

many as 12 people are equivalent to 38.70%, answer questions as many as 11 people are equivalent to 35.48%, while carrying out the task of writing argumentative paragraphs as many as 8 people are equivalent to 25.80%. While the teacher's teaching method is still one-way (lecture method) while in the learning of argumentative paragraph writing skills in cycle 2, 25 students who are very active ask questions equivalent to 80.64%, answering questions as many as 30 people are equivalent to 96.77%, while carry out the task of writing argumentative paragraphs as many as 29 people, equivalent to 93.55%.

2. Implementation of Learning to Write Argumentative Paragraphs

In the implementation of the first cycle of learning, there are still some weaknesses, both in terms of teacher activities and in terms of student activities. Teachers in the implementation of learning have not fully followed the learning steps that have been designed in the lesson plans. Regarding student activities in the first cycle, the average of students who were very active were 4 people or 12.90%, students who were active were 7 people or 22.58%, students who were quite active were 3 people or 9.67%, students who less active as many as 12 people or 38.70% while students who are not active as many as 5 people or 16.12%. This is because students are not used to learning with group work and students do not understand the teacher's explanations so that they are not in accordance with the work steps in the LKS. While student learning outcomes are still low, the average student learning outcomes only reached 68.90.

In cycle 2 the researchers made several improvement efforts so that there was an increase in student learning activities, the average being very active students as many as 13 people or 41.94%, active students as many as 16 people or 51.61%, students who were quite active as many as 2 or 6.45%, students who are less active are 1 person or 3.22% while students who are not active are not seen in this 2nd cycle. Student learning outcomes in cycle 2 increased from an average of 68.90 in cycle I to 74.19 in cycle 2. This achievement was maximized and the learning process was sufficient only in cycle 2 only.

After conducting 2 research cycles on students' skills in writing argumentative paragraphs, namely in learning to write argumentative paragraphs for class XA students at SMA Negeri 10 Singkawang using the Cooperative Integrated Reading and Composition (CIRC) model conducted by researchers and Indonesian language teachers, Sisilia, S.Pd. obtained as follows.

Table 7. Students' attitudes in learning to write argumentative paragraphs in each cycle

	The nu	Category Student Attitude	Categ ories
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Cat ego ry	mb er of stu den ts	V e r y a c t i v e	Ac t i v e	Ac t i v e e n o u g h	Les s a c t i v e	No t a c t i v e	of stu den ts who are c l a s s i f i e d a s t a k i n g p a r t i n l e a r n i n g
Cyc le 1	31 stu den ts	4 stu de n t s (2 2.5 8 (1 2. 9 0 %)	7 stu de n t s (5 1.6 1 %)	3 stu de n t s (9. 67 %)	12 stu de n t s (38 .70 %)	5 (16 .12 %)	31 stu de n t s (100 %)
Cyc le 2	31 stu den ts	13 stu de n t s (4 1. 9 4 %)	16 stu de n t s (5 1.6 1 %)	2 stu de n t s (6. 45 %)	1 stu de n t s (3. 22 %)	-	31 stu de n t s (100 %)

From the table above, it can be seen that the activity of students asking questions from cycle 1 to cycle 2 has increased. In the first cycle of learning activities the average of students who are very active are 4 people or 12.90%, students who are active are 7 people or 22.58%, students who are quite active are 3 people or 9.67%, students who are less active as many as 12 people or 38.70% while students who are not active are 5 people or 16.12%. Furthermore, in cycle 2 the average of students who were very active were 13 people or 41.94%, students who were active were 16 people or 51.61%, students who were quite active were 2 people or 6.45%, students who were less active were 1 person or 3.22% while students who are not active are not seen in this 2nd cycle.

Increasing student activity in the learning process of writing argumentative paragraphs using the Cooperative Integrated Reading and Composition (CIRC) method in class XA Semester 2 of SMA Negeri 10 Singkawang for two cycles of classroom action research, can be more clearly seen in the following graph:

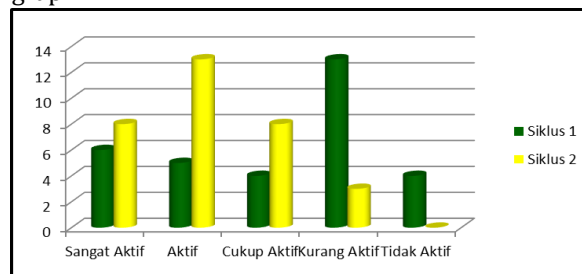


Figure 5. Students' attitudes in learning to write argumentative paragraphs in each cycle

3. Results of Learning to Write Argumentative Paragraphs

The increase in student learning outcomes in cycle 1, cycle 2 to cycle 3, can be seen in the following table:

Table 8. Student Learning Outcomes in Writing Argumentative Paragraphs for each cycle

No	Student's name	Cycle 1	Cycle 2
1	AF	70	80
2	ARR	74	76
3	US	74	80
4	AR	70	70
5	BR	71	75
6	dd	67	70
7	FM	58	58
8	FZ	64	75
9	Her	60	70
10	JS	75	75
11	kw	60	76
12	Mk	65	78
13	MR	74	74
14	Mus	65	75
15	NZC	79	79
16	NHF	60	70
17	OS	74	78
18	RIW	60	70
19	RP	77	77
20	RPL	74	74
21	RIM	65	70
22	RC	58	60
23	SR	60	70
24	SS	74	78
25	SK	60	70
26	SA	74	80
27	TR	65	70
28	WD	75	78
29	WW	93	95
30	WHICH	77	83
31	YS	64	70

Average	68,90	74.19
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The data above shows that the learning outcomes achieved by students from the holding of class actions in cycle 1 to the implementation of cycle 2 have increased significantly. In the implementation of learning activities in cycle 1, the learning outcomes achieved by students only increased by 68.91. Learning activities using the Cooperative Integrated Reading and Composition (CIRC) method were continued by conducting cycle 2 learning activities. The results achieved by students reached an average of 74.19. This achievement is considered by researchers and collaborators to have been maximal because almost all students who scored below the KKM, the results were considered by researchers and collaborators to be maximal. This is also clearly seen from the number of students who have scores below the KKM only 1 person.

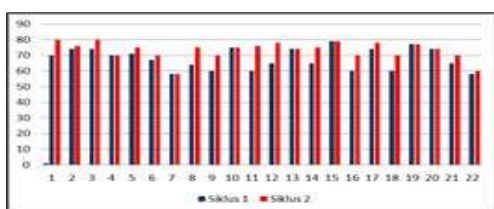


Figure 6. Student Learning Results in Writing Argumentative Paragraphs for each cycle

4. Teacher Interview Results

Based on the results of interviews with Indonesian language teachers after cycles 1 and 2, the results of the learning process for writing argumentative paragraph writing skills were good and student activities in participating in the learning process were active. He said that nothing needed to be improved again in the implementation of cycle 2, but the learning process that was already good would be maintained. So he believes that the process of learning the skill of writing argumentative paragraphs using the Cooperative Integrated Reading and Composition (CIRC) method can improve student learning outcomes. He also said that in the next teaching and learning process he would use creative and innovative learning methods in planning and implementing the teaching and learning process.

CONCLUSION

Based on the results of the classroom action research, it can be concluded that the Cooperative Integrated Reading and Composition (CIRC) method can improve students' skills in writing argumentative

paragraphs. With details: (1) Learning planning to improve the ability to write argumentative paragraphs through the Cooperative Integrated Reading and Composition (CIRC) method in Class XA students at SMA Negeri 10 Singkawang in the 2015/2016 academic year has increased from the implementation of cycle 1 with details of 38.70 % active In learning, 35.48% answered questions and 25.80% were able to write argumentative paragraphs. In cycle 2 there was an increase of 80.64% of active students; 96.77% answered questions; and 93.55% able to write argumentative paragraphs. (2) The implementation of paragraph-argumentative writing learning has increased from before the action, reaching 45.16% in cycle 1 and 96.77% in cycle 2 (an increase of 51.61%). The learning outcomes of writing argumentative paragraphs using the CIRC method have increased by 68.91 in cycle 1 and 74.19 in cycle 2 (an increase of 5.28 points).

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DEVELOPING LEARNING MATERIAL DESIGN OF SEMANTICS BASED ON COMMUNICATIVE APPROACH FOR THE STUDENTS OF ENGLISH DEPARTMENT, FBS UNM

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ABSTRACT

The problem of this research is how to develop learning material of semantics material based on communicative approach for English Department students of FBS UNM, the factors that influence the implementation of materials design, worksheets exercises and lecture program which are expected to improve students' knowledge and language skills. This research is a development research that aims to develop semantics learning material design -based on communicative approach for students of the English Department of FBS UNM to improve students' knowledge and language skills, especially the English Department of FBS UNM. Developing learning material design that are planned to follow the research and development designed by Borg & Gall (1983). This research is an extensive process in examining the needs of students and then products specifically designed the needs of these students and developed in an effort to improve their knowledge and language skills through communicative approach- based Semantic learning. The population of this research were students of the English Department of FBS UNM. The research sample were the students of the English education and literature study program. The result of the research shows that, there are the form of semantic prototype teaching materials, syllabus, and lecture contracts as well as communicative approach-based semantic learning, and text book.

Key words: developing learning of semantics, communicative approach.

INTRODUCTION

Semantic learning is one part of linguistic studies which is still relatively broad, but has developed quite rapidly. Semantics can be briefly defined as the study of the meaning of communication in a socio-cultural context. An act of communication certainly involves interaction between the speaker and the speech partner, so that semantics can be understood as meaning in interaction. (Thomas 23). Semantic studies can be used as a framework for understanding language use which includes not only speech, but participation in conversation, involvement in various types of words, vocabulary and discourse and efforts to maintain interaction in complex speech events (Kasper, 1997).

In its journey, the study of semantics has made no small contribution to various other fields, such as in the field of linguistics. Semantics has also been taken into account as an inseparable part of Granger language teaching (Bardovi- Harlig, 2005).

Semantics has become a major field of study in its own right, linguistics, and now in language learning and teaching. Semantics Competence has come to be viewed as an essential part of learners' competence.

Semantic competence is important in

language learning, because it is often found that a learner who has good grammar and vocabulary knowledge cannot (less able) communicate well in the language he is learning. The resulting utterances often do not meet the rules of acceptance related to the context of the speech. One of the causes is thought to be because in the language learning process the semantic aspect is neglected.

In this regard, this research describes the role of semantics in learning English which is detailed in the following aspects: (1) the background of the emergence of thoughts to integrate semantics in language learning, (2) the importance of semantics in language learning, (3) materials teach semantics and (4) how semantic aspects can be taught. This research is the result of reflection from class discussions with the theme of semantics and language learning. and compiled by referring to references in the form of books and articles; thought and research. The main references come from the writings of Kaspers (1997), Cohen (2008), Taguchi (2011), Roever (2009), Purwo (1990).

Semantics and Language Learning

Semantic competence as an inseparable part of language learning can be traced from the

development of language learning paradigms and methods from the late 19th century to the mid-20th century. In the 19th century to the early 20th century language learning was dominated by the Grammar translation method which emphasized on language sense recognition and grammar mastery. In its development, the method is opposed by adherents of the direct method, they think that the most important thing in language learning is the mastery of spoken, written, not written language. In this case, learning is displayed directly on the sounds of the language, and explanations of new words do not go through translation but with explanations from the original language or visual demonstrations.

Ahead of the second world war, the audiolingual method emerged. This method is in line with the structural linguistics view of Bloomfield, and is influenced by the behaviorism flow of Skinner who proposes stimulus-response theory. The language learning process is dominated by listening exercises and saying continuous sentence patterns (drill and pattern practice) so that the sentence patterns that are trained will be recorded and become a habit in the learner. Furthermore, in 1965 Noam Chomsky criticized language acquisition according to the behaviorists. According to him, language learning is not a matter of habit formation, but rather a creative process: a rationalistic and cognitive activity, and not the result of a response to an external stimulus (Purwo, 1990: 47). Chomsky, who was the pioneer of transformational grammatical linguistics, introduced the concepts of competence (knowledge of grammar needed to code and produce) and performance (realization of language codes in actual language use). In the context of language learning, the formation of competence becomes important. This is done by providing awareness to the learner about the rules of the target grammar. The four streams basically have the same characteristics, namely emphasizing the language structure of the target language. The only difference lies in the way it is presented. The four of them do not take into account the socio-cultural aspects of a speech event, and that means being separated from its communicative context. The reaction to these various approaches and methods came from Dell Hymes who criticized Chomsky's views. Hymes is of the view that there are rules of language use without which grammatical rules are useless. Language learning is not only about grammatical issues. What is more important than that is the issue of the appropriateness of the use of an utterance in its socio-cultural context. Furthermore, Hymes emphasized that the notion of competence needs to be broadened to include context compatibility. Hymes' view received support from Halliday who rejected the dichotomy of competence and

performance. According to him, the competence of Chomsky only covers "what the speaker knows" and not "what the speaker can transfer" (Purwo, 1990: 49). From the views of the two experts, a communicative approach emerged in language learning.

The communicative approach according to Richards & Schmidt (2002) is *An approach to foreign or second language teaching a which emphasizes that the bold of language learning is communicative competence which seek to make meaningful communication and language use a focus of all classroom activity.*

Based on this opinion, it is clear that the main purpose of the communicative approach is the acquisition of communicative competence. It is in this umbrella of communicative competence that pragmatic competence finds its place. This can be seen from the elements included in communicative competence according to Canale and Swail as illustrated in chart 1. From the chart it is known that communicative competence is not only in the form of grammatical competence, but also includes sociolinguistics and strategic competence. These details also show that the communicative approach has taken into account sociocultural aspects, although it has not clearly stated semantic knowledge.

B. FORMULATION OF THE RESEARCH PROBLEM

From the background above, the researchers asked the following research problem questions:

1. How is the model for developing teaching materials, student worksheets, and course program plans in communicative approach-based semantic learning for students of the English Department of FBSUNM?
2. What are the factors that influence the implementation of student teaching materials, student worksheets, and course program plans in communicative approach-based semantic learning for students of the FBS UNM English Literature and Education study program?

C. SPECIAL OBJECTIVE OF THE RESEARCH

The purpose of this development research is to:

1. Know the model for developing student teaching materials, student worksheets, and plan for lecture programs in communicative approach-based semantic learning for students of the FBS UNM Education and English Literature study program
2. Know what factors influence the implementation of teaching materials, student worksheets, and lecture program plans in communicative approach-based semantic learning for students of the FBS UNM Language and Literature study program?

Theory and Semantic History Development

The word semantics, is actually a technical term that refers to the study of meaning. The meaning referred to here is the meaning of language, either in the form of morphemes, words, or sentences. Morphemes may have meanings, for example reactualization, which means the act of actualizing again. Coseriu and Geckeler said that the term semantics became popular in the 1950s which was introduced by a French scholar named M. Breal in 1883.

The word semantics comes from the Greek word *sema* (noun) which means sign or symbol. In Greek, there are several words that form the basis of semantic words, namely *semantikos* (meaning), *semainein* (meaning), and *sema* (sign). *Sema* also means a grave that has a sign that explains who is buried there. From the word *sema*, semantics can be understood as a sign that has a certain reference and explains the origin where the word is first mentioned. This is in line with what was conveyed by Pateta who equated the word semantics in English with the word semantics in French, both of which explained more about the history of the word. In Arabic, semantics is translated as *ilm al-Dilalah* or *Dilalat al-Alfaz*. Terminologically, semantics is part of the structure of language related to the meaning of expressions or a system of investigation of meaning and meaning in a language in general. In terms of semantics, it is the science that investigates meaning, both with regard to the relationship between words and symbols and the ideas or objects they represent, as well as with regard to tracking the history of those meanings and the changes that have occurred to them. semiology. Semantics also means the study of the relationship between language symbols (words, expressions, phrases) and the objects or concepts contained in them. In terms of semantics, it is the science that investigates meaning, both with regard to the relationship between words and symbols and the ideas or objects they represent, as well as with regard to tracking the history of those meanings and the changes that have occurred to them. semiology. Semantics also means the study of the relationship between language symbols (words, expressions, phrases) and the objects or concepts contained in them.

Semantics is better known as part of the structure of linguistics which talks about the

meaning of an expression or word in a language. Language itself according to Plato is a statement of one's thoughts through onomates and rhemata which is a reflection of one's ideas in the flow of air through the mouth. In this sense, language related to the conditions around the wearer so that the meaning of a word (speech) is closely related to the person who pronounces it in the context of knowing the background of the speaker when he says the word so that it can be distinguished from other users.

Slamet Muljana stated that what is meant by semantics is the study of the meaning of words in a particular language according to a classification system. Semantics can display something abstract, and what is displayed by semantics is just imagining the mental life of language users. Semantics in relation to history, involves the history of language users (language communities). Language changes, develops and does not escape from something that influences it.

In 1894 this semantic term appeared which was recognized through the American Philological Association (Organization of American Philology) in an article entitled *Reflected Meaning A Point in Semantics*. M. Breal through his article entitled *Le Lois Intellectuelles du Langage*, he revealed the term semantics as a new field in science, in French the term is known as *semantic*. M. Breal mentions historical semantics (historical semantics). Historical semantics tends to study semantics related to elements outside of language, for example the background of changes in meaning, changes in meaning related to logic, psychology, and changes in meaning itself.

A classical expert named Reisig revealed a new concept of grammar which includes three main elements, namely etymology (study of the origin of words with respect to changes in form and meaning), syntax (sentence), and semasiology (the science of sign meaning). In 1825-1925 semasiology as a new science that has not been recognized as semantics. The term semasiology itself is a term proposed by Reisig. Based on Reisig's thinking, semantic development can be divided into three periods of growth, namely: First, covering a period of half a century including Reisig's activities, this period is called Ullmann as the underground period. Second, namely semantics as a purely historical science, there is a view of historical semantics with the emergence of M. Breal's classic works. Third, this period of development was marked by the study of meaning with the emergence of the work of the Swedish philologist, Gustaf Stern conducted an empirical study of meaning from one language (English) through his work entitled *Meaning and Change of Meaning with Special Reference to the English Language*.

Aristotle as the first thinker to use the term meaning through the definition of the word Aristotle argued that the smallest unit that contains meaning. With this, Aristotle has also revealed that the meaning of the word can be distinguished between the meaning that is present from the word itself autonomously, and the meaning of the word that is present due to grammatical relationships. Even Plato in *Cratylus* reveals that the sounds of the language implicitly contain certain meanings.

Semantics is also defined as an analytical study of the key terms of a language with a view that ultimately comes to a conceptual understanding or worldview of the people who use the language, not only as a means of speaking and thinking, but more importantly conceptualizing and interpreting the world that surrounds it. Here he emphasizes key terms that are tied word for word. So semantics is more focused on the study of words, not language in general. The word itself is a part of language where letters are the smallest part. Letters that are strung together into phrases and combined to have a meaningful sequence, are symbols that exist in language. When a series of letters and phrases has a meaning, it is called a word. In the course of its historical development, words that initially only had one original (basic) meaning were expanded to have several meanings.

Semantic Types

Various names of types of meaning have been put forward by people in various linguistic or semantic books.

1. Lexical, Grammatical and Contextual Semantics

Lexical semantics is a semantic study that focuses more on the discussion of system of meaning contained in the word. The meaning of each word described in the dictionary is an example of lexical semantics, such as the word house, in the dictionary it is defined as a building that is used as a residence by humans. All meanings (both basic and derived forms) contained in the dictionary are called lexical meanings. It can also be said that the lexical meaning is the actual meaning, according to the results of our sensory observations or the meaning as it is.

Grammatical semantics is a semantic study that specifically examines the meaning contained in a sentence. For example, equestrian, the root word for horse begins with *ber-* which means to ride a horse. Contextual semantics is the meaning of a lexeme or word in one context. The meaning of context can also relate to the situation, namely the place, time and environment of the use of the language.

2. Referential and Non-referential Semantics

A word or lexeme is said to have referential meaning if there is a referent or reference. There are a number of words called deictic words, the reference of which is not fixed in one form. For example: pronominal words, such as, he, I and you. Referential meaning is also called cognitive meaning, because it has a reference. For example: the person slapped the person.

3. Denotative semantics and connotative semantics

Denotative semantics is the original meaning, the original meaning or the actual meaning possessed by a lexeme. Denotative semantics is actually the same as lexical meaning. Connotative semantics is another meaning that is added to the denotative meaning that is related to the sense of value of the person who uses the word. The connotation of a word can be different from one person to another.

Conceptual Semantics and Associative Semantics

Leech (1976) divides meaning into conceptual meaning and associative meaning. Conceptual semantics is the meaning that a lexeme has regardless of any context or association. Conceptual meaning is actually the same as lexical, denotative and referential meaning. For example, the word horse has a conceptual meaning, a kind of four-legged animal that is usually ridden. Associative semantics is the meaning of a lexeme or language word. The meaning of association is the same as the symbols used by a language community to express other concepts, which have similar characteristics, conditions or characteristics that exist in the lexeme. The connotative meaning is included in the associative meaning, because these words are associated with the sense of value for the word. The meaning of stylistics relates to differences in the use of words in connection with social differences or fields of activity. Affective meaning relates to the speaker's feelings towards the interlocutor or the object being discussed. Co locative meaning relates to certain meaning characteristics that a word has with synonymous words. For example, the word jasmine is associated with holiness or holiness, the word red is associated with bold.

Taguchi (2011: 296) then offers a form of task that can integrate aspects of social context, functional language use and interaction. The first task is a task to increase the awareness of learners (consciousness-raising task). The form of the activity is in the form of listening and paying attention to the semantic and sociolinguistic variables of a particular speech event. The next task is a task to hone receptive skills, where the learner obtains semantic inputs and then evaluates and

selects the appropriate semantic form. The last task is a productive task, namely by involving students to do something *role-play*, making structured conversations or being given the opportunity to answer a discourse completion test or a cloze test.

Another strategy that can be used for the development of semantic and intercultural competencies is to use the 6R model proposed by Martinez-Flor and Uso'-Juan (via Shively, 2010:110). The model, which is basically based on an explicit approach, consists of six stages, namely researching, reflecting, receiving, reasoning, rehearsing and revising. In the first stage, learners are given an explanation of the concept of semantics. In the second stage, learners analyze the data under the guidance of the teacher. This stage will increase the learner's awareness of social and situational factors that influence pragmatic behavior. In the third stage, the learner gets explicit instructions on how the Semantic features can be realized in the second language (target language).

For example, the learner is shown a series of strategies that might be used to express a request speech act in the target language and compare it with a first language speech act. In the fourth stage, the learner analyzes the semantic data of the second language and identifies social and situational factors, as well as the speaker's intention. This activity is an effort to raise awareness. The fifth stage, learners practice their semantic knowledge by participating in communicative activities, starting from somewhat controlled to more free. The last stage, learners receive feedback and further instructions to develop their semantic performance in communicating activities.

Semantics as part of linguistics which studies the use of acts of communication in the current sociocultural context has become an inseparable part of language learning, including language learning for children. The emergence of the semantic aspect in language learning coincides with the emergence of a communicative approach. This approach is a reaction to several previous methods and approaches that emphasize mastery of grammar and ignore sociocultural aspects, such as the translation grammar method, the direct method, the audiolingual method and an approach based on Chomsky's generative grammar. On the other hand, a communicative approach that emphasizes aspects of the function and meaning of language begins to involve socio-cultural aspects. This is in accordance with Hymes' opinion, that learning a language is not only a matter of grammaticalism but which is no less important is the aspect of the suitability of an utterance with its sociocultural context. On that basis, semantics need to be integrated in language learning. There are two reasons that support semantic learning,

namely (1) facilitating the learner to be able to recognize the social and interpersonal aspects involved in a speech event, so that he can frame an appropriate (suitable) speech, and (2) to avoid any Semantic errors (semantics failure) when performing acts of communication.

Popular approaches used are explicit and implicit approaches. Through an explicit approach, learners will be given an explanation of pragmatic features and norms accompanied by practice. On the other hand, in the implicit approach, learners are only given training and semantic input without explanation. The two approaches are not discrete, but continuous. This means that they can be used interchangeably. An explicit approach is more appropriate for early second language learners. As the learners' language skills increase, an implicit approach can be given. Another strategy that can be used is the 6R learning strategy which consists of researching, reflecting, receiving, reasoning, rehearsing and revising. This strategy includes the process of awareness of semantic concepts, providing input in the first language and target language, exercises to apply semantic knowledge in communicative acts, and feedback from the teacher.

RESEARCH METHOD

a. Type of Research

This research is basically a Research and Development, development research (Gay 1987). The main objective is not to test theory but to develop a product for use in the English Department. The product is in the form of Development of Semantic Teaching Materials based on Communicative approach for students of the English Department of FBS UNM. This research will be carried out in a lecture hall at the FBS Campus UNM Parang tambung Makassar. The object to be studied is the learning device used by students who attend lectures and lecturers who organize lectures.

The development of this communicative approach-based pragmatic learning model is learning carried out in the classroom that involves interaction between one group and another in the learning process. The learning in question is semantic learning that uses cooperative learning models at every face to face in the teaching and learning process.

Semantic course materials will be developed to be used as teaching materials. The development of the material is adjusted to the interaction model and pedagogical principles that underlie the development of semantic learning. The procedures and results of the development of the lecture material will be documented according to the

development diary.

The implementation of communicative approach-based semantic lectures will be carried out by involving students who program semantic courses for six months. Technical instructions for lecturers and students attending lectures will be prepared to be used by lecturers in developing materials and carrying out lectures, as well as for students to be able to attend lectures well. Students spend the same time as lecturers during normal face-to-face hours.

To find out students' opinions about teaching materials, two question lists will be used. The first list of questions regarding the background of the learning model used. The second question list asks about the teaching materials that will be used useful for students, positive and negative aspects as well as general opinions about the communicative approach-based semantic learning model.

The results of quantitative and qualitative data and diaries and questionnaires will be documented and analyzed to fulfill the research objectives.

b. Research Subject

The research test subjects consisted of: 1) learning experts and teaching materials, 2) lecturers and 3) students. Field trials are carried out in class according to the systematic section of the research flow. The selection of this class is based on the consideration that the class has an effective learning vision.

c. Research Systematics

The research is planned to last for 8 months. The research was conducted to develop teaching materials and their supporting devices with expert tests. The resulting product is in the form of a prototype of semantic teaching materials and supporting learning devices. Teaching materials are developed based on theories of language learning, discourse, and critical discourse analysis. The teaching materials produced are validated by English or Linguistics experts as well as teaching material development experts. In the next stage, a limited field test of teaching materials was carried out. The trial aims to test the effectiveness and practicality of the teaching materials produced. The field trial involved lecturers and students who were the test subjects. The field test consists of: small group test and broad test. The classes that became the location of the trial were limited, namely (1) One class of English literature study program, and one class of students of English education study program. In the next stage, this research activity is the packaging and dissemination of the resulting product model. Dissemination is done through scientific forums, focus discussion

groups, and distribution of soft copies. After dissemination, various inputs were used as material for refinement to produce the final model. This final model becomes a teaching material that is ready to be widely produced.

RESULT AND DISCUSSION

Based on the field analysis conducted by the research team through focus communicative approach with lecturers related to the Semantics course, it resulted in (1) Teaching and learning Programs and (2) Lecture Contracts.

1. Teaching and Learning Program

Course: Introduction to Semantics
Teaching and Learning Program of Semantics, consists of course description, the technical objectives, and the instructional materials.

a. Course Description

This course is intended to provide students comprehension of Semantics material they are what are semantics, the meaning of meaning, sense and meaning, pragmatics vs semantics word and meaning, implicative and the construction of meaning. This course includes levels of Semantics. This course helps the students to comprehend and understand various types of meaning, word meaning and the relationship between pragmatics, semantics and syntax.

b. Teaching Strategies

1. Giving explanation about the class activities
2. Work in groups
3. Weekly presentation from each group
4. Class discussion

c. Assignments

1. Weekly Communicative approaches
2. Weekly Pragmatics task

d. Evaluation

Grade types : Letters, Number, and Percentage Range

•	A	4	90 - 100
•	B	3	75 - 89
•	C	2	60 - 74
•	D	1	50 - 59
•	E	0	< 50

e. Student Grade

Grade is determined by course Requirements :

1. Attendance (10%)
2. Semantics /class participation (10%)
Weekly communicative approach

From the required Semantics material (20%)

3. Midterm test (30%)
4. Final test (30%)

2. Results of Development of Teaching Materials

Semantics course teaching materials are prepared based on an interactive learning model consisting of semantics printed materials consisting of required and selected semantics materials with discussion in the learning community to obtain semantics comprehension achievement of students (see p. 11 of this research report). In addition, material development is based on the course description, course objectives formulated in the syllabus and the SEMANTICS course contract.

Based on the focus communicative approaches, the procedure for presenting teaching materials for each face-to-face meeting is as follows:

1. Presentation of material by providing preview questions related to
2. course materials of semantics.
3. Read the text in groups.
4. Discuss and answer reading questions in groups.
5. Sharing information on reading results from weekly semantics task.
6. Presenting classically the results of each group's discussion.

The following is an example of Semantics lecture material for the first meeting (meeting I)

MEETING 1

WHAT IS SEMANTICS

Read the following text in group. Answer the question after the text, discuss, and reflect orally to the other groups. Rephrase the text in written form, and then submit it to your lecturer

1. Defining Semantics

The students are going to look for some definitions about semantics in communicative approach. Then each group is given some interesting topics to be task as a presented in a weekly communicative approach (see attached material)

A. Student Interest in Lecture Materials

Interest is divided into three categories, namely interest in (1) courses, (2) lecture materials, and (3) lecture strategies. Almost all students (85%) are interested in taking Semantics courses, almost all students (85%) are interested in material lectures, and almost all

students (97%) were interested in the learning strategies carried out in the classroom. This data means that the Semantics course is favored by students including the lecture materials given and the learning strategies applied in the classroom. Therefore, the application of the learning model and the teaching materials provided can improve the learning ability of the Semantics course. Detailed interest in the application of these models and teaching materials can be seen in the appendix.

B. Assessment of Learning Outcomes

To assess the lecture materials and the applicability of the lecture model, a limited trial was given for three meetings with the application of action research. Each meeting ends with a discussion with students discussing procedures or learning steps, improving grouping, how to work in groups or have good discussions, acceptability of teaching materials, and learning techniques. The results of this discussion gave birth to the following learning procedures:

1. Read and understand the material given individually.
2. Discuss the material in groups.
3. Reflecting orally reading in groups.
4. Rephrase in writing the text to be submitted to the lecturer
5. Presenting material and communicative approach in class.
6. Deliver weekly assignments based on the time allotted.

At the end of the meeting, a test in the form of an essay is given to answer understanding questions. The result of the text shows that the students mastered ($M = 86$) the text they read. They can answer comprehension questions well.

CONCLUSION

Based on the finding described in the previous chapter, the conclusions formulated are as follows:

1. Interactive Model of Teaching Semantics is a learning model consisting of components, printed semantics materials consisting of required reading materials and self-selected materials by students which are presented and discussed in groups through a learning community strategy designed to improve the ability to understand semantics learning concepts.
2. The teaching materials for Semantics lectures, which are designed based on an interactive learning community (communicative approach), have been proven to be effective in improving students' understanding skills.

3. Students are not only interested in the Semantics course, but also in the lecture material, as well as the learning strategies used in the lecture process.

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AN ANALYSIS OF TEACHERS' STRATEGIES IN TEACHING READING COMPREHENSION

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ABSTRACT

This research was a descriptive qualitative study that aims to determine the teachers' strategies used in understanding the reading comprehension of students in class XI IPA and XI IPS at SMA Negeri 20 Pangkep. This study used purposive sampling and the samples in this research were 2 teachers and students from class XI IPA 1, XI IPA 2, XI IPS 1, and XI IPA 2 SMA Negeri 20 Pangkep in the academic year 2020/2021. The instruments used were the observation sheet checklist and interview. The research data were analyzed in three stages, namely reduction, display, and data verification. The results of data analysis show that there are several problems in learning reading comprehension at SMA Negeri 20 Pangkep, namely the learning conditions are not good because learning is done through online classes. In addition, students have difficulty in reading English texts and understanding the contents of the readings properly and correctly. There are three strategies used by teachers in teaching reading comprehension, namely memorization, question and answer relationship, preview, and text prediction. The researcher suggests one strategy that can be tried to improve students' reading comprehension, namely the scaffolding strategy.

Key words: analysis, reading comprehension, teacher strategy, understanding

INTRODUCTION

Humans are social creatures in which every activity is inseparable from language as a tool used in communicating. Therefore, in human life, language has an important role in conveying and obtaining information, including in expressing ideas. Therefore, in learning in class students must understand the language used so that communication can run well and students will more easily understand the learning material. In Indonesia, English is a language that has a special status because it is one of the subjects with compulsory status in junior and senior high schools. The reason is that English is an international language that requires every student to learn it with the aim that students will be able to understand spoken and written English.

In language, there are four skills that students must master, namely writing, listening, speaking, and reading skills. However, many think that a person's intelligence in language when able to speak fluently even though the four skills above are related to each other which have their respective virtues in learning English so it can be said that students who succeed in learning English are when they can master these four skills. Reading skills are one of the skills that students must master because by reading students can improve their language skills, make it easier to get information and find new ideas from reading. Reading is one of the most

important English skills learned by students. Because reading skills have an important role in acquiring cognitive processes (Kramsch & Claire, 2007).

Therefore, they will be able to find out what they did not know before. According to Burt, Peyton & Adam (2003, as cited in Wibowo & Syafriza, 2020), it is important to learn to read for several reasons. First, it helps students learn to think and discover new languages. Second, it helps students improve their vocabulary, punctuation, grammar, and sentence structure. Third, it helps students to become more familiar with English in written form. Fourth, it can help students in planning English learning.

In addition, through reading activities, students are expected to understand the meaning of the reading and put it into their language. As a learning goal, students will become readers who do not depend on the teacher continuously but as independent readers. Based on this, apart from learning to read, it is very important to have a very strategic role in teaching and learning reading activities in the classroom. Students who master reading skills will easily understand the meaning of English texts because they are supported by various vocabulary. But in reality, students' reading skills cannot appear immediately but must take the learning process both at home and at school. So far, the average student had difficulty understanding the meaning contained in the reading. Therefore,

teachers have an important role and are required to be able to assist students in improving reading skills accompanied by reading strategies. Syamsir, Astri, Suhartina & Noer (2021) stated that learning activities conducted in the traditional manner by reading and answering available questions are less effective and appealing to students, resulting in students feeling bored and less serious about learning. It is the teacher's responsibility to develop a teaching strategy that will motivate students to learn. It is also supported by Tampubolon (in Zuchdi, 2008) who asserts that the usage of reading method or strategy is a factor impacting reading comprehension.

In this study, the authors study the analysis of teachers' strategies in teaching reading comprehension. According to Woolley (2011) as cited in (Astri & Wahab, 2018) that reading comprehension is the process of extracting meaning from text. The goal, therefore, is to gain an overall understanding of what is described in the text rather than to obtain meaning from isolated words or sentences". It means that reading comprehension is the way to get the information of the text.

In general, in teaching and learning activities several components are interrelated with each other, namely students, teachers, and learning facilities. In the teaching and learning process, each component has its function. A teacher functions as a conveyor of knowledge to students, especially when the teacher provides teaching in class. Therefore, teachers must prepare strategies in teaching and learning activities to be able to realize effective teaching. According to Habibullah (2012), an effective teaching strategy is when using learning principles such as readiness, effort, and practice. A strategy must include the interests, needs, and talents of students even though students have different characteristics. This is of course the responsibility of a teacher in fulfilling this aspect. Therefore, a teacher must use appropriate learning strategies to improve students' reading comprehension skills of the reading text, so in this study, the researcher was focused on the strategies used by the teachers at SMA Negeri 20 Pangkep in learning reading comprehension.

RESEARCH METHODS

The design of this research was qualitative research with descriptive research methods. Qualitative research can be defined as a research method used to identify an event. This qualitative research method provides techniques for obtaining answers or in-depth information about a person's opinions and feelings (Sugiyono 2008, as cited in Audina et al., 2020). Location of the research at SMA Negeri 20 Pangkep. The school address is Karaeng

Barasa, Kelurahan Bonto Perak street, Kecamatan Pangkajene. The overall time duration for this study was from April 2021 to May 2021. Population is a group of people as a target survey conducted by researchers (Kitchenham and Pfleeger 2002, as cited in Marita, 2014) while the population in this study was teachers and students from grade XI English Class at SMA Negeri 20 Pangkep.

The sample is part of the population taken to meet research objectives (Freedman, 2008). The samples in this study were 2 teachers both of which teach in IPA and IPS classes, grade XI IPA 1 is 27 students, XI IPA 2 is 27 students, XI IPS 1 is 26 students, and XI IPS 2 is 25 students at SMA Negeri 20 Pangkep. The sample used in the study was determined by a non-random sampling technique using purposive sampling. The instruments used were the observation sheet checklist and interview. In this study, 2 teachers were interviewed and in this study will use the code in the mention, namely TUS for the first teacher and HA for the second teacher

RESULTS AND DISCUSSION

Finding

Based on interviews and observations made by the researcher, it was found that several problems occurred in the process of learning and teaching English reading at SMA Negeri 20 Pangkep for both students and teachers. The first problem is the obstacles faced by teachers when providing reading lessons in class and the difficulties of students when learning reading takes place as stated by the first teacher.

"Regarding the obstacles, it comes back to the readiness of students to accept the material, who do not understand English, so I have to try the languages I use, namely English and Indonesian. On the other hand, the class conditions are not conducive because we have to study online, some students are late for class and also absent. Therefore, sometimes we hold outdoor meetings but they are limited because no government policy requires us to teach offline. But it's good because it teaches reading skills so students to understand the material is not too difficult even though learning through zoom meetings because the core of the activity is reading will be different when I teach the material in other skills such as listening and speaking".

Indonesia, which is being hit by the corona virus, requires all public places to be temporarily closed to break the chain of the corona virus. The closure of public places including schools requires the learning and teaching process to change from offline learning to online-based which directly has a

big impact on the world of education. This policy makes the learning process in the classroom less conducive, one of which is at SMA Negeri 20 Pangkep. Online learning caused complaints from some students due to the lack of quotas and the network that was not conducive in supporting online learning so that only a few students could join in class learning.

However, specifically for learning reading material, according to her, it is more beneficial to be taught online than learning other English skills such as listening and speaking because in reading skills the main focus is how students can understand the contents of the reading well. This is in line with the opinion of the second teacher, HA.

“Actually, because we are currently in a pandemic situation. There are some students who are lazy to enter the class on the grounds that there is no quota and the network is not conducive because they are in the Pangkep area. However, especially in learning this reading material, students have a little difficulty in knowing the meaning of the reading. So, I have prepared well”.

The problem in teaching reading at SMA Negeri 20 Pangkep is that students are not able to understand the contents of the reading well. This is because students do not know a lot of vocabulary in English, especially with new words in the reading text. As stated by TUS that,

“Students have difficulty understanding the reading material that I provide because they do not know much about the meaning of English vocabulary in the material and also some students find it difficult to read English texts.”

Her opinion was strengthened by the statement of HA who teaches in IPS class that,

“Students the difficulties. For the first, they weak vocabulary so they couldn’t understand about the material”.

The main factor that causes difficulties for students is the lack of vocabulary so they are unable to understand the meaning of the reading text. This can happen because students come from environments such as family, school, and community environments that use very little English in interacting so students must be ready to learn English even harder in understanding meaning. This was revealed by TUS

“The factor is... because students come from an environment that rarely hears or uses English, be it family or society”.

This is in line with what HA that,
“One way because during pandemic and the environment not support to speak English, to learn and they don’t have motivation”.

In addition to learning conditions that are affected by the current pandemic situation, the problem of learning English is also influenced by the student's environment including motivation, the teacher reveals that students do not have good motivation to support their enthusiasm in learning English. With the students' problems above, the teacher at SMA Negeri 20 Pangkep tries to provide maximum learning, namely by taking and using learning strategies in the teaching and learning process of reading in the classroom so that reading learning objectives can be achieved. In addition, the teacher chooses teaching materials that are under the curriculum and lesson plans and are assembled into material that is easily understood by students. It is expressed by HA that,

“Based on the curriculum and lesson plans. I use the syllabus, what are the basic competencies? Later from basic competencies I will develop the material”.

This is in line with TUS that,

“Choose simple materials that are easy for students to understand...”

Data presentation from the interview and observation

a. The First Teacher Teaches in class XI IPA 1 and 2 (TUS).

The teacher enters teaching in the classroom, she prepares teaching materials by reading the coursebook used in the teaching and learning process. This is done so that he can understand what type of reading is given at the meeting, what is the main content of the reading text, and what methods are suitable to use during the learning process. The teacher also prepares, by informing the class group that learning will be carried out through zoom meetings or face-to-face meetings. As for meeting in person, it is limited. During the pandemic, one meeting consisted of 2 classes in zoom meeting because they had the same discussion, namely class XI IPA1 and XI IPA2 which took place on Thursday from 08.00 to 09.30 WITA. The class started with the teacher opening the lesson by greeting the students with a friendly smile and asking how the students were doing. After that, the teacher alludes to the material that has been studied at the previous meeting. The learning process runs smoothly even though there are occasional network disturbances but still in normal circumstances.

The strategies used in teaching are memorizing and Question-Answer Relationship (QAR). The first strategy used in the learning process is the memorizing strategy. Memorizing strategy is the process of entering something into the brain to remember or know words, symbols, or meanings. In learning the skill of remembering one

of the abilities that must be possessed by students, especially in memorizing English vocabulary. This will enrich students' vocabulary and make it easier for them to understand the meaning contained in the reading text so that they get the correct information. In applying this method, the teacher asks students to memorize new words found in the reading text. Each student saves his memory about 20 minutes before the lesson starts. The students did well even though some of them forgot 1 or 2 words but the teacher helped to remind them. The second strategy is the Question-and-Answer Relationship (QAR).

This strategy is used to develop students' ability to obtain various information from various sources related to various fields where questions are prepared by the teacher or take questions contained in a list of questions in reading. Through this strategy the teacher expects students to find words or sentences in the text as answers to questions. But before that, the teacher gave an overview of the learning objectives, problems that students must solve, and the ways students need to solve problems in finding answers to the questions given. Next, students are asked to read the material carefully. The teacher points or invites students to read the text aloud and the others are asked to pay attention to the reading and pronunciation. After that, there was a question-and-answer activity. From this activity, students can answer questions given by the teacher with answers both from direct reading and conclusions using their own words.

Some students have difficulty in reading English, the pronunciation is not clear so the teacher must pay full attention to correcting the wrong pronunciation and also giving explanations to the students about some words that are not known by the students. Students' reading ability increases because the strategies used can justify pronunciation and develop students' vocabulary so that it is easier to understand the contents of the reading. The teacher hopes that there will be new methods or innovations in learning to read. And from her side, she will try to develop new innovations in increasing student motivation in learning to read. Before ending the learning process, the teacher gives an evaluation to students regarding the material that has been taught and conclusions about the learning topic. In addition, the teacher gives memorization tasks related to new words obtained in the learning material.

b. The Second Teacher Teaches in class XI IPS 1 and 2 (HA)

The teacher prepares the material by reading the coursebook to organize the material to be given in class and prepares PPT which will be displayed in class. Learning English in IPS 1 and IPS 2 classes are combined in one meeting on Friday from 09.00 to

10.30 WITA. Learning is done in a zoom meeting so that the teacher prepares a link and distributes it at night before the class takes place the next day. The teacher opens the lesson by reading basmalah followed by greetings to students with a smile that radiates cheerfully. Then attend students one by one. After that, the teacher discusses again related to the material taught at the previous meeting. Learning is going well. Most of the students followed the teacher's instructions and the rest seemed to be students who were not ready for learning. The strategies used in teaching are memorizing, previewing, and predicting text. In the learning process, the teacher uses several strategies, namely: The first strategy is memorizing. According to her, using this method in starting learning is an activity that can help students in enriching their vocabulary, especially in English vocabulary. Each student deposited the memorization that had been given at the last meeting about 15-20 minutes at the beginning of the lesson. Although on the other hand, some students do not like this method because they have to use a sharp memory and focus on the words to be memorized so that it becomes a burden for students who are lazy to memorize. In addition to enriching vocabulary, the teacher expects this method to be able to help students understand the meaning of reading taught in reading classes. The second strategy is text preview and prediction, which is a pre-reading activity in preparing students to anticipate the reading content. In this activity, the teacher gives a glimpse to students about the contents of the reading without having to read the entire contents of the reading.

The problem, students have little vocabulary so it is difficult to describe their previews and predictions of reading into English so they must actively use a dictionary. In addition, the preview and prediction strategy takes a lot of time in the learning process, this happens not because of the duration of reading the reading text but when students try to pour their ideas into English. By using the above strategy, students' reading ability will be increased by developing students' vocabulary, reviewing, and predicting further concluding that the reading content can provide students' understanding of the reading content. Although the strategies that have been used in the classroom can improve students' reading abilities, he still hopes that there will be new innovations related to strategies that can activate students in reading learning that can unite all existing methods so that they are more effective and efficient. The teacher gives an evaluation to students regarding the material that has been taught and conclusions about the learning topic. In addition, the teacher motivates students to always study without getting bored even in the atmosphere of an online-based teaching and learning process due to Covid-19.

Discussion

a. The problems of teacher in teaching reading comprehension at sma negeri 20 pangkep

Several problems occur in the process of learning to read English at SMA Negeri 20 Pangkep. First, is the problem faced by the teacher. Teachers find it difficult to teach during the online-based learning process because they must be supported by a good network and the availability of quotas. Meanwhile, SMA Negeri 20 Pangkep and its surroundings are areas that have an internet network that is not conducive and some students do not have a quota in participating in every learning process, especially when learning has to go through the zoom meeting application. As a result, some students cannot join in the learning process. Thus, the school provides a policy with the application of a rolling system, namely face-to-face and online-based learning. Although face-to-face learning is allowed, it can only be done by teachers when the learning process requires holding direct meetings such as sports and learning materials that are considered very necessary. However, for the two English teachers who teach in class XI, some choose not to do face-to-face classes due to health reasons and materials that can still be taught even though online and other teachers choose to have face-to-face learning.

Second, the problems faced by students. The problem is learning to read English at SMA Negeri 20 Pangkep is that students find it difficult to read English texts and understand the contents of the reading well and correctly. The main factor that causes difficulties for students is because they do not know much English vocabulary, especially with new words in the reading text. This can happen because students come from families, schools, and communities that do not use English when interacting. In addition, because students do not have good motivation to support their enthusiasm in learning English. This is in line with Somadayo (2011) the factors that can affect the reading ability of someone's understanding are the student concerned, his family, culture, and school situation. Therefore, in the process of learning to read English, teachers are required to be able to become facilitators in the classroom by using strategies that can activate students to achieve the goals of learning to read.

b. Strategies are Used by the Teachers in Teaching Reading Comprehension at SMA Negeri 20 Pangkep

The strategy used by the teacher in teaching reading comprehension is based on the results of interviews and observations with the English teacher regarding the teacher's strategy. The researcher found three strategies used by two

teachers in teaching reading comprehension. They are memorizing, Question and Answer Relationship (QAR), preview and prediction text. The memorizing strategy is proven to be able to increase students' vocabulary knowledge in understanding the contents of the reading. This is in line with the opinion of McNamara (2007, as cited in Díaz & Languado 2013) the purpose of reading is to solve students' problems while reading, not only reading but also students understanding their reading. However, the memorizing strategy has several drawbacks, namely, it takes, a lot of time at the beginning of learning because it has to be memorized by the teacher for each student. In addition, students feel bored because they are required to memorize new vocabulary which not all students have high enthusiasm and memory for memorizing. Through Question-and-Answer Relationship (QAR) strategy the teacher expects students to find words or sentences in the text as answers to questions. But before that, the teacher gave an overview of the learning objectives, problems that students must solve, and the ways students need to solve problems in finding answers to the questions given. In line with the opinion of Rangi (2019) that teachers are obliged to help students to understand the role of the sources of information they read when answering questions. In addition to the information in the text, there is also information about the background of the students they have.

The question-and-answer relationship strategy can attract and focus students' attention on the questions given by the teacher, train and develop students' thinking power and stimulate students' courage and skills in expressing their opinions regarding the answers given. The drawback of this strategy is that it requires the teacher to be able to make questions that are appropriate to the level of students' thinking and are easy to understand, not all students have the courage to express their opinions so the teacher must be able to encourage students' courage and create an intimate atmosphere. In addition, another disadvantage of this strategy is that time is often wasted, especially when students are not able to answer some questions.

Preview and prediction text are pre-reading activities in preparing students to anticipate the content of reading. In this activity, the teacher gives a glimpse to students about the contents of the reading without having to read the entire contents of the reading. The purpose of preview and prediction activities is to process and prepare students' minds for the content of the reading they will read. This is in line with the opinion of Murdi (2017) reading is not just words and knowing the meaning but requires the reader to think, imagine and feel what he reads so that it is not only a

reaction to the text but also the relationship between the reader and the writer through the text. The advantage of this strategy is that it can make students understand the reading quickly because it stimulates previous knowledge related to reading. Students can catch the right ideas and save time when reading books with this strategy compared to reading directly without imagining what is in it, finding important points and determine important things that must be understood immediately without having to read the entire contents. The disadvantage of this strategy is that not all students are creative in processing reading without reading it.

c. Strategies are Used to Solve the Problems of Teacher in Teaching Reading Comprehension at SMA Negeri 20 Pangkep

Based on the problems and strategies used by the teacher in the learning process, the researcher assessed that the strategies used were sufficient to activate students in reading learning and were able to make students understand the contents of the reading well. However, seeing from some of the shortcomings of the strategy used, the researcher suggests one strategy that can be applied to further activate students and make it easier for students to understand reading properly and correctly, namely by using a scaffolding strategy. Scaffolding is learning in the early stages of the process of students being assisted by the teacher then in the next stage the assistance is reduced so that it allows students to do it themselves (Gasong, 2007, as cited in Yuliansari, 2020)

According to Bransford et al. (2000, as cited in Subagya & Susiati, 2017), the advantages of scaffolding learning strategies are motivating students and assigning tasks according to their interests, giving simple tasks that are easy for children to understand and manage, explaining clear instructions so that students focus on achieving learning objectives, explain in detail the differences between student work and standard solutions expected in learning, reduce risk and stress on students and determine the model and explain in detail the objectives of the activities to be undertaken. In addition to the reasons above, the researcher suggests with the findings of several previous studies. Ariani (2018) found that using a scaffolding strategy in reading made students feel helped because of the teacher's support in the teaching and learning process of reading comprehension to a higher level, able to anticipate problems and confusion faced by students and teachers were more flexible in modifying learning activities so that they can diagnose difficulties so that they can be eliminated. In line with that, Herawati et al. (2020) also in their research found that the scaffolding strategy had a significant effect

as a treatment in the experimental class on students' reading comprehension in descriptive and narrative texts. The average post-test score in the experimental class that was treated using the scaffolding strategy had a higher score than the control class using conventional strategies or traditional methods during the reading comprehension process.

CONCLUSION

Conclusion

The problem with teachers in teaching reading comprehension at SMA Negeri 20 Pangkep is that the learning conditions are not conducive because most of the learning is done through online classes. Online-based learning causes most students not to be able to take zoom meeting classes due to the unsupported network in the Pangkep area and its surroundings and the lack of quota. Therefore, face-to-face learning is carried out but is very limited by the school in complying with regulations issued by the government.

There are three strategies used by the teachers in teaching reading comprehension at SMA Negeri 20 Pangkep. First, memorizing can enrich students' vocabulary so that it can help them understand the meaning of reading texts better. Second, Question and Answer Relationship (QAR) can attract and focus students' attention on the questions given by the teacher, train and develop students' thinking power and stimulate students' courage and skills in expressing their opinions about the answers given. Third, preview and prediction are efficient in making students understand the reading quickly because it stimulates prior knowledge related to reading. Students can catch the right ideas and save time while reading books with this strategy compared to reading directly without imagining what is in it, finding important points and determine important things that must be understood without having to read the entire contents.

Based on the problems and strategies used by the teacher, the researcher suggests one strategy that can be tried to improve students' reading comprehension, namely the scaffolding strategy. Scaffolding strategy is a learning method by providing structured learning support. The use of Scaffolding learning strategies is used to increase students' ability to become independent to self-regulate. The teacher does gradual treatment by reducing the provision of support to students when their basic competencies and knowledge have increased.

Suggestion

This research can improve the quality of teachers in teaching English, especially reading comprehension. Provide references related to appropriate strategies used in learning so that students can understand the contents of the reading well. for other researchers to conduct similar research in different fields regarding the strategies teachers use in teaching reading comprehension. So there will be more strategies that can be used in teaching reading comprehension as a reference for teaching staff.

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PARENTAL SUPPORT OF STUDENT'S LEARNING MOTIVATION AND SELF-EFFICIENCY IN ONLINE LEARNING

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ABSTRACT

The COVID-19 pandemic has caused losses in various sectors, including the education sector. Teaching and learning activities must be done online till present time. Many teachers and students experience various difficulties during online learning. The purpose of this study was to describe the relationship of parental support to student motivation and self-efficacy in online learning. This study used a cross sectional approach. The population in this study were students in grades 5 and 6 of MI Bustanul Ulum Jombang who were carrying out online learning with a total of 74 students. The sample in this study as many as 62 students with the sampling technique of Proportionate Stratified Random Sampling. The results of data analysis using the Spearman Rank test statistic and the results obtained that there is a significant relationship between parental support and learning motivation as indicated by the p value = 0.007 and there is no significant relationship between parental support and self-efficacy as indicated by the p value = 0.087. The results of this study indicate that parental support affects students' learning motivation, but it does not affect students' self-efficacy.

Key words: learning motivation, online learning, parental support, self-efficacy

INTRODUCTION

Covid-19 was first discovered in the city of Wuhan, China at the end of 2019. The spread of covid-19 was very fast and difficult to control, so the government made several policies to break the chain of transmission. One of them is in the education sector, namely teaching and learning activities have turned into online learning. Online learning is a new thing for students so that students find it difficult to understand the material and have an impact on decreasing enthusiasm for learning and not having confidence in their abilities in this learning process. Parental support is needed to move and encourage students to be enthusiastic about learning and have confidence in their abilities so that they can have learning achievements. However, not all students get parental support during the online learning process so that student learning outcomes are not optimal.

The COVID-19 pandemic has impacted various sectors such as the economy experiencing a decline of 1.01%, health as much as 98.5%, online education services that can be accessed by 34.5% and the unemployment rate increasing by 4.99%. Based on data from the Task Force for handling COVID-19 in Indonesia as of 19 December 2020, the number of patients who were confirmed positive was 657,948 cases, patients recovered as many as 536,260 cases and patients who died as many as 19,659 cases. Covid-19 cases also attacked children.

The number of children who have been confirmed to be COVID-19 until early May 2020 was 167 cases.

COVID-19 is an acute respiratory syndrome caused by the corona virus 2 (SARS-CoV-2). The most common symptoms experienced by an infected person include fever > 38C, dry cough, and shortness of breath (Health Ministry, 2020). Other symptoms can be felt, namely muscle pain, diarrhea, sore throat, decreased sense of smell, and abdominal pain. This virus spreads in a contagious manner, meaning that infection can occur in a network whose transmission process is very fast and has spread to various parts of the world, including Indonesia.

Some of the obstacles faced by parents during online learning are that parents must provide funds to facilitate online learning, parents have difficulty operating gadgets and parents do not have time to accompany their children because they must work even though students who study at home need the role of parents in the continuity of learning activities. The online learning process needs to involve the active role of students, teachers, and parents because it greatly influences student learning outcomes.

Setyaningrum's research (2015) states that there is a positive and significant effect of parental social support on the motivation of fifth grade elementary school students to achieve achievement. Research conducted by Laksmi et. al. (2018) states that parenting patterns and

interactions that occur between parents and family members are well established, so that self-efficacy is formed positively. Children become more independent in solving problems they face. Learning motivation is the drive and enthusiasm contained within a person to achieve a goal. While self-efficacy is a person's belief in his ability to complete a task for an outcome in a certain situation. This study aimed to determine the relationship of parental support to learning motivation and students' self-efficacy in online learning at MI Bustanul Ulum Jombang.

RESEARCH METHODS

The design of this research was cross sectional. The population in this study were students of class V and VI MI Bustanul Ulum Jombang, for about 74 students. Sampling used proportionate stratified random sampling technique. The sample size in this study was determined using the Slovin formula and based on the inclusion and exclusion criteria that had been determined by the researcher during the data collection process. The researcher collected the data by explaining the research objectives to the students, then the students asked their parents for permission to fill out the informed consent. Then the researchers collected initial data using a questionnaire on parental support, learning motivation, and learning efficacy. Researchers collected data from questionnaires that had been filled out by students to see the relationship between parental support to both motivation and efficacy of learning in online learning.

The parental support questionnaire was developed from the research of Setyaningrum (2015), the motivation questionnaire was developed from the research of Fitriana (2016), and the self-efficacy questionnaire was developed from the research of Tyas (2016). All questionnaires have been modified by the researcher and have been tested for reliability and validity.

Analysis of the data in this study used the Spearman Test to determine the relationship of parental support and learning motivation and self-efficacy in online learning. The test criteria used are if H0 is accepted if P> 0.05, which means that there is no relationship of parental support and learning motivation and self-efficacy in online learning. Conversely, if H0 is rejected if P < 0.05, it means that there is a relationship of parental support and learning motivation and self-efficacy in online learning.

RESULTS AND DISCUSSION

General Data

Table 1. Distribution of Respondents by Gender and Age

No.	Variable	Frequency	Percentage
Gender			
1	Male	32	52%
2	Female	30	48%
Age			
1	<11 years	10	16%
2	11 years	21	34%
3	12 years	17	27,5%
4	>12 years	14	22,5%

Table 1 shows that most of the respondents were male as many as 32 students (52%) and most of the respondents aged 11 years were as many as 21 students (34%). Bandura (1997) who said that girls are used to helping their mother's work at home compared to boys who tend to do the opposite. This affects the formation of self-efficacy.

School-age children have independence so that children have started to have a sense of responsibility regarding the learning process. The school-age child phase starts from 6 to 12 years. School age is an important phase in achievement because this phase children must deal with various social demands such as school lessons, peer relations, moral and ethical values and relationships with the adult world. Characteristics of student learning motivation include the emergence of somewhat stable interests, increased focus on performance goals, recognition that effort and ability offset each other that people with lower abilities must work harder to be successful, increased belief about innate abilities as a significant factor and uncontrollable factors that affect learning and achievement and increase awareness of the types of attributions that will elicit positive reactions from others.

Table 2. Distribution of Respondents by Employment, Income, and Education of Parents

No.	Variable	Frequency	Percentage
Father's occupation			
1	Civil Servant	1	2%
2	General Employees	16	26%
3	Entrepreneur	18	29%
4	Farmer	9	14%
5	Doesn't work	1	2%
6	Other	17	27%
Mother's occupation			
1	Civil Servant	1	2%
2		5	8%

General			
3	Employees	7	11%
4	Entrepreneur	0	0
5	Farmer	43	69%
6	Doesn't work	6	10%
Other			
Father's income			
1	>3.500.000	3	5%
2	1.500.000	22	35%
3	3.500.000	36	58%
4	<1.500.000	1	2%
No income			
Mother's income			
1	>3.500.000	1	2%
2	1.500.000	3	5%
3	3.500.000	14	22%
4	<1.500.000	44	71%
No income			
Father's education			
1	Primary school	13	21%
2	Junior high school	19	31%
3	High School	25	40%
4	Bachelor's Degree	5	8%
Mother's education			
1	Primary School	15	24%
2	Junior High School	15	24%
3	High School	29	47%
4	Bachelor's Degree	3	5%

Table 2 shows that most of the respondent's father's occupations were entrepreneurs as many as 18 people (29%). Most of the respondent's mother's occupation was housewife as many as 43 people (69%) Most of the respondent's father's income was in the range of Rp. 500,000, - up to Rp. 1.500.000,- as many as 36 people (58%). Most of the respondent's mother's income was no income for 44 people (71%). Most of the respondent's father's education was high school by 25 people (40%). Most of the mother's education was high school with 29 people (47%).

Parents' income is known to be less than the regional minimum wage (UMR) causing limitations for parents in providing cellphones or gadgets in the learning process, buying credit or internet quota, and meeting other needs. This shows that the income earned by parents affects students in online learning. In line with research by Eryanto and

facilities and daily support so that they are able to perform better than children whose parents have lower income levels.

Low parental education affects students in teaching and learning activities. Students have

difficulty when they do not understand the material and do school assignments because of the lack of

parental assistance which results in the child being indifferent. The level of parental education affects the level of achievement of children, the higher the quality of parental education, the easier it is to teach children, especially education (Notoadmodjo, 2013).

Special Data

Table 3 Distribution of parental support, learning motivation and student self-efficacy in online learning

No.	Variable	Frequency	Percentage
Parental support			
1	Good	15	24%
2	Sufficient	41	66%
3	Less	6	10%
Learning motivation			
1	High	17	27%
2	Moderate	45	73%
3	Low	0	0
Self-efficacy			
1	High	8	13%
2	Moderate	52	84%
3	Low	2	3%

Table 3 shows that most of the parental support in online learning was sufficient as many as 41

Darma (2013) which states that the results of high parental income will provide support in terms of

students (66%). Most of the students' learning motivation was moderate as many as 45 students (73%). Most of the students' self-efficacy was moderate as many as 52 students (84%).

Parents have a responsibility in the learning process and children's education. This is direct contact that can be realized in the form of parental support for their children. Parental intervention is important in educating children because at school age the influence of parents on children is quite large compared to when children are more mature (Tan et. al., 2013). The factors contained in parental support according to Slameto (2010) include the way parents educate, relations between family members, home atmosphere, family economic situation, understanding of parents and cultural background. According to Purnawan in Mahani and Widiatma (2014), the factors that influence parental support are education level, experience in the past, age, emotional and spiritual.

According to Clayton (2000) in Agustina (2011), learning motivation is the tendency of students to carry out learning activities that are driven by a desire to achieve the best possible

achievement or learning outcomes. Someone who has high motivation will try hard, be persistent, don't want to give up, actively read books to improve his performance to solve the problem. On the other hand, if the motivation is weak, then they appear indifferent, easily discouraged, their attention is not focused on learning, likes to disturb the class, often leaves lessons as a result, they experience learning difficulties.

According to Bandura (1997), self-efficacy refers to beliefs related to the ability and ability of a learner to achieve and complete learning tasks with predetermined target outcomes and time. High confidence in students is needed to complete the task well.

Relationship between Parental Support and Learning Motivation in Online Learning

Table 4. Cross tabulation between parental support and learning motivation in online learning

No	Parental support	Learning motivation			Total
		High	Moderate	Low	
1	Good	8 (53%)	7 (47%)	0	15 (100%)
2	Sufficient	9 (22%)	32 (78%)	0	41 (100%)
3	Less	0	6 (100%)	0	6 (100%)
Total		17 (27%)	45 (73%)	0	62 (100%)

P = 0.007

Table 4 shows the tabulated data above. Most of the respondents who received parental support had moderate learning motivation, as many as 32 respondents. From the results of the Spearman statistical test, it was found that p = 0.007 with a significance level of p > 0.05, which means H1 is rejected or there is a significant relationship between parental support and student learning motivation in online learning.

Collaboration between teachers and parents in assisting children's learning during a pandemic is very necessary. Supported by school age children still do not fully have a sense of full responsibility and independence in learning. If parental support is not done well then students have difficulty understanding the learning material. Parental support or parenting can affect learning motivation. The better parental support, the higher the student's motivation to learn.

According to Pantan and Benjamin (2020), parents have a role or function including educational functions, economic functions, and recreational functions. The educational function is that the family is the first place in the most basic educational process for humans. In this case, parents take the time to assist when learning activities take place, assist in doing assignments and motivate students. Economic function, parents provide support facilities that support the online learning process such as providing facilities in the form of gadgets and data packages to access the internet. Recreational function, parents must be able to create and provide a conducive, comfortable, fun, and loving atmosphere.

With parental support, children feel cared for and needed by their parents so that in return the child will give the best for his parents which is shown through high learning motivation.

Relationship between Parental Support and

Student Self-Efficacy in Online Learning

Table 5. Cross tabulation between parental support and student self-efficacy in online learning

No	Parental support	Self-efficacy			Total
		High	Moderate	Low	
	Good	3 (20%)	12 (80%)	0	15 (100%)
	Sufficient	5 (13%)	35 (85%)	0	41 (100%)
	Less	0	5 (83%)	0	6 (100%)
Total		8 (13%)	52 (84%)	0	62 (100%)

P = 0.087

Table 5 shows the tabulated data above. Most of the respondents who received sufficient parental support had moderate self-efficacy as many as 35 students. From the results of the Spearman statistical test, it was found that p = 0.087 with a significance level of p > 0.05, which means that H0 is accepted or there is no significant relationship between parental support and student learning motivation in online learning.

This is because at the stage of late childhood development (6-12 years), students are more influenced by their peers than their parents, making it difficult to follow their parents' directions. If students have difficulty in learning, they will prefer to discuss with classmates and help each other while during the current covid-19 pandemic, it is not possible for them to have direct discussions

with their peers. There are several factors that influence self-efficacy in individuals, including culture, gender, nature of the task at hand, external incentives, status, or role of children in the environment, information about their abilities. It can be concluded that parental support has no effect on children's self-efficacy because social support can not only be provided by parents but can be provided by peers, teachers and factors that can affect self-efficacy.

CONCLUSION

Parental support can affect children's learning motivation. The better the parental support, the higher the child's motivation to learn. The results of this study indicate that there is a significant relationship between parental support and children's learning motivation. However, in contrast to parental support and student self-efficacy, the results of this study indicate that parental support has no effect on children's self-efficacy because social support can not only be provided by parents but can be provided by peers, teachers and other factors that can affect self-efficacy.

Suggestions for further researchers are expected to be able to conduct research on the analysis of factors that can affect student motivation and self-efficacy during online learning.

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THERAPEUTIC COMMUNICATION IN THE RECOVERY OF PEOPLE WITH MENTAL DISORDERS DUE TO THE COVID-19 PANDEMIC

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ABSTRACT

The pandemic of COVID-19 has affected both physical and mental health. Given that 20% of the population in Indonesia is at risk of developing mental problems, the arrival of a pandemic should be anticipated. The number of people seeking mental health treatment has increased. Numerous mental diseases, including anxiety disorders, bipolar disorder, post-traumatic stress disorder (PTSD), depression, and schizophrenia, must be treated appropriately at available health facilities. Therapeutic contact between medical staff such as doctors, nurses, and family caregivers is critical to a person's recovery from this mental disease. As with interpersonal communication, therapeutic communication must consider factors that may impact its success in helping persons with illnesses heal, including openness, empathy, support, and equality. The therapeutic communication model entails nurses and clients or patients engaging in a communication process that begins with building trust, progresses through problem-solving with constructive coping, comprehension of the client's condition, expression of gratitude, and verbal and non-verbal communication. Therapeutic communication will aid in the healing process of those suffering from mental illnesses brought on by uncertainty and the transition to new habits in human interactions.

Key words: covid-19 pandemic, interpersonal communication, people with a mental disorder, therapeutic communication

INTRODUCTION

In Indonesia, the prevalence of mental disorders is currently 1 in 5, implying that approximately 20% of the population is at risk of developing mental diseases. The research indicates a sizable figure, as 20% of Indonesia's 250 million people are at risk of developing mental health disorders. Meanwhile, professional human resources for mental health professionals continue to be in short supply. Just 1,053 psychiatrists are working in our mental health services. That is, a single psychiatrist serves around 250 thousand residents. The problem impedes Indonesia's efforts to improve mental health services (Widyawati, 2021).

According to the health ministry, there were 277,000 mental health cases in Indonesia as of June 2020, amid the covid-19 pandemic. The number of mental health cases doubled compared to last year, when just 197,000 persons were diagnosed (Susanto, 2020). According to the director-general of disease prevention and control at the Indonesian Ministry of Health, mental diseases such as anxiety disorders grew by 6% during this pandemic, while depression increased by 6.5 percent. Individuals who have this mental disease are between 15 and 50. Most of them suffer from modest mental illnesses (Santoso, 2021). The increase in mental

health cases during the depression pandemic was attributed to the community's limited access and social problems and the necessity to stay at home and lose their employment as a result of layoffs.

The Association of Indonesian Mental Medicine Specialists conducted a mental health survey. There are 1,522 respondents, 76.1 percent of whom were women aged 14-71 years, and discovered that 68 percent of respondents were anxious, 67 percent were depressed, and 77 percent had experienced psychological trauma (Association of Indonesian Specialist Doctors in Mental Medicine, 2021). It demonstrates that mental health is a significant issue throughout this pandemic. Additionally, this illness affects the working-age population, impairing labor productivity. Numerous further research has demonstrated the pandemic's detrimental effect on the sufferer's mental health (P2P Ministry of Health Indonesian Republic, 2020). The covid-19 pandemic has had a tremendous impact on the well-being of the Indonesian people, particularly on their mental health (Salma & Nunung, 2020).

The new normal is a scenario that aims to expedite the health and socioeconomic impacts of covid-19. In the modern-day, society faces numerous obstacles, one of which is adapting to new habits. This new situation can result in stress due to the inability to adjust. Adapting to a new

scenario is unique to each individual, depending on their perception and capacity to accept the situation. Making a behavior a habit takes time for each individual.

Three central government strategies regulate the administration of covid-19: health management, social safety net aid, and economic stimulus. The government's health policy has centered on providing medical devices, health facilities and infrastructure, physician incentives, and the cost of treating covid-19 patients. Meanwhile, the pandemic's impact on mental health is not the primary focus of health management policy. During the pandemic, the government prioritized physical health over mental health. Prioritize mental health and physical wellness. Both, however, play a critical part in a person's life and are inextricably linked. A person's mental health will affect their physical health. Mental health problems will result in mental illnesses and an increased chance of getting other acute diseases.

Communication is critical in treating mental illness by medical workers, psychiatrists, and nurses. Additionally, caregivers of patients with mental problems must be concerned about communication. To overcome psychological diseases and enhance emotional conditions, communication between psychiatrists and patients and between caretakers and people with mental issues is necessary. Therapeutic communication is interpersonal communication, specifically between two or more people using face-to-face or face-to-face communication.

This article will discuss how therapeutic communication can aid in the recovery of individuals suffering from mental illnesses due to the Covid 19 pandemic. The goal, effectiveness, and model of therapeutic communication are discussed.

People With Mental Disorders

The individual is conscious of his abilities, capable of overcoming obstacles, capable of fruitful work, and capable of contributing to the community. The individual is aware of his powers, capable of overcoming barriers, capable of worthwhile work, and contributing to the community. Three distinct categories exist for a person's mental health status, namely:

(1) Individuals who are mentally ill

Individuals who struggle with physical, mental, or social challenges and growth, development, and quality of life are at risk of developing mental disorders.

(2) Individuals suffering from mental illness

Individuals who have disturbances in their thoughts, conduct, and feelings exhibit a constellation of symptoms and severe behavioral changes, resulting in pain and impediment to carrying out their primary tasks.

(3). Severe mental illnesses.

Mental diseases are characterized by an impaired ability to judge reality or a lack of insight. Hallucinations, illusions, delusions (an irrational or unreasonable belief), insufficient thought processes, cognitive skills, and odd behavior are all symptoms (Indrayani, YA & Wahyudi, T, 2019).

Individuals with mental disorders suffer from mental illnesses that alter their thinking, feelings, and daily behavior. Individuals suffering from mental problems may also find it challenging to engage with others due to their symptoms. On the other hand, individuals with mental issues can lead everyday lives with the assistance of regular medication or counseling. However, many patients with mental diseases continue to go untreated, and their illness deteriorates.

Among the disorders that people with mental illnesses encounter are the following:

1. Disorders of anxiety

Those who suffer from anxiety disorders will continue to feel nervous and restless and will struggle to control these emotions. These sensations are triggered by minor events or perhaps by nothing at all.

Generalized anxiety disorder, social anxiety disorder, panic attacks, and phobias are all sorts of anxiety disorders that persons with mental illnesses can encounter.

2. Obsessive-compulsive disorder (OCD)

OCD has difficulties, if not complete inability, to see filthy and unclean objects. They may have significant symptoms that make it challenging to conduct activities or engage with others.

3. PTSD (post- traumatic stress disorder)

PTSD occurs when an individual witnesses or experiences an unpleasant event, such as a natural disaster, violence, or sexual harassment. Individuals who have PTSD recall the events that traumatized them frequently. Additionally, victims of this illness frequently experience specific symptoms, such as difficulty sleeping, restlessness, fear, guilt, or panic, when they see, hear, or merely think about the events that precipitated the trauma.

4. Personality abnormalities

Individuals with personality disorders frequently exhibit patterns of thought and conduct that are deemed abnormal, unusual, or inconsistent with the rules and conventions of their surroundings. Antisocial personality disorder, borderline personality disorder, obsessive-compulsive personality disorder, and narcissistic personality disorder are among these personality disorders.

5. Bipolar disorder

Mood swings in patients with bipolar disorder are classified into two phases: the manic phase and the depressed phase. When people with bipolar disorder are in a manic phase, they may feel elated, extremely excited or high-spirited, talk or overeat, have difficulty sleeping, and are unable to remain still. However, as

sufferers approach the depressive phase, they may feel depressive symptoms. Each of these phases can last a few hours, a few weeks, or even several months. Without treatment, those with mental problems who also have bipolar disorder are at significant risk of suicide and engaging in dangerous behaviors such as drug and alcohol use.

6. Depressive disorder

Depression is one of the most prevalent mental disorders among persons with a mental illness. According to WHO statistics, around 264 million people worldwide suffer from or have suffered from depression. Individuals with mental diseases who suffer from depression frequently exhibit various symptoms: lethargy and lack of enthusiasm for life, difficulties sleeping or excessive sleeping, aversion to food or excessive eating, reduced sexual desire, grief and guilt, and helplessness. Without obvious justification. If depression is severe, individuals with mental problems may wish to commit suicide or have attempted suicide.

7. Schizophrenia

Schizophrenia can manifest in hallucinations, delusions, odd thought patterns, behavioral abnormalities, and restlessness or anxiety. Without therapy, those with mental problems with schizophrenia frequently struggle to engage with others and may even be restrained due to their threatening behavior. However, individuals suffering from mental diseases such as schizophrenia can lead everyday and productive lives (The British Psychological Society). Psychiatrists' Royal College, 2011)

Therapeutic Communication

Therapeutic communication entails the counselor and client developing a personal relationship through shared learning experiences to improve the client's emotional experience (Stuart, 2013). The term "therapeutic communication" first appeared in PubMed-indexed literature in psychotherapy, psychiatry, sociology, medicine, rehabilitation, and nursing as early as 1964 to 1965. (Sharma & Gupta, 2022). Since then, therapeutic communication has spread to various domains, most notably healthcare. Additionally, the literature uses patient-centered communication and therapeutic relationships interchangeably with therapeutic communication.

Extensive research has established that therapeutic communication provides many benefits. Therapeutic communication was primarily utilized to arrange interactions between physicians, nurses, mental health professionals, and social workers in the recent past (Moudatsou et al., 2020). Therapeutic communication is advantageous in a range of professions. These include improving diagnostic accuracy, comprehending the patient's mood and selecting the most appropriate

therapeutic measure, working with patients on decision-making, and better identifying the patient's attitudes and concerns about diagnosis and treatment alternatives.

Individuals with mental illnesses who encounter anxiety disorders, depression, or schizophrenia as a

result of the covid-19 epidemic should get professional assistance from a psychiatrist promptly. This mental illness will impair one's quality of life and productivity. If left untreated, it can be hazardous to your health and the health of others. People with mental disorders has the ability to cause injury to themselves, and suicide can also harm to others without the perpetrator being aware. Therapeutic communication facilitates the rehabilitation process by fostering interpersonal dialogue between psychiatrists and patients, psychologist and clients, caregivers and individuals with mental disorders. Meanwhile, caregiver families will rely more on interpersonal interactions to assist.

According to Rogers in Susanti (2020), therapists must exhibit three characteristics in order to stimulate growth and enable individuals to develop into their real selves:

1. Consistency (Genuineness or Realness)

Consistency is defined as the therapist being honest, authentic, and precise with their clients. Consistency is a phrase that refers to a person's inner experience and outer presentation being in sync. The therapist establishes their trustworthiness, which contributes to the development of a positive therapeutic relationship with the client. Additionally, it acts as a role model for customers, encouraging them to be themselves and express their thoughts and feelings freely.

2. Unconditional Positive Regard (Acceptance and Compassion)

Unconditional positive regard entails that therapists genuinely care about their patients and place no importance on their views, feelings, or behaviors. Each client is unreservedly accepted and valued for who they are. Clients need not fear criticism or rejection from the therapist.

3. Appropriate empathic comprehension (An ability to deeply grasp the subjective world of another person).

Accurate empathic comprehension refers to the therapist's capacity to accurately and compassionately comprehend their client's experience and feelings. Recognizing the subjective nature of each client's experience, the therapist strives to view events through the client's particular lens. A necessary component of genuine empathic empathy is for the therapist to exhibit their understanding of the client's experience by reflecting on it. It encourages clients to be more self-reflective, increasing self-awareness.

Thus according to Rogers, empathy enables clients to (1) pay attention to and appreciate their experiences; (2) reframe prior experiences; (3) alter their perspectives on themselves, others, and the world; and (4) enhance their confidence in making decisions and following out such a course of

action. Watson (2002) argues that 60 years of research have shown empathy as the most powerful predictor of client improvement in therapy.

Therapeutic Communication as Interpersonal Communication

Therapeutic communication is a deliberate conversation aimed at healing the patient by assisting the patient in clarifying and alleviating the burden of feelings and thoughts (Uripni in Kusuma, 2016). However, this awareness was increased by including caregivers who engage and speak with family members who are patients in clinics or mental hospitals. Caregivers who doctors or mental health nurses have already instructed will be able to use therapeutic communication to assist those who are dealing with mental illnesses.

Interpersonal communication is a type of therapeutic communication. According to DeVito (2019), interpersonal communication occurs between two individuals or a small group of individuals. Interpersonal communication focuses on continuous and personal communication (instead of transitory and impersonal communication); it entails communication between or among intimates or those in close relationships—friends, romantic partners, family, and coworkers.

Interpersonal communication takes place face to face due of the great possibility of feedback. There is interaction between them, and they can influence one another, as well as give and receive impact. The influence happens at the cognitive level of knowledge, thrilling emotion, and behavioral behavior. The more interpersonal communication develops, the more frequent feedback and interactions occur, as the persons involved switch from message recipient to message giver, and vice versa, from message sender to message recipient (Hardjana, 2007: 88).

As said by Gamble and Gamble (2005: 17), interpersonal communication can assist in determining who a person is, satiating the need for personal touch, and affecting a person's and others' attitudes and behaviors. Interpersonal communication is deemed effective when the communicant finds the meeting pleasant. Following Miller in Rakhmat (2013: 117-118), comprehending interpersonal communication needs an appreciation for the symbiotic relationship between communication and relational development: Communication has an effect on the development of relationships, and relationship development has an effect on the type of communication through time (simultaneously). between parties involved in a relationship

A notion central to the study of communication is the interpersonal interaction. Interpersonal relationships, as defined by Littlejohn (2007:234), areaset of expectations between two persons (its members) regarding their behavior based on their interaction pattern. In

interpersonal communication, interpersonal relationships are unavoidable.

Self-disclosure occurs in interpersonal relationships (openness in relationships). It is crucial to open up; disclosure is an essential component of interpersonal relationships. Self-disclosure is the deliberate sharing of significant facts about oneself to others that would usually stay unknown. Adler & Rodman (2012: 215) assert that transparency is critical in interpersonal relationships. Openness is a deliberate process of disclosing facts about oneself that is essential/impactful yet usually is unknown to others.

According to a humanistic perspective (Devito, 2019), interpersonal communication efficacy fit the following elements:

1) Openness: The quality of openness consists of three components: (1) Effective interpersonal communicators are incredibly candid with the individual with whom they are interacting; (2) effective communicators are always candid with all stimuli that come into contact with the individual. Individuals who remain silent, uncritical, and unresponsive get bored of conversation participants. We want people to consistently act openly and honestly in response to what we say. (3) Involves emotions and thinking processes.

2) Empathy is the capacity of a human to comprehend what another individual is experiencing at a given time from the other individual's perspective.

3) Supportiveness (attitude of support) is a very effective form of interpersonal communication, specifically a connection in which both parties have an attitude of mutual support. Open communication and empathy cannot always occur in a supportive environment. We demonstrate how descriptive attitudes with supporting attitudes are not evaluative.

4) Equality: interpersonal communication can be enhanced if the environment is equal. In other words, there must be an implicit recognition that all parties are equally valuable and necessary and that both parties have something critical to contribute.

The Application of Therapeutic Communication in the Recovery of Individuals With Mental Disorders As a result of the Covid-19 Pandemic

Therapeutic communication can assist nurses and physicians in correctly diagnosing diseases and providing appropriate therapy for patients classified as having mental disorders. According to Kusuma's (2016) research on therapeutic communication between nurses and schizophrenic patients at the Grhasia Mental Hospital in Yogyakarta, therapeutic communication between nurses and schizophrenic patients was critical for patient healing. Nurses and patients

collaborate to accomplish goals through positive interactions. Among other things, therapeutic communication aims to support the patient in clarifying and alleviating the burden of feelings and thoughts and taking appropriate action on behalf of the patient.

The surge in people suffering from mental illnesses due to the covid-19 pandemic demands additional care from doctors and mental health workers. Therapeutic Communication becomes a method of healing for them. However, communication with people with mental problems is not comparable between nurses and patients due to patients' low communication skills. According to Fasya and Pujasari (2018), therapeutic communication messages must address a person's psychological state and demonstrate an understanding of the client/status. As a result, therapeutic communication must pay close attention to the tactics used in its delivery to ensure that it is understood and accepted by the client.

Therapeutic communication is most effective when mutual trust between medical staff or caregivers and those recovering from mental disorders. The established conviction will create a sense of safety and contribute to creating a therapeutic environment. One strategy to earn clients' trust is to contact them regularly and briefly.

Fasya and Pujasari (2018) propose the following therapeutic communication model based on their research findings:

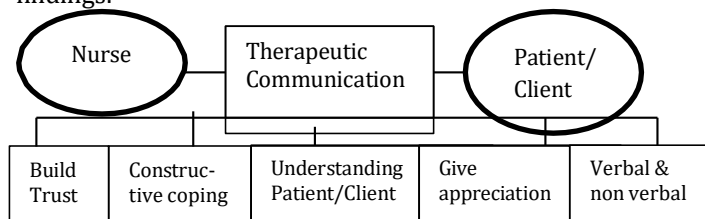


Figure 1. Therapeutic Communication Model

Source : Fasya & Pujasari (2018)

Establishing trust enables nurses to more quickly identify client problems and learn about the client's stressors; they can then provide clients assistance, positive solutions, or constructive coping strategies. They were problem-solving exercises designed to motivate individuals to recover quickly and resolve conflicts constructively. Whereas trust is not difficult to develop in the caregiver's care and assistance of persons with mental disorders at home, a trust may be formed for the caregiver to carry out the following stages of therapeutic communication.

The client's state is determined by attempting to provide all of the client's requirements. Continuous provision of services for clients' fundamental requirements fosters trust since the client perceives that someone is always paying attention and caring for him. Understanding a client's situation entails developing empathy for the client.

An attitude of gratitude or appreciation will accelerate the patient's recovery since it stimulates

the patient's good ideas for healing. By comprehending the client's state, the nurse will be able to communicate effectively and appropriately for the client's position—appreciation in the form of client compliments for a job well done. Sincere appreciation reinforces a sense of worth and caring in clients. Even the tiniest expression of thanks to the client will push him to continue developing and see himself more favorably.

Therapeutic communication focuses on both verbal and non-verbal communication. Because verbal communication is critical, nurses must pay close attention to their usage of sentences. Consider the following: explaining briefly and clearly, using client-friendly terminology, paying attention to speech intonation, utilizing denotative and connotative terms, paying attention to speech pace, and picking the appropriate time (Rhoudonah, 2019: 119).

Some of the therapeutic communication techniques, according to stuart (2013), include: listening attentively, showing acceptance, asking related questions, stating the results of observations, offering information, giving appreciation, offering oneself, allowing the client to start a conversation, allowing the client to describe his perceptions, reflections, and humor.

Non-verbal communication pays attention to voice intonation and action cues like facial expressions, body movements, and body postures (maintaining an open attitude), object cues, the presence of distance or space when communicating face to face, as well as the company of touch, maintaining eye contact and smiling at the right time (Fasya &Pujasari, 2018).

CONCLUSION

The high prevalence of mental disorders in Indonesia requires immediate attention from medical professionals and the general public. The pandemic of covid-19 that is currently devouring the world has raised the prevalence of mental illnesses among the productive age group, reducing their production. Managing this illness effectively needs the supply of medications, medical professionals, health care facilities, and communication engagement.

Therapeutic communication is critical to assisting individuals with mental disorders in regaining a high quality of life and work productivity. Medical personnel and caregivers can engage in therapeutic communication to promote the community's mental health. Therapeutic communication, as a form of interpersonal communication, must take into account factors that affect its effectiveness. The communicator must also grasp the patient or client's condition as a

communicant that is distinct from ordinary people and assess the appropriate use of verbal and non-verbal communication. Establishing trust and expressing gratitude are necessary components of effective therapeutic dialogue.

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BULLYING ACCORDING TO COMMENTATORS (HERMENEUTICAL STUDIES)

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ABSTRACT

Bullying is a term that is often used to refer to acts of violence committed by a group of teenagers against other teenagers. As we can see in various information media such as newspapers and television, news about bullying is often reported. Bullying cases that usually appear in the media include bullying, various forms of physical violence such as beatings, and rape. The main focus of social hermeneutics is breaking through the authority of the positivism paradigm in the social sciences and humanities. The discussion of Hermeneutics in general is a problem of philosophy of science (more precisely, a problem of methodology), not a metaphysical problem that questions reality. Hermeneutics is a way of looking at understanding reality, especially social realities such as historical and traditional 'texts'. Regarding the problem of bullying that often occurs in the community, it should be minimized and even eliminated by explaining to the public that bullying is strongly opposed by religion. Based on one of the sources that may represent the many arguments regarding bullying is al-Hujurat: 11 above.

Key words: bullying, hermeneutics, social

INTRODUCTION

Bullying is a term that is often used to refer to acts of violence committed by a group of teenagers against other teenagers. As we can see in various information media such as newspapers and television, news about bullying is often reported. Bullying cases that usually appear in the media include bullying, various forms of physical violence such as beatings and rape.

When you look at what is happening in everyday life, bullying is always identified with juvenile violence and delinquency. In fact, bullying actually takes various forms, so it's not just acts that smell like violence that can be categorized as forms of bullying. Sometimes, the little things that we do to other people can be called acts of bullying if there is an inconvenience to that person. The term bullying is actually not only aimed at teenagers and all their behavior. Adults are actually included as the subject and object of bullying.

However, the act of bullying in fact is more related to teenagers and is most visible during the teenage years itself (Time et al., 2011). Bullying by adults is often a form of their habit of bullying in their teens. In fact, bullying that is often done by children in their teens can be a

provision for them in their adult years to take part in crimes at a higher level.

Cases in the world of education will still occur throughout 2021. The Indonesian Child Protection Commission (KPAI) noted that throughout 2021 there were 17 cases involving students and educators. However, this bullying case does not only occur in the unit environment. There are also those who come from outside the education unit but involve students, such as the case of brawls between students.

The following are details of bullying cases that occurred throughout 2021 based on data collection carried out by KPAI from January 2 to December 27, 2021; The area of the incident covers 11 provinces, among others; West Java, East Java, Special Region of Yogyakarta, DKI Jakarta, Banten, Riau Islands, Southeast Sulawesi, North Kalimantan, NTT, NTB, South Sumatra, while for districts/cities include; Bekasi, Bogor City, Bogor Regency, Bandung, Karawang, Kulonprogo, Bantul, Malang, South Jakarta, South Tangerang, Batam City, Bau Bau, Tarakan City, Alor, Dompu, Musi Rawas.

Meanwhile, the types of cases are dominated by student brawls with details; SARA-based violence, 1 case of bullying, 6 cases of student brawl, 10 cases,

Commissioner for education Retno Listyarti during a press conference on KPAI in early 2019 noted the number of cases of children in the education sector.

The perpetrators of violence in education consist of peers, teachers, parents, coaches, and school principals. Cases of violence in schools were dominated by peers as many as 11 cases. Meanwhile, there were 3 cases of teacher actors and 1 case of supervisor, principal, and parents of students. The majority of the victims were children, only 1 case of the victim was a teacher who was beaten by a student's parents (Friastuti, 2021).

Judging from the facts that exist, bullying is certainly an act that is very worrying, especially in the sphere of adolescent life (Englander, 2020). Unfortunately, until now bullying has become a habit that is deeply rooted in most teenagers. Many of them unknowingly often do bullying even though the form of bullying that is done is not visible to the naked eye. Bullying, especially among teenagers, should be minimized together with the cooperation of the various parties concerned so that it will not have a negative impact on the surrounding environment, including the perpetrator himself.

RESEARCH METHODS

This research is a library research, which examines various books and the results of previous studies that discuss the same theme to obtain a theoretical basis for the problem under study (Sarwono, 2011). The primary source of this research is Tafsri Thobari. To complete the intent and interpretation of the anti-bullying verses, it is equipped with secondary sources in the form of books that also discuss bullying including the book of Shohih Muslim and other sources that support this research.

Analysis of research data using content analysis techniques (content analysis) which according to Fraenkel, Wallen, and Hyun goes through the following steps: 1) Determine the research objectives to be achieved. 2) Formulate the meaning of important terms in detail. 3) Determine the units to be analyzed. 4) Collect relevant data. 5) Building a rational concept for or showing the relationship of one term to another, or one concept to another that supports the achievement of research objectives. 6) Formulate category coding. 7) Planning conclusions (Fraenkel, Wallen, and Hyun, 2007).

RESULTS AND DISCUSSION

A. Definition of hermeneutics

Hermeneutics comes from the Greek word: *hermeneuin*, translated to interpret, the noun *hermeneia* means interpretation. In the ancient tradition the word *hermeneuin* is used in three meanings, namely to say, to explain, and to translate. Thus, the act of interpretation

refers to three main things: an oral recitation, a reasonable explanation (a reasonable explanation), and a translation from another language (a translation from another language) or expressing. According to the term, Hermeneutics is usually understood as 'the art and science of interpreting especially authoritative writings; mainly in application to sacred scripture, and equivalent to exegesis, There are also those who understand that Hermeneutics is a philosophy that decides its field of study on the issue of understanding to texts, especially scriptures that come from periods, times, places and social situations that are foreign to the readers (Muslih & Zahri, 2004).

In its development, Hermeneutics has several discussions. Josep Blicher divides the discussion of Hermeneutics into three, namely Hermeneutics as a methodology, Hermeneutics as philosophy and Hermeneutics as criticism, while Richard E. Palmer described the development of Hermeneutic thinking into six discussions, namely Hermeneutics as a theory of interpretation of the scriptures, Hermeneutics as a method of physiology, Hermeneutics as a linguistic understanding, Hermeneutics as the foundation of socio-cultural science, Hermeneutics as a phenomenology of *dasein*, and Hermeneutics as a system of interpretation (Muslih & Zahri, 2004).

B. Hermeneutics as a social science approach

The main focus of social hermeneutics is breaking through the authority of the positivism paradigm in the social sciences and humanities. The discussion of Hermeneutics in general is a problem of philosophy of science (more precisely, a problem of methodology), not a metaphysical problem that questions reality. Hermeneutics is a way of looking at understanding reality, especially social realities such as historical and traditional 'texts'.

According to Dilthey, hermeneutics is basically historical in nature, this means that the meaning itself never 'stops at one time', but always changes according to historical modifications. If so, then interpretation is like a liquid, always changing, there will never be a canon or law for interpretation. The history of the Indonesian nation will not be able to be written down once and will continue, but will always be rewritten by each generation. Perhaps what one historian calls 'dark times' will not be called that by another historian in the next generation, who may use a different benchmark (Sumaryono, 1999).

Hermeneutics is an attempt to understand texts, including texts related to Islamic law, which come from the past. The dialogue that occurs in reading the text in the hermeneutic version involves understanding three elements at once: the text, the writer, and the reader (Rizal, 2011). In Islam, hermeneutics is known as *Tafsir*. Within Islam itself there are methodological problems that have occurred for a very long time, dwelling on legal issues, legal sources, the language of *Ijtihad* and *tarjih*. In Christianity, Hermeneutics is called narrative analysis,

which is a method for understanding and communicating biblical messages that are in accordance with the form of stories and personal testimonies, something that is characteristic of scripture and a fundamental model of communication between humans. Therefore, the proclamation of the Christian faith is basically the same as a series of stories that tell about the life, death and resurrection of Christ as narrated by the scriptures and recounted in the form of stories (Rizal, 2011).

Bullying is the use of force, coercion, hurtful teasing or threat, to abuse, aggressively dominate or intimidate. The behavior is often repeated and habitual. One essential prerequisite is the perception (by the bully or by others) of an imbalance of physical or social power. This imbalance distinguishes bullying from conflict. Bullying is a subcategory of aggressive behavior characterized by the following three criteria: (1) hostile intent, (2) imbalance of power, and (3) repetition over a period of time. Bullying is the activity of repeated, aggressive behavior intended to hurt another individual, physically, mentally, or emotionally (El-Sahar & Sopeah, 2019).

C. Arguments about bullying in hermeneutics review regarding the issue of bullying, islam views that

this is strictly prohibited as stated in the following Al-Quran Surah al-Hujurat verse 11:

"O you who believe, do not let a group of men despise another group, it may be that those who are laughed at are better than them. And don't let a group of women demean other groups, maybe the one who is humiliated is better. And don't be self-deprecating and don't call with titles that contain ridicule. The worst of calls are bad after faith and whoever does not repent, then they are the wrongdoers." (Akhun, 2019)

According to Ibn Kathir in his commentary, Allah SWT forbids us to insult others by belittling and making fun of. As mentioned in an authentic hadith from the Prophet Muhammad, he said: "From Abu Hurairah, that there was a beautiful person who came to the Prophet then said: O Messenger of Allah, I am a type of person who likes beauty, and I look like you see, so I don't like anyone more than me, both in terms of model sandals and treads, is that considered arrogant? The Prophet replied: no, but arrogant is he who rejects the truth and humiliates people." (Albānī, 2002)

It means insulting and belittling people. This act is forbidden, because perhaps that person has a higher position before Allah and is more beloved to Allah than the one who insults. That's why Allah SWT said, "O you who believe, let not a people make fun of other people (because) they may be better than them (who make fun of) and not women. (make fun of) other women (because) it may be that women (who are made fun of) are better than women (who make fun of)" In the text, the prohibition is addressed to men and continued for women. Then Allah SWT said, "And do not blame yourself," that is, do not criticize others. Slanderers or

people who criticize are despicable and cursed people as stated in the following word of Allah SWT: "Woe to every slanderer and reproacher" (Surah Al-Humazah: 1). Al-hamz is reproach with deeds while al-lamz is reproach with words, as His word: "Those who criticize a lot are scattering slander." (Surat al-Qalam: 11). The meaning of the verse above is to belittle and reproach others in an overreaching way to and from while scattering slander and cursing verbally. That's why in this surah, Allah Ta'ala says, "And don't blame yourself." Meaning the words of Allah Subhanahu Wa Ta'ala: "And do not kill yourselves." (Surat an-Nisaa': 29).

Ibn 'Abbas Radhiyallahu 'Anhu, Mujahid, Sa'id bin Jubair, Qatadah and Mughtil Bin Hayyan said, "And do not criticize yourself" meaning that you should not slander each other. Furthermore, Allah says: "And do not like to reproach yourself and do not call with titles that contain ridicule. The worst of calls are bad after faith and whoever does not repent, then they are the wrongdoers." (Umar, 2001)

Imam Ahmad narrated from Abu Jubairah bin adh-Dhahak, he said: "The Word of Allah: "And do not call to call with bad titles," descended for us Banu Salamah." Abu Jubairah continued, "When the Messenger of Allah (SAW) arrived in Medina, at that time everyone had two or three names. Who calls, those names are used. They said, "O Messenger of Allah, indeed he will be angry with that name. Then the verse came down, "And do not call with bad titles" (HR Ahmad). The same hadith was narrated by Abu Dawud (Al-Qurthubi, 1964).

The meaning of the verse above is as bad as bad character and nickname is giving a title with a bad title, as it used to be done during the jahiliyyah period. So (how bad it would be if you did it now that you have converted to Islam, while you understand the evil (Al-Qurthubi, 1964).

The commentator Imam Ath-Tabari explains the problem of demeaning or mocking people or who is better known today as Bullying in his interpretation as follows: "O you who believe, let not a people make fun of other people (because) they may be better than them (who make fun of) and let not women (make fun of) women." "Other women (because) it may be that women (who are made fun of) are better than women (who are made fun of)".

In this fragment of the verse, Imam ath-Tabari breaks it down into four problems:

1. The Word of Allah Ta'ala, "O you who believe, let not a people make fun of another people (because) they may be better than them (who make fun of)" According to one opinion, (meaning better) in the sight of/according to Allah. According to another opinion, (what is meant by the word of Allah): "Better than those (whom make fun of)," is because he already has faith and has embraced Islam in his heart (Jarir, 2000).
2. There is a difference of opinion regarding the reason for the revelation of this verse. Ibn Abbas said, "This verse was revealed to Tsabit bin Qais bin

Shamas who had a hearing loss in his ear. If they preceded him in coming to the Prophet's assembly, the companions always gave him a place when he came, so that he could sit next to him, so that he could hear what he was saying. One day Thabit came when the Fajr prayer with the Prophet - Shallahu 'Alaihi Wasallam- had lasted one rakaat. When the Prophet finished praying, the companions took their seats in the assembly. Everyone took their seat and didn't want to move from there, so no one wanted to make room for anyone else. As a result, people who couldn't find a seat had to stand up. When Thabit had finished his prayer, he stepped over the necks of the people and said, "Spare it, expand it", They then gave him space, until he came near the Prophet. But between him and the Prophet was still blocked by someone, Thabit then said to the person, Expand, The person replied, "You have found a seat, so sit down. Thabit sat behind the man in an annoyed state. He asked, 'Who is this person?'" The companions replied, 'Soul.' Thabit said, 'Oh, the child of the fulanah?' "Tsabit mocked that person with that expression. That is, what was the status during the jahiliyah period. That person became ashamed, so this verse was revealed." Adh-Dhahak said that this verse was revealed to the messengers of Bani Tamim, which was explained at the beginning of the surah. When they saw the condition of the poor companions such as Ammar, Khabab, Ibn Fahirah, Bilal, Shuhaib, Salman, Salim, Abu Hudzaifah's slave, and others, they mocked them. those people. Mujahid said, "The jokes are the rich people make fun of the poor." Ibn Zaid said, "Let not those whose sins are covered by Allah make fun of those whose sins are exposed by Allah. Because perhaps the appearance of his sins in this world is a better thing for him in the hereafter." According to one opinion, this verse was revealed about Ikrimah bin Abi Jahl, when he arrived in Medina in a state of having embraced Islam. At that time, when the Muslims saw him, they would say, "(He is) the son of Pharaoh of this ummah." Ikrimah complained about it to the Messenger of Allah, then this verse was revealed. Globally, one should not dare to make fun of someone else whose condition looks apprehensive, or has a disability in his body, or is not good at communicating with him. Because that person may be more sincere in his feelings and purer in his heart than people whose circumstances are opposite to him. Thus, he has wronged himself, because he has insulted those who are glorified by Allah and humiliated those who are exalted by Allah. Indeed, the Companions are very protective of themselves from such actions. There is even a narration that states that Amru bin Shurahbil said, "If I see someone breastfeeding a puppy, then I laugh at him, then I am afraid that I will do what he does." And Abdullah bin Mas'ud was narrated: "The

- calamity is caused by speech. If I make fun of a dog, I am afraid that it will turn into a dog (Jarir, 2000).
3. Allah Ta'ala says, "And don't let other women (make fun of) other women (because) it may be that women (who are made fun of) are better than women (who make fun of)." Allah mentions women in particular, because mockery is often done by them. Allah Ta'ala said: "Indeed, We sent Noah to his people." (Surah Noah: 1).

The commentators said, "This verse was revealed about two wives of the Prophet Muhammad who made fun of Umm Salamah. Because Umm Salamah tied the two middle parts (body) with Sabibah, which is a white cloth. Something like Sabibah is Sab. After that, he stuck the end of the white cloth down the back of his body, so that he tugged at it. Ayesha then said to Hafshah, 'Look at what he is pulling behind him, It's like a dog's tongue.' This is the mockery of the two wives of the Prophet. Anas and Ibn Zaid, "This verse was revealed about the wife of the Prophet who mocked Umm Salamah because of her short (posture)." According to one opinion, this verse was revealed to Ayesha who gestured with her hand to Umm Salamah, (as if she were saying): "O Prophet of Allah, indeed she is short." Ikrimah quotes from Ibn Abbas: "Verily, Shafiyah bint Hay bin Akhthab came to the Messenger of Allah and said, O Messenger of Allah, indeed these women mocked me, and they said to me: "O Jewish woman, daughter of the Jewish people." Rasulallah SAW then said, Why don't you say: "Verily my father is Harun, my uncle is Moses, and my husband is Muhammad." Allah then revealed this verse" (Jarir, 2000).

4. In Sahih At-Tirmidhi there is a hadith narrated from Ayesha. Aisha said, "I demonstrated the actions of someone to the Prophet SAW, then he asked about what made me want to imitate the actions of that person, and that I (do) this and that. I then said, 'O Messenger of Allah, indeed Shafiyah is a woman who' Aisyah gestured with her hand like this. That is, Shafiyah is a short woman. Hethen said, "Indeed you have said a word which if mixed into the sea, surely it will muddy it." (HR Abu Dawud). In Sahih Al Bukhari there is a hadith narrated from Abdullah bin Zam'ah. Abdullah said, "The Messenger of Allah forbade a person to laugh at what comes out of the body. He said, "Why does one of you beat his wife like hitting a stud horse, then he hugs his wife." (Narrated by Bukhari). In Sahih Muslim there is a hadith narrated from Abu Hurairah. Abu Hurairah said, Rasulallah SAW said: "Indeed, Allah does not look at your appearance and wealth, but He looks at your hearts and deeds." (Razak & Lathief, 1991)

This hadith is a great hadith, if based on the hadith above, then one cannot determine the disgrace of another person, when he sees him doing obedience or doing deviation. Because it may be a person who likes to do good deeds, but because

Allah knows that in his heart there is a despicable quality, then his good deeds become invalid because of the despicable nature. It is also possible that the person we see likes to commit sins and disobedience, but because Allah knows that in his heart is a commendable nature, then Allah forgives his sins. Thus, amaliyah is only a sign that is uncertain, not a definite proposition. Based on that, we should not overdo it in glorifying people we see doing righteous deeds, nor should we insult a Muslim who we see as doing bad deeds. In this case, what should be humiliated and reproached is the bad nature and not the person. Think about it, for it is a detailed hypothesis.

CONCLUSION

Thus a brief review of hermeneutics when simplified hermeneutics comes from Hermeneutics derived from the Greek word: hermeneuin which means to interpret. In its development, Hermeneutics has several discussions. Josep Blicher divides the discussion of Hermeneutics into three, namely Hermeneutics as a methodology.

The main focus of social hermeneutics is breaking through the authority of the positivism paradigm, in the social sciences and humanities. The discussion of Hermeneutics in general is a problem of the philosophy of science (more precisely, a methodological problem), not a metaphysical problem that questions reality. Hermeneutics is a way of looking at understanding reality, especially social realities such as historical and traditional 'texts'.

Regarding the problem of bullying that often occurs in the community, it should be minimized and even eliminated by explaining to the public that bullying is strongly opposed by religion. Based on one of the sources that may represent the many arguments regarding bullying is al-Hujurat: 11 above.

From the explanation above, it can be concluded that although some commentators have different ages and backgrounds, they all agree that bullying is prohibited based on Surah al-Hujurat verse 11.

This simple paper may still have shortcomings and is far from perfect, it is because of the author's own shortcomings. Therefore, readers are expected to submit suggestions and criticisms as improvements for further writing.

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MANUFACTURING SYSTEM IMPROVEMENT USING LEAN-DMAI: A STEEL BILLET CASE INDUSTRY APPLICATION

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ABSTRACT

Every Company is required to preserve and increase the quality of the products to win the business competition. As a major material maker of automotive components, PT. JMS has several types of products that are introduced among the wider community both domestic and international. In order to increase the competitive advantage, this research applied Lean-DMAI Method in the steel billet production line of this company. The combination of these methods is expected to reduce the number of defective products. Identified waste among seven is the defect. Based on RCA and FMEA, the inner crack is the biggest defect RPN. Which is then pinhole in the second position. SOP improvement in several workstations could reduce the defect by 43%.

Key words: dmai, fmea, lean, seven waste, waste,

INTRODUCTION

The era of modernization was marked by industrialization. Industrialization is the emergence of factories. The emergence of these factories causes every

factory to have competition (Omar et al., 2019). The competition is getting tougher. Increasing this competition, each factory will try to improve its quality and quantity in order to be able to compete with other factories. In its efforts to improve the quality of this every factory will try to meet the needs of its consumers and provide satisfaction to its consumers (Sahi et al., 2022).

PT JMS, is a company engaged in the manufacturing industry of billet steelmaking as the main material of the automotive component. PT JMS has problems with the company's productivity, caused by various obstacles in the form of product *defects* and high processing time. so that to fulfill demands that should be completed on a regular basis, overtime is often required. These are non-value-added activities or waste. In order to further investigate other wastes, in this study, the lean-DMAI approach is used. It is expected that with the reduction of the amount of waste, waste in terms of cost and data is minimized so that it can reduce production costs and rework.

Lean can be defined as a systemic approach or non-value-added activities through radical continuous improvement by methods of streaming products (materials, work-in-process, output) and data using pull systems from domestic customers. And to achieve excellence and perfection (Indrawati & Ridwansyah, 2015).

RESEARCH METHODS

Lean

Lean is a systematic approach to eliminating

waste and replacing processes. This is tried by recognizing and reducing waste with continuous evaluation/improvement (Deshmukh et al., 2022; Santoso & Fudhla, 2018). Lean strives to generate a flow of creation as far as value streams by eliminating all forms of waste and increasing the added value of products to customers (Palange & Dhatrik, 2021).

Lean urges flexibility in creating systems that can adapt quickly to the changing of customers' needs with a streamlined creation system with low inventory. In addition, this method can reduce unnecessary inventory, increase knowledge about the production process, save costs, reduce defects so that the quality can be improved (Hemalatha et al., 2021; Santoso & Fudhla, 2018).

Waste

Waste can be defined as any activity that does not add value in a process to become an output throughout the value stream (Belvedere et al., 2019; Purushothaman et al., 2020). Basically, waste is known in two main categories, namely, Type One and Type Two Waste. Inspection, sorting, and supervision activities are categorized as Type One. In the long run, "Type One" should be eliminated or reduced. Type One Waste is usually referred to as Incidental Activity or Incidental Work which is included in activities that are not value-added work or activity. Type two is often referred to as waste because it is really an improvidence that must be identified and eliminated immediately (Novitasari &

Iftadi, 2020). In this study, 7 types of waste from “Toyota production system” were used. They are;

Overproduction is the production of more than the needs of internal and external customers or producing faster or earlier than the time of internal and external customer needs.

Waiting is a delay that impacts equipment, materials, suppliers, maintenance, or machines that are waiting for maintenance, people, raw materials, equipment, etc.

Transportation is moving people or objects to places that are very far from one process to the following process that can cause the time of material enforcement to increase.

Overprocessing, Processes include bonus processes or work activities that are unnecessary or ineffective.

Excessive Inventories are basically inventories to hide problems and bring up bonus enforcement activities that should not be needed. Inventories also cause extra paperwork, extra space, and extra cost.

Unnecessary Motion is less activity/movement required so that the operator does not add value and slows down the process so that lead time becomes longer.

Defects are scrap, reworks, sales returns, customer dissatisfaction, and designs that do not meet customer needs and accumulate unnecessary features or appear when the final product or between does not meet the requirements.

DMAI

DMAI is a problem-solving procedure that is widely used in quality improvement problems. This method is used to fix a problem that arises in terms of business. There are four basic stages or steps in implementing this strategy, namely Define-Measure-Analyze-Improve (DMAI) where the stages are stages that repeat or form a cycle of quality improvement (Ferreira et al., 2019; Nandakumar et al., 2020; Ranade et al., 2021; Santoso & Fudhla, 2018), the stages are:

Define

In this stage, the goal is to arrange for the process to run successfully. This step aims to describe the process of identifying problems, describing opportunities and goals. It will help identify the steps in the process. The process of identifying problems related to waste that exist in the production process is carried out. seven wastes are identified in the production process based on the depiction of Big Picture Mapping (BPM).

Measure

In this step, identify the waste that occurs in the production process, develop a data collection plan, set a basic graph, create diagrams and graphs to understand what hams do when waste occurs.

Analyze

At this stage, it is all about identifying the root cause of the problem. The tools and techniques in this step are to gather instructions for improvement and

ascertain what is the root cause of the most important problem The process is to lyse waste, namely by using a fishbone chart, a cause-and-effect diagram, root cause analysis, and failure mode effect and analysis to get the source cause of the problem.

Improve

It is the stage of providing a solution to the problem that has been studied. The step is to provide recommendations for improvement by seeing the highest RPN in FMEA shows the priority to be given a solution first.

There should still be another stage, namely control, so that accomplish one DMAIC cycle, the control stage is the application stage on the observed system of the solution formulated in the previous stage. Evaluate the application of the solution. So that it becomes an input on the next development cycle in the define stage (Ranade et al., 2021). Since the ideal control stage requires a long time period, then in this study, the application of the solution proposal does not include the control stage and is carried out for 1 month, so it is included in the improve stage.

Root cause analysis (rca)

Root cause analysis is one of the problem-solving methods used to find the root of the problem. RCA is a concept used to achieve the main cause or trigger of the problem because the root of the problem is the main reason that the problem occurs (Reeves et al., 2019).

Root Cause Analysis is a concept for determining the root cause of a problem (Forsthoffer, 2022). To perform RCA, cause and effect diagrams, fishbone diagrams, or 5 why's can be used.

Failure mode effect analysis (fmea)

FMEA is a structured procedure for identifying and preventing failure mode. FMEA is intended to identify the sum-source and root of a quality problem. A concept of failure is anything that is included in a defect or callousness in the design, conditions beyond the specified specification limits, or changes in the product that cause disruption of the use of that product. Experts have a definition of failure modes and effects analysis; the definition has a fairly broad meaning and when traced more deeply has a similar meaning (Ullah et al., 2022).

FMEA provides a systematic mechanism for solving potential problems in products, systems, and manufacturing processes. FMEA is built on a desire to estimate the risk of failure, control plans to prevent failure, and prioritize remedial action to improve processes (Crawley, 2020). According to (Dietz, 2015) and (Elahi, 2022) FMEA aims to:

1. Identifying processes that could potentially lead to failure
2. Identify the impact of failures that occur
3. Identifying the cause of failure
4. Determine the priority of the action to be taken based on the failure rate

5. Provide improvement recommendation suggestions will be stamped or named according to Grade and specifications. OPC of steel billet production is shown in

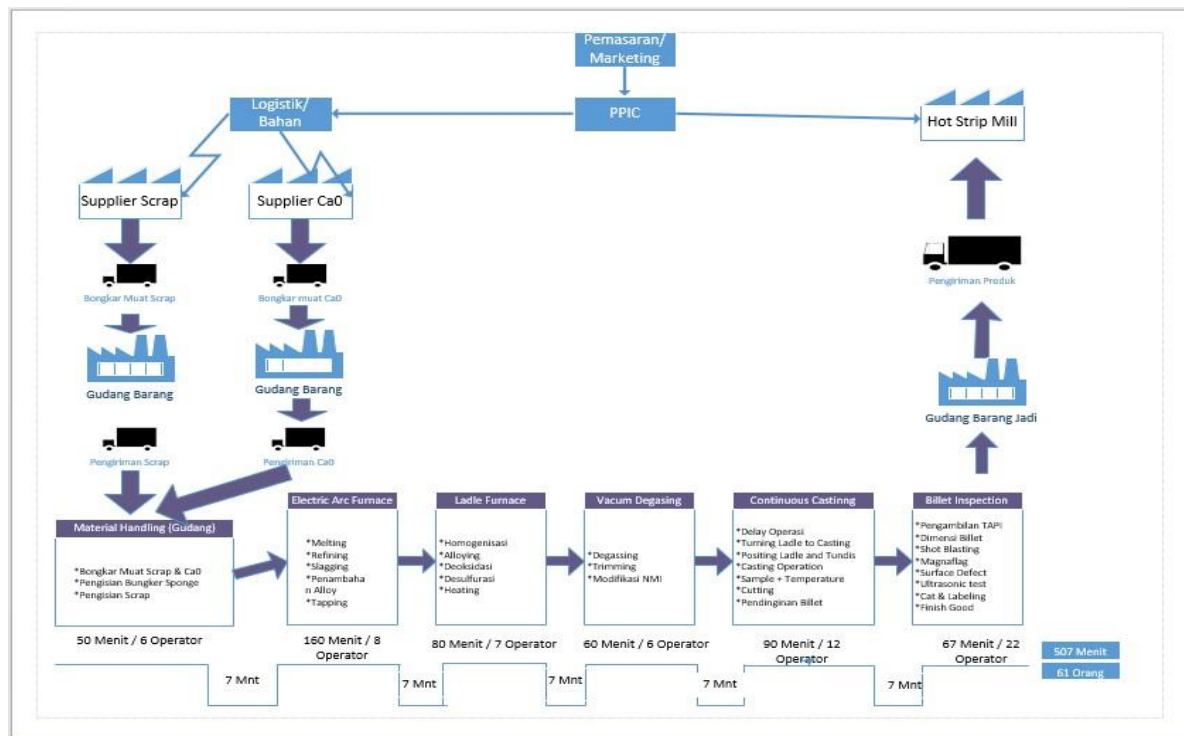


Figure 1. Big picture mapping

figure 3. The inspection or control process at the

RESULTS AND DISCUSSIONS

1. Current system characteristics (define)

All of the production steps of the steel billet are shown in Big Picture Mapping below. This map describes the fabrication system ranging from material orders, demand from customers to finished goods.

Based on the Big picture mapping below, product demand comes from marketing and then forwarded to PPIC. The department will make a production schedule and purchase production material needs. the material is unloaded in the warehouse and then is sent to the material handling scrap filling place, in the EAF mixing of all materials, in the LF stirring chemical composition and alloy addition, in VD The temperature treatment process to reach the target before being sent to CCM, in the CCM Process where the liquid metal is formed to be glued into billets or slabs then cut and the cooling process of the last process in BI Billet inspection process when it becomes an item, then inspection is carried out from the start of the test piece collection stage.

Measurements are made so that the actual goods are clear in the shot blasting machine than will be checked alternately. the visible defects can be lost with the surface grinding process. the next stage is Non Destructive test using ultrasonic. the last stage is labeling. in this process, every product

time of production takes place in the densest 3 parts, namely the first process in LF due to the process of mixing materials, the second process VD there is inspection or control at the temperature so that it must be on target and continued to the spectral laboratory to see the composition. The final inspection process is in BI (*billet inspection*) carried out its process control of finished goods and labeling stages before delivery.

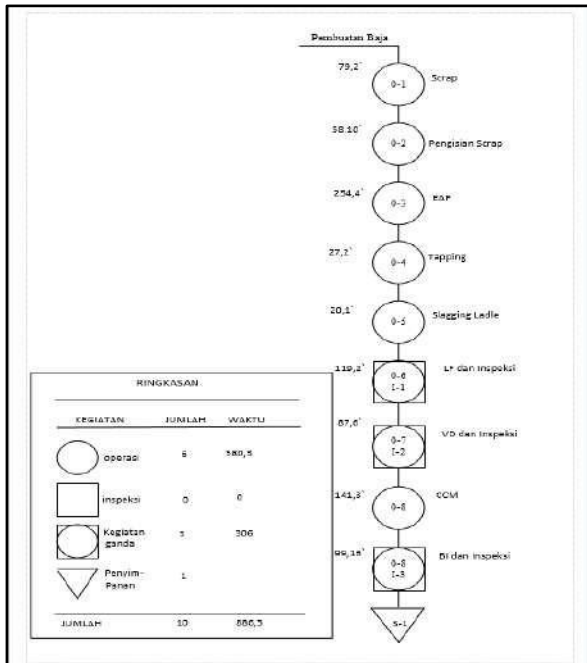


Figure 2. OPC (Operation Process Chart)

Seven wastes observed in PT JMS are defined as follows:

- Overproduction**
There is no excessive product. The output produced is in contact with the number of requests from the customer. Because it is make to order system.
- Waiting time**
In the steel production process, there is no waiting time because in PT. JMS production systems are interrelated so that it is not calculated that waste will occur.
- Transportation.**
In the process of producing steel shipping transportation using cranes so that it is always standby at all times and tools already exist in each company.
- Overprocesses.**
In this process, there are some processes that use that should not be used. as an example of a ladle-to-ladle fluid, this process will increase the time so that the processing time will be longer but it does not include waste because it is in accordance with the procedure of JIS.
- Excess Inventories.**
The inventory occurs when the factory accumulates raw material, Work in Process (WIP), or finish product in the warehouse. This accumulation is reasonable because the production process runs after the production plan is out, among others, inventory sent to the JMS factory has been taken into account based on incoming orders from customers. When the production process begins to run, the

Motion at the JMS plant is not a problem and does not have a significant impact so there is no need to analyze and calculate losses due to further waste. The reason it is said that waste does not have a significant impact, among others, preparatory activities and the end of the process have been done well without any additional movements that are exaggerated by workers.

7. Defect.

This is a problem that occurs in the production process of Steel Billet. The price of billet steel is calculated per tonnage, so every ton of billet steel is very valuable to the company. The defective steel parts will be disposed of and become scrap steel. which is Billet not to specification and eventually discarded this which will be a loss for the company.

2.Measure.

Identification and measurement are carried out at this stage, the waste that occurs is the defect. Here's an explanation of waste defects.

1. Defect.

This is a problem that occurs in the production process of Steel Billet. The price of billet steel is calculated per tonnage, so every ton of billet steel is very valuable to the company. The defective steel parts will be disposed of and become scrap steel. which is Billet not to specification and eventually discarded this which will be a loss for the company.

Table 1. Defects on period January-November 2021

No	Defect			Production Result	Frequency	Proportion (%)
	Pin hole	Scratch	Inner Crack			
1	385	75	7	1.561	576	36,77
2	3.9	1.472	15	8.068	5.2	64
3	2.953	848	19	5.027	3.39	67
4	1.345	1.421	42	4.116	2.08	50,46
5	734	786	8	3.058	1.55	50,59
6	512	581	2	2.197	1.11	51
7	297	15	3	1.114	328	29
8	425	114	21	1.943	634	33
9	2.279	524	148	4.876	2.79	57
10	2.438	456	128	4.574	2.81	62
11	2.25	564	3	4.574	2.81	61

inventory of raw materials is gradually reduced.

6. Motion.

Based on the results of data processing from the table above can be seen in one year the total product defect of 23,283 Pcs with a percentage of 56.64%. the highest defective rate in February. And the most

dominant type of defect is the Pinhole defect 17,526 Pcs per year.

From the Pareto diagram (Figure 3), it can be seen the most dominant defect is the Type Defect Pinhole with a percentage of 73.38% then Scratch 25.98 and Inner Crack 1.64%.

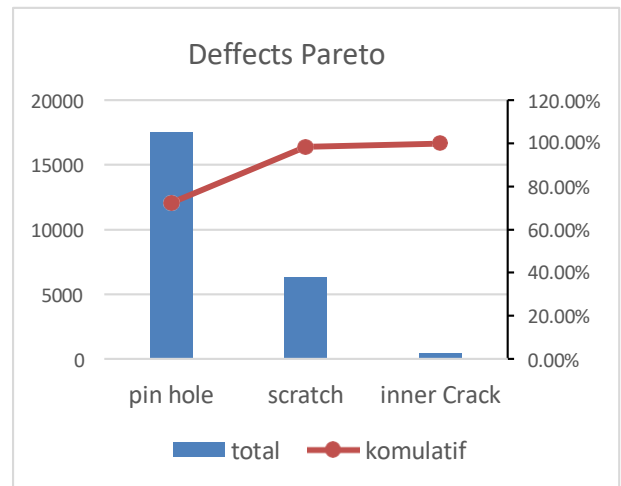


Figure 3. Pareto diagram

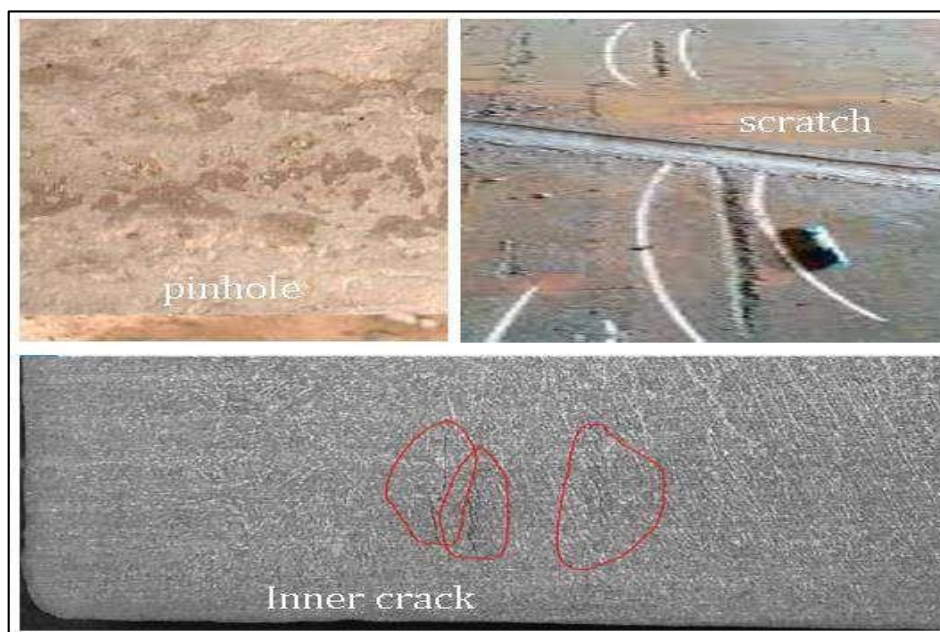


Figure 3. Example of defects

3. Identification of the most influential causes of waste (analyze)

At this stage, identification of the root cause of waste defects is carried out. From the results of RCA, the causes of defects include the following:

1. Pinhole
The main cause of gas trapped in the process because tundish is contaminated with the air of its root is the flow of bubbling gas is less than optimal.
The second cause is dissolved Co₂ gas content due to the dissolved carbon content of the root of the problem is excess mold powder.
2. Scratch

3. Inner Crack
The main cause of tundish temperature differences is that the operator does not understand temperature so the root of the problem is the creation of a temperature checking SOP that is easy to understand. The second cause is due to the large dissolved chemical composition is high because the chemical composition checker does not focus on the work therefore the root of the process has not been made properly.

Table 2. Failure Mode and Effect Analysis

No.	Defect	Potential Failure	Sev.	Couse of Failure	Occ.	Current Process Control	D et	RP N
1	Pinhole	Hydrogen gas is trapped during the process.	5	flow gas bubbling	4	Visual/tool	6	120
		dissolved gas from mold powder	3	uneven distribution of powder on all four sides of the mold	4	Visual/tool	3	36
2	Scratch	Wear of machine	4	The periodic checking system has not been created.	3	Visual	3	36
3	Inner Crack	There is a difference in temperature.	3	Temperature checking SOPs are elusive	5	Visual	4	60
		Many of its chemical compositions are too high.	5	No SOP has been created properly.	5	Visual	6	150

After being found out the root of the problem of sub waste that occurs then further discussions are carried out with the engineering department to determine the severity, occurrence, and detection values to find out the value of RPN. With the aim to know the priority of improvements that will be performed. the FMEA method is used as shown in the table 2.

Based on the FMEA method carried out, it is known that the highest value is in the Inner Crack defect which is due to the number of chemical compositions too high which means the checker operator is less careful when examining the chemical composition and does not follow the existing SOP with RPN 150, then in the defect pinhole the presence of dissolved hydrogen gas with a value of RPN 120 and lastly on the Inner Crack defect. Due to the difference in temperature with the value of RPN 60.

4. Improve.

The next step is to provide improvement recommendations that continue to choose the priority of improvement recommendations using the FMEA tool. Recommendations for improvements will be made in order to overcome some of the waste that occurs.

KEGIATAN	SUBYEK	PENEJELASAN	POIN CEK	FREKUENSI CEK	ALAT/METODE
Penerimaan	Gamping dan batu kapur	Memeriksa Surat Jalan & Test Certificate yang diterima dari warehouse	Jenis material, nomor kendaraan, berat timbangan, packing list dan test certificate	Setiap kedatangan material	Visual
Pengambilan	Gamping dan batu kapur	Mengambil sampel secara acak	3 Tempat secara acak/bisa lebih dari 3 tempat secara acak	Setiap kedatangan material	Visual
Pengujian	Gamping dan batu kapur	Ambil Gamping kemudian masukkan kedalam air	Timbul panas dan hancur	Setiap kedatangan material	Air
Pengujian	Gamping dan batu kapur	Tumbuk gamping hingga lembut kemudian ayak	Lembut kurang lebih seperti tepung	Setiap kedatangan material	Alat tumbuk
Pengujian	Gamping dan batu kapur	1. Timbang cawan kosong (A) 2. Tambahkan 100 gram gamping (B)	1. Catat berat hasil timbangan awal (A) 2. Catat berat sample (B)	Setiap kedatangan material	Timbangan

Figure 8. Proposed SOP

Bubbling gas flow is minimized by the preparation of Work Instruction. The cause of Inner Crack is because many SOPs are not yet appropriate, therefore the proposal of making a clearer SOP to minimize the presence of over-dissolved chemical composition and temperature differences. SOP temperature checking proposed control process is carried out periodically.

From the research conducted using the
concept of lean DMAI, the first improvement

recommendation is to make the new Standard Operating Procedures (SOP) easier to understand and Work Instruction (WI).

The manufacture of SOP in checking chemical composition at this stage aims to ensure the composition of chemicals such as limestone, alloy, and carbon raiser, in order to minimize the occurrence of deep defects that are stuck in billet steel, so that at the time of mixing the composition nothing is dissolved with a compound that exceeds the standard reference.

Figure 9. Proposed Work Instruction

The creation of WI work Instructionon in the manufacture of WI is expected to reduce defect Pin hole caused by gas trapped in during the process or result of reduction of soluble power C, H, O, and N The main cause is the trapping of trapped or dissolved gases or hydrogen. For that WI is a trial or alternative in order to minimize gas trapped during the process. This must be done so that efforts to reduce defect pinholes can be realized. So that the resulting product can meet expectations.

I. TUJUAN
Standar ini trial ini diharapkan untuk mengurangi gas atau hydrogen yang terperangkap da

II. RUANG LINGKUP
Standar ini meliputi proses ijection atau proses bubbling

III. EFEK DARI PENURUNAN BUBLING FLOWRATE

1. Diharapkan slag yang terbuka lebih sedikit
2. Kontak antara lelehan baja dan udara berkurang
3. Kontak CaO dengan S berkurang

Berikut ini adalah rincian trial yang akan dilakukan

Bubbling Flowrate	Hari						
	1	2	3	4	5	6	7
80NL/menit	0	x	0	0	x	x	x
50NL/menit	X	0	x	x	0	0	0

Metode ini diharap kan mampu mengurangi gas atau hydrogen yang terperangkap dengan cara acakyaitu hari pertama menggunakan bubbling dengan 80NL dan hari kedua menurunkan Bubling dengan 50 NL dan seterusnya.

Table 3. Comparison of Conditions before and after SOP and WI applied

Attribute	Defects			Production Result	Frequency	Proportion (%)
	Pin hole	Scratch	Inner Crack			
Monthly Average before applied SOP and WI	1593	361	36	3737	1990	53.2%
applied for a month	1,029	350	17	4600	1396	30.3%
% Improvement	35.4%	2.9%	52.8%			43.0%

After application for 1 month, there was a significant decrease in the number of defects compared to the previous monthly average. Initially the proportion of monthly average disability of 53.2% fell to 30.3%. Significant traceability was in

the pinhole defect type of 35.4% and innercrack 52.8%. In total, it fell by 43%.

CONCLUSION

Waste that occurs in the production process of billet steel identified is a waste defect. With 3 types of defect, namely Pinhole 46.63%, Scratch 15.31%, Inner Crack with a frequency of 0.96%. Based on FMEA, the weighting value of RPN (Risk, Priority, Number) the highest countermeasures recommendation is RPN 150 that many of its high dissolved chemical compositions most cause fatal effects, RPN 120 is found in defect pinholes. Due to the presence of gases that are exposed or trapped, RPN 60 that the temperature is unstable because the operator lacks understanding or SOP may not be clear or inappropriate so that the potential for defect inner crack. From the research that has been done with the concept of Lean DMAI recommendations improvement is to make standard operating procedures (SOP) and work instruction WI new and young understood so that it is expected to be an alternative.

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ANALYSIS OF QUALITY BISCUIT PRODUCTS AT PT.UIMS

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ABSTRACT

Intense competition in product marketing encourages companies to improve quality. To achieve these goals, the company must produce quality products. PT. UIMS is a company engaged in the manufacturing industry (biscuits and wafers). To solve problems in the productivity of the company, caused by various causes of quality including defect product. This research uses an approach with the Six Sigma method. The implementation of quality control with certain approaches and methods so that defect problems can be further analyzed so that they can be minimized so that the company's profits can increase. From the data processing obtained sigma value is still in the range of 3.5 and obtained focus improvement at the highest RPN value in pengo; FMEA is RPN 160 error in the engine, RPN 140 there is an error in the molding machine RPN 120 because the dough is not the perfect oven.

Key words: six sigma, quality

INTRODUCTION

Intense competition in product marketing encourages companies to improve quality. If a company manages to win and retain customers, then it can be said that the company succeeded in the competition. Consumers will feel aggrieved because they have purchased a low-quality product. This will affect the scale of the company's profits because the main purpose of the company is profitable (Habibah, 2016). Quality is important. Every company must work hard if the product it is working on is desired competing in the market to meet the needs and desires of consumers. Product quality is product execution capability. Features include durability, reliability, accuracy, ease of operation and maintenance, and other valuable attributes (Habibah, 2016). Wibowo and Khikmawati (2014) argued that Six Sigma is a statistically based quality improvement method that requires strict discipline and full implementation, thus eliminating the main source of problems in the DMAIC method. Six Sigma can be used as an indicator to measure the performance of industrial systems, enabling companies to make remarkable improvements through actual strategic breakthroughs. Achieve Six Sigma; there are only 3.4 defects per million odds. The higher the sigma goal achieved, the better the industrial system's performance. This methodology is used to solve problems or improve processes—the six Sigma stage.

RESEARCH METHODS

This study is related to product quality analysis research using the six sigma method. The steps of Six Sigma method yaitu:

1. In the define stage of the system's decryption ranging from the depiction of the flow of the production process from raw materials to being the finished product, production data, data on the number of defects in each production of vanilla milk biscuits during the period January - December 2020
2. At the measuring stage, identification determines the quality characteristics of CTQ, Analysis of Control Diagrams (P-Chart)
3. At the analysis stage, analysis is carried out and the cause, using Pareto diagrams and FMEA
4. There is an improvement action plan to improve the quality of vanilla milk biscuit products at the improvement stage.

RESULTS AND DISCUSSIONS

The defined step is the initial of quality improvement and improvement; the first step taken is to describe a production flow from raw goods to finished products and identify the product to be researched.

In the process of making vanilla milk biscuits, there are several stages, ranging from the initial stage to the final stage, which starts from the raw materials to the packing of biscuits stored in the warehouse; here are the stages of the process in making biscuit production:

1. Mixing process

The mixing process is mixing and stirring the basic materials and other supporting materials. To mix flour, refined sugar, skim milk powder, etc. The mixing process starts from formulating raw materials (wheat flour, sugar, etc.)

2. Proses Moulding

After the mixing process of the next stage is done, dough transfer, the dough is passed on a rotating roll press machine, which aims to form the dough into thin sheets, then the sheet goes to the molding machine.

3. Roasting Process (Oven)





After the dough printing process is complete, the batter that has been printed will then go to the oven machine through the conveyor belt. After that, the biscuit goes into the oven room; during the roasting process, heat penetration occurs at the bottom and top of the machine. The temperature used in roasting biscuits used in baking biscuits is different

4. Packing Process

The process of packaging biscuits is the last stage of making biscuits after the oven process, where the process of packing biscuits is done using procedures or procedures that the company has set.

Based on field studies that have been done, many problems occur in PT. UIMS one of them is that there are still many defects in biscuits during the production process. That's why there needs to be an improvement. Here are some of the biscuit defects that occur in PT. UIMS.

Table 1. Flawed product images

No	Defects	Picture
1	Biscuit is not precise	
2	Biscuits are overcooked	
3	Overweight biscuits	
4	Gupil biscuits	

Based on table 1, it can be analyzed that PT UIMS in controlling the production process still needs continuous improvement because there are still some types of product defects in biscuit packaging products. The defects include the shape of the biscuit is not precise, biscuits are overcooked, the weight of overweight biscuits, gupil biscuits, and crushed biscuits.

Table 2 explain the number of defects and the amount of production in vanilla milk biscuit products for one year, in 2020

Table 2. Data on the number of defects and the amount of production in vanilla milk biscuit products for one year, by 2020

Moon	Types of Defects					Total defects per pcs	Production results
	Crushed biscuits	Biscuit is not precise	Gupil biscuits	Biscuits are overcooked	Overweight biscuits.		
January	1295	14743	314	2891	4403	23646	186834
February	956	9156	312	2953	3945	17322	127976
Maret	988	6102	248	3418	2887	13643	129098
April	1467	10558	415	4427	3568	20435	168245
May	1056	2876	443	3994	3754	12123	136389
June	1022	12574	320	2973	4172	21061	131678
July	501	2053	353	1358	1254	5519	41876
August	1298	7986	650	4731	3249	17914	156546
September	1328	10484	799	7695	5138	25394	216594
October	1022	8738	832	6931	5168	22691	165989
November	1792	15519	2243	4398	2959	26911	232677
December	1356	10389	799	4328	3372	20244	166565
Total	14081	111128	7728	50097	43869	226903	1860467

From Table 2 it can be known that the percentage of defective products in each month exceeds the maximum limit of defect tolerance set by the company, which is 7%, which means that PT. UIMS needs further analysis so that the quality of product defects can be minimized and the company's profits can be improved. From the table can also be known the highest number of product defects that occurred in November 2020 is 232677. The highest number of defects is, biscuit shape is not precise 111128, biscuit overcooks 50097, biscuit overweight 43869, broken biscuit 14081, and the smallest defect is gupil biscuits 7728.



Figure 1 Histogram of defect type of biscuit products

Measure stage is a measurement stage of the research object in PT. UIMS. At this stage, CTQ quality characteristics and control chart (P Chart) analysts will determine the quality of CTQ and the control chart (P Chart).

Identifikasi critical to quality

Critical to Quality (CTQ) is a characteristic of quality that is applied and directly related to the needs of customer specifications. CtQ in this study was determined based on biscuit specifications so that later it can affect the product's quality characteristics, which aims to meet the expectations of customers or consumers.

Control chart

An attribute data control map will be done to find out whether the data on the biscuit defect is at the limit of

control or not. Analysts on this step use the p (p-chart) control chart. The p control map is used to observe the proportion of comparison between defective products and the total amount of production (Ardhyani & Santoso, 2020). The data taken is flawed in 2020.

The number of biscuit production in 2020 in 1860467 boxes and it was found that the number of defects amounted to 226903 boxes. A control p - chart can be created based on the following data. Here are the steps to create a control map p - chart:

Calculate the mean (CL) or an average of the final product:

$$CL = \frac{\sum np}{\sum n} \tag{1}$$

$$= \frac{226903}{1860467} = 0,122$$

The proportion calculates the value of defective products (P) per month. The number of defects (np) per month is divided by production per month (n). The proportion of defective products in January 2020, with np = 23646, and n = 186834 is

$$P = \frac{np}{n} \tag{2}$$

$$= \frac{23646}{186834} = 0,127 = 13\%$$

The next step of calculating the Upper Control Limit (UCL)

To calculate the limit of control over or UCL is done with a formula

January data:

$$UCL = \bar{P} + 3\sqrt{\frac{\bar{P}(1-\bar{P})}{n}} \tag{3}$$

$$= 0,122 - 3 \cdot \frac{\sqrt{0,122(1-0,122)}}{186834}$$

$$= 0,124$$

Lower Control Limit (LCL) calculations in January:

$$LCL = \bar{P} - 3\sqrt{\frac{\bar{P}(1-\bar{P})}{n}} \tag{4}$$

$$= 0,122 - 3 \cdot \frac{\sqrt{0,122(1-0,122)}}{186834}$$

$$= 0,120$$

In figure 2 below is the result of the calculation of the limit of control of vanilla milk biscuit products from January to December 2020.



Figure 2 Control P chart biscuit products

Based on the map image of control P chart biscuit products above, the process capability does not work well, so quality control at PT needs to be done. UIMS on the packaging of biscuit products. For the process to run properly and product defects can be minimized.

The defects calculate Per Million Opportunities (DPMO) and sigma quality level.

1. Determination of CTQ (Critical to Quality)

In producing biscuit packaging products, there are several criteria included in defective products, including inappropriate biscuits, overweight biscuits, overcook biscuits, gupil biscuits, and crushed biscuits. So it can be known that there are five quality characteristics (CTQ) in biscuit products.

1. Calculating Defects per Unit (DPU))

January:

$$DPU = \frac{\text{Total damage}}{\text{Total production}} \tag{5}$$

$$= \frac{23646}{186834}$$

$$= 0,127$$

2. Calculating Defects per Opportunity (DPO) of January Month

$$DPO = \frac{DPU}{\text{Banyak CTQ}} \tag{6}$$

$$= \frac{0,127}{5}$$

$$= 0,025312$$

3. Calculating Defects Per Million Opportunity in January:

$$DPMO = DPO \times 1.000.000 \tag{7}$$

$$= 0,025312 \times 1.000.000$$

$$= 25312$$

Table 3 Calculation of DPMO and Sigma quality level biscuit products

Month	Production Data (N)	Defect Data (NP)	CTQ	DPU	DPO	DPMO	SIGMA
January	186834	23646	5	0.127	0.025312	25312	3.5
February	127976	17322	5	0.135	0.027071	27071	3.4
Maret	129098	13643	5	0.106	0.021136	21136	3.5
April	168245	20435	5	0.121	0.024292	24292	3.5
May	136389	12123	5	0.089	0.017777	17777	3.6
June	131678	21061	5	0.160	0.031989	31989	3.4
July	41876	5519	5	0.132	0.026359	26359	3.4
August	156546	17914	5	0.114	0.022887	22887	3.5
September	216594	25394	5	0.117	0.023448	23448	3.5
October	165989	22691	5	0.137	0.027340	27340	3.4
November	232677	26911	5	0.116	0.023132	23132	3.5
December	166565	20244	5	0.122	0.024308	24308	3.5

Table 3 shows that the biscuit production process has a low process capability; it appears that the DPMO is still quite high, which is 24588, which can be interpreted that in one million opportunities, there are still 24588 pcs of defective products.

The Analyze stage is the third stage; this stage is analyzed biscuit product defects using diagram Pareto and FMEA (Failure mode effect analysis). Where the input is obtained from the analysis of fishbone diagrams (fishbone diagram)

Diagram pareto

A Pareto diagram is a bar graph that shows problems based on the order in which the number of events is ed.

Tabel 3 Calculate the Percentage and Cumulative Percentage of defect products.

Types of Defects	biscuit is not precise	overweight biscuits	biscuits are overcooked	gupil biscuits	crushed biscuits	Total
Number of defects	111128	50097	43869	14081	7728	226903
Percentage	49%	22%	19%	6%	3%	100%
Commutative	49%	71%	90%	97%	100%	

Based on the results of the Pareto diagram in the picture above, the defect occurs in biscuit products. Dominant defects are identified by looking at defectsthat contribute more than 80% of the total defects. This dominant defect will be used as a handling priority for repairs to non-precision biscuits. It is known that the types of biscuit defects are not precise (49%), biscuits are overweight (22%), and biscuits overcook (19%).

Failure mode and effect analysis (FMEA)

Failure mode and effect analysis (FMEA) is one of the methods used to identify the sources of a problem. The FMEA method can determine which failure mode gives the greatest effect in manufacturing biscuit products. Improvement recommendations or suggestions to the company will be made from the highest priority effect.

Based on data analysis with FMEA, gotthehighest RPN value, biscuits overweight is 120, biscuits are not precision 160 and biscuits overcook 140. The main causative factor for failure for biscuits is not precisely appropriate. Biscuits overcook on the skill of fewer operators, so it causes errors in setting the machine before use. The error is caused by the operator lacking understanding of the engine. Recommendations for improvements are with training activities for workers, and the highest RPN value for biscuits is not precision by

specifications is 160, which is affected by operator errors in mixing raw materials, thus causing biscuits to be less developed. The failure is due to workers lacking in doing their duties, such as the lack of developer materials for the dough, thus causing biscuits to be less developed, and recommendations for the.

In this improvement stage, proposed remedial action to improve the quality of vanilla milk biscuit products based on rpn (Risk Priority Number) and Pareto diagram to determinethepriority of therecommendationtheroot of the problem found.

Improvement recommendations

The errors that occur in biscuit defects will be done repair recommendations to reduce the number of defects. Based on the FMEA table, contained analysis. It is found that the highest RPN value is for the position of biscuits is not precision with an RPN 160. The proposed improvement of improving employee skills continuously by providing training and performance reviews every period to minimize errors in setting machines. Biscuit overweight with RPN 120 proposed improvements in understanding the manual book to make it easier for employees to take action when operating oven machines. Understanding the manual book can be done by discussion or briefing at the beginning of the period carried out by the head of the squad to monitor the operator's performance so that further steps can be known if a problem is found. And the last one is a biscuit over cook flaw with RPN...

CONCLUSION

Based on the results of the above research, it can be concluded that the types of defects found in the company are non-precision biscuits, overweight biscuits, overcook biscuits, gupil biscuits, and crushed biscuits, and the factors that cause defects in biscuit products are human factors and machine factors so that in this study that makes changes to the training model activities that have been done, which aims so that operators can understand and understand about how to set or operate machines to minimize product defects in vanilla milk cookie biscuits

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ENTREPRENEURSHIP ANALYSIS ON BANANA CHIPS COMMUNITY PARTNERSHIP SERVICE NGAGEL REJO 33A, EX. NGAGEL REJO, KEC. WONOKROMO, SURABAYA

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ABSTRACT

Banana chips are snacks that are well known by the whole community because they are easy to get and also the price is quite affordable. Although it has gone through several processing processes, banana chips still have some nutritional content in them as explained by the United States Food and Drug Administration (FDA): that the nutrients contained in banana chips are as follows: Calories: 374 calories, Protein: 16, Grams, Carbohydrates: 42 grams, Fiber: 5.5 grams, Sugar: 25 grams, Total fat: 25 grams, Saturated fat: 21 grams, Potassium: 8% of the daily amount needed by the body, Vitamin B6: 11% of daily amount needed by the body.

Banana chips production in Indonesia has spread from Sabang to Merauke. Making bananas into chips is a promising business or business that can be done on a small scale or home industry. The main benefits of banana chips as one of the snacks that are liked by the community make it one of the UMKM (Micro, Small and Medium Enterprises) that are able to prosper the community itself. One of the areas in Indonesia where people develop banana chips business is Jl. Ngagel Rejo 33A, Ex. Ngagel Rejo, Kec. Wonokromo, Surabaya.

Key words: appropriate technology, banana chips, community partnership program, media, online marketing, msms

INTRODUCTION

The results of observations that have been made are that on Jl. Ngagel Rejo 33A, Ex. Ngagel Rejo, Kec. Wonokromo, Surabaya, there are MSMEs engaged in processing banana chips. The owner of the MSME that we are PKM partners with is Mrs. Puji Astutik, whose address is at Jl. Ngagel Rejo 33A, Ex. Ngagel Rejo, Kec. Wonokromo, Surabaya, the number of employees of Mrs. Puji Astutik is 3 people, namely Mrs. Sintia, Mrs. Rasmi and Mrs. Winarsi. MSME's banana chips, Puji Astutik, was founded in 2019.

Based on the results of interviews and discussions with PKM partners, the main problem that has been agreed between the proposer and PKM partners in the production aspect is that the PKM partners forget about the hygiene aspect in the process of making banana chips. In addition, the process of making banana chips is still manual and has not used a production machine that has Appropriate Technology, causing the production process to be less effective and efficient. On the other hand, the problem with partners in the marketing aspect is that partners do not understand how to make product labels that can increase consumer confidence. In addition, partners also do not know how to market using

digital marketing for online product marketing to all regions in Indonesia.

The solution offered to overcome the priority problems being faced by PKM partners in the production aspect is to provide counseling about the importance of hygiene aspects in the banana chips production process with the output of increasing the knowledge of partner human resources and providing a TTG machine so that the banana chips production process is easier and faster with partner outputs. able to increase the number and capacity of products. The solutions offered in the marketing aspect are providing training on labeling banana chips to increase consumer attractiveness and providing training in marketing banana chips products through digital marketing, which includes: websites, fanspages, YouTube and Instagram with social media outputs so as to help increase turnover. and partner benefits. The output targets of this PKM activity are as follows: publications in printed or electronic scientific journals Amaliah: Journal of Community Service (<https://ejournal.unwaha.ac.id/>), scientific articles published in print or electronic proceedings, articles in the national electronic mass media (<https://radarsurabaya.javapos.com/>), and implementation documentation in the form of activity videos uploaded on the LPPM UMAHA

youtube account. In addition, other output targets from productive partners with achievement indicators are: an increase in knowledge, skills, product quality, number of products, production capacity, total turnover and partner profits. The activity plans in this PKM activity include: interviews and situation analysis with partners, FGD (Focus Group Discussion) to formulate problems and find solutions with partners, manufacture training materials and modules, provide equipment, materials, and resource persons, make questionnaires, and procurement of banana chips making machines, counseling on the importance of hygiene aspects in the banana chips production process, diffusion of science and technology in the form of TTG machines for banana chopping, product labeling and marketing training, monitoring and evaluation of PKM activities, and making PKM reports

RESEARCH METHODS

1. Stages of solution implementation

The stages of implementing PKM activities to be carried out are as follows:

a. Situation Analysis Stage

The community service team visited the location of the PKM partners to conduct interviews. With the aim of knowing the profile of partners and recording the problems that are being faced by partners which include aspects of production, packaging, management and marketing.

b. Stage b. FGD (Focus Group Discussion)

At this stage, the community service team together with partners held FGDs at KM partner locations. The goal is to determine the priority problems of partners and to find solutions to solve problems faced by partners based on the expertise of the community service team. The output of this stage is a mutual agreement on the solutions offered.

Based on the results of the situation analysis and FGD, a design or flow of implementation stages is made as follows:

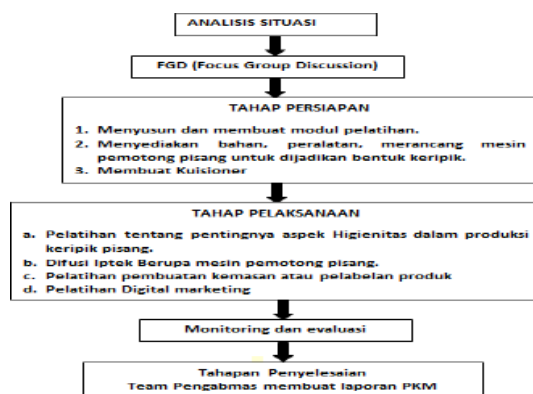


Figure 1. Implementation Stages
Stage 3 preparation

At this stage, the community service team begins to prepare all the needs in the process of implementing pkm activities at partner locations. The preparation includes: making materials or counseling modules about the importance of hygiene aspects in banana chips production, the importance of brand names, product labels and packaging, and the importance of digital marketing in partner business development. Questionnaires were also made to determine the success before and after a series of trainings during pkm activities. In addition, the community service team has also begun to design brand names and product labels that will later be offered to partners. The provision of equipment, materials and banana cutting machines has also begun to be prepared so that the implementation of pkm activities runs smoothly.

Stage 4 implementation

At the stage of implementing pkm activities, there are several pkm activities located in Partner premises which include:

1. Counseling on the importance of hygiene aspects in the production of banana chips

The implementation of pkm at partner locations begins with counseling about the hygiene aspect in making banana chips. Counseling is one way to convey information about the importance of hygiene aspects to partners. In the counseling, the community service team used the material in the power point slides and modules so that the extension materials could be easily understood by partners. In addition, the emphasis on counseling material on the hygiene aspect is more emphasized in the banana chip production process both before and after the delivery of the counseling material, partners are given a questionnaire to determine the partner's level of understanding (knowledge and skills) about hygiene aspects in banana chips production.

2. Diffusion of science and technology in the form of banana chips machine

The disfusion of science and technology method is carried out to facilitate partners in production, namely by utilizing technology in the production process. In this stage of the diffusion of science and technology, it begins with counseling about the importance of using technology or machines in the production process to be more effective and efficient. Then continued with training on the use of banana chips machine. The machine installations carried out include: installing banana chips, adjusting the power of the stirrer motor and rotation, and how to use it. The last stage of the diffusion of science and technology is the delivery of the banana chips machine. The diffusion of science and technology to partners is expected to increase the number of products and production capacity.

3. Training on product labeling

The training on product labeling begins with the delivery of information about the importance of product labeling for beverage products and the relationship between product labeling and marketing. Furthermore, the community service team provided training on how to make product labels using computer applications in order to obtain product label designs that attract consumers. Then the community service team with partners discussed and designed the product label design to be made. In looking for product label ideas, the community service team advises partners to seek information about product label designs for similar products that have been circulating in the market so that partners are able to determine their own product brands and labels. The labeling of banana chips is expected to increase consumer interest in buying banana chips products so as to increase repeat orders which lead to an increase in partner turnover and profits.

4. Digital marketing training

Digital marketing training begins with the delivery of information about the importance of implementing digital marketing in the marketing aspect. Online media commonly used for product sales include: websites, fanspages, instagram and youtube. In this training, the community service team will provide websites, fanspages, instagram and youtube for banana chip products that have been made. Furthermore, the community service team provided training on the use of websites, fanspages, instagram and youtube for marketing banana chips products online. This is done so that partners are able to manage marketing using websites, fanspages, instagram and youtube for adding product content or managing orders. With the addition of this online marketing strategy, it is expected to be able to increase the number of banana chip products sold throughout indonesia which has a positive impact on increasing partner profits.

Stage 5 monitoring and evaluation of pkm activities

The results of questionnaires from several outreach activities, training, and diffusion of science and technology that have been filled out by partners are collected for analysis. The results of the questionnaire will be used in the process of monitoring and evaluating pkm activities for the sustainability of the program in the future.

Stage 6 completion

After the pkm activities are carried out, the last stage is the community service team making a pkm report and fulfilling the mandatory pkm outputs. However, after the pkm activities are completed, the community service team will also carry out monitoring and

RESULTS AND DISCUSSION

Based on the results of observations Jl. Ngagel Rejo 33A, Ex. Ngagel Rejo, Kec. Wonokromo, Surabaya, East Java. there are MSMEs engaged in banana chips. In the PKM program (Community Partnership Program), we have selected 1 business partner with the following profile:

Business Owner : Mrs. Puji Astutik

Address : Ngagel Rejo 33A Kel, Ngagel Rejo, Kec. Wonokromo, Surabaya

Age : 53 Years

Length of Business: 2 years since 2019

Marketing: retail at local warungs and when there are orders from villagers

Type of Business: Banana Chips Making.

Employees : 3 people (namely Mrs. Sintia, Mrs. Official and Mrs. Winarsi).

partners can make banana chips using makeshift tools and materials and have not used tools or machines to increase the banana chip production capacity. The process of making banana chips starts from peeling banana skins to slicing bananas into chips, but all processes are still done manually using a knife. Next, the banana slices are put in a container to add sugar and mixed with some other powders and stirred by hand until evenly distributed. Then fried. Furthermore, the chips that have been fried are then put into a basin container to be packed into white plastic packaging and ready to be sold. In the production process, PKM partners also forget about the hygiene aspect. For example, employees don't wear gloves in the production process and employees don't store plastics that they want to pack in clean containers, but instead they are scattered on the floor when they want to do the packing process. This aspect of hygiene is very important in the manufacture of banana chips products in order to produce quality and healthy snacks or food products and avoid disease.

Mrs. W Puji Astutik's banana chips business has not been registered with BPPOM and does not have a business license or P-IRT. This is due to the lack of capital and knowledge of Mrs. Puji Astutik in managing business administration. Partners only rely on orders from neighbors or customers who are familiar with Puji Astutik's banana chips.

The volume of sales of banana chips per day cannot be ascertained because Mrs. Puji Astutik only makes banana chips for nearby stalls and also for sale when there are events in the village environment or when there is a bazaar or when there are orders from villagers. This causes turnover or business income to be uncertain, so a strategy is needed to increase partner turnover or income. On the other hand, product packaging already uses plastic. However, in terms of packaging, there is still no information regarding

the product name, product manufacturer, product manufacturer's address, materials used to make the product, nutritional composition, expiration date, and permission from the Ministry of Health or related agencies. .

From the management side, Ibuk Puji Astutik's banana chips business has not applied good and proper business management principles. For example, partners do not yet have a bookkeeping system regarding business finances. Partners still mix up business finances and personal finances so that the monthly/yearly turnover or business profit is not clear.

Based on the results of interviews and discussions with PKM partners, there are problems faced by partners both from the production and marketing aspects.

2. Partner Problems

Based on the results of interviews and discussions with PKM partners, the priority issues that have been agreed upon between the proposer and PKM partners are divided into 2 aspects as follows:

a. Production aspect

The problem with partners in the production aspect is that PKM partners forget about the hygiene aspect. For example, employees do not wear gloves in the banana chips production process. This will cause the banana chips produced to be of low quality and can be contaminated which can endanger human health. In addition, the process of making banana chips is still manual and has not used appropriate technology machines. This causes the production process to be less effective and efficient.

b. Marketing aspect

The partner's problem in the marketing aspect is the lack of knowledge in the field of product marketing which has a big influence on increasing the turnover or income of the partner's business. Partners do not understand how to make product labels that can increase consumer confidence. In addition, partners also do not know how to market using digital marketing so that partner products can be marketed online to all regions in Indonesia

c. Management Aspect

The problem with partners in the management aspect is that they have not applied good and appropriate business management principles. For example, partners do not yet have a bookkeeping system regarding business finances. Partners still mix up business finances and personal finances so that the turnover or business profit every month/year is not clear

CONCLUSION

Based on the results of research and discussion of the implementation researcher drew several conclusions, as follows:

1 PKM partners forget about the hygiene aspect. For example, employees do not wear gloves in the banana chips production process. Provide education about the importance of hygiene aspects. Increased knowledge and skills of partner HR.

2 The banana chips production process is still manual and has not used the TTG (Appropriate Technology) machine. Providing appropriate technology machines so that the banana chips production process is easier and faster. Partners are able to operate banana chips production machines which can increase the number and

3 Partners do not understand how to make product labels that can increase consumer confidence.

Provide product labeling training as well as provide training on the digital market, both with social media such as Fanpage, YouTube, Instagram, Facebook and websites. Partners have product labels and are able to increase the number of products available

sold thereby increasing turnover

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INDONESIA'S FAILURE TO FIGHT CORONA VIRUS DISEASE 2019

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ABSTRACT

Indonesia experienced the Covid-19 pandemic starting on March 2, 2020, this pandemic starting on January 13, 2020. The pandemic continued to increase and began to decline when mass vaccination began in March 2021, with the death toll reaching 38,426 people. Indonesia has had Law Number 6 the Year 2018 on Health Quarantine, since it was invited on August 8, 2018, this law became the first stepping up the legislation in Indonesia to deal with *Covid-19*, then later the statutory regulations what is stipulated in Indonesia to deal with the *Covid-19* outbreak? This research is expected to be able to explore how the Indonesian state copes with *Covid-19* with legislative products, and from the products of the legislation, it can be analyzed the effectiveness of the Indonesian state's resolution of the *Covid-19* outbreak. This study uses a normative juridical methodology qualitatively, with a legislative approach and several cases that occur. This research is expected to answer the effectiveness of laws and regulations on the handling of *Covid-19* in Indonesia.

Key words: covid -19, social restrictions, quarantine

INTRODUCTION

The term *Coronavirus Disease 2019 (Covid-19)* is used by the *World Health Organization (WHO)* to refer to infectious diseases caused by a newly discovered type of *Coronavirus*. This was an unknown disease before the outbreak in Wuhan, capital of Hubei Province, People's Republic of China, in December 2019, which had a population of 9,100,000. (Li et al., 2020).

Then *Covid-19* spread to several countries, finally, on March 11, 2020, WHO established *Covid-19* as a Pandemic.[1] which is an epidemic that spreads in unison everywhere, covering large geographical areas.[2] As an epidemic that has spread between countries or continents, and generally affects many people. While epidemics are infectious diseases that spread quickly in large areas and cause many victims, for example, diseases that do not regularly infect those areas (epidemics),[3] is a term used to suddenly increase the number of cases of a disease in a population in a certain area.

Understanding *Coronavirus* is a group of viruses that can cause disease in animals or humans. Some types of coronavirus are known to cause respiratory infections in humans ranging from coughing, colds, to more serious ones such as *Middle East Respiratory Syndrome (MERS)* and *Severe Acute Respiratory Syndrome (SARS)*. A new type of *Coronavirus* has been found to cause *Covid-19* disease.[4]

The most common symptoms of *Covid-19* are fever, fatigue, and dry cough. Some patients may experience pain and ache, nasal congestion, runny nose, afternoon throat, or

diarrhea. The symptoms experienced are usually mild and appear gradually. Some infected people don't show any symptoms and still feel healthy. Most (around 80%) infected people recover without the need for special treatment. About 1 in 6 people who are infected with *Covid-19* suffer from severe pain and difficulty breathing. Elderly people and people with pre-existing medical conditions such as high blood pressure, heart problems, or diabetes, are more likely to experience more serious illnesses.

People can get *Covid-19* from other people who have contracted this virus. *Covid-19* can spread from person to person through sparks from the nose or mouth that comes out when a person is infected with *Covid-19* coughs and breathes. These sparks then fall on the surrounding objects and surfaces. People who touch the object or surface and then touch their eyes, nose, or mouth, can contract *Covid-19*. *Covid-19* transmission can also occur if people inhale a spark that comes out of coughing or breathing from people infected with *Covid-19*.

METHODS

The definition of *Coronavirus Disease 2019 (COVID-19)* was not found in the Government Regulation of the Republic of Indonesia Number 21 of 2020 (PP 21/2020) concerning Large-Scale Social Restrictions in the Context of Accelerating the Handling of *Coronavirus Disease 2019 (COVID-19)*.

Before the outbreak of this disease entered the country of Indonesia in March 2020, Indonesia

had Law Number 6 of 2018 on Health Quarantility (Law 6/2018), which was promulgated on August 8, 2018, so that when this outbreak entered Indonesia, all it had to do was compile and implement implementing rules for implementing more technically detailed handling of *Covid-19*. The existence of Law 6/2018 shows that Indonesia has prepared itself before an outbreak of a disease that is equivalent or more serious than the previous outbreaks.

The problem is how Indonesia made a solution to the handling of the Covid-19 disease outbreak with the product of the legislation.

This research will answer the problem of how the Indonesian state fought the Covid-19 outbreak through legislation. The study was conducted with a normative juridical methodology, with qualitative analysis. The approach used is the legislative approach and cases that occurred during the Covid-19 outbreak first entered the country of Indonesia until the first implementation of the local government of the legislation set by the central government. Supporting data used are data from the Ministry of Health of the Republic of Indonesia related to the number of population confirmed, recovered, and edited due to the Covid-19 outbreak.

This research will convey the products of the legislation set before and when Covid-19 entered the country of Indonesia so that this outbreak can be addressed.

RESULT AND DISCUSSIONS

The disease *Covid-19* began to enter Indonesia was first announced by the President of the Republic of Indonesia, Joko Widodo, on Monday, 2 March 2020 that struck two residents Depok, West Java Province, namely a mother aged 64 years and daughter who is 31 years old. But the Indonesian people remain confident, considering that the plague is difficult to enter and develop in the country of Indonesia, due to various assumptions, namely:

1. Indonesia is a tropical country that has 2 (two) seasons, namely summer and rainy seasons. While this virus will not be able to survive in a hot place;
2. The majority of Indonesian people are Malay, not *Mongoloid* like the People's Republic of China;
3. The Indonesian people have a rich culinary culture related to food and drink which is full of various spices which can be a good immunity for the Indonesian population against the virus.

The assumptions above are very reasonable, both as part of cultural wealth and scientifically. However, when the outbreak of *Covid-*

19 disease entered Indonesia I with a fairly rapid development with several indicators, namely the number of people confirmed to *Covid-19*, People in Monitoring (ODP), Patients in Oversight (PDP), and edited. So the government began to take steps to prepare for the handling of the product of the legislation.

The statutory regulations stipulated in the following developments are:

1. Presidential Decree of the Republic of Indonesia Number 11 of 2020 concerning Determination of *Corona Virus Disease Public Health 2019 (Covid-19)* ;
2. Government Regulation of the Republic of Indonesia Number 1 the Year 2020 concerning State Financial Policy and Financial System Stability for Handling Pandemic *Corona 2019 Disease (Covid-19)* and/or in the Context of Facing Threats that Endanger the National Economy and/or Financial System Stability;
3. Government Regulation of the Republic of Indonesia Number 21 the Year 2020 concerning Large-Scale Social Restrictions in the Context of Accelerating the Handling of *Corona Virus Disease 2019 (Covid-19)*.

The third legislation above is set on the same date, ie on March 31, 2020. So it can be concluded that the likelihood n of the process of drafting and Harmonization of legislation made by the editorial team of the same. While the President can just give directions, goals, evaluate, and set the course.

The 3 (three) products of the legislative regulations mentioned above are then followed up with several lower statutory regulations, namely:

1. Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2020 concerning the Large-Scale Social Limitation Guidelines in the Framework of Accelerating Handling of *Corona Virus Disease 2019 (Covid-19)*;
2. Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/Menkes/231/2020 concerning the Determination of Large-Scale Social Limits in the Context of Handling *Corona Virus disease 2019 (Covid-19)*.

The two laws and regulations stipulated by the Minister of Health of the Republic of Indonesia mentioned above, which were established on April 3, 2020, are the implementation of the previous legislative regulations stipulated by the President.

At this stage the implementation of the status of "Large-scale Social Restrictions" can not be implemented if there has not been an application submitted by the heads of regions in Indonesia, both the Governor, Regent or Major, to the Minister

of Health of the Republic of Indonesia to determine the area in the status of "Large-Scale Big Social Restrictions".

Determination of the status of "Large Scale Social Restrictions" is a lighter status compared to the status of "Regional Quarantine". Both have different social, political, and economic consequences to be done, both by the regional government and the central government.

Determination of the status of "Large-scale Social Restrictions" only requires regions to implement a minimum of:

1. School and workplace entertainment;
2. Religious restrictions; and/or
3. Limitation of activities in public places or facilities.

On April 7, 2020, the Jakarta Special Capital Region (DKI) province was the first province designated by the Minister of Health as an area with the status of "Large-scale Social Restrictions", after there was a request from the Governor of DKI Jakarta to the Minister of Health.

This stipulation was stated in the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/Menkes/239/2020 concerning the Determination of Large-Scale Social Restrictions in the DKI Jakarta Province in the Context of the *Corona Virus Disease Handling 2019 (Covid-19)*, established in Jakarta, on April 7, 2020.

On the same date, 34 Provinces other than DKI Jakarta, and 514 Regencies/Cities in Indonesia still did not have the status of "Large-Scale Social Restrictions". Almost all provinces and districts/cities are concerned about economic security as the main reason for caution in submitting an application to the Minister of Health for the status of "Large Scale Social Restrictions" on their territory.

Whereas the previous day, on Monday, April 6, 2020, the hours of 15:42 Western Indonesian Time (WIB), the Government of Indonesia announced through the Ministry of Health, that the cases were confirmed *Covid-19* as many as 2,491 people, spread over 32 provinces. The *highest* spread of *Covid-19* cases occurred in DKI Jakarta province, then followed by West Java and East Java.[5]

Then on April 8, 2020, the Governor of West Java submitted the same application as DKI Jakarta to the Minister of Health for the status of large-scale social restrictions but limited to the area of Bogor Regency, Bogor City, Depok City, Bekasi Regency, and Bekasi City. This request was granted on April 11, 2020. through the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/Menkes/248/2020 concerning the Determination of Large-Scale Social Restrictions in Bogor Regency, Bogor City, Depok City, Bekasi Regency, and Bekasi City, West Java Province in the

framework of Accelerating the Management of Corona Virus Disease 2019 (Covid-19).

On April 12, 2020, the Minister of Health of the Republic of Indonesia, Terawan Agus Putranto, also established status for three regions in Banten Province, namely Tangerang Regency, Tangerang City, and Tangerang Selatan City in the context of acceleration of Covid-19 handling, through Minister of Health Decree Number HK .01.07 / Menkes / 249/2020.

While the data on the date and hour of the above happened in 32 provinces that were affected Covid-19 are as follows:

1. DKI Jakarta Province:
 - a. Confirmed: 1,232 cases;
 - b. Cured: 65 Cases
 - c. Death: 99 cases.
2. West Java Province:
 - a. Confirmed : 263 cases;
 - b. Cured : 13 cases;
 - c. Died : 29 cases.
3. East Java Province:
 - a. Confirmed : 263 cases;
 - b. Cured : 38 cases;
 - c. Died : 14 cases.
4. Banten Province:
 - a. Confirmed : 187 cases;
 - b. Cured : 7 cases;
 - c. Died : 17 cases.
5. Central Java Province:
 - a. Confirmed : 132 cases
 - b. Cured : 14 cases;
 - c. Died : 22 cases .
6. South Sulawesi Province:
 - a. Confirmed : 113 cases;
 - b. Cured : 19 cases;
 - c. Died : 6 cases.
7. Bali Province:
 - a. Confirmed : 43 cases;
 - b. Cured : 18 cases;
 - c. Died : 2 cases.
8. Special Region of Yogyakarta Province:
 - a. Confirmed : 40 cases;
 - b. Cured : 1 case;
 - c. Died : 3 cases.
9. East Kalimantan Province:
 - a. Confirmed : 31 cases;
 - b. Cured : 1 case;
 - c. Died : 1 case.
10. North Sumatra Province:
 - a. Confirmed : 26 people;
 - b. Cured : 0 cases;
 - c. Died : 4 cases.
11. Papua Province:
 - a. Confirmed : 26 cases;
 - b. Cured : 3 cases;
 - c. Died : 2 cases.
12. Central Kalimantan Province:

- a. Confirmed : 20 cases;
 - b. Cured : 4 cases;
 - c. Died : 0 cases.
13. West Sumatra Province :
 - a. Confirmed : 18 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 14. South Kalimantan Province :
 - a. Confirmed : 18 cases;
 - b. S whuh : 0 cases;
 - c. Died : 0 cases.
 15. South Sumatra Province :
 - a. Confirmed : 16 cases;
 - b. Cured : 1 case;
 - c. Died : 2 cases.
 16. North Kalimantan Province :
 - a. Confirmed : 15 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 17. Riau Province :
 - a. Confirmed : 12 cases;
 - b. Cured : 1 case;
 - c. Died : 0 cases.
 18. Lampung Province :
 - a. Confirmed : 12 cases;
 - b. Cured : 0 cases;
 - c. Died : 1 case.
 19. West Kalimantan Province :
 - a. Confirmed : 12 cases;
 - b. Cured : 2 cases;
 - c. Died : 2 cases.
 20. West Nusa Tenggara Province :
 - a. Confirmed: 10 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 21. Riau Province :
 - a. Confirmed : 9 cases;
 - b. Cured : 2 cases;
 - c. Died : 1 case.
 22. Southeast Sulawesi Province :
 - a. Confirmed : 7 cases;
 - b. Cured : 1 case;
 - c. Died : 0 cases.
 23. Pr ovinsi of Aceh :
 - a. Confirmed : 5 cases;
 - b. Cured : 0 cases;
 - c. Died : 1 case.
 24. North Sulawesi Province :
 - a. Confirmed : 5 cases;
 - b. Cured : 1 case;
 - c. Died : 0 cases.
 25. Central Sulawesi Province :
 - a. Confirmed : 4 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 26. Jambi Province :
 - a. Confirmed : 2 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 27. Bengkulu Province :
 - a. Confirmed : 2 cases;
 - b. Cured : 0 cases;
 - c. Died : 1 case.
 28. Province of Bangka Belitung Islands :
 - a. Confirmed: 2 cases;
 - b. Cured : 0 cases;
 - c. Died: 1 case.
 29. West Sulawesi Islands :
 - a. Confirmed : 2 cases;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.
 30. West Papua Province :
 - a. Confirmed : 2 cases;
 - b. Cured : 0 cases;
 - c. Died : 1 case.
 31. Maluku Province :
 - a. Confirmed : 1 case;
 - b. Cured : 1 case;
 - c. Died : 0 cases.
 32. North Maluku Province :
 - a. Confirmed : 1 case;
 - b. Cured : 0 cases;
 - c. Died : 0 cases.

From the data above, the total number of positive confirmed *Covid-19s* is 2,491 cases. Of these 2,090 people were undergoing medical treatment, 192 were declared recovered or negative *Covid-19*, while 209 people were edited. There are three (3) of the province had managed to survive on deployment plague Covid 19 items, namely Bengkulu province, Gorontalo Province, and East Nusa Tenggara.

Based on these data, it turns out that only DKI Jakarta Province is seriously responding to the laws and regulations set by the central government, by having applied to the Minister of Health of the Republic of Indonesia to be designated as an area with the status of "Large-Scale Social Restrictions". The request was granted on April 6, 2020, which was applied on April 10, 2020. While other regions, both at the provincial and district/city levels, have not yet submitted applications to be designated as areas with the status of "Large-Scale Social Restrictions".

There are 2 main reasons that regions do not immediately respond to regulations relating to "Large Scale Social Restrictions", namely:

1. Economic Risk :

Regions are not prepared for the economic risks posed if the status of "Large Scale Social Restrictions" is applied. Moreover, each region has different economic resilience;
2. Social Risk :

Regions are not prepared for the social risks arising from the implementation of the status of "Large Scale Social Restrictions". If the space for people is

limited to activities in the profession, education, religion, and other social, then certain reactions will emerge as a result of these restrictions. Meanwhile, when the head of the region in the region is not able to manage and control social reactions that arise, then there will be chaos - chaos in society.

The juridical question is what is the legal basis of the regions other than DKI Jakarta in handling the Covid-19 Pandemic? So the answer is, that these areas still use the legal basis: Circular, made by each governor. Several Circular Letters can be traced to the handling of Covid Pandemic 19, which are arranged in the order of the date they were determined, namely:

1. Circular of the Governor of the Special Region of Aceh Number: 440/4820 concerning Preventing Corona Virus Through Worship, Clean and Healthy Life Behavior, dated March 12, 2020. This Circular Letter is Addressed to Regents / Mayors throughout Aceh, Chancellors of Higher Education / Private, Vertical leadership institutions, Work Unit Head of Aceh, the Kakanwil ministry, the leaders of state / local enterprises, the leadership of the whole society Banking and Aceh;
2. East Java Governor Circular Letter Number: 420/1780/101.1/2020, dated March 15, 2020, Regarding the Increased Alert *Corona Virus Disease 2019 (Covid-19)*. The contents of this Circular are appeals, especially to students in schools and teachers related to learning activities to be aware of the Covid-19 pandemic ;
3. Jakarta Governor's Circular Letter Number: 2/SE/2020, March 16, 2020, concerning Adjustment of Employee Work Systems in the Prevention of Corona or *Covid-19* Virus Spread in the DKI Jakarta Provincial Government Environment. This Circular Letter is issued to follow up the Circular of the Minister for the Utilization of State Civil Apparatuses (ASN) and Bureaucratic Reform Number 19 of 2020 concerning Adjustment of the ASN Work System in Preventing the Distribution of *Covid-19* in Government Agencies;
4. Circular of the Governor of North Sumatra Number: 440/2666/2020 concerning Increased Awareness of the Risk of *Corona Virus Disease Transmission (Covid-19)* in North Sumatra, dated March 17, 2020. This Circular Letter contains the steps of the teaching and learning process in educational institutions in the Covid-19

Pandemic atmosphere, such as using distance learning;

5. Central Kalimantan Governor Circular Letter Number: 443.1/25/2020 concerning *Covid-19* Virus Monitoring and Prevention in the Border and Coastal Region of Central Kalimantan, dated 19 March 2020. This Circular Letter calls on all Regents and Mayors throughout Central Kalimantan, to always conduct surveillance and inspection of all public transport (passengers and crew) serving foreign and domestic transportation and the border areas of East Kalimantan, West Kalimantan, South Kalimantan, both direct and transit. Tight supervision is also carried out in coastal areas/fishing villages that cross in the Province of the country and abroad. As well as synergizing with non-TNI, Polri, Danramil, Kapolsek and the Territorial Village Apparatus (Camat, Lurah and Village Head);
6. DIY Governor Circular Letter Number: 2/SE/III/2020 concerning Increased Awareness of the Risk of *Corona Virus Disease Transmission (Covid-19)* from *Migrants / Travelers* to Yogyakarta Special Region, dated March 27, 2020. This Circular contains appeals to Migrants who carry out isolation independently for 14 (fourteen) days at home from the day of arrival, use separate rooms with other family members, wear masks during independent isolation. As for the community members, they are obliged to report the arrival of their relatives/family members to the local government officials, limiting themselves to not interacting much and physical contact with migrants. The village government is obliged to make the *Tanggung Cooridination Post 19* and coordinate with the district/Kepanewon /Kemantren regional leaders ;

Those are just a few examples of the policies that have been taken by the Governors in their respective regions. Circular is not included in the hierarchy of laws and regulations. Circular has quality as an appeal that must be obeyed. Usually, the government apparatus tasked with enforcing the implementation of the Circular is not the police, but the Civil Service Police Unit (Satpol PP). But in handling the *Covid-19* pandemic *countermeasures*, police officers are often seen to be involved in upholding the Governor's policy.

The legal basis of the police in enforcing the Governor's policy is Maklumat Chief of Police Number Mak/2/III/2020 concerning Compliance with Government Policy in Corona Virus Spreading

Handling. In this proclamation, it states that the National Police always refers to the principle of "People's Safety Is the Highest Law" (*Salus Populi Suprema Lex Esto*), by not holding social activities that cause mass gatherings in large numbers, social gatherings, cultures, religions, and beliefs in the form of seminars, workshops, gatherings, music concerts, fairs, festivals, bazaars, night markets, exhibitions, family receptions, sports activities, arts, entertainment services, rallies, marches, carnivals, and other activities that make mass gatherings.

The above laws and regulations have followed the general principles of good governance as a state in Article 10 of Indonesian Law Number 30 of 2014 on Government Administration, it states emphatically that the Good Governance Principles include the following principles: 1. The principle of legal certainty; 2. The principle of utilization; 3. The principle of Impartiality; 4. The principle of accuracy; 5. The principle of abuse of authority; 6. The principle of openness; 7. The principle of public interest; 8. The principle of good service. (Zamroni, 2019).

However, large-scale social restrictions in some provinces were unable to reduce active cases of Covid-19. The decrease in Covid-19 cases in March 2021 is due to a new policy that supports it, namely the Implementation of Restrictions on Micro-scale Community Activities.

The sequence of stories is as follows, the increase in Covid-19 cases in the second week of July 2020, then stable until the fourth week. Along with the long holiday in August, the case is likely to increase until the second week of October 2020, then aggravated by the Christmas holidays 2020 and the new year 2021.

The government's new policy, namely the Implementation of Restrictions on Micro-Scale Community Activities, on January 11, 2021, provides for a reduction in active cases of Covid-19.

The effectiveness of the implementation of Restrictions on Micro-Scale Community Activities can occur due to interventions in handling Covid-19 carried out up to the village level to Rukun Warga and Rukun Tetangga, one of which is due to the support of existing Covid-19 response posts to the smallest level of the community.

Covid-19 vaccination was first conducted by the President of the Republic of Indonesia, Joko Widodo, on Wednesday, January 13, 2021, at 10:00 a.m. This step is then continued by vaccinating health workers throughout Indonesia, followed by educators, then the wider community in general.

Vaccination measures are the country's maximum efforts to fight Covid-19. Covid-19 vaccination was first conducted by the President of the Republic of Indonesia, Joko Widodo, on Wednesday, January 13, 2021, at 10:00 a.m. This step is then continued by vaccinating health

workers throughout Indonesia, followed by educators, then the wider community in general.

However, the quantity of positive cases of Covid-19 until March 15, 2021, has reached 1,420,000 people, recovered 1,240,000 people, and died 38,426 people.

CONCLUSIONS

From the description of the discussion that has been conveyed, it can be found how Indonesia can make solutions to the handling of the plague of *Co-19* through the product of the legislation, namely:

1. Law Number 6 of 2018 concerning Health Quarantine;
2. Presidential Decree of the Republic of Indonesia Number 11 the Year 2020 concerning Determination of *Corona Virus Disease Public Health 2019 (Covid-19)* ;
3. Government Regulation of the Republic of Indonesia Number 1 the Year 2020 concerning State Financial Policy and Financial System Stability for Handling Pandemic *Corona 2019 Disease (Covid-19)* and/or in the Context of Facing Threats that Endanger the National Economy and/or Financial System Stability;
4. Government Regulation of the Republic of Indonesia Number 21 the Year 2020 concerning Large-Scale Social Restrictions in the Context of Accelerating the Handling of *Corona Virus Disease 2019 (Covid-19)*.
5. Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2020 concerning the Large-Scale Social Limitation Guidelines in the Framework of Accelerating Handling of *Corona Virus Disease 2019 (Covid)*;
6. Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07 / Menkes/231/2020 concerning the Determination of Large-Scale Social Limits in the Context of Handling *Corona Virus disease 2019 (Covid-19)*.

Whereas the first implementation in Indonesia was carried out by the Governor of the Province of DKI Jakarta by applying to the Minister of Health of the Republic of Indonesia to determine the territory of the Province of DKI Jakarta as an area with the status of "Large-scale Social Restrictions" by stipulating: Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07 / Minister of Health/239/2020 concerning the Establishment of Large-Scale Social Restrictions in the Province of DKI Jakarta in the framework of the Acceleration of *Corona Virus Disease 2019 (Covid-19)*, in Jakarta, on April 7, 2020.

large-scale social restrictions in some provinces were unable to reduce active cases of Covid-19. Vaccination measures are the country's maximum efforts to fight Covid-19.

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PRESSURE TRANSMITTER DESIGN TO IMPROVE PERFORMANCE AND REDUCE THE USE OF ELECTRICAL ENERGY IN FILLING WATER RESERVOIRS

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ABSTRACT

Services for water needs at the center of modern market economic activities, such as malls, are carried out automatically. Water is stored in a reservoir usually located on the top floor of the building. This automatic function relies on the water level sensor in the pool. Physically, the sensor is in the form of a stick in a control circuit commonly known as water level control (WLC). The performance of this sensor is very dependent on the position of the rod and the treatment of the operator in carrying out maintenance. Sometimes the water runs out or vice versa when the automatic control function is disturbed because the stick's performance is problematic. This study aims to improve the performance of providing clean water at the mall by increasing the performance of the automatic water filling system in the reservoir.

The method used is to improve and improve system performance by using a water level sensor free from human error. The sensor does not directly detect the water level in the reservoir. Still, it sees the water pressure at the bottom of the pool as a function of the volume and water level in the reservoir. By knowing the amount of water pressure, we see the surface height according to Archimedes' law and know when the water must be filled so that it doesn't go over.

The results showed that the higher the water level in the reservoir, the more water volume, the higher the water pressure indication. Thus, filling water into the pool can be set when to start loading and when to stop.

Key words: electrical, energy, performance, sensor, VSD

INTRODUCTION

Development technology has changed the center of economic activity from traditional markets to modern markets such as hypermarkets. This shift in the financial center also changes the center of human activity. Changes in this activity center have the consequence that basic human needs such as water are also concentrated in this place.

In shopping centers such as malls, the service of water needs at the center of economic activity is carried out automatically. Water from the drinking water company (PDAM) is accommodated in a reservoir on the lower floor. Then the water is channeled up through an electric pump and stored in a pool usually located on the highest floor of the building. The water from the upper reservoir is then channeled to the feet below it as needed. For the toilet, washing cutlery, cooking food, and others.

Filling the reservoir for this building is done automatically. When the water is reduced to a certain level, the pump will start to fill the water to the upper pool up to a certain water level. Likewise, the pump will stop when the water in the reservoir is complete, and the water level is at a certain level. Built this system with

the help of a water level controller (WLC) with input in the form of 3 conductor sticks placed at three different levels. The lowest stick is the sensor for the lower level, and the second stick is placed in the middle, the sensor for the medium/middle level, and the third stick is placed at the top position. By positioning the rods in different situations, we can know the water level in the reservoir. So, when the water level is detected at the lower level, the pump will start filling water into the upper pool. When the water level reaches the upper level, the pump will stop filling water into the reservoir.

The system has been used to control the volume of water by looking at the water level. However, the system sometimes fails—For Example, the stick unit or the cable connection on the stick unit is not working. There are common problems when using this system. Problems often arise with the cable connections at the end of the stick and the stick unit itself. Cable connections are often problematic when cable connections are rusty or covered with crust. The emergence of rust and scale occurs because the cable is too old to be submerged in water. This scale and rust cover the part of the conductor that is connected to the WLC unit. In comparison, damage to the stick unit is due

to rust and the stick's position—the position shifts due to the water movement in the pool.

Research has been carried out to overcome the problems in this sensor system. Several studies have been carried out, among others by Ikponmwoza (2013), using an Electric Water Pump Controller and Level Indicator or EWPLI by utilizing the electrical conductivity of water to indicate the water level in the storage tank and finally, control an automatic water pump. The EWPLI system was designed to eliminate the unreliability of humans who often fail to see the water level.

Chakraborty (2014) suggests that process level transmitters better control steam output precisely according to process requirements and increase overall efficiency.

Okaifoh (2016) also uses ultrasonic sensors. It provides a digital output that turns on the water pump when the water in the tank is at a predetermined minimum level of 0.27 meters and turns off the water pump when the water is above a selected maximum level of 0.05 meters.

Baskara (2018) designed a sensor system for monitoring water levels using ultrasonic sensors. By utilizing ultrasonic sensors, there are no parts that come into direct contact with water. So, it can avoid the risk of rusting or crusty wires or sensor units. However, the system with the application of the ultrasonic sensor cannot function normally when there is a water wave in the water filling. Charging that causes wave ripples causes noise from sensor readings. Thus, if there is a high level of surge detected. In contrast, the water level is still in the low or medium category.

Fadhila (2019) said that monitoring the height of the water level can also be done using HMI. The level sensor and flowmeter sensor have their respective linearity equations that show the characteristics of the sensor.

Ka'ka (2019) developed a microcontroller-based water level and temperature control. The study results show that the water level and temperature control system works as well as expected. This equipment uses a multi-position control system mode programmed on Arduino software and can display sensor readings in graphic form using Matlab software.

Kang (2021) utilizes an ultrasonic water level detection (UWLD) system developed with an energy-saving design and dual-target monitoring. A water level monitoring system with a non-contact sensor is suitable because it is not exposed to water directly.

Wahyuni (2021) The design of a water level monitoring system can monitor the water supply in the reservoir, displaying the water level status through the LCD and filling water by the desired water level configuration. The design of this system can help control the water supply in the reservoir. This tool can automatically turn on and off the water pump to reduce electricity wastage.

Thus, it is necessary to improve the sensor. Correction of sensors aims to prevent the system from malfunctioning by replacing existing sensors with not operator-dependent sensors or cable connections. The sensor that can be used is a sensor unit that is not easy to scale and does not easily cause cable connections to be damaged due to scale.

Based on the background of the problem above, the problem can be formulated, namely, whether sensors and transducers can be used to create a reliable system and how the system works and how an automation system can be built using these sensors.

RESEARCH METHODS

Based on the formulation of the problem and selecting the suitable sensor, the method offered and used to improve sensor performance is an automatic filling design with a sensor without direct touch. The sensor used is the change in hydrostatic pressure based on the volume of water. The sensor is equipped with a transducer or transmitter that provides information on the amount of water volume.

The working principle of the sensor does not directly detect the water level in the reservoir. Still, it sees the water pressure at the bottom of the pool as a function of the volume and water level in the reservoir. By knowing the water pressure, we see the water level, we can see when the water must be filled so that there is no shortage of volume, and we know when the system must stop the filling because it is complete.

The use of sensors that are not in direct contact with water. A sensor transmitter is installed at the bottom of the reservoir to determine the water level. The transmitter will send the number of electrical parameters in the form of voltage or current, following To avoid the sensor unit with the risk of rusting and crusting cables.



Figure 1 Unit Pressure Transmitter

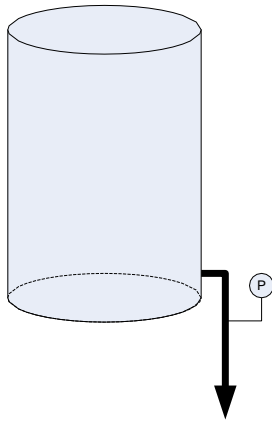


Figure 2
Design transmitter installation pressure
Use of VSD for arrange speed water filling

As the main driver in filling water reservoirs, the electric motor is speed-regulated by adjusting the frequency and voltage that enters the engine to use electrical energy efficiently. Voltage and frequency regulation is carried out simultaneously using an inverter or VSD.



Figure 3 Inverter Unit (VSD)

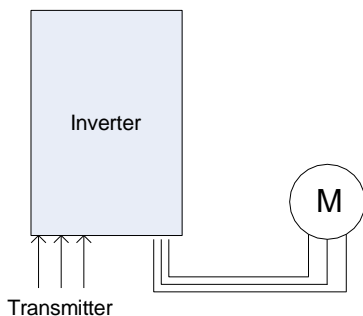


Figure 4 Design Inverter installation (VSD)

RESULTS AND DISCUSSION

In a vessel, the hydrostatic pressure of a liquid is directly proportional to the height of the liquid. The

pressure sensor and transmitter unit is a device that can detect changes in pressure. Pressure will convert differences in the pressure variations into electrical quantities in the form of current within 0-20 mA or in voltage within the range of 0-10 V.

VSD is a device used to control the rotational speed of alternating electric motors. Speed control can be done by several methods, among others, with an analog signal in the form of a voltage of 10 V from the VSD itself. It can vary the internal input voltage. A potentiometer can generate the internal input. The 10 Volt voltage generated by the VSD is applied to a potentiometer so that the output voltage can change in the 0-10 Volt range. In addition to the internal voltage, input control voltage can also be supplied from outside the VSD. The external input can provide this external voltage feedback with an output of 0-10 volts. Furthermore, the control signal can also be provided using a current range of 0-20 mA. By providing a varying input current of 0-20 mA, the output voltage and frequency of the VSD change between 0 to 50 Hz or according to the maximum VSD setting.

VSDs with different voltage and frequency outputs impact the VSD power output. The greater the voltage and frequency issued, the greater the power used by the motor. And vice versa. The smaller the voltage and frequency produced by the VSD, the less power the engine operates. Thus, VSD can help save electrical energy consumption and reduce the use of electrical energy.

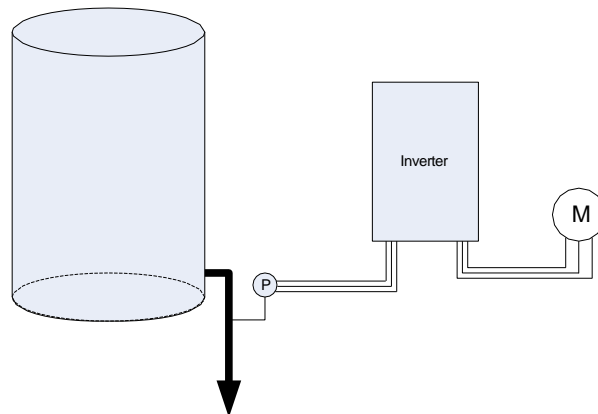


Figure 5 Design monitoring and control system
reservoir water filling

The design results show that the higher the water level in the reservoir, the more water volume, the higher the water pressure indication. Thus, filling water into the pool can be set when to start loading and when to stop.

CONCLUSION

The design results show that::

1. Sensors that are suitable to be used to maintain system reliability are pressure sensors and transducers. Pressure sensors and transducers can indicate the volume of water in the tendon. The higher the water level in the reservoir, the greater the volume of water in the pool, meaning the higher water pressure
2. The inverter can be used as a water flow controller and control the use of electrical energy
3. By utilizing sensors and pressure transducers along with inverters, we can improve the performance of the pool automation filling system

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THE ROLE OF PALM OIL INITIAL TEMPERATURE VARIATIONS ON DROPLET COMBUSTION CHARACTERISTICS WITH ADDITIONAL MAGNETIC FIELD

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ABSTRACT

Excessive use of petroleum fuels and the absence of alternative energy can lead to an energy crisis in the future. The research was conducted experimentally with the aim of knowing the evolution of flame, droplet diameter burning time, flame height, and ignition delay time with the role of initial temperature variations and attractive magnetic fields. The benefits of research for the development of droplet combustion methods are made comparisons for further research, especially the droplet combustion method. In this study, it was carried out by heating palm oil, followed by placing droplets with a diameter of 0.4 mm in a thermocouple. The results found that the initial temperature of 60°C with N-S magnets had a big influence on the burning duration reaching 733 ms because having a viscosity value of 16.93 mPas can accelerate the combustion process. The dimensions of the droplet size of palm oil vary with the initial temperature (40 °C, 50 °C, 60 °C) and the intensity of the attractive magnetic field affects the starting point of the fire to be lit and the speed of the flame, the highest flame height reaches 18.01mm at a temperature of 40 °C on S-N magnets, This is because the S-N magnet which has energetic spin electrons pumps oxygen and releases H₂O, the ignition delay time is influenced by the viscosity of the initial temperature of palm oil (40°C, 50°C, 60°C) which can accelerate the combustion process.

Key words: droplet combustion, flame characteristic, initial temperature, magnetic fields, palm oil,

INTRODUCTION

Excessive use of petroleum fuels will lead to an energy crisis in the future. There are many renewable energy sources that can act as a substitute for fossil fuels. One alternative to substitute fossil fuels is a vegetable oil.

The combustion process prioritizes aspects of energy saving, increasing the value of effectiveness, and developing vehicle technology. Of these several combustion methods, the use of a magnetic field is one method that is quite interesting to be developed. Magnets are widely used to save fuel, many studies have used magnetic field currents to save fuel and increase the temperature in the combustion. The addition of a magnetic field to the fuel serves to increase the flash point and decrease the viscosity value without changing the molecular structure of the fuel.

(Rahayu, 2005) suspects that palm oil is a suitable raw material for biodiesel considering the ALB content is below 1%, so it does not require a primary cycle to process vegetable oil through a degumming and purification cycle.

(Perdana et al., 2020) found that the strength of the magnetic field increases the laminar flame velocity of vegetable oils through its role in increasing electron spin and changing the proton spin of hydrogen in fuels. This role is seen more clearly in the more polar biofuels

because the electrons are more tightly bound to the fuel molecules.

(Dinata et al., 2020) stated that his research results showed that the SN magnetic field had a greater effect on the evolution of the flame, the presence of active electrons that rotated and accelerated the combustion, and the droplet diameter would affect the combustion process, the small diameter affected the time when the fire was ignited, the SN magnetic field at the flame height also affect the completeness of combustion. This is due to the energetic proton rotation and oxygen pumping around the flame from the SN pole and releasing H₂O as a heat source around the SN pole, the ignition delay time is influenced by the viscosity of the oil and the direction of the magnetic field which can accelerate the combustion process.

There is little research on droplet combustion which is influenced by a magnetic field, so there are researchers conducted research on the role of variations in the initial temperature of palm oil on the characteristics of droplet combustion with the addition of a magnetic field.

RESEARCH METHODS

The method was carried out experimentally, the material used was palm oil with an initial temperature (40°C, 50°C, 60°C) and orientation of a magnetic field of

attraction (N-S, S-N) neodymium NC52 with an intensity of 11.000 G, palm oil droplets diameter of 0.4 mm, thermocouple wire 0.12 mm in diameter.

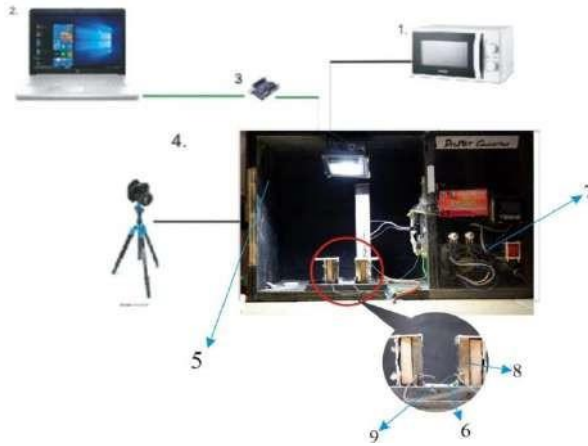


Figure 1. Installation

1. Microwave
2. Komputer
3. Data logger
4. High Speed Camera
5. Combustion Chamber
6. Thermocouple
7. Switch On/off
8. Magnet Permanent
9. Heating Element

Tabel 1. The physical properties of palm oil

Temperature (°C)	Viscosity (mPas)	Heat Capacity (KJ/kg-C)	Conductivity (W/m-C)	Density (kg/m³)	Viscosity (cST)
25	77.19	1.861	0.1721	887.5	86.97
30	57.87	1.875	0.1717	885.0	65.37
35	44.68	1.888	0.1712	882.5	50.63
40	35.41	1.902	0.1708	880.0	40.24
45	28.68	1.916	0.1704	877.5	32.68
50	23.68	1.930	0.1699	875.1	27.06
55	19.88	1.944	0.1695	872.6	22.78
60	16.93	1.959	0.1691	870.2	19.46
65	14.61	1.973	0.1687	867.8	16.84
70	12.75	1.988	0.1683	865.4	14.73
75	11.23	2.003	0.1679	863.1	13.01
80	9.99	2.018	0.1675	860.7	11.61
85	8.955	2.034	0.1671	858.4	10.43
90	8.087	2.049	0.1668	856.1	9.45
95	7.351	2.065	0.1664	853.8	8.61
100	6.721	2.081	0.1660	851.6	7.89

RESULTS AND DISCUSSIONS

The role of variation in initial temperature and attractive magnetic field on flame evolution

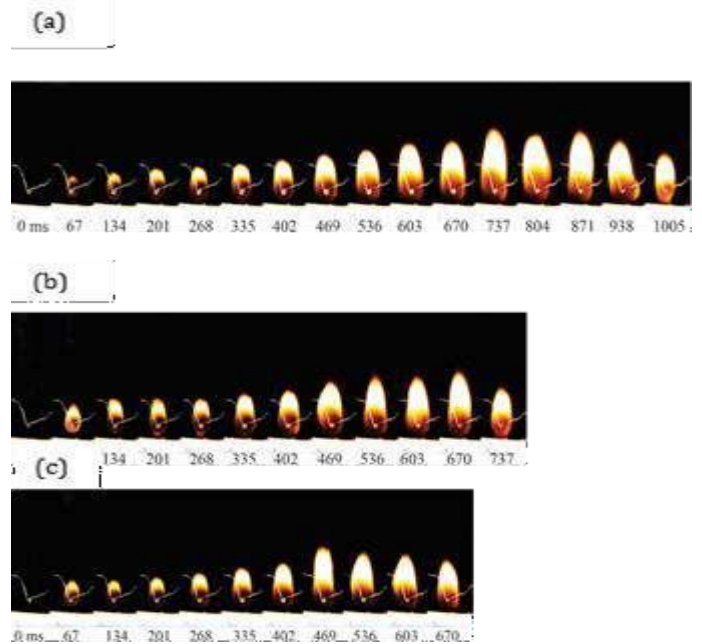


Figure 2. Evolution of Palm Oil Flame with N-S Magnetic Field and Initial Temperature of: (a) 40 °C, (B) 50 °C, and (C) 60 °C

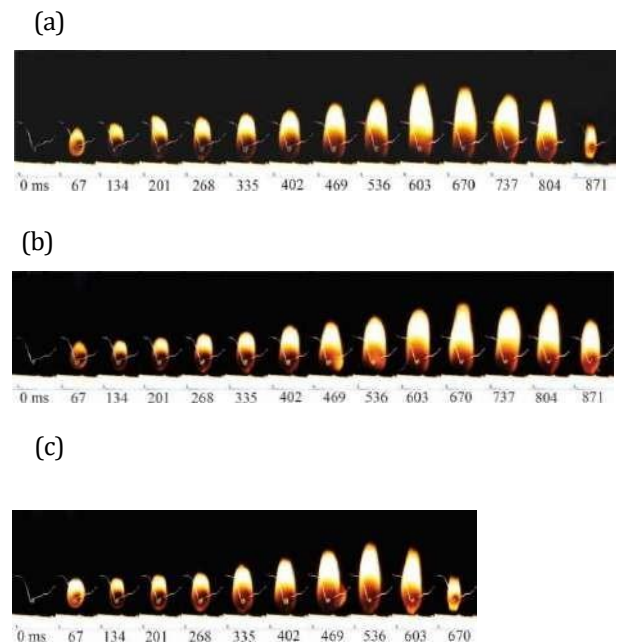


Figure 3 Evolution of Palm Oil Flame with S-N Magnetic Field and Initial Temperature of: (a) 40 °C, (b) 50 °C, and (c) 60 °C

Figure 2 - 3 shows the evolution of palm oil flame with initial variations in temperature of 40°C, 50°C, 60°C, and a magnetic field of attraction. Initial temperature variations and the addition of a magnetic field of attraction in palm oil showed significant changes. It can be seen from Figures 2c and 3c that at a temperature of 60°C the burning duration of palm oil is shorter, this means that the viscosity of palm oil decreases as shown in table 1 which has a value of 16.93 mPas, thereby

accelerating the rate of combustion. This is different from that shown in Figure 2a at 40°C which has a viscosity of 35.41 mPas resulting in a more stable burning duration, it is possible that the spin of electrons in the N-S magnetic field is slower than the S-N magnetic field because the oxygen produced from combustion is released by a strong current. N-S magnetic field.

Figure 2a shows a fire burning at 67 ms the trend was up to 737 ms, after which the trend was down until it was extinguished. The high flame makes it possible for an explosion of H₂O particles during the combustion process. As shown in Figure 2b, the trend of increasing burning duration is stable for 670 ms, after that the trend decreases and then disappears. The shape of the flame is sharp like a spear seen at 536 ms to 670 ms. This is possible due to the influence of the N-S magnet pumping out O₂ during the combustion process. From Figure 2c, it can be seen that the fire was lit at 67 ms, the trend was up to 469 ms, then it went down until it was extinguished. The trend of the burning of lifetime speed reaches 670 ms. This is due to the strong influence of the N-S magnetic field.

Figure 3a shows the flame height increasing from 67 ms to 737 ms, then decreasing to extinction. The shape of the flame at 201 ms is unique, this is possible because of a micro-explosion due to the evaporation of H₂O in the droplets. Figure 3b shows the flame height trending increasing from 67ms to 670ms then decreasing at 737ms. However, at 804 ms it increased and then decreased until the flame became extinct, this was due to the influence of the S-N magnetic field which pumped O₂ into the flame in the combustion process. The shape of the flame height from 536 ms to 804 ms increased, this was due to an explosion, where the presence of H₂O evaporated at 469 ms. As seen in Figure 3c, at 67 ms, the trend of the flames started to increase until 536ms, then it went down until it was extinguished. The shape of the flame is different at 469 ms, this is a bulge due to the explosion of palm oil droplets when burning.

Changes in the evolution of palm oil suggest that the micro-explosion occurred before the second stage of combustion. The explosion that occurs is due to the fatty acid fraction lost at the beginning of evaporation, glycerol requires considerable heating. This heating results in faster evaporation of a small portion of the fatty acids causing micro-explosion (Wardana, 2010).

The role of variation in initial temperature and tensile magnetic field on droplet diameter

Figure 4 is palm oil droplet diameter with variations in initial temperature and attractive magnetic field. From this comparison, it was found that the dominant droplet diameter was the most stable at a temperature of 60 °C N-S compared to a temperature of 60 °C S-N. This is because the direction of the N-S magnetic field brings H₂O as a heat source inward and releases O₂ which makes evaporation in the N-S magnetic field larger. On the other hand, in the S-N magnetic field,

paramagnetic O₂ is pumped more across the flames from the south pole (S) to the north pole (U).

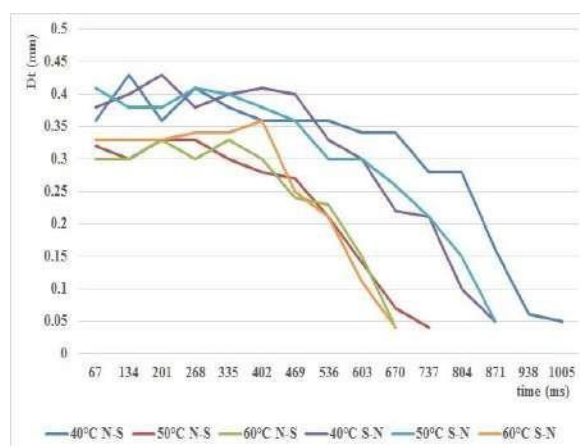


Figure 4 droplet diameter with variations in initial temperature and attractive magnetic field

Palm oil burns in 3 stages, the first stage is the unsaturated fatty acids burning then followed by the saturated fatty acids in the second stage, and in the third stage, the glycerol starts to burn. When the saturated fatty acid content starts to run out while the glycerol is stepped on, evaporation will occur, in this condition, there is infiltration and trapping of saturated fatty acids in the glycerol. The trapping of saturated fatty acids in glycerol causes the pressure of the saturated fatty acid vapor bubbles to increase and finally at a certain pressure the bubbles burst into micro-explosion. This micro-explosion causes a change in droplet diameter (Marlina et al., 2020).

The role of variation in initial temperature and tensile magnetic field at flame height

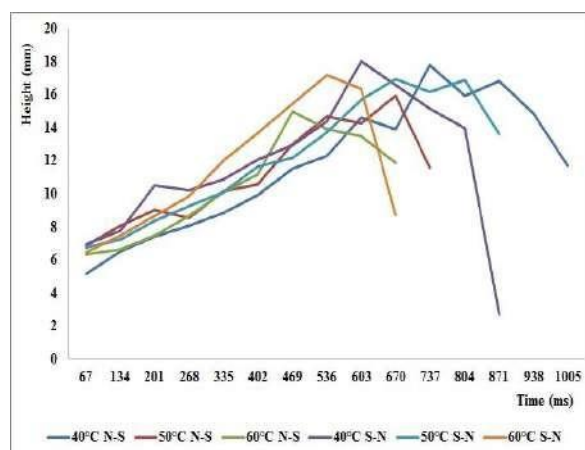


Figure 5 flame height with the role of initial temperature variations and attractive magnetic fields

Figure 5 shows the flame height of palm oil with the role of the initial temperature and the attractive magnetic field. The highest dominant flame is at 40 °C S-N temperature with a height of 16.98 mm compared to

50 °C N-S temperature with a height of 15.94. It is possible that the S-N magnetic field provides a greater tensile strength to pump O₂ which is paramagnetic into the combustion and releases H₂O which is diamagnetic so that the flame height decreases.

The role of variation in initial temperature and tensile magnetic field on ignition delay time

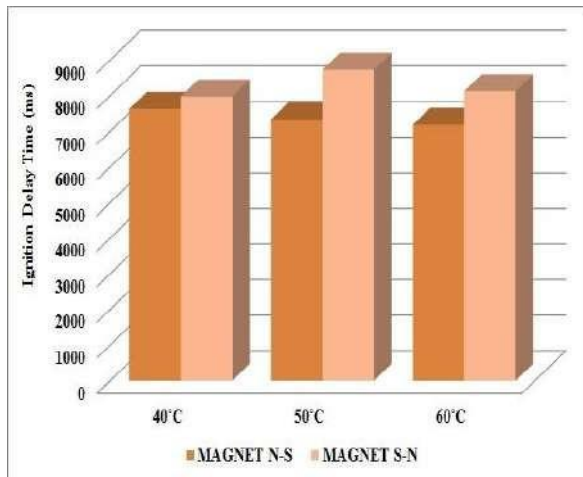


Figure 6 The role of the initial temperature variation and the attractive magnetic field on the ignition delay time

Figure 6 shows the role of the initial temperature variations of 40 °C, 50 °C, 60 °C and the magnetic field of attraction. At a temperature of 40 °C magnet N-S ignition delay time is long reaching 7634 ms, followed by 50 °C, 60 °C, 7338 ms and 7185 ms, respectively. Meanwhile, the S-N magnetic field reaches 7983 ms at 40 °C, followed by 50 °C and 60 °C at 8732 ms and 8128 ms, respectively. The shortest ignition delay time is dominated by the N-S magnetic field. This is due first, to the electron spin reaction being more active and can accelerate the molecular reaction in palm oil. Second, the role of initial temperature is very influential in changing the chemical and physical elements in palm oil. Table 1 shows that the value of heat capacity from temperatures of 40 °C, 50 °C, and 60 °C is 1.902KJ/kg-C, 1.930KJ/kg-C, and 1.959KJ/kg-C. on the burning rate of palm oil. The magnetic field of the S-N ignition delay time is longer because the proton spin rotates rather slowly, resulting in a longer molecular reaction in vegetable oil compared to the N-S magnetic field. Ignition delay time shows how the quality of a certain fuel if fuel has a longer combustion delay, it can be said that the fuel has poor quality. The factor that causes the delay in burning time is the viscosity value.

CONCLUSION

1. The initial temperature of 60 °C N-S gives a greater influence on the evolution of the flame with a burning duration of 733 ms. This is because the viscosity value of

16.93 mPas can accelerate the combustion process and the N-S magnet has a more active electron spin carrying H₂O which is diamagnetic into the flame.

2. Droplet size in palm oil with variations in initial temperature (40 °C, 50 °C, 60 °C) and the intensity of the attractive magnetic field (N-S, S-N) affect the initial flame and combustion speed. It is possible that there is a capillarity/bubble grain development on the droplet diameter when burning which causes an increase and decrease in the droplet diameter size, as well as the effect of initial temperature (40 °C, 50 °C, 60 °C) on the physical and chemical properties of palm oil.

3. The highest flame height of the S-N magnet is 18.01 mm. This is because the intensity of the S-N magnetic field, which has energetic electron spins, pumps oxygen across the flame from the S-N pole and releases H₂O.

4. The ignition delay time is influenced by the viscosity of the initial temperature of palm oil (40°C, 50°C, 60°C) and the direction of the N-S magnetic field can accelerate the combustion process. The magnetic field of the S-N ignition delay time is longer at the initial temperature of 40°C, 50°C, 60°C, respectively 7983ms, 8732ms and 8128ms due to the spin electron spins a bit slower which causes the molecular reaction in vegetable oil to take longer.

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BLENDED LEARNING ONE OF THE ALTERNATIVES TO TREAT THE IMPACT OF LEARNING LOSS

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ABSTRACT

Online learning during the pandemic is considered ineffective and has caused learning loss, therefore the current government has taken a policy to implement 100 face-to-face learning but with limited study time, which is 6 hours per day. To overcome the learning loss that has occurred in online learning during the pandemic, it requires more learning time than is available in face-to-face learning today. The duration of study can be extended by implementing blended learning that integrates online and face-to-face learning strategies. Blended learning is the right choice to overcome learning loss for the following reasons: (1) the use of Blended learning provides a longer and more flexible learning time and wider access to learning resources; (2) students and teachers have had online learning experiences as capital for blended learning; (3) teachers who have completed teacher professional education, they have learned to use the blended learning model; (4) from a number of studies blended learning is proven to provide learning experiences and learning outcomes that are better than traditional learning and E-learning.

INTRODUCTION

Online learning due to the COVID-19 pandemic raises concerns about the decline in the quality of learning which has an impact on the quality of learning outcomes. The existence of various limitations in online learning results in students not being able to develop competencies optimally like face-to-face learning. Online learning organized by teachers has not found the right form, so its effectiveness is still often questioned. Not many schools have established online learning applications. Only a small number of schools have developed or have learning applications such as the "Learning Management System (LMS)" as a relatively effective and efficient online learning tool. Most schools leave it entirely to teachers to create their own online learning. The fact is that there are still many teachers who have not stuttered on online learning technology, of course this makes the situation worse.

A number of studies and surveys show that the effectiveness of online learning is relatively low (Hamdani and Priatna, 2020; Damayanthi, 2020; Baety and Munandar, 2021; Yudhira, 2021). The ineffectiveness of online learning during the pandemic was partly caused by several obstacles and negative impacts in online learning. Several obstacles include a) inadequate network, b)

students do not focus in learning, c) the lecture is not on time, d) students are not on time, e) students do not understand material, f) students are not happy with the assessment, g) students have difficulty in learning the material, h) students do other activities while online learning, i) students are not enthusiastic in online learning, j) online learning complicates learning process, and k) expensive internet quota. The negative impact of online learning on students include 1) students are not enthusiastic, 2) students are not focused, 3) students are sometimes late in sending assignments, 4) students have difficulty in learning material, 5) student achievement decrease, and 6) students are lazy to learn and the positive impact include 1) the teaching and learning process can still run, 2) free and relaxed, 3) students are more willing to give opinions or ask questions, 4) more economical costs, and 5) more independent (Simamora, 2021).

Learning loss

The various conditions above have resulted in learning losses due to online learning during the COVID-19 pandemic. Learning loss refers to a condition where a small or large part of the knowledge and skills in academic development is lost, which is usually caused by the cessation or disruption of the learning process in the world of

education. Learning loss according to The Glossary of Education Reform (<https://edglossary.org/>) is defined as a loss or limitation of knowledge and abilities which refers to academic progress, generally occurs because of a prolonged gap or discontinuity in education.

Is the learning loss serious enough? Learning loss in Indonesian education during the pandemic can be said to be serious considering that: (1) there are a number of limitations in online learning that result in ineffective learning; (2) in learning, students in general are still very dependent on the teacher; (3) the ability and willingness of students to learn independently is still low. Some of the limitations in online learning include the delivery of material that is not flexible, difficulties in asking questions or consulting with teachers, difficulties in working in groups and discussing fellow students, and internet network disturbances. In addition, technical factors, psychological, and economic limitations, become obstacles in the implementation of online learning. Our students in general are still very dependent on the teacher in learning. Students are already accustomed to receiving knowledge from the teacher. The curriculum for primary and secondary education in 2013 has actually designed a learning system that trains students' independence in learning. However, in practice it is not as beautiful as it has been designed in the curriculum. The ability and willingness of students to learn independently in achieving the competencies set out in the curriculum are still low.

The impact of learning loss will continue as long as students study at various levels of education. This happens because some of the competencies that are lost or not built in learning during the pandemic are prerequisite competencies for building competence in the next learning or education process. Advanced competency development cannot take place optimally if the competencies that are prerequisites have not been mastered by students. Students will get difficulties in learning advanced material. Students with insufficient competence will get difficulties in the next level of education. This means that learning loss if not addressed will have a chain effect in the national education system.

Overcoming learning loss

A number of proposals have been made by several parties to overcome or minimize the impact of learning loss. From a number of ideas or proposals, there are two dominant proposals. The first proposal is to extend study time within the current academic year. There are those who propose that the study period (academic year) is extended for one or two semesters. This proposal is based on the view that there has been a very

serious learning loss at all levels of education due to the ineffectiveness of online learning. The second proposal is to immediately conduct face-to-face learning for areas that are relatively "safe" by implementing strict health protocols. As we know, in the end the government chose the second option by implementing a limited face-to-face learning policy.

The government through the decision of the Ministry of Education, Culture, Research, and Technology issued a circular letter number 4 of 2021, regarding the implementation of face-to-face learning for the 2021/2022 academic year. This Limited Face-to-face Learning will take effect in the 2021 Academic Year with a maximum capacity of 50% of the total school population. The concept of Limited Face-to-face Learning is carried out with a class change system or shift division with a two-day pattern of face-to-face meetings at school, the other three days being done online at home. The number of students who take part in face-to-face learning is 50% of the total students with a limited learning time duration of 30 minutes for one hour lesson.

After the number of COVID-19 infection cases dropped dramatically and the proportion of the population who had been vaccinated was deemed adequate, starting in the even semester of 2021/2022 the government took a policy to conduct 100% face-to-face learning in regions with PPKM levels 1 and 2. holding 100% face-to-face learning with the terms and conditions stipulated in the Joint Decree (SKB) of 4 Ministers dated December 21, 2021 Number 05/KB/2021, Number 1347 of 2021, Number HK.01.08/MENKES/6678/2021, Number 443 - 5847 of 2021 concerning Guidelines for the Implementation of Learning in the Covid-19 Pandemic Period. All regions that meet the terms and conditions take policies to implement face-to-face learning, especially for primary and secondary education levels. In addition to implementing strict health protocols, such as limited face-to-face learning, the duration of study time is also reduced, the maximum study time is 6 hours per day.

Face-to-face learning is expected to be more effective than online learning. But can this face-to-face learning build the competencies lost due to learning loss during the pandemic? Instead of developing competencies that were lost in previous online learning, with a short learning time, the curriculum substance cannot be studied completely. The face-to-face learning process seems to be a race against time to complete the subject matter. The learning process takes place so fast, it does not provide enough time for slow learners. Not enough time to map student competencies, even though competency mapping is

important to find out prerequisite competencies that have not been developed due to learning loss.

The number of subject matter that students must learn and the competency "debt" that must be paid due to learning loss in previous online learning can not be solved by 100% face-to-face learning at this time because of the limited time to study at school. Blended learning may be one

solution to solve these problems.

Why blended learning?

The concept of blended learning has actually been published for a long time, but in Indonesia it has only begun to be adopted after the internet network can be accessed by the wider community. The idea of blended learning began to be published in the late 1990s as a new learning method for distance learning through the application of technology and the internet (Taylor and Newton, 2013). The emergence of the blended learning model is a form of response from the world of education to the advancement of online technology and then tries to combine it with traditional learning activities (Thorne, 2003). Blended learning can be seen as an opportunity to innovate

learning by utilizing advances in online technology

without having to leave the traditional learning that students are accustomed to. Blended learning is also considered as an evolution in the learning process, which will continue to develop along with the development of information technology.

There are many definitions of blended learning. Bonk & Graham (2006) define blended learning as a learning model with a combination of two different types of learning activities, namely traditional learning with a distributed learning system. The distributed learning system in question is a learning system by optimally utilizing electronic technology, such as computers and the internet so that learning materials can be easily accessed by anyone, anytime and anywhere. Staley, et al. (2007) define blended learning as a combination or combination of various online,

offline and face-to-face learning methods.

Allen, Seaman, and Garrett (2007), distinguish traditional learning and several other learning models that utilize the internet network based on the proportion of the way the material is presented, as presented in Table 1.

Tabel 1. Illustration Table of The Prototypical Course Classifications.

Proportion of Content	Delivery Method	Description
0%	Traditional	Course with no online technology used content is delivered in writing or orally
1 to 29%	Web Facilitated	Course which uses web-based technology to facilitate what is essentially a face-to-face course. Uses a course management system (CMS) or web pages to post the syllabus and assignments, for example
30 to 79%	Blended/Hybrid	Course that blends online and face-to-face delivery Substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings
80 to 100%	Online	A course where most or all of the content is delivered online. Typically have no face-to-face

Type of Course	Typical Description	— m ee ti ng s —
<u>Onli</u>	B y com binin g onlin e learn ing strat egies and face- to- face learn ing, the pote ntial of blen ded learn ing can be said to be “alm ost limitl ess”	

(Thorne, 2003). Blended learning provides many

choices of strategies in learning with wider and more flexible learning times, as well as "unlimited" access to learning resources. According to Watson (2008) blended learning is the best combination of online and face-to-face learning components because it combines the best components of online learning and face-to-face learning. Galvin (2011) suggests that blended learning is an effective way to teach and prove the success of a fact-based approach. Galvin also mentioned that in his research during the learning process and at the end of the lesson, it was proven that the blended learning model was able to increase the cognitive knowledge of students and make learning conditions better than usual.

A number of research results have shown that blended learning if carried out properly in accordance with the conditions of the students and the learning environment will provide better learning outcomes compared to traditional learning and e-learning. Thai, De Wever, and Valcke (2017) compare learning outcomes using blended learning and E-learning. The results showed that students in the blended learning setting had a higher learning performance as compared to the E-learning setting. In addition, studying in a blended learning (Flipped Classroom type setting) had a positive effect on self-efficacy beliefs and intrinsic motivation, but not on perceived flexibility.

The results of other studies show that the success of learning using the blended learning model is influenced by students' learning motivation. Student learning outcomes in the cognitive domain with high learning motivation will be maximized by using blended learning while student learning outcomes with low motivation will be maximized using face-to-face learning (Khoiroh, 2017). In language learning according to Tawil, H. (2018), blended learning enhances the learner's experience of a new language, and offers greater efficiency in the communication and practice of that language. Efficient and user- friendly technology, with direction instruction and practice in a face to face setting, are seen as the key to successful blended learning language instruction.

According to Cleveland-Innes and Wilton (2018), the advantages of blended learning for students include increased learning skills, greater access to information, improved satisfaction and learning outcomes, and opportunities both to learn with others and to teach others. Recent research (that has been compiled by Cleveland-Innes and Wilton) identifies the following key benefits of blended learning:

- 1) Opportunity for collaboration at a distance: Individual students work together virtually in an intellectual endeavour as a learning practice.

- 2) Increased flexibility: Technology-enabled learning allows for learning anytime and anywhere, letting students learn without the barriers of time and location but with the possible support of in-person engagement.
- 3) Increased interaction: Blended learning offers a platform to facilitate greater interactivity between students, as well as between students and teachers.
- 4) Enhanced learning: Additional types of learning activities improve engagement and can help students achieve higher and more meaningful levels of learning.
- 5) Learning to be virtual citizens: Learners practice the ability to project themselves socially and academically in an online community of inquiry. Digital learning skills are becoming essential to be a lifelong learner, and blended courses help learners master the skills for using a variety of technologies.

What are the types of blended learning models?

Based on the combination of various online learning strategies and face-to-face learning strategies, there are many types of blended learning configurations. Below are seven sample configurations of blended learning activities offered by O'Connell (2016) These examples of blended learning are drawn from higher education but can be shaped to fit any teaching and learning situation.

- 1) Blended face-to-face class: Also sometimes called the "face-to-face driver model," the blended face-to-face class model is based in the classroom, although a significant amount of classroom time has been replaced by online activities.
- 2) Blended online class: Sometimes referred to as the "online driver model," this class is the in-verse of the blended face-to-face class. The class is mostly conducted online, but there are some required in- person activities such as lectures or labs.
- 3) The flipped classroom: The flipped classroom reverses the traditional class structure of listening to a lecture in class and completing homework activities at home.
- 4) The rotation model: In this model, students in a course rotate between various modalities, one of which is online learning. There are various sub-models:

station rotation, lab rotation and individual rotation.

- 5) The self-blend model: While many of the blended learning models on this list are at the course level, self-blending is a programme-level model and is familiar to many college students. Learners using this model are enrolled in a school but take online courses in addition to their traditional face-to-face courses.
- 6) The blended MOOC: The blended MOOC is a form of flipped classroom using in-person class meetings to supplement a massive open online course. Students access MOOC materials perhaps from another institution or instructor if the course is openly accessible outside of class and then come to a class meeting for discussions or in-class activities.
- 7) Flexible-mode courses: Flexible-mode courses offer all instruction in multiple modes in person and online and students choose how to take their course.

Blended learning may be a new model for most Indonesian teachers, therefore they should choose a simple type of blended learning, according to students' abilities and available resources.

How to implement the blended learning model?

There are four major areas that must be considered when developing a high-quality blended learning environment. These four areas are as follows: technology, instructors, students, and pedagogy. Based on the findings, some practical suggestions for transforming traditional courses into blended ones are also offered at the end of the research study Gulbahar and Madran (2009). According to (Cleveland-Innes, et al., 2017) creating an effective blended learning environment means making appropriate choices and overcoming the challenges that come with the use of technology. The following challenges and recommendations were identified in recent research on teacher perspectives, conducted by Athabasca University and the Commonwealth of Learning:

- 1) Technology access: A critical first step is to know which resources are available to your students. Is there limited bandwidth, unreliable Internet connectivity, or lack of devices such as laptops or smartphones? Once you are clear about access, you can choose learning activities with the technology in ways that allow all to participate.
- 2) Design: Creating the appropriate in-person and online activities means designing courses with the pedagogic

principles of both and integrating technology in a way that supports meaningful learning.

- 3) Safety and security: Create awareness of cyber-malice and ensure security interventions against unethical learning practices, academic dishonesty, identity theft and bullying are in place.
- 4) Skill development, support and training: Both students and instructors must have technological literacy and competence with technology applications.
- 5) Motivation: Students need adequate motivation when engaging in a wide range of often shifting learning modalities, some of which may require significant skill development.

The learning process must consider the level of development task of students at each level of education. Regarding that, online learning sessions in blended learning for the elementary students should be used to broaden, deepen, and apply the knowledge that has been learned in face-to-face classes, while for secondary students and higher education online learning sessions can be used to provide opportunities for students to construct their knowledge independently. In asynchronous online learning, in general, students are given assignments to study independently. In this case, the independent assignments should be packaged in such a way as to ensure that students can complete the task well, for example, the task is packaged in the form of a worksheet with adequate directions.

CONCLUSION

There must be appropriate action to overcome the learning loss that occurred during the covid-19 pandemic, from this study we can draw the following conclusions.

- 1) To overcome the learning loss that has occurred in online learning during the pandemic, it requires more learning time than is available in face-to-face learning today. Duration of study can be extended by implementing blended learning that integrates online and face-to-face learning strategies.
- 2) Blended learning is one of the right choice to overcome learning loss for the following reasons: (1) the use of blended learning provides a longer and more flexible learning time and wider access to learning resources; (2) students and teachers have had online learning experiences as capital for blended learning; (3) teachers who have completed teacher professional education, they have learned to use the blended learning model; (4) from a

number of studies blended learning is proven to provide learning experiences and learning outcomes that are better than traditional learning and E-learning.

Recommendation

- 1) There are several configurations or types of blended learning that can be implemented, however, teachers should choose the type of blended learning that is in accordance with the students' abilities and available resources.
- 2) Taking into account the level of development of students at each level of education, it is recommended as follows. Online learning sessions in blended learning for the basic education level should be used to expand, deepen, and apply the knowledge that has been learned in face-to-face classes, while for secondary and higher education online learning sessions can be used to provide opportunities for students to construct knowledge independently.
- 3) Self-assignment in asynchronous online learning sessions should be packaged in such a way as to ensure that students can complete these tasks well, for example, assignments are packaged in the form of worksheets with adequate guidance.

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THE URGENCY OF LEGAL PROTECTION OF CONSUMER PERSONAL DATA IN E-COMMERCE TRANSACTIONS

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ABSTRACT

This study discusses the legal protection of consumer personal data in *e-commerce* transactions and the regulation of legal protection; exclusive data; and consumer personal data in *e-commerce* transactions. The method used in this research is normative legal research with a *statute approach* and a *conceptual approach*. The results of this study indicate that the protection of consumer personal data is a human right. This is reflected in the constitution and laws. However, regulations that specifically regulate the protection of personal data at the statutory level do not yet exist. Indonesia does not yet have regulations on consumer personal data in *e-commerce* transactions. This is only regulated in Article 26 of the ITE Law and several other articles. Legal protection for consumers in *e-commerce* transactions is needed to facilitate online consumer transactions. The goal is to treat all transactions the same way regardless of the selected medium.

Key words: e-commerce, legal protection, personal data

INTRODUCTION

The development of digital technology has brought rapid changes to all aspects of life, including global trade. Trade transactions can be done practically and quickly through *e-commerce*. *E-commerce* is a process of trade transactions, both goods, services, and information using the internet online network (Amit & Zott, 2000; Khairandy, 2001; Irmawati, 2011; and Hermawan & Sinaga, 2020). In *e-commerce*, this method is done using electronic media (digital media) where the parties are not physically present. This media is contained in a network with an open system, namely the internet or the *world wide web*. This transaction is independent of regional boundaries and national requirements.

The presence of *e-commerce* can increase economic activity very significantly. The concept of *e-commerce* with the presence of a *marketplace* has replaced the concept of transacting. *E-commerce* has now been poor cross in trade around the world, both locally and internationally (Chen, 2017); (Dhaka, 2017); (Janow & Mavroidis, 2019); and (Budiyanti et al., 2021).

The exciting development of *e-commerce* is not without problems. Infrastructure, limited human resources, and investment are often obstacles to the spread of *e-commerce* (Kbanda & Brown, 2015; Firmansyah, 2017; Setyadi, 2019; Ayuningrum, 2019; Bahtiar, 2020; Rachmasarinigrum, 2020). In addition, there is still

one very important problem that can become an obstacle to the development of *e-commerce* in Indonesia, namely the issue of regulations that specifically regulate *e-commerce* in Indonesia that do not yet exist (Lukito, 2017; Anjani & Santoso, 2018; Setiantoro, Arfian; Putri, Fayreizha Destika; Novitarani, Anisah; and Njatrijani, 2018; and there is no set of regulations (Barkatullah & Djumadi, 2018; Gao, 2018; Willemyns, 2020). About *e-commerce* and digital signatures. Even before the United States enacted the law, Malaysia and Singapore, which are neighboring countries to Indonesia, have made legal instruments that regulate the existence of *e-commerce* and *digital signatures* since 1998.

Personal data is one of the important issues in *e-commerce*. This is related to the use of confidentiality and protection of personal data (Nafi'ah, 2020; Mahira et al., 2020; Pranadita & Soeparana, 2020; Haganta, 2020; Winarso et al., 2020; and Belwal et al., 2020). The protection of consumer personal data greatly affects the development of the digital economy in a country, Indonesia is no exception. Personal data is important because users on the network will not carry out digital transactions if they feel the security of their privacy and personal data is threatened (Girsang et al., 2020; Khoa, 2020; and Putri & Iriani, 2020). One of the protections for personal data relates to how the personal data will be processed, including sensitive data from users which if distributed to irresponsible parties will have the

potential to cause financial losses, alike threaten the security and safety of the owner. Threats that arise from weak privacy protections are directly related to the economic growth derived from transactions on the (online) network.

The regulatory provisions related to the protection of consumer personal data in Indonesia are still partial and sectoral (Suisno & Ningtias, 2016; Mostgi & Limbongan, 2020; Niffari, 2020; Halimawan et al., 2020). Indonesia has rules for protecting personal data circulating in various laws and regulations, for example, Law number 36 of 2009 concerning Health which regulates patient privacy, while Law number 10 of 1998 concerning Banking regulates personal data about customers. storage and savings.

This study aims to examine the legal protection of consumer personal data in *e-commerce* transactions and examine the regulation of consumer personal data in *e-commerce* transactions.

RESEARCH METHOD

The method used in this research is normative legal research. The approach used is the *statute approach* and the *conceptual approach*. The legal materials used are qualitative data. Legal sources in the form of secondary data are primary legal materials. The legal material produced is derived from laws and regulations related to the protection of personal data in Indonesia. The data analysis technique uses a qualitative narrative.

RESULTS AND DISCUSSION

Legal protection of consumer personal data in e-commerce transactions

The use of the internet in various fields of life not only makes things more practical but also gives birth to various kinds of problems including legal problems. One of the legal problems that arise is related to the protection of consumer personal data. Not infrequently when someone makes transactions or registers in an organization on the internet, the user is required to send certain personal data.

In terms protect of personal data, there are several categories of legal subjects that must be regulated. The first legal subject is "Personal Data Manager", namely people, public or private legal entities, and other community organizations that individually or jointly manage the personal data. This Personal Data Manager carries out "personal data management" activities in the form of activities or a series of activities carried out on personal data, either using data processing tools automatically or manually, in a structured manner and using a data storage system, including but not limited to

collection processing activities, use, disclosure, dissemination and security of personal data.

The vulnerabilities of the online system, in circumstances the possibility of interference with exclusive information about financial or medical conditions that consumers routinely provide to banks, retailers, insurance premium agents, and credit card companies have added to the concerns of consumers who use online transactions without adequate security. Consumers who require the product are often required to provide complete information about the characteristics of themselves or the company (if the consumer is a company). It is natural if the maker can judge the credibility of the consumer, whether the consumer is a real buyer or not (Mansyur and Gultom, 2005). Services for internet sites can be accessed without being required to become a member/member of the site, for example, sites in the mass media. But sometimes is any too that visitors/users document first in cool to enjoy the site's services, for example, electronic mail (*e-mail*) sites, buying and selling sites, social networking sites (social media), and others.

Regulation of consumer personal data in e-commerce transactions

Thus far, Indonesia does not have a policy or regulation regarding the protection of personal data in one specific regulation. The regulation regarding this matter is still contained separately in several laws and regulations and only reflects the general aspect of personal data protection.

Further arrangements regarding the protection of internet users' data are contained in the ITE Law. The ITE Law does not yet contain rules for personal data protection special. However, implicitly, the ITE Law raises a new understanding of the protection of the existence of electronic data or information, both general and specific. This classification of electronic data is directly mandated further in the ITE Law in PP PSTE.

Protection of personal data in an electronic system in the ITE Law includes protection from unauthorized use, protection by electronic system operators, and protection of access and illegal interference. Regarding the use of personal data protection from unauthorized use, Article 26 of the ITE Law requires that the use of any personal data on an electronic media must obtain the consent of the owner of the data concerned. Anyone who violates this provision can be sued for the losses caused.

In its explanation, Article 26 of the ITE Law states that personal data means one part of a person's rights. Meanwhile, the definition of personal data can be seen in Article 1 of PP PSTE, namely certain personal data that is stored, maintained, and kept true and kept confidential. The explanation of Article 26 paragraph (1) of the ITE

Law also shows further the meaning of personal rights. The contents of the explanation are as follows: in the use of information technology, protect of personal data is one part of personal rights (*privacy rights*). Personal rights contain the following meanings: 1) Direct rights are the rights to enjoy a private life and be free from all kinds of disturbances; 2) Personal rights are the rights to be able to communicate with other people without spying; 3) Personal rights are rights to monitor access to personal life information and data of a person; 4) If the general interpretation is drawn, then data protection has been regulated in subsequent articles in the ITE Law, namely in Articles 30 to 33 and 35 which are included in Chapter VII regarding Unpleasant Acts. The ITE Law expressly prohibits illegal access to other people's data through electronic systems to obtain information by breaking through the security system.

Although it is generally regulated in the ITE Law and several other laws and regulations, Indonesia feels it is very necessary to immediately make a specific rule regarding the protection of consumer personal data. One of the main reasons is to increase Indonesia's economic value in international business relations. If Indonesia already has strict and adequate regulations, then developed countries such as the European Union or Singapore will no longer hesitate to conduct business relations with the Indonesian people through cyberspace because in such business relationships there will be an automatic *transfer of data*, where the regulations on developed countries emphasize that data transfer can only be done to countries that have the same strong privacy protection.

In addition to economic reasons, privacy policies must be strengthened as part of the law regarding human rights. Privacy is a part that comes from human rights and specific arrangements regarding the protection of personal data which means one way to respect these personal rights.

In Indonesia, there is concern about protection for privacy and protection of personal data because until now there is no law that clearly and specifically regulates this. Therefore, privacy and personal data protection issues have become an urgent plan in today's modern era. Many countries have implemented special regulations regarding legal protection for personal data, but this is not the case in Indonesia.

The development of technology and the continued increase in internet service users in Indonesia increasingly indicate the need for special arrangements to protect personal data in Indonesia.

The ITE Law regulates personal data, but the ITE Law does not give the meaning of personal data itself. Terminology of personal data is given in

regulations under the law including Government Regulation no. 18 of 2012 concerning the Implementation of Electronic Systems and Transactions (PP 18/2012), Regulation of the Minister of Communication and Information No. 20 of 2016 concerning the protection of Personal Data in Electronic Systems (Permenkoinfo 20/2016). This includes sectoral implementing regulations such as OJK Circular Letter No.014/SEOJK.07/2014 concerning Confidentiality and Security of Consumer Data and/or Personal (SEOJK 014/2014).

It is one of the implementing regulations mandated in the ITE Law, PP No. 82/2012 which imposes responsibility on electronic system operators to maintain the integrity of personal data and requires the consent of the data owner for any acquisition, use, utilization, and disclosure of personal data. However, PP No. 82/2012 does not reflect the basic principles of personal data protection more clearly. The principles of personal data protection and more comprehensive regulation exist at a lower level of regulation, namely Permenkoinfo No. 20/2016. The scope of personal data protection in electronic systems in Permenkoinfo No.20/2016 includes protection against the acquisition, collection, analysis, storage, appearance, announcement, transmission, dissemination, and destruction of personal data. Personal data protection is also regulated in sectoral implementing regulations such as personal data protection for consumers as regulated in Bank Indonesia regulations and the Financial Services Authority. Thus, the regulation of personal data protection in Indonesia is currently still sectoral.

CONCLUSION

Protection of personal data is part of privacy which is a human right. This acknowledgment is reflected, both in the constitution and regulations at the level of the law. However, there are no specific regulations governing the protection of personal data at the statutory level. Indonesia does not yet have regulations on consumer personal data in e-commerce transactions. This is only regulated in Article 26 of the ITE Law and several other articles. Legal protection for consumers in e-commerce transactions is needed to facilitate online consumer transactions. The goal is to treat all transactions in the same way regardless of the media chosen, it is essential to remove existing legal hurdles and to address major new issues for electronic media.

SUGGESTION

In the digital era, the use of electronic data related to personal data will be increasingly used. To protect customers, regulations are needed that can protect consumers. Arrangements are

needed that can maintain data traffic not only within one country but also between countries.

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DEVELOPMENT OF LEARNING DEVICES THROUGH THE COURSE REVIEW HORAY MODEL WITH GROUP INVESTIGATION TO IMPROVE BIOLOGICAL LEARNING OUTCOMES AND SCIENTIFIC WRITING

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ABSTRACT

This needs analysis aims to determine the problems of teachers and students that occur in Biology learning activities at SMA Negeri 2 Samarinda. The target of this analysis is to determine the level of understanding of Biology teachers regarding existing learning tools. The sample of observations in this analysis is a Biology teacher at SMA Negeri 2 Samarinda. The results of observations showed that as many as 40.00% of biology teachers were still in the poor category in compiling learning tools and in choosing learning models. All biology teachers stated that students were less active in the learning process, 60.00% of teachers also stated that students' abilities were still lacking in scientific writing skills because the learning model was monotonous and lacked practical work. In addition, the problem faced is that there are still many teachers who have not implemented learning models that can make students happy, comfortable and creative. The way that can be taken to overcome this problem is to apply the Course Review Horay learning model combined with Group Investigation, but not all teachers can apply and understand the syntax of the learning model. From the results of observations in the form of problem analysis of Biology teachers at SMA Negeri 2 Samarinda, it can be concluded that the ability of teachers to overcome problems in learning needs to be improved in order to create a fun and creative learning atmosphere.

Key words: course review horay, group investigation, learning outcomes, needs analysis, scientific writing skills

INTRODUCTION

A teacher must be really ready when he will carry out the learning process in the classroom. One of the preparations that must be done is to have learning tools that are in accordance with the topic of discussion and are implemented properly in the classroom.

The purpose of national education which is sourced from the Pancasila value system is formulated in Law no. 20 of 2003 article 3, formulates that national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen (Sanjaya, 2006).

One of the efforts to improve the quality of education is to improve the learning system. A

professional teacher before teaching must prepare learning tools first. Teachers can evaluate how to teach with the application of the preparation of learning tools in the learning process in the classroom. The professionalism of a teacher can be improved with learning tools. Thus, learning tools are not only as administrative completeness, but also as a medium for increasing professionalism. Teachers are required to be able to master learning tools that are in accordance with student needs and can optimize learning tools so that student learning outcomes increase.

Learning tools can be used as a reference in the learning process, besides that they can be used as a medium for increasing professionalism. As professional teachers are those who meet competency standards including mastery of knowledge, skills, and attitudes. In addition, by developing learning tools that they have will provide the ability for teachers to develop teaching techniques and become the basis for designing better tools.

The results of observations and interviews regarding needs analysis at SMA Negeri 2 Samarinda obtained information that most of the biology teachers did not understand about learning tools. The results of the needs analysis obtained through questionnaires and interviews at SMA Negeri 2 Samarinda, as much as 60.00% stated that the understanding of biology teachers about the development of learning tools was still lacking. The teacher's understanding of learning tools and their components should be mastered by the teacher because the good or bad results of the learning tools that are prepared depend on the understanding of each teacher.

Facts in the field that 60.00% of biology teachers fall into the category of lacking in planning the development of learning tools. Because they have not mastered the overall preparation of learning tools well. In addition, the reality in the classroom shows that most teachers do not develop their own learning tools, students are less active in class, teachers are less innovative in finding learning models.

Biology learning emphasizes providing direct experience developed with a scientific process that can encourage students to be creative and active during the learning process, in this case practicum activities carried out both inside and outside the classroom. In general, biology learning is built on the basis of scientific products, scientific processes, and scientific attitudes.

The selection of the right model makes students enjoy the lesson, students' learning motivation increases, students will easily understand the lesson so that student learning outcomes are better.

Course Review Horay is a learning model that can create a lively and fun classroom atmosphere because every student who can answer correctly is required to shout 'hurray!' or other preferred yells. The learning model can be used by the teacher in order to create a more pleasant learning atmosphere in the classroom.

Group Investigation is a form of cooperative learning model that emphasizes student participation and activities to find the material (information) of the lesson to be studied. Students are involved from planning, both in determining the topic and how to learn it through investigation. This type requires students to have good skills in communication and group process skills. The Group Investigation model can train students to develop independent thinking skills. Active student involvement can be seen from the first stage to the final stage of learning.

RESEARCH METHOD

The research method used is Research and Development (R & D). This method was used to fulfill the research objectives, namely to design and develop the Course Review Horay learning model combined with Group Investigation by assessing the practicality and effectiveness in the biology learning process for class X students. The sample for this research was SMA Negeri 2 Samarinda. Sugiyono (2011) states that "Research and Development" is research to produce a product by trying its effectiveness. Bord and Gall (Sugiyono, 2011) that "Research and Development" is a typical research used to develop and validate educational and learning products. Therefore, according to experts, the current typical R & D research is in line with the research objectives.

The procedure carried out in this R & D is based on Borg and Gall and adopts a modified Sugiyono (2011) R&D procedure. The order of the learning model adopted based on the Borg and Gall design by the modified R & D procedure of Sugiyono (2013) is as follows:

No	Langkah-Langkah
1	Identifying Problems and Potential
2	Collecting Data and Designing Products
3	Design Validation by Expert
4	Design Improvements
5	Product Trial
6	Product revision I
7	Usage trial
8	Product revision II
9	Mass product manufacture

RESULTS AND DISCUSSION

Results

1. Identify Problems and Potentials

Identification of problems and potentials is carried out based on an observation questionnaire regarding the problems faced by teachers and students in schools, and the potential they have in schools.

Following are the problems faced by teachers in schools:

- a) Most teachers use conventional methods
- b) The learning tools owned by the teacher are not complete
- c) Less variety learning model
- d) Lack of socialization or training for teacher skills

Following are the problems faced by students at school:

- a) Most students tend to be less active in class
- b) There are students who joke with their classmates during the learning process
- c) Lack of motivation in learning
- d) Most of the learning outcomes do not reach the specified standard
- e) Skill in writing scientific reports is still low

2. Data Collection and Product Design

Data were collected to find out what learning models the teacher had. At this stage the data obtained are syllabus, lesson plans, teaching materials in the form of handbooks. The expected results in this development are in the form of a syllabus, lesson plans, teaching materials, student worksheets, evaluations and assessment instruments.

3. Design Validation

The Course Review Horay learning model is combined with Group Investigation to improve learning outcomes and scientific writing skills, which are then validated by experts. The results obtained from all these validations are 84.30% which is classified as 'very valid'.

4. Design Improvements

Even though the learning model is declared 'Very Valid', improvements are still needed, this is needed to get the expected quality learning model. Design revisions were made in several parts, the results of which were then reviewed.

5. Product Trial

The product trial phase is carried out to see how successful the learning model produced in this limited test can run using conventional methods and the Course Review Horay model combined with Group Investigation.

6. Product Revision I

Improvements made were by providing additional time in discussion on student worksheets. Subsequently, the product was gradually revised by consulting with experts.

7. Trial usage

At this stage of trial use, researchers used learning tools that had been developed after being revised and were limited to students. The research data

includes the results of the pre-test and post-test scores.

8. Product Revision II

Based on the teacher's input and suggestions on the teacher's response questionnaire, the researchers made improvements by providing colorful pictures of the teaching materials and detailing the steps in the student worksheets.

9. Product Results

Learning tools that have undergone product trials, revisions, expert validation produce Course Review Horay learning tools combined with Group Investigation to improve learning outcomes and scientific writing skills through Biology learning tools that are ready to be used. The learning tools are syllabus, lesson plan (RPP), teaching materials, student worksheets (LKS), evaluation and learning assessment instruments that have been developed.

Discussion

Researchers conducted direct observations and interviews at schools to collect data and student needs that would be used to make products. The results of observations that have been made at SMA Negeri 2 Samarinda have implemented the 2013 curriculum, some teachers do not understand well about the development of learning tools. The results of the needs analysis obtained through questionnaires and interviews, as much as 60.50% stated that the understanding of biology teachers about learning tools was still lacking because no one correctly stated the components of learning tools, There were 50.00% biology teachers in the poor category. in planning the preparation of learning devices and choosing a learning model that is in accordance with the theme. Because they have not mastered the preparation of the device properly.

Most of the students' interest in learning is still lacking as well as the lack of student awareness to read so that students face difficulties in understanding concepts and solving their own problems so that it requires teachers to still intervene in helping find concepts and in problem solving, there are still many teachers who apparently have not applied the model - learning model that can make students more active.

The learning model is a plan or a pattern that is used as a guide in planning classroom learning or learning in tutorials and to determine learning tools including books, films, computers, curriculum etc. The guidelines contain the teacher's responsibilities in planning the implementation and evaluating learning activities. One of the goals of using the learning model is to improve skills (Joyce in Triatno, 2010).

Course review horay is a learning method where the teacher gives students the opportunity to ask questions individually in a fun way because each student can answer correctly and can shout "horay" (Aqib, 2013). Course review horay is a test of students' conceptual understanding using boxes filled with questions and numbered to write down the answers. The first student to get the correct mark immediately shouted horay or other yells. Through course review horay learning is expected to train students in solving problems by forming small groups (Shoimin, 2016).

Group Investigation (GI) can be used by teachers to develop student creativity, both individually and in groups (Rusman, 2012). Group Investigation (GI) is a learning where students are involved since planning, both in determining the topic/sub topic as well as the method for investigative learning and this model requires students to have good communication skills in the sense that group investigative learning is a method that emphasizes participation and activity. students to find their own material (informants) lessons to be studied through available materials for example from textbooks, community, internet.

Based on the research that has been done by Memi Malihah (2011) in her research on the effect of the inquiry learning model on the learning outcomes of class XI IPA SMAN 1 Leuwiliang in chemistry subjects, it shows that there is an influence on learning outcomes and student activity in the experimental class using the inquiry learning model compared to control class that uses conventional learning models in schools.

The experimental class is more effective because the learning model used makes students more happy and can think critically during the learning process, according to student needs, material.

Completeness of student learning outcomes can be said to be complete if they have reached and fulfilled the KKM (minimum completeness criteria) that have been determined by the school. The standard KKM value is 75. The results based on the analysis are obtained in the limited trial class, the average pre-test value is 40.00 and the post-test average value is 60.00, while in making scientific papers it is still in the poor category. Meanwhile, in the control class, the average pre-test score was 30.00 and the post-test average was 50.00, while making scientific papers was still in the medium category. In the experimental class, the students' pre-test scores were 40.00 and the average post-test results were 80.00, while making scientific papers was in a good category.

Suggestion

The suggestions that can be submitted are as follows. First, it is recommended for teachers to understand and apply creative and innovative learning models. Second, teachers are expected to practice making their own learning tools so they understand the development of learning tools with existing references. Third, teachers should teach students to practice making scientific works so that they can express ideas and innovation skills.

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INCREASING LEARNING MOTIVATION FOR SMAN 1 BALIGE STUDENTS BASED ON WHATSAPP GROUP DURING THE COVID-19 PANDEMIC ON CIRCULATION SYSTEM MATERIALS

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ABSTRACT

This research is to improve student motivation to learn online during the covid-19 pandemic on the circulation system material using problem-based learning models. The data collection in this study was carried out through filling out a questionnaire in the form of a Google Form that was sent through WhatsApp Group students of class XI IPA SMAN 1 Balige. Data in the form of a Likert scale were analyzed descriptively quantitatively and qualitatively by the formula used: $P = \frac{\sum skor}{N} \times 100\%$. Based on the results of the data obtained from the answers in the questionnaire, the analysis of researchers that 75% of students agreed to the implementation of an online learning system as a solution during the covid-19 pandemic period and 61% of students agreed that WhatsApp Group was easier to use, but only 48% agreed to use the WhatsApp Group as a learning medium. After the data have been analyzed and tested for validity, results are obtained based on students' answers that WhatsApp Group has not been proven to be able to increase student motivation. This happened because this research was carried out without a continuous cycle so mistakes were not evaluated.

Key words: learning motivation, problem based learning models, whatsapp group

INTRODUCTION

Government through the Ministry Education and Culture imposed a policy to continue working and studying from home as a result of the COVID-19 pandemic in March 2020. This resulted in the learning system in Indonesia changing from face-to-face to online learning.

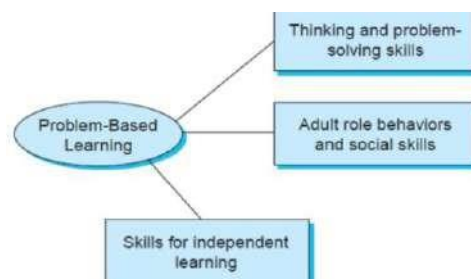
The online learning system is not an educational culture in Indonesia so students are not used to it, but learning must continue so that there are no lags. To deal with this problem, researchers are trying to increase students' learning motivation in the WhatsApp Group-based Circulation System material using a problem-based learning model.

RESEARCH METHODS

According to (Rusman, 2017) with the application of problem-based learning models students are required to be active in discussions during the learning process and teachers must be able to provide motivation and enthusiasm in helping solve problems given according to learning materials.

This is also in line with the statement (Depdiknas, 2004) which states that the problem-

based learning model is a teaching approach using real-world problems as a context for students to learn to think critically and solve skills, as well as gain knowledge and basic concepts. Meanwhile (Titi, 2018) states that problem-based learning emphasizes the active participation of students to grow problem solving skills and critical thinking skills and encourage students to identify their own knowledge and skills. The purpose of designing a problem-based learning model is to help students develop their thinking in solving problems and developing their intellectual skills as well as learning to become more mature with real experiences or situations that are adapted and become more independent learners (Lismaya, 2019: 23).



Source: (Lilis Lismaya, 2019)

The online learning system used is the WhatsApp Group feature. Based on the results of research (B. Lillian, 2012) that the role of m-learning in this case the WhatsApp application which is used as a learning medium is able to create a conducive academic atmosphere because students can learn at any time so that its implementation is able to provide a relaxed learning atmosphere. (Firdaus, 2018) states that WhatsApp is used as a means of exchanging information in the form of text, images, videos, files, voice messages, locations and can even form groups that allow interaction between many people in one room so that discussions can be easier.

Furthermore (Sri Narti, 2017) describes that the WhatsApp application is an online messaging application in which you can copy-paste messages that can be forwarded to others without having to retype them and there is a group chat feature where users can collect some contacts from the application in a group chat.

So it can be said that the WhatsApp feature in the form of WhatsApp Groups has benefits both pedagogically, socially, and even technologically, so that this application has an impact in the form of support for online learning, which can be in the form of delivering announcements or information to certain groups of people, sharing ideas and learning resources and even supporting online discussions. online anytime and anywhere. Based on the results of research (Rambe and Bere, 2013) found the results that WhatsApp Group was able to increase student learning motivation, accelerate the occurrence of study groups in building and developing knowledge.

The use of the WhatsApp application is expected to increase student learning motivation during the COVID-19 pandemic. According to (Arief M. Sardiman, 2011) motivation is the overall driving force in students that causes learning activities, which ensure the continuity of learning activities so that the goals desired by the learning subject can be achieved. So it can be concluded that motivation is the drive that activates, channels and directs one's attitudes and behavior to achieve the desired goal. Therefore, research was conducted in an effort to increase the motivation of class XI IPA 1 SMAN 1 Balige students on the Circulation System material through the WhatsApp Group application feature during the covid-19 pandemic.

This research was conducted online starting from interviews, distributing questionnaires, data collection to data analysis. The subjects of this study were students of class XI IPA 1 SMAN 1 Balige. The first implementation was carried out by distributing a questionnaire in the form of a Google Form through a WhatsApp group. The data that has been obtained based on the completed questionnaire will be analyzed descriptively quantitatively and

qualitatively. The data from the questionnaire is in the form of a Likert scale with four categories of choices, namely Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA), with the formula used:

$$P = \frac{\sum \text{skor}}{N} \times 100\%$$

Meanwhile, to calculate the interval distance in the assessment of student motivation questionnaires, the formula is used:

$$(J_i) = \frac{(4 - 1)}{4} = 0,75$$

Table 1. Assessment Classification

Interval	Category
3,25 < SA < 4,00	Very Good
2,50 < SA < 3,25	Good
1,75 < SA < 2,50	Enough
1,00 < SA < 1,75	Less

RESULT & DISCUSSION

This classroom action research was conducted online because it was not possible to do it directly due to the ongoing Covid-19 pandemic. The subjects of this study were students of class XI IPA 1 SMAN 1 Balige. Before distributing the questionnaire, the researcher first conducted interviews with 5 students as representatives via WhatsApp to find out the condition of class XI science students during the online learning system and the interview results showed that as a solution there were several subjects that used the WhatsApp Group feature as an online learning medium. After conducting the interview, the researcher then sent a questionnaire link in the form of a Google Form to a class XI IPA 1 student to be forwarded to his class's WhatsApp Group. This aims to seek to increase students' learning motivation in Biology lessons during the Covid-19 pandemic.

Based on the results of the data obtained from the answers in the questionnaire, the researcher's analysis shows that 75% of students agree with the implementation of the online learning system as a solution during the COVID-19 pandemic, 65.9% are not interested in the online learning system, and 98% of students use the WhatsApp feature. Groups and 64% of them like the WhatsApp Group feature. Even though they like this feature, they are often bored, as evidenced by the 63% of them stating that they were bored while learning to use WhatsApp Groups. Compared to other learning applications, 61% of students agree that WhatsApp Groups are easier to use, even though 52% of students admit that they are not active when learning using WhatsApp Groups so

that only 38% of students easily understand the material delivered through WhatsApp Groups.

Even though they are not active, they actually think that the Circulation System material is very interesting, 70% of the students stated that they were enthusiastic when studying the Circulation System material, so according to 50% of the students, the Circulation System material was suitable to be delivered via WhatsApp Group and was also suitable for discussion according to 62 % student. After doing online learning through WhatsApp Group, the critical thinking level of 60% of students in solving problems has increased and 60% of students understand the Circulation System material provided and even 48% of students are interested in further material using WhatsApp Group.

This study aims to increase student learning motivation during the covid-19 pandemic which requires students and teachers to do online learning at home. This increase in motivation is done because students are not familiar with online learning and there is no direct face-to-face interaction between teachers and students. So to make this easier, the researcher provides an online media or platform in the form of the WhatsApp Group feature on the Circulation System material.

After conducting interviews with several students of class XI IPA 1, SMAN 1 Balige then distributed a questionnaire in the form of a Google Form. After conducting interviews and the results of data analysis showed that there was no increase in motivation shown by students because in this study only one cycle was carried out so there was no comparison before and after learning.

The cycle is carried out only once due to the limited time the researcher has in observing, collecting data and analyzing data so that there is no next cycle. Instead, they only processed the results of student questionnaire answers in the form of statements that they were not enthusiastic when learning through WhatsApp Groups which tended to be boring so that students were not active during the online learning process.

This is contrary to the results of research (Pusvyta Sari, 2015) that the online learning system / e-learning is a learning system that can be used to stimulate student motivation and the results of research (Rambe and Bere, 2013) which found that WhatsApp Group was able to increase student learning motivation, accelerate the occurrence of study groups in building and developing knowledge. This happens because this research was conducted without a continuous cycle so that the errors were not evaluated.

CONCLUSION

Based on the results of the classroom action research that has been carried out, it can be concluded that the use of WhatsApp Group as an online learning medium in the Circulation System material cannot increase student motivation as evidenced by the results of data analysis based on student answers in the questionnaire that has been distributed.

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PROMOTION AND BRAND IMAGE IN BUILDING BRAND AWARENESS

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ABSTRACT

The development of coffee outlets or what is claimed to be a modern cafe has recently been growing rapidly in all regions in Indonesia where the term cafe originated from the coffee shop business which is widely available on street corners in Indonesia. This business was then made modernly by adopting the sale of Starbucks coffee, which then led to the public's mindset that drinking coffee may look exclusive. This brilliant inspiration for middle-up class coffee shops was then adapted by entrepreneurs in Indonesia who later created cafes that serve coffee using the latest atmosphere. The concept of this coffee shop has become a trend that is selling well among young people and adults so that it becomes a business that has enough prospects to work on. However, many businesses have fallen and even survived in recent years because consumers are critical in choosing products that match their class and expectations. Therefore, the company must be able to make efforts to create brand awareness as did Starbucks as it became a brand leader in coffee sales in the world. Starbucks promotion and brand image formation were analyzed in this study. Regression analysis was applied to find out the effect of promotion and brand image on brand awareness. The result shows that these two variables positively and significantly influence brand awareness. The better the company in building channels of information and persuasion in introducing a product or service, the better the public awareness in recognizing products and services. Meanwhile, the better the brand image received by the public, the awareness of the brand product will be higher.

Key words: brand awareness, brand image, promotion

INTRODUCTION

The development of coffee shops or what is claimed to be a modern cafe has recently been growing rapidly. Talking and seeing the rapid development of cafe business currently, it cannot be separated from the origins of the existence of this business in Indonesia. The cafe business started with drinks using similar words, namely coffee. The inspiration to modernize the way of drinking coffee is not original from Indonesia. This idea began with the historic origin of the emergence of Starbucks, which then resulted in people thinking that drinking coffee could look classy.

Likewise when Starbucks was present in Indonesia. This brilliant inspiration for upscale coffee shops was then adapted by people in Indonesia. Since then, cafes have been born that serve coffee using the latest atmosphere. The proliferation of coffee outlets in Indonesia makes this coffee outlet business quite tempting. Currently, consumers are very critical in determining a product that suits their comfort.

Coffee outlets have now become a reality that has colored the pattern of Indonesian people's lives. Therefore, companies must be observant in selling their products and services considering the intense

competition. There will be many choices for customers in choosing products or services that are in sync with their expectations. The development of coffee shops with a slightly different concept, for reasons of customer satisfaction, and of course to accept the market in order to get a profit or margin for the business.

Starbucks Corporation is a coffee company and global coffee shop network of America Association headquartered in Seattle, Washington. In Indonesia, the Starbucks coffee chain is operated by PT Mitra Adiperkasa Tbk. Starbucks is already present in 12 cities in Indonesia using more than 150 outlets (www.starbucks.co.id. 2018) offerings sold at Starbucks include coffee, tea, and accompanying snacks. On September 27, 2012, Starbucks Indonesia was named one of the top 10 brands in Indonesia by The Nielsen Company and Campaign Asia Pacific's Asia's Top 1000 Brands report with a ranking of 10. (www.swa.co.id 2012) Starbucks always socializes what will happen to corporate social responsibility events that have been carried out, humanism events, the creation of new dishes, and product development to their Facebook, Twitter and Instagram social media accounts which have followers of more than 10 million people. Based on this, it can be said that

Starbucks also focuses on strengthening the emotions of customers through humanism programs through promotions on its social media channels.

Besides doing promotion of the quality and creativity of its products, at the same time this will attract the attention of new customers as a result of which customers will see the Starbucks brand as not only a food and beverage company but a company that has a high sense of sociality. From the quality and creativity side of the products promoted by Starbucks, it creates a premium and out of the box image of Starbucks products in the community as a result, the possibility of people buying will also be higher because of this uniqueness.

Data Konsumen Starbucks Coffee Mall Ratu Indah Makassar

Tahun	Konsumen Starbucks
2018	54.700
2019	50.167
2020	40.509

Sumber: Starbucks Coffee Mall Ratu Indah Makassar

Based on the data above, it is known that there has been a drastic decline in Starbucks consumers. Where in 2018 Starbucks Coffee customers still occupy 54,700 people. Meanwhile, in 2020 Starbucks consumers fell to 40,509 people. The pandemic has made a big change, especially in the food and beverage industry. This facts makes the authors quite excited to find out what the cause is, in which the current study were trying to find out how to build brand awareness of Starbucks Coffee Mall Ratu Indah Makassar even during this pandemic

Starbucks, especially in Indonesia, continues to make various efforts such as promotions in sales which are given every day in various forms, especially during the pandemic. It can be seen that even though Starbucks is the largest coffee shop brand globally, Starbucks continues to make sales promotion efforts continuously every day, especially during the COVID-19 pandemic. Starbucks builds its brand image by establishing a commitment to waste management and the use of appropriate materials. Starbucks is also taking advantage of the campaign by teaching customers the proper ways to reuse, reduce and recycle product packaging.

The current research were finding out whether Promotions and Brand Image have partial effect in increasing Brand Awareness at Starbucks coffee Mall Ratu Indah Makassar and whether

Promotion and Brand Image have a simultaneous effect in increasing Brand Awareness at Starbucks coffee Mall Ratu Indah Makassar.

LITERATURE REVIEW

Promotion in Indonesian Dictionary is an introduction in order to advance the trade business and so on. Promotion is a term that is already familiar to Indonesian people. The term promotion is an adopted word from English, namely promote, which also adopts from Greek, namely Promore. In simple terms, promotion can be interpreted as "Introduction to Advertising", an effort to convey a message about the lesser known so that it becomes known to the public.

Promotion from Suryadi is a series of activities to communicate, provide knowledge and convince people of a product so that they recognize the greatness of the product, as well as bind their thoughts and feelings in a form of loyalty to the product. Suryadi (2011:8). from Manap promotion of homogeneous communication that conveys convincing explanations to potential consumers about goods and services. Manap (2016).

Merupakan jumlah promosi penjualan yang dilakukan dalam suatu waktu melalui media promosi penjualan. Kotler dan Keller (2016:272) According to Kotler and Keller, promotion indicators include:

1. Promotional Message; It is a measure of how well the promotional message is carried out and delivered to the market.
2. Promotional Media; Is a medium used by companies to carry out promotions.
3. Promotion Time; Is the length of promotion carried out by the company.
4. Promotion Frequency; Is the number of sales promotions carried out at a time through sales promotion media. Kotler and Keller (2016:272)

According to Buchari Alma, the primary purpose of promotion is to provide information, attract attention and then increase sales (Buchari Alma, 2011). Promotion can provide benefits for both producers and consumers. The advantage for consumers is that consumers can manage their spending better, for example, consumers read advertisements, they can buy goods at lower prices while consumers are persuaded to buy these goods when they are not necessarily needed. The advantage for producers means that promotions can avoid price competition because consumers buy goods because they are interested in using their brand. Promotion not only increases sales but can also stabilize profit production.

The element of promotional mix as follow:

1. Advertising. Any form of non-personal communication about an organization, product,

service or idea by a known sponsor. Advertising is one of the forms of promotion that people talk about the most because of its wide reach. The advantage of advertising through mass media means the ability to attract the attention of consumers, especially products whose advertisements are popular or well known to the public.

2. Direct marketing (Direct Marketing). Efforts of the company/organization to communicate exclusively with the target prospect using the intent to generate a response or a sales transaction.

3. Interactive Marketing. Changes are driven by advances in communication technology that allow interactive communication through mass media, in this case the primary means the internet, which currently has become an attractive advertising medium.

4. Sales Promotion. In general, it can be divided into 2 parts, namely promotion of consumer-oriented sales aimed at users or end users of an item/service which includes gift coupons, product sample gifts and discounts.

5. Public Relations. An attempt to do good things to gain religion or an attempt to create and maintain mutual understanding between the organization and its publics.

6. Personal Selling. A form of direct communication between the seller and the prospective buyer. The seller tries to help and persuade potential buyers to buy the products offered. This individual and personal communication in personal selling allows the seller to match the buyer.

Brand image

According to Kotler and Armstrong, a brand (brand) is a seller's promise to consistently inform buyers of a particular set of characteristics, benefits, and services. Kotler and Armstrong (1997) stated that the best brand as a guarantee of quality. According to a marketing executive, brands can convey four levels of meaning; functional and emotional, Value of buyers and Personality (Kotler:2003). Knapp argues that the brand is the internalization of a number of impressions received by customers and consumers that result in a specific position in their memory of the perceived emotional and functional benefits. Knapp (2001).

According to Kotler, the brand image is the consumer's perception of the company or its products. Kotler (2013). According to him, the image cannot be implanted in a consumer's mind suddenly or given through one medium. Instead, the image must be conveyed through every available communication vehicle and disseminated repeatedly because without a powerful image it is very difficult for a company to attract new customers and retain existing ones.

Brand image is the interpretation of the accumulation of various kinds of news received by consumers (Simamora & Lim, 2002). From Kotler, the interpreter is the consumer who interprets the meaning of news Kotler (2005). Image issues can be seen from the logo or symbol used by the company to represent its products, where symbols and symbols. The logo is not a differentiator from similar competitors, but can also reflect the quality and vision and mission of the company.

Brand awareness

Brand awareness is one of the variables that have shown that brands can hypnotize perceptions and even taste as described by Aaker that brand enlightenment has been shown to affect perceptions and even preferences. Aaker (2003). People like the familiar and are ready to assume all kinds of good behavior towards things that are familiar to them. According to Aaker, brand awareness can affect perceptions, feelings of pleasure, and behavior. Aaker (2015: 08). People like things that are familiar to them and tend to think positively of things they already know well. Furthermore, brand awareness can be a sign of success, commitment, and substance. The logic means that if a brand is known in the community, then there is a perfect reason. Finally, whether a brand can be reversed at key moments in the buying process and whether the brand is positioned among the brands that customers are considering.

Dimensions and Indicators of Brand Awareness; 1. Recognition, the minimum level of brand enlightenment. This is crucial when a buyer determines a brand at the time of making a purchase., 2. Recall, recall of the brand based on someone's request to mention a certain brand in a product class. This is termed using unaided home reminders, because it is out of sync with the socialization task, the respondent does not need to be helped to come up with the brand, 3. Top-of-mind, if a person is asked exclusively without being given a donation, reminder and he can reveal a brand name, then the brand that is mentioned the most first is the top of mind. using other terms, the brand means the main brand of the various brands that exist in the minds of consumers.

METHODS AND RESULT

This research was conducted at Starbucks Coffee Mall Ratu Indah Makassar (Jl. DR Ratulangi No.35, Mamajang Luar, Kec. Mamajang, Makassar City), the time of the study was from December 2021 - January 2022. Data collection method applied to obtain the data were questionnaires and literature study. The type of data used in this study is quantitative data, namely data obtained in the

form of numbers obtained from questionnaires distributed and related to the problems studied. Sources of data used in this study consisted of two kinds, namely primary data and secondary data. Primary data is data obtained by the author through direct observation or observation from the company, as well as observations, questionnaires, and direct interviews with company leaders and staff according to the needs in this study. Secondary data is data obtained indirectly, namely the data obtained by the author from company documents and literature books that provide information about the promotion process and brand image in increasing brand awareness.

The population in this study were all consumers who purchased products at Starbucks Coffee Mall Ratu Indah Makassar. Bungin (2017) argues that an infinite population is a population that has data sources that cannot be determined quantitatively. Therefore, the population area is infinite and can only be described qualitatively. Non-Probability Sampling was applied, meaning that not all variables in the population have equal opportunities. It can be concluded that the sample of this study was 100 respondents.

After the completion of data collection, they were then processed using multiple linear

regression analysis, this technique applied to test the effect of the independent variable on the dependent variable. The analysis technique in this study will use the SPSS 22.0 program.

From the research result found out that the respondent's work is varied, so the researcher categorizes it into 5 categories and the results of the research show that the number of respondents who have student jobs is 66 respondents, those who have private jobs are 11 respondents, those who have student jobs are 11 respondents, and 3 respondents have civil servant jobs, and 9 respondents have self-employed jobs. Because of that Starbucks customers are mostly students and private employees. Students have the highest percentage, the reason is that at Starbucks there are many students who do assignments and meet with friends because some campuses still don't allow to stay on campus. From the 100 sample people in this study, 25 respondents aged <20 years, >25 years old were 10 people, and 65 people aged between 20-25 years. It can be concluded that most of the customers at Starbucks Coffee Mall Ratu Indah Makassar are aged between 20-25 years, as many as 65 people.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,027	1,868		-2,156	,034
	Promosi	,319	,077	,377	4,131	,000
	Brand Image	,617	,128	,440	4,821	,000

a. Dependent Variable: Brand Awareness

Sumber: Output SPSS, 2022

The above equation is explained as follows:

a = -4.027 is a constant value, if the values of X1 and X2 are considered 0 then the value of Brand Awareness is -4.027.

1 = 0.319 means that the Promotion variable has a positive effect in increasing Brand Awareness and if the Brand Awareness variable increases by one unit, the Promotion will increase by 0.319 units.

2 = 0.617 means that the Brand Image variable has a positive effect in increasing Brand Awareness and if the Brand Awareness variable increases by one unit, then the Brand Image will increase by 0.617 units.

Hasil Uji t

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,027	1,868		-2,156	,034
	Promosi	,319	,077	,377	4,131	,000
	Brand Image	,617	,128	,440	4,821	,000

a. Dependent Variable: BRAND AWARENESS

Sumber: Output SPSS, 2022

The basis for decision making if $t_{count} > t_{table}$ (1.660) and the value of $sig < 0.05$, it can be said that the X variable has a positive and significant effect on the Y variable.

Based on the table above, the following explains the effect of each independent variable partially:

a. Promotion (X1)

The results of testing with SPSS for the Promotion variable (X1) on Brand Awareness (Y) obtained a t_{count} value of 4.131 $>$ t_{table} 1.660 and a sig value. $0.000 < 0.05$. This means that the Promotion variable (X1) has a positive and significant influence in increasing Brand Awareness (Y).

Hasil Uji F

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	331,827	2	165,914	61,623	,000^b
	Residual	261,163	97	2,692		
	Total	592,990	99			

a. Dependent Variable: Brand Awareness

b. Predictors: (Constant), Brand Image, Promosi

Sumber: Output SPSS, 2022

The basis for decision making is if $F_{count} > F_{table}$ (3.09) and the value of $sig < 0.05$, it can be said that the X variable has a positive and significant effect on the Y variable.

Based on the results of the simultaneous test from the table above, it is shown that the F_{count} is 61.623 while the F_{table} results in the distribution table with an error rate of 5% (0.05) is 3.09. This means that $F_{count} > F_{table}$ (61.623 $>$ 3.09). In the table above it can also be seen that the value of sig . 0.000 is smaller than 0.05, because the value of sig . smaller than 0.05 then the regression model can be used to predict Brand Awareness or it can be said that Promotion and Brand Image together (simultaneously) have a positive and significant effect on increasing Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar

Based on the table shows the magnitude of the coefficient of determination (Adjusted R²) = 0.551, meaning that the Promotion and Brand Image variables together affect the Brand Awareness variable by 55.1%, the remaining 44.9% is influenced by other variables not included in this research model such as advertising attractiveness variables, brand identity, etc.

CONCLUSION

1. Promotion and Brand Image partially have a positive and significant effect on increasing Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar.
2. Promotion and Brand Image simultaneously have a positive and significant effect on Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar.

Hasil Analisis Koefisien Determinasi

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,748 ^a	,560	,551	1,64085

a. Predictors: (Constant), Brand Image, Promosi

Sumber: Output SPSS, 2022

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THE HINDRANCES FACED BY PRE-SERVICE TEACHERS OF TEACHER TRAINING AND EDUCATION FACULTY IN ONLINE TEACHING DURING THE COVID-19 PANDEMIC

(A CASE STUDY OF PRE-SERVICE TEACHERS PERSPECTIVES AT SMP NEGERI 14 TEGAL)

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ABSTRACT

This study aims to find out what hindrances are faced by pre-service teachers in online teaching during the Covid-19 pandemic and how they overcome them. This research project used qualitative research design. The subject were 12 pre-service teachers who had been practicing teaching at SMPN 14 Tegal for one month. Based on the research findings, it was found that the percentage of responses of 12 respondents to 21 questions in the interview after coding. The first aspect of pre-service teacher readiness in online teaching 44%, aspects of availability of facilities, quotas, and environmental conditions indicate 42%. Internet connectivity shows 42%, cost aspect there is 47%. And the power outage shows 30%. In the aspect of time management there are 47%. And the last aspect about interruptions from family members showed 28%. This study reveals that during online learning, the aspect of pre-service teacher readiness was not enough. It needed readiness from the student's side as well. Without students' participation and readiness, the learning process becomes meaningless. Institutional support is also important in bridging the gap between pre-service teachers, tutor teachers, and their parents, which assists teachers in monitoring and managing students at home. Thus, students could learn to manage their time better, and their learning progresses.

Key words: hindrances, online learning, pre-service teacher, teaching practice

INTRODUCTION

Corona Virus Disease (COVID-19) is an infectious disease caused by the newly discovered corona virus. This virus spreads very quickly and has spread to almost all countries, including Indonesia. The existence of Covid-19 has a major impact on aspects of life, especially in the field of education. Educational institutions have implemented online teaching and learning. As a consequence of the Covid-19 pandemic, online learning is inextricably linked to the issues that obstruct its implementation, like online learning for prospective teachers in educational institutions, given that this learning method is used by graduate institutions for pre-service teachers and education. Pre-service teachers, in particular, find it difficult to teach with an online system. Teaching with an online system is a challenge for pre-service teachers, especially for the first year using an online system during the current pandemic.

During the Covid-19 pandemic, teaching and learning activities, including field experience practice or OPK3 or PPL (Praktik Pengalaman

Lapangan), were shifted from face-to-face to an online system. Students of Field Experience Practice (PPL) S1 Program, Faculty of Teacher Training and Education (FKIP) require students in teaching practice to be able to have good mastery of learning technology. Field experience practice is one of the curricular activities carried out by students, and is a compulsory course for every student in the faculty of education, which includes teaching practice. OPK3 is normally taken in odd semesters, such as the seventh semester with students requirements.

Dhawan (2020) states that online teaching and learning allows educators to adjust their procedures and processes based on the needs of students. Pre-service teachers, in particular, find it difficult to teach with an online system. Teaching with an online system is a challenge for pre-service teachers, especially for the first year using an online system during the current pandemic. This online learning is certainly a new challenge for teachers which makes them have to master online learning media to carry out learning activities and are expected to be able to be creative in the learning

process so that learning objectives can be achieved optimally (Mantra, 2020).

As prospective teachers are not only required to be experts in delivering teaching materials/materials offline (face to face in class), but also required to be able to use the online learning system. Of course, there are some hindrances in the online learning process, especially during the Covid pandemic; this is a challenge for pre-service teachers, so they must usually find their own solutions to the obstacles they face.

LITERATURE REVIEW

There are many factors, both teachers, students, as well as other external factors, that pose pre-service challenges in teaching online systems, including challenges other than technology issues and coming from the teachers themselves related to the lack of teacher readiness. Pre-service teachers were trained for online learning in terms of digital literacy and technical devices used for online learning, as well as positive online learning experiences and challenges (Ogbonnaya, 2020). Könings, K. (2007) state that lecturers and students have very different perspectives on teaching and learning. Hindrances classified as daily hassles include academic deadlines, time management, balancing academic workloads or receiving lower grades than anticipated (Ainscough et. al, 2017). In some cases, unqualified teachers are a challenge and create several obstacles. A teacher who has adequate abilities will be hampered if it cannot be carried out properly. In addition, other obstacles can also come from other factors, such as school facilities and teaching aids/media (Mardiah, 2020).

If a school can meet the requirements of students and teachers, it will negatively affect their teaching and learning process which does not run as well as it should. They often need the ability to explore and focus on their own and others' original designs in order to develop trust and teaching skills (Cameron, 2006; Kearney, 2007).

1. Pre-service teacher

Pre-service teachers are positioned on student teaching sites several times during their undergraduate training, according to Pawan, et al (2017), so that they can see firsthand how the theory they study at university is put into effect, as well as understand and participate in it. According to Ogbonnaya (2020), pre-service teacher experiences can help them understand the possible struggles of their potential students, helping them to possibly accommodate student challenges in the future. Meanwhile, they would need many practice

lecturers in order to improve teacher competencies such as class management, developing an engaging learning environment and maintaining positive relationships with dents (Naila, 2019).

2. Teaching online during the coronavirus pandemic

According to Mardiah (2020). There are several hindrances in the event of a pandemic, such as:

1. The lack of internet access/WIFI, electricity, computers, PC, and other infrastructures that support the teaching process.
2. The lack of less expensive software.
3. Learners do not feel sufficiently motivated because they might feel isolated.
4. Students' Poor interaction makes it difficult for them to concentrate on a pixelated video screen as they hear noise and feedback such as rustling papers, bikes, cars, horns, kettles, wind, and so on.
5. The issue of ability and expertise, some lecturers and students are unskillful and illiterate using digital technology.
6. Attitude towards ICT (Information, communication and technology), awareness of the importance of ICT in learning including E-learning needs to be promoted persistently.

3. Pre-service teacher perspectives

Pre-service teachers seek out good learning designs to use as models for their own classrooms and learning environments. They often need the ability to explore and focus on their own and others' original designs in order to develop trust and teaching skills (Cameron, 2006; Kearney, 2007), to encourage these pre-service teachers to share and analyze their learning designs. This will help experienced teachers evaluate the performance, importance, and limitations of individual learning designs, as well as their experiences using them. If provided the chance, these teachers will apply what they have learned in their professional lives. According to Cameron & Campbell (2011), the utilization of well-tested teaching strategies

provides students with opportunities to be sessions and conversations with friends and

encouraged to gain theory, knowledge and understanding of content in innovative ways.

RESEARCH METHOD

This research used qualitative research design. According to Fraenkel & Wallen (2009: 435), qualitative research are particularly concerned with how things look, particularly from the perspective of research subjects. As a result, qualitative research

gathers data from the point of view of the study's subject, which is then evaluated to reach a conclusion. The subjects of this study were 12 pre-service teachers from various departments of the Teacher Training and Education Faculty of Pancasakti University Tegal academic year 2021/2022 who had been practicing teaching at SMPN 14 Tegal for one month. Teaching practice program was carried out for one month from

January 11 to February 11, 2021. In this study, There were 12 students of 7th semester of various majors. They were 7 female students and 4 male students. There are three roles of the researcher; first as the collector, the researcher collected data from questionnaire. Second as the analyst, after finding the result of the questionnaire, the reasearcher analyzed the data.

RESULT & DISCUSSION

Result

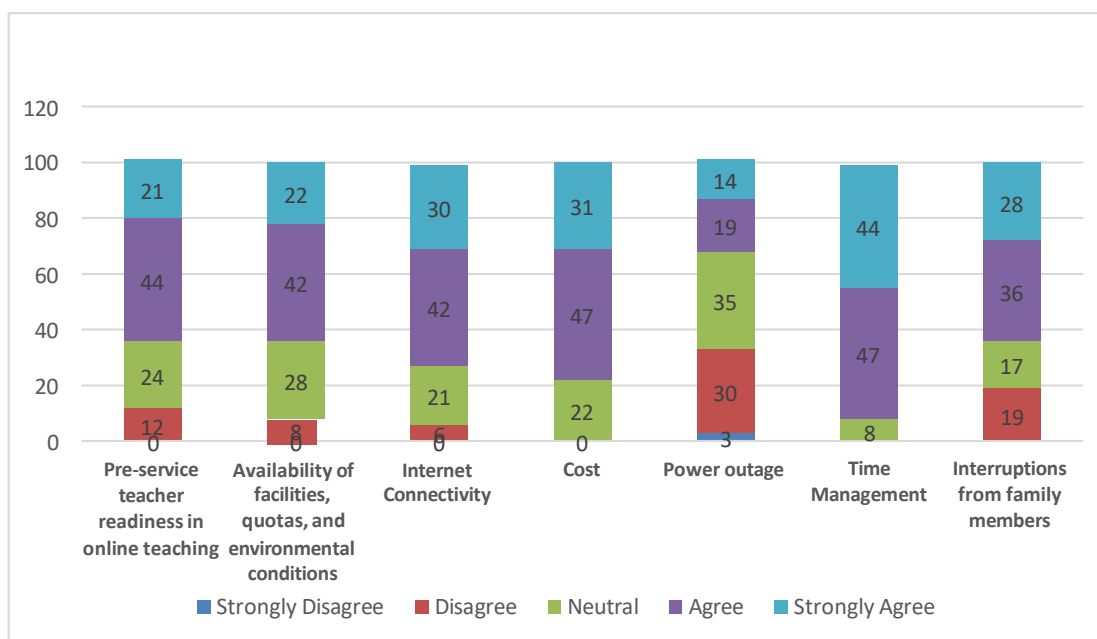


Figure 4.1 Chart of Questionnaires Responses

The data above is the result of a questionnaire from 7 assessed aspects. The data above shows that according to the perspective of pre-service teachers, some teachers still lack readiness to teach online. School facilities or infrastructure is also a problem because 40% of pre-

service teachers agree that there is a lack of adequate school facilities. Meanwhile, challenges also come from the pre-service teachers themselves. Pre-service teachers are still not able to manage learning time

Tabel 4.2 Review Result of Interview

No	Question	Answer	f	%
1.	Menurut Bapak/Ibu guru praktikan, bagaimana pelaksanaan pembelajaran daring di sekolah ini ?	Bored	1	8
		Lack of learning gain	2	17
		Unmotivated	2	17
		Challenge	7	58
		Opportunity	5	42
		Enjoy	3	25

2.	Apa kendala yang muncul saat pembelajaran daring	Time management	3	25
		Limitation of device	1	8

	diterapkan di sekolah ini akibat pandemic covid-19?	Limitation of Internet	8	67
		Competence of ICT	4	33
		Lack of Students' responsibility and response	9	75
		Do not have good environment for learning	1	8
3	Solusi apa yang dapat dilakukan terkait hambatan dalam proses pembelajaran daring ?	ICT training for teacher	3	25
		Coordinate with students' parent	3	25
		Learning in group	1	8
		Extra package data	1	8
		Device support	1	8
		Time management, (preparation)	5	42
		More Active	1	8
		Psychological Support	1	8

The interviews revealed that students and pre-teachers faced many problems. The learning process affected by students and pre-service teacher. In this study, students felt bored and unmotivated in the learning process which motivation can help students to get better achievement in academic field. It was also caused lack of interaction teacher and students, thus motivated students and students learning gain was big challenge and opportunity when teacher can maintain and communicate.

Online learning during pandemic the pre-service teachers and students faced the hard time management how to manage time for study, time for doing the task, and time for work this problem can be solved through responsibility. This also need coordination schools and parent to bound relationship that could help students in maintain time management. Beside unphysical problems they also faced the physical problems such as limitation of teaching media, limitation of internet, teacher and students competence of ICT. It needed extra efforts and partnerships to solve these. Stakeholder better prepare the teacher readiness toward ICT to support online learning.

DISCUSSION

Base on the result, the data analysis from questionnaire and interview. The researcher through this part tried to elaborate pre-service teachers' perception about distance learning, the schools, students, and their way to solve or opinion to face it.

Pre-service Teacher Readiness In Online Teaching

Online learning was challenging for pre-service teachers. Simatupang (2020) stated that teachers need to be prepared to do online teaching and follow every technological development in the world of education. From the questionnaire it could be seen that the pre-service teachers prepared

lesson plans and learning material before teaching. However, it did not give many benefit which from the interview:

(P1) : *"Tidak semua siswa bisa hadir kelas tepat waktu malah jika dipresentase lebih banyak yg tidak masuk, beberapa temen belum siap juga dengan mode daring karna terbiasa secara tatap muka. Selain itu siswa juga cerita kalau mereka sambil berkerja jadi kurang dalam mengatur waktu. Kendala kuota juga sih buat siswa"*

Participant 1 said many students could not attend the class. Even if she prepared the learning material, the process of learning could be delivered perfectly because students only access the class if they want. She and her friends felt not ready for online learning. They felt that face to face learning gives more confidence it supported by 58% students agree if they felt nervous and 8% answer strongly agree if they were nervous to teaching online.

(P2): *"Kendala paling susah ketika siswa tidak masuk ke platform dan tidak mengerjakan tugas"*

Participant 2 also felt that teaching online was not satisfied in running online learning because she could not control her students presence and their tasks. The interview indicated readiness of online learning needed not only from teachers' side but also from students' awareness.

1. Institutional Support and ICT Competencies

The limitation of students' situations and knowledge to access or to use high technology for learning is problematic and big jobs for institution with to achieve modern era of education students and institution should update and grown alongside with technology.

(P3) : *"Kandalanya yaa itu, belum banyak aplikasi atau platform pembelajaran yang saya tahu, dan juga terkait internet yang harus selalu terkoneksi."*

The other participant admitted she did not know much applications for learning. It is a challenge for campus and school to train and teach their students about online learning tools. Beside the applications also need to always connect with the internet connection.

(P4) : *"Untuk kendalanya biasanya dari siswanya, siswa yang kurang paham akan cara menggunakan platform pembelajaran tsb, siswa yang kurang aktif, siswa yang selalu mengeluh ke saya terkait internet dari mereka sendiri."*

In ICT competencies not only teachers need training but also students. From participant 4 interview could be seen that many students did not know or understand to used application and platform. Students also complain about the packages data because they used their private data that cost more money.

2. Poor of connectivity

(P5) : *"Kendalanya biasanya waktu awal mengajar susah mengoneksikan internet, butuh beberapa menit."*

The interview result from participant 5 revealed that the internet connection provided by the school was difficult to connect. It might be the reason why students used their own quota to teach in online learning.

(P6): *"siswa yang selalu mengeluh ke saya terkait internet dari mereka sendiri, dan banyak juga gangguan suara dari siswa yang cukup mengganggu dalam pembelajaran online."*

(P7) : *"Kendala yang sering saya temui banyak siswa yang bolos tidak masuk ke meet, selain itu WiFi/internet di sekolah untuk singgah mengajar kurang terkoneksi jadi saya harus pakai kuota sendiri untuk mengajar."*

Students also faced this problem especially during online video conference or virtual meeting. Virtual meeting needs higher speed and big bandwidth to running stable and

better experience. The students who could not access the internet, they chose to be absent from the class with this reason. This problem needs serious treatments because the core of online learning in the device and the internet connection.

3. Time Management

(P5): *"Solusinya, saya setiap mengajar masuk pagi, sejam sebelum itu harus udah nyalain laptop buat mengoneksikan internet."*

Pre-service teacher in managing time during online learning, could manage or control the time more effective and efficient. It involved the teaching, learning materials, and teaching

something related to teaching practice and commitment with a limited time. That is why managing time is essential, thus they could accomplish specific tasks, projects, and goals complying with a due date.

(P8) : *"Menurut saya hal ini bisa disebabkan orang tua tidak tahu jadwal anak so, dari pihak sekolah bisa memberi jadwal ke orang tua"*

Participant 8 found that the class in the morning was class with a few attendants and reported that students in early morning; they usually could not wake up early. He suggested to the school to coordinate with students' parents. This movement could help school gain more intense relationship with the parents.

4. Learning distraction

In the success of learning process there are many factors that are affected. Distraction is one of problems that commonly faced. This research revealed some distractions that happened to students during the online learning through questionnaire and interviews. The questionnaire questions 19, 20, and 21 showed the disruption from the family during online learning was obstacle for pre-service teacher. Even for teachers the distraction from family members is still challenged. The questioner also revealed that environment did not support for learning and

teaching.

(P9) : *"siswa yang selalu mengeluh ke saya terkait internet dr mereka sendiri, dan banyak juga gangguan suara dr siswa yang cukup mengganggu dalam pembelajaran online"*

From the interview it could be seen during the online class students did not have quiet environment to for learning. Especially in virtual meeting that quiet situation needed to focus on the learning process. Hayla revealed the learning process disturb by environment such as activity of their parents, their neighbor and students itself.

media. From Ayu's interview, it can it could be seen that the pre-service teacher prepares

5. Negative attitude

An attitude is tendency to respond a certain way towards something. A good attitude is essential to construct good learning behavior and vice versa. This research found negative emotion and dissatisfaction from the interview.

The participants' utterance:

(P10) : *"Yang sering muncul biasanya terkait internet serta kurangnya partisipasi siswa dalam Pembelajaran"*

(P11) : *"Paling utama ya respon siswa sangat problematic, juga siswa beralasan internet sama hp gak dukung zoom"*

(P12) : *"Kendala paling susah ketika siswa tidak masuk ke e-learning dan tidak mengerjakan tugas"*

From this statement, it could be seen that students made problems that caused the learning proses delayed. Elsa also felt that, students in her class did not attend the online learning. The other participant also supported his opinion that students didn't follow the learning process or open the e-learning. The factor could be lack of time management or also it could be that students did not have interest in online learning. Whatever, it also showed that students were lack of motivation to access or to reach the class which according to Suhery et al (2020) students who does have motivation tend to fail in academic aspect.

(P12) : "Solusinya bisa mengendalikan dan mampu mengatur siswa yang kurang aktif menjadikan lebih aktif, selalu saya kasih support pada awal dan akhir sesi untuk lebih giat belajar dan sadar akan pentingnya belajar, dan itu biasanya setiap pertemuan pembelajaran saya lakukan."

Participant 12 had similar suggestion and she implemented during online learning. She spent extra effort to maintain students who were not active during the learning. She always gave support while opened or ended the section of learning. Elsa charged students motivation and reminded them of the important of study. Thus students' desire for learning could improve. According to Konings (2007) desires play a role in the teaching and learning process. If the students' have desires with respect, obviously they can join a learning process well.

CONCLUSION

1. This research showed that the hindrances faced by pre-service teachers in teaching online during the covid-19 pandemic.
Based on the data analysis, it was found that there were several hindrances faced by pre-service teachers, because after all, teachers must be ready in critical situations like this COVID-19 pandemic. The data collected both from questionnaire and interview did not show significant different answers. The issues needs the readiness from pre-service teachers and also from the students' side. Even it the pre-service teacher prepares anything without students' participations and their readiness, the learning process will become meaningless. The teacher readiness needs to be alongside with the competencies. The competencies, the researcher meant is the competencies toward the technology which is important in online learning.
2. How do they overcome the hindrance.
In this research, it was found that the pre-service teachers were lack of competencies. It could be solved through institutional support. They should

help to facilitate pre-service teacher with the training about online learning media. The training is the first step because the media sometime also could not run well without good internet connections. The pre-service teachers spent their private money to get better connection to buy data package. It was also faced by students. With the institutional support the cost could be reduced. The support from institution also important to bridge the teachers with their parents which could help teacher to monitor and manage students at home. Thus students got better time management and the learning will run well. Without good communication the students' attitude toward the learning was negative. Practical students should have thorough preparation before carrying out OPK3. Because the OPK3 program is held in schools, that means that practical students must maintain relationships with tutors/shadow teachers, school teachers, students, and teams so that there is no miscommunication.

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ANALYSIS OF THE DEVELOPMENT OF THE CULINARY INDUSTRY TOWARDS INCOME OF MSME (MICRO, SMALL AND MEDIUM ENTERPRISES) IN MEDAN SELAYANG DISTRICT, MEDAN CITY

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ABSTRACT

This study aims to analyze the effect of capital, consumption, production, distribution, technology, KUR, product innovation, number of workers and length of business on the income of MSME actors in Medan Selayang District, Medan City, the number of samples used is 200 culinary businesses. The method used is a quantitative method. The results of the Confirmatory Factor Analysis (CFA) analysis show that there are only 4 factors formed, namely Business Length, Consumption, Distribution and Capital. Based on the results of Multiple Linear Regression Analysis, there are two variables that affect the income of MSME actors, namely consumption and distribution which have a significant effect on the income of MSME actors in the Medan Selayang sub-district, Medan City. The higher the number of consumers and the more even distribution will increase the income of MSME actors.

Key words: capital, distribution, msme, technology consumption

INTRODUCTION

National economic growth is largely determined by the dynamics and development of the regional economy, while the regional economy is generally supported by small and medium-scale economic activities. Business units that fall into the category of Micro, Small and Medium Enterprises (MSMEs) are the lifeblood of determining regional and national economic development. The Micro, Small and Medium Enterprises (MSME) sector is a formidable business in the midst of the current economic crisis.

The Micro, Small and Medium Enterprises (MSME) sector is an important part of the national economy and development. The growth of the MSME sector currently looks encouraging. The role and business activities of the MSME sector since the economic crisis hit our country. Considering that MSMEs are the drivers of the economy and national development, a strategy is needed to empower the sector. The MSME sector empowerment policy is directed to support efforts to reduce poverty and inequality, create job opportunities and increase exports. (Saleh, 2014)

In these developments, MSMEs as one of the pillars of the economy in Indonesia must be able to answer these challenges and must be able to reach changes around them. Marketing communication must be done as well and as effectively as possible to potential customers. Advertising activity means the activity of disseminating news (information) to the market (community/consumer). The public needs to know who is acting through the advertising

medium (Marketing, Marketing Management, 2017). Capital is something that is needed to finance the company's operations from establishment to operation. Own capital is capital that comes from the owner of the company and is embedded in the company for an indefinite period of time (Kasmir, 2003). Meanwhile, foreign capital or loans are capital obtained from parties outside the company and are usually obtained on loans.

There are several obstacles experienced by MSME actors in Medan Selayang District, Medan City, ranging from licensing, human resources (HR), promotion, product innovation, technology. Illegal levies carried out by several elements, as well as the uneven distribution of government assistance to the development of MSMEs in the Medan Selayang District. A common obstacle for MSME actors is business capital, because most MSME actors borrow additional capital from banks with conditions that must be met by the borrower. Many of them find it difficult to meet these requirements so that many MSME actors fail to borrow capital from the related bank.

With the obstacles faced by MSME actors in the city of Medan in developing their business to be more advanced and more innovative to break the rate of economic growth for the country, there must be a policy from the local government to help the development of MSMEs in the city of Medan, because with government policies In developing a culinary business, entrepreneurs find it helpful, as well as lighten the burden for MSME business actors in running their business.

Table 1.1: Number of Culinary Businesses (Restaurants/Restaurants and Food Stalls) in Medan Selayang District in 2010 to 2019

Annual	Number of Culinary Businesses for Restaurants and Food Stalls
2010	328 business
2011	356 business
2012	356 business
2013	356 business
2014	391 business
2015	403 business
2016	398 business
2017	398 business
2018	398 business
2019	398 business

Source: Central Bureau of City Statistics (Medan, 2021)

In 2010 the number of restaurant and food stall culinary businesses recorded at the Central Statistics Agency was 328 businesses spread across Medan Selayang District, from 2011 to 2015 there was an increase in the number of restaurant and food stall culinary businesses spread over 403 culinary businesses in Medan Selayang District. Until now, the number of culinary businesses in 2016 to 2019 has decreased by 398 culinary businesses, restaurants and food stalls spread across Medan Selayang District, if we examine the causes of the decline in the number of culinary businesses, it is caused by many factors that influence the development culinary business in Medan Selayang District.

Based on the background of the problems described above, the authors are interested in studying the Analysis of Culinary Industry Development on the Income of MSME (Micro, Small and Medium Enterprises) in Medan Selayang District, Medan City.

I. Theories

Capital theory

Capital is a collection of money or goods that are used as the basis for carrying out a job. In English, capital is called capital, namely goods produced by nature or humans to help produce other goods needed by humans with the aim of making profits. Capital is a very vital thing in a business or company. Without capital the business cannot run as it should. Starting from large businesses and even small businesses need capital to run their business (Sadono, 2002).

Consumption Theory

In everyday terms, consumption can be interpreted as a form of fulfilling needs, both for food and non-food needs. Consumption is one of the macroeconomic variables which is symbolized by the letter "C" and comes from English, namely consumption. Consumption is defined as the expenditure of goods and services by households. The meaning of goods here includes household spending for durable goods, such as vehicles and household appliances, and for non-durable goods such as food and clothing. Meanwhile, the meaning of service here includes intangible goods, such as haircuts and health care. In addition, household spending on education is also included in service consumption (Mankiw, 2013).

Production Theory

Production is the end result of a process or economic activity by utilizing several inputs or inputs. With this understanding it can be understood that production activities are combining various inputs or inputs which are also called factors of production into outputs so that the value of these goods increases. Another definition of production is the end result of a process or economic activity by utilizing several inputs or inputs. With this understanding it can be understood that production activities are defined as activities in producing output by using certain production techniques to process or process inputs in such a way (Sadono, 2002).

Distribution Theory

Distribution is a company activity so that products / services are easily obtained by target consumers. Distribution is the activity of distributing goods or services from producers to consumers. Distribution activities have an important role for producers, because these activities are able to distribute goods produced by producers to the community. If the goods or services are not distributed to consumers, the results of the production will only accumulate in the warehouse so that producers will experience losses. Goods or services will be useful if they are in the hands of consumers. Therefore, producers try to distribute these goods or services to consumers (Tjiptono, 2002).

Technology Theory

Technology actually comes from the French "La Technique" which can be interpreted as "All processes carried out in an effort to realize something rationally". Information technology is a means and infrastructure (hardware, software, useware) systems and methods for obtaining, transmitting, processing, interpreting, storing, organizing, and using data meaningfully (Warista, 2008). The same thing was also expressed by (Rianto, 2011) information technology is defined as science in the field of computer-based information and its development is very rapid. Information technology is a technology used to process data (Lamatenggo, 2011).

Product Innovation Theory

Innovation is a new product, service, idea, and perception from someone. Innovation is a product or service that is perceived by consumers as a new product or service. In simple terms, innovation can be interpreted as a breakthrough related to new products. innovation is not only limited to the development of new products or services (Kotler, 2013).

MSME Actors Theory

Small Business is a productive economic business that stands alone, which is carried out by individuals or business entities, which are not subsidiaries or branches of companies that are owned, controlled. Small business criteria as referred to in the Law of the Republic of Indonesia Number 17 of 2013 concerning Micro, Small and Medium Enterprises. According to BPS (Central Bureau of Statistics) Small and Medium Enterprises are based on the quantity of labor. Small businesses are business entities that have a workforce of 5 to 19 people, while medium businesses are business entities that have a workforce of 20 to 19 people. 99 people. SME actors are individuals or entities in any form which in their business activities or work produce goods, import goods, export goods, conduct

trading businesses, and utilize goods (Mardiasmono, 2008).

RESEARCH METHODS

This type of research is causal research, causal design is useful for analyzing how a variable affects other variables (Umar, 2008), and is also useful in experimental research where the independent variable is treated in a controlled manner by the researcher to see the impact on the dependent variable in a controlled manner. live. The place of this research was conducted in Medan Selayang District, Medan City. The population is the total number of objects studied (Sugiyono, 2008, p. 73). The sample is part of the number and characteristics possessed by the population (Sugiyono, 2003, p.73). The population in this study was 398 culinary businesses. The sample in this study was MSME.

Data analysis method

1. Confirmatory factor analys (CFA)

Confirmatory Factor Analysis aims to find a way to summarize the information contained in the original (initial) variable into a new set of dimensions or variate (factor) with the formula :

$$X_1 = A_{i1} F_1 + A_{i2}F_2 + A_{i3}F_3 + A_{i4}F_4 + + V_iU_i$$

Information :

- Fi = I standardized variable
- Ail = Regression coefficient of the variable to I on the common factor I
- Vi = Standardized regression coefficient of variable I on unique factor to I
- F = Common factor
- Ui = Unique variable for the Ith variable
- M = Sum of common factors

Clearly the common factors can be formulated as follows :

$$F_i = W_iX_1 + W_{i2}X_2 + W_{i3} X_3 + \dots + W_{ik} X_k$$

Where :

- Fi = Factor I estimate
- WI = Factor weight or factor coefficient score
- X K = Number of variables

2. Multiple linear regression

Multiple linear regression is a measuring tool used to measure the presence or absence of a correlation between several variables (Rusiadi, 2013: 138), with the form of the regression equation as follows :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon$$

Where :

- Y = Income of MSME

a = price Y when X_1 and $X_2 = 0$ (constant price)
 β = Regression coefficient
 X_1 = Capital
 X_2 = Consumption
 X_3 = Production
 X_4 = Distribution
 X_5 = Technology

X_6 = KUR
 X_7 = Product Innovation
 X_8 = Total manpower
 X_9 = Length of business
 ϵ = Error Term

Based on the theoretical basis and previous research, the following framework is formed for the analysis in this research :

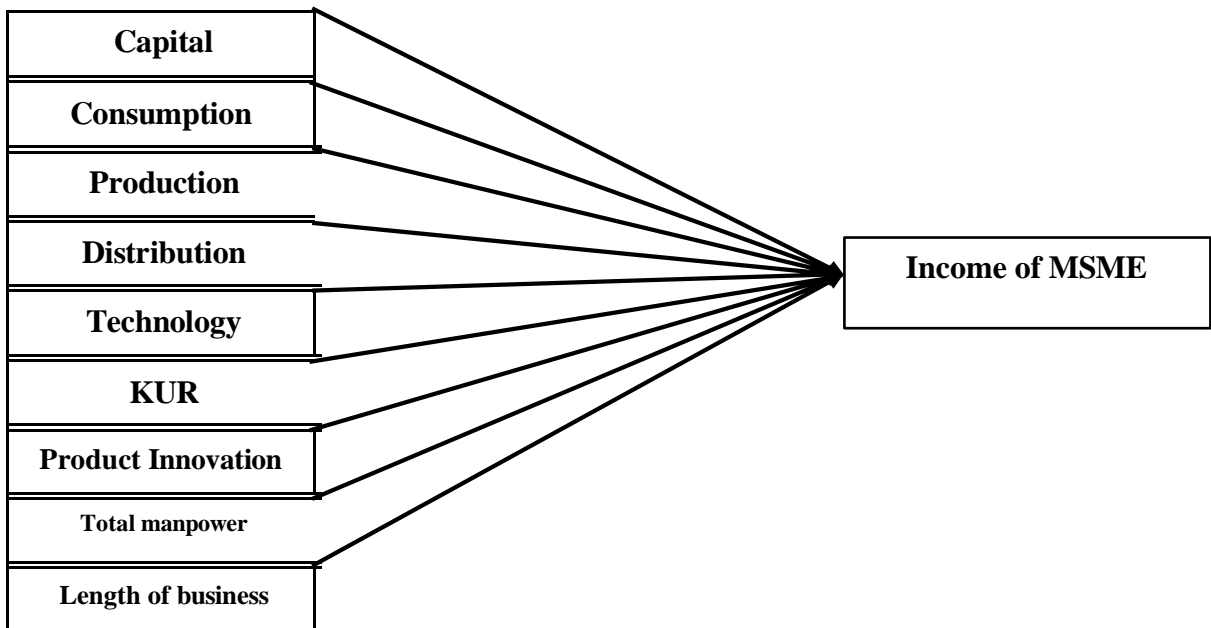


Figure 3.1 Confirmatory Factor Analys (CFA) Conceptual Framework

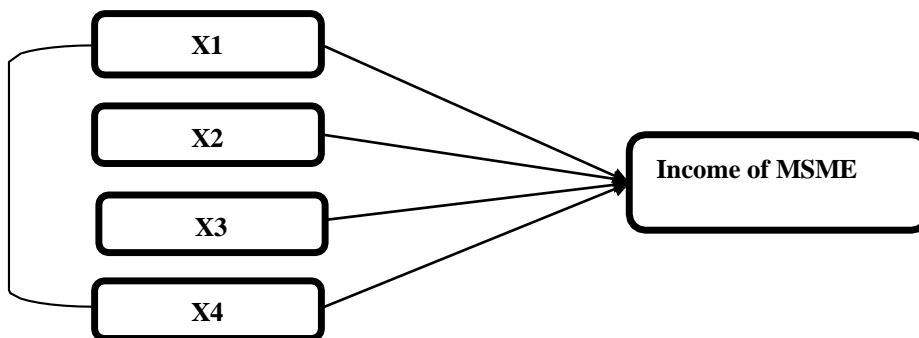


Figure 3.2 : Conceptual Framework of Multiple Linear Regression

RESULTS AND DISCUSSION

1. Results of confirmatory factor analysis (cfa) data analysis

The results of the Barlett's test of Sphericity and Kaiser-Meyer-Olkin (KMO) with the help of SPSS 23 software is shown in the table below.

Table 4.1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.558
Bartlett's Test of Sphericity	Approx. Chi-Square	46.323
	Df	36
	Sig.	.116

Source: SPSS Processing Results version 16.0 (2020)

Table 4.1 above shows the value obtained from the Bartlett's test of Sphericity is 46.323 with a significance of 0.116, this means that there is a correlation between variables (significant < 0.050). The results of the Kaiser-Meyer-Olkin (KMO) test obtained a value of 0.558 where the number is already above 0.5. Thus the variables in this study can be processed further. The next step is the Measure of Sampling Adequacy (MSA) test, where each variable is analyzed to find out which variables

can be processed further and which should be excluded. To be processed further, each variable must have an MSA value > 0.5. The MSA value is contained in the Anti-Image Matrice table in the Anti-Image Correlation section, namely the correlation number marked "a" with a diagonal direction from top left to bottom right. The results of the MSA test for this research variable are shown in the following table.

Anti-image Matrices

	capital	Consumption	production	distribution	technology	KUR	Product Innovation	Total manpower	Length of business	
Anti-image Covariance	capital	.978	-.033	.029	-.060	.039	.049	.046	-.086	.051
	consumption	-.033	.942	.120	-.034	.025	.089	-.094	.093	-.070
	production	.029	.120	.957	-.036	.006	.067	.041	-.097	.039
	distribution	-.060	-.034	-.036	.966	.015	-.123	-.040	.088	.000
	technology	.039	.025	.006	.015	.960	.107	.025	.039	.129
	KUR	.049	.089	.067	-.123	.107	.937	-.110	.033	-.023
	Product innovation	.046	-.094	.041	-.040	.025	-.110	.938	-.036	-.137
	Total manpower	-.086	.093	-.097	.088	.039	.033	-.036	.948	.086
	Length of business	.051	-.070	.039	.000	.129	-.023	-.137	.086	.929
Anti-image Correlation	capital	.472 ^a	-.034	.030	-.062	.041	.051	.048	-.089	.054
	consumption	-.034	.551 ^a	.127	-.036	.026	.095	-.100	.099	-.075
	production	.030	.127	.579 ^a	-.037	.006	.071	.043	-.102	.041
	distribution	-.062	-.036	-.037	.520 ^a	.015	-.130	-.042	.092	.000
	technology	.041	.026	.006	.015	.554 ^a	.113	.027	.041	.136
	KUR	.051	.095	.071	-.130	.113	.530 ^a	-.117	.035	-.025
	product innovation	.048	-.100	.043	-.042	.027	-.117	.590 ^a	-.038	-.146
	Total manpower	-.089	.099	-.102	.092	.041	.035	-.038	.546 ^a	.092
	Length of business	.054	-.075	.041	.000	.136	-.025	-.146	.092	.603 ^a

Source: Processing Results of SPSS version 16.0 (2021)

a. Measures of Sampling Adequacy(MSA)

From table 4.2 above, it is known that the variables in this study have MSA values > 0.5 so that the variables can be analyzed as a whole further.

Total Variance Explained

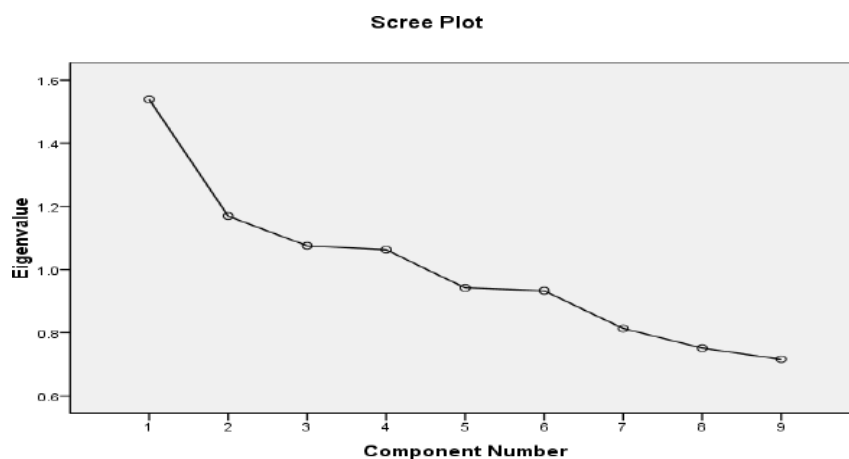
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.540	17.107	17.107	1.540	17.107	17.107	1.309	14.545	14.545
2	1.169	12.992	30.099	1.169	12.992	30.099	1.282	14.243	28.788
3	1.075	11.944	42.043	1.075	11.944	42.043	1.161	12.903	41.691
4	1.062	11.805	53.848	1.062	11.805	53.848	1.094	12.158	53.848
5	.942	10.463	64.311						
6	.933	10.361	74.673						
7	.813	9.032	83.705						
8	.751	8.346	92.051						
9	.715	7.949	100.000						

Extraction Method: Principal Component Analysis.

Source: Processing Results of SPSS version 16.0 (2021)

Based on the results of the total variance explained in the initial Eigenvalues table, it is known that there are 4 component variables that are factors that affect the income of MSME actors. Eigenvalues show the relative importance of each factor in calculating the variance of the 9 variables analyzed. From the

table above, it can be seen that there are only four factors formed, because the four factors have a total value of eigenvalues above 1 which is 1,540 for factor 1, 1,169 for factor 2, 1,075 for factor 3, and 1,062 for factor 4. stop at only 4 factors that will participate in the next analysis:



Source: Processing Results of SPSS version 16.0 (2021)

Figure 4.1 : scree plot component number

The scree plot graph shows that from one to two factors (the line from the Component Number = 1 to 2 axis), the direction of the graph decreases quite sharply. While from number 3 to number 4 it decreases then number 4 to number 5 decreases below number 1 from the Y axis (Eigenvalues). This shows that four factors are the best for summarizing the eight variables.

Results of Multiple Linear Regression Data Analysis

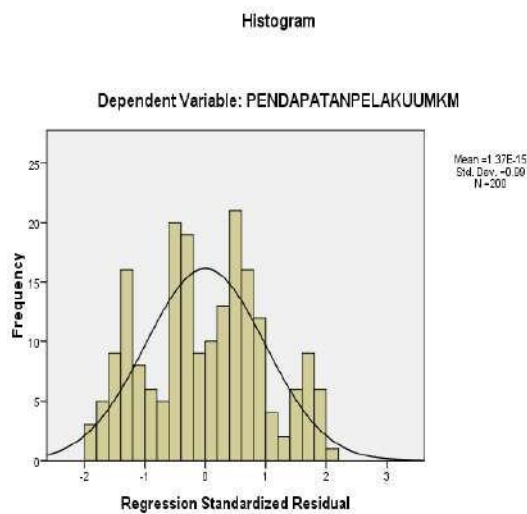


figure 4.2 Source: Processing Results of SPSS version 16.0 (2021)

Normal P-P Plot of Regression Standardized Residual

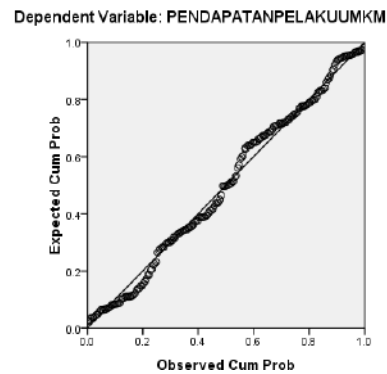


figure 4.3 Source: Processing Results of SPSS version 16.0 (2021)

From the picture above, it can be seen that the data in this study has been normally distributed, which can be seen from the histogram image which has the convexity is balanced in the middle and can also be seen from the normal pp plot picture that the points are between the diagonal lines, it can be concluded that data distribution is normally distributed.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	4.900	1.103		4.444	.000					
Length of busines	.112	.068	.116	1.663	.098	.130	.118	.115	.983	1.017
consumption distribution	.206	.083	.173	2.483	.014	.179	.175	.172	.986	1.014
capital	-.148	.064	-.160	-2.313	.022	-.149	-.163	-.160	.996	1.004
	.015	.074	.014	.198	.843	.003	.014	.014	.993	1.007

a. Dependent Variable: Income of MSME

Source: Processing Results of SPSS version 16.0 (2021)

Based on table 4.4 above, it can be seen that the Variance Inflation Factors (VIF) smaller than 5 include the length of business 1.017 < 5, consumption 1.014 < 5, distribution 1.004 < 5,

capital 1.007 < 5 and the Tolerance value for length of business 0.983 > 0.10, consumption 0.986 > 0.10, distribution 0.996 > 0.10, capital 0.993 > 0.10 so that it is free from multicollinearity

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	4.900	1.103		4.444	.000					
Length of business	.112	.068	.116	1.663	.098	.130	.118	.115	.983	1.017
consumption	.206	.083	.173	2.483	.014	.179	.175	.172	.986	1.014
distribution	-.148	.064	-.160	-2.313	.022	-.149	-.163	-.160	.996	1.004
capital	.015	.074	.014	.198	.843	.003	.014	.014	.993	1.007

a. Dependent Variable: Income of MSME

Table 4.5 Source: Processing Results of SPSS version 16.0 (2020)

Based on table 4.5, it is obtained multiple linear regression as follows :

$$Y = 4,900 + 0,112 X_1 + 0,206 X_2 - 0,148 X_3 + 0,015 X_4 + \epsilon.$$

The interpretation of the multiple linear regression equation is :

If everything in the independent variables is considered constant, then the income value of MSME actors is 4,900. If the length of business increases by 1 unit, then the income of MSME actors will increase by 0.112. If consumption increases by 1 unit, then the income of MSME actors will increase by 0.206. If the distribution increases by 1 unit, it will reduce the income of MSME actors by 0.148. If there is an increase in capital of 1 unit, it will increase the income of MSME actors by 0.015.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the CFA method and Multiple Linear Regression, it can be concluded:

- a. The results of the Confirmatory Factor Analysis (CFA) analysis show that the Variance Explained table shows that the length of business, consumption, distribution and capital factors have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.
- b. The results of the Multiple Linear Regression Analysis show that consumption and business distribution have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.
- c. The results of the Multiple Linear Regression Analysis show that the length of

business and capital have no significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.

- d. Length of business, consumption, distribution and capital simultaneously have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.

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CLASSICAL AND KEYNESIAN STATIC MODEL CAPABILITIES IN THE APPLICATION OF MACROPRUDENTIAL POLICY IN EMERGING MARKET COUNTRIES

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ABSTRACT

This study aims to analyze the variables of Foreign Direct Investment, Consumer Price Index, Money Supply, Interest Rates, Statutory Reserves and Non-Performing Loans. This study uses secondary data or time series data for the period 2010-2019. The data analysis model used is the ARDL panel model. The results of the analysis of the VAR state that the past variable contributes to the present variable either on the variable itself or on other variables. There is a reciprocal relationship that can be seen from the estimation results between each variable, namely the Consumer Price Index variable, the Amount of Money Supply, interest rates and Statutory Reserves with the Foreign Direct Investment variable contributing to each other. The results of the ARDL panel data analysis show that the Consumer Price Index and the Money Supply can be the leading indicators of Non-Performing Loans in the Five Emerging Market Countries in the long term viewed from the long run. The results of the analysis of the effectiveness of the classical and Keynesian static models characterized by the goods market and the money market in the short, medium and long term indicate that market equilibrium variables can support macroprudential implementation in the Five Emerging Market Countries.

Key words: consumer price index, foreign direct investment, interest rates, money supply, non performing loans, statutory reserves

INTRODUCTION

Financial system stability is very important in addition to price stability because financial system instability will have an impact on macroeconomic stability, even though the inflation rate is low and maintained (International Monetary Fund, 2013). The Financial Stability Board ordered the central bank to complement macroeconomic policies with other policies, namely macroprudential policies. Macroprudential policy is a countercyclical policy that aims to maintain resilience in the financial sector as a whole in order to be able to overcome systemic risks caused by the failure of financial institutions or financial markets which eventually lead to a crisis (Bank Indonesia, 2012).

According to the Bank of England (2009), macroprudential policy is a policy that aims to

maintain the stability of financial intermediation such as payment services, credit intermediation, and insurance against risks to the economy. However, according to the International Monetary Fund (2011), macroprudential policy is a policy that aims to maintain overall financial system stability by limiting the increase in systemic risk.

Non-Performing Loan Ratio (NPL) is a ratio to see the bank's ability to overcome and prevent bad loans granted by a bank. Non-Performing Loans (NPLs) can be measured through a comparison between non-performing loans and total loans. The higher the level of Non Performing Loans (NPL), the greater the credit risk borne by the bank. The magnitude of the NPL in the Five Emerging Market Countries according to CEIC can be seen in the following table and graph.

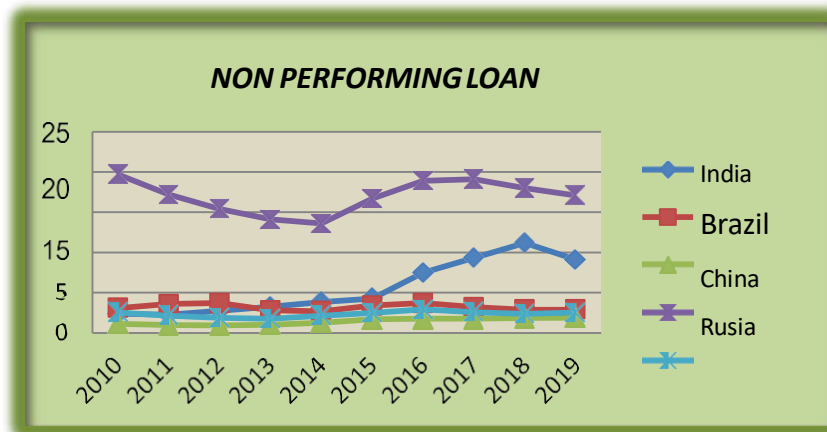


Figure 1.1 Graph of NPL Development in Five Emerging Market Countries 2010 to 2019 (%)
source : worldbank,2021

Based on the graph above, it is known that the rate of Non Performing Loans (NPL) showed various fluctuations from 2010 to 2019 in five emerging market countries, namely India, Brazil, Russia, and Indonesia. Where in India there was an increase in NPLs in 2012 by 2.75%, 2013 by 3.23% and in 2018 by 11.18%. Brazil showed that the NPL rate fluctuated relatively low in 2011 of 3.6% and experienced a moderate decline in 2014 of 2.7%. China shows a low average of below 2%. Russia showed a fluctuating rate of NPL and the highest NPL in 2010 was 19.7%, then decreased in 2014 by 13.6%. Meanwhile, Indonesia shows a stable NPL rate because the NPL rate is below 5%. When viewed from the whole, there was an increase in NPL in the five countries in 2015, India's NPL increased by 4.27% from 3.82% in the previous

year. Brazil rose 3.4% from 2.7% a year earlier. China was up 1.67% from 1.25% a year earlier, Russia was up 16.7% from 13.6% a year earlier, Indonesia was up 2.48% from 2.16% a year earlier. This is due to the large number of non-performing loans. The higher the NPL value, the worse the quality of credit extended by banks. For Indonesia, the maximum size of the NPL ratio is 5%. If the bank has an NPL level exceeding 5%, it can be said that the bank has experienced a product failure. The value of the Non-Performing Loan (NPL) ratio in large numbers will result in bank losses due to not getting back the money or loans that have been given and interest rates that are not received. Research by Sony Kristiyanto, Sugeng Widodo (2020) found that the higher the NPL value in a bank, the more unhealthy the bank will be

Table 1.1 The Development of the Consumer Price Index in five Emerging Market Countries from 2010 to 2019

Year	India	Brazil	China	Russia	Indonesia
2010	100	100	100	100	100
2011	108.85	106.63	105.55	108.44	105.35
2012	118.99	112.39	108.31	113.94	109.86
2013	131.97	119.37	111.1	121.63	116.90
2014	140.36	126.92	113.29	131.15	124.38
2015	148.60	138.38	114.92	151.52	132.30
2016	155.94	150.48	117.22	162.20	136.96
2017	159.82	155.66	119.08	168.17	142.18
2018	167.59	161.37	121.55	173.01	146.72
2019	180.43	167.39	125.08	180.75	151.17

Source : World bank

It can be seen from the table above that the rate of the Stock Price Index above shows that in each of these countries the CPI rate has increased every year. In 2010 in each country the CPI rate was 100%. In India in 2012 it was 118.99% and in 2019 it was 18.43. In 2013 in Brazil it was 119.37% and in 2018 it was 161.37%. In 2014 China was

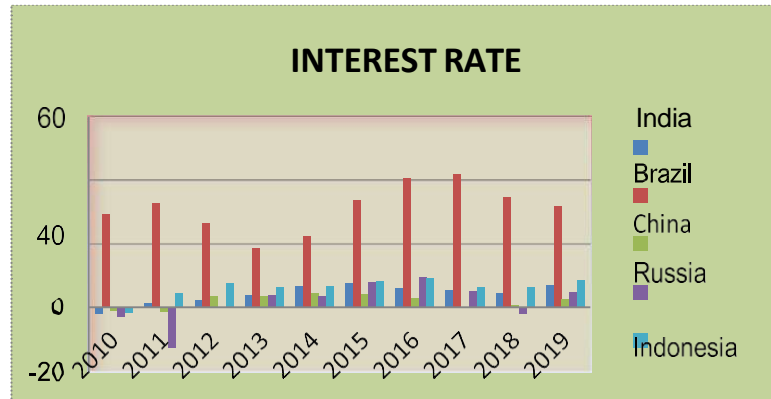
113.29%, in 2016 it was 114.92% and in 2019 it was 125.08%. Russia in 2011 was 108.44, in 2015 it was 151.52% and in 2017 it was 168.17%. Meanwhile, Indonesia in 2012 amounted to 105.35%, amounted to 124.38% in 2014 and in 2019 amounted to 151.17%. Overall, it can be seen through tables and

graphs that every year in each country there is an increase.

Inflation occurs due to price increases in general and continuously it will cause a decrease in people's purchasing power. If this happens often, it

can result in decreased sales and decreased quality of a business. This makes it difficult for customers to repay their loans to the bank so that the Non-Performing Loan (NPL) at the bank will increase.

Graph 1.2 Interest Rate Developments in Five Emerging Market Countries 2010 to 2019



Sumber worldbank

It can be seen from the graph above that interest rate fluctuations vary widely in each country. India experienced a not so high increase, namely in 2015 by 7.55% and decreased in 2017 by 5.52%. In contrast to Brazil, which experiences various and high-value fluctuations every year, namely in 2010 by 29.11%, in 2013 it decreased to 18.49% and in 2017 it increased by 41.76%.

China also experienced various fluctuations in 2011 by -1.00%, in 2014 it increased to 4.52% but decreased in 2017 by 0.11%. Russia in 2010 to 2011 had a negative value, in 2012 it was 0.17%, 2016 increased to 9.48% but decreased and was negative in 2018. While in Indonesia in 2010 it was negative at -1.7%, in 2014 it was -1.7%. 6.79% and increased in 2016 by 9.22%.

Overall, it can be seen that there has been an increase in interest rates in every country except China. High and low interest rates will affect people's desire to borrow money from banks. The lower the interest rate, the more people want to borrow money from the bank. This means that if the interest rate is low, people will be more interested in borrowing money from the bank to meet their needs or to start a business. On the other hand, when interest rates are high, people will prefer to save their money in the bank rather than use it for shopping and business development. Keynesian states that the determinants of interest rates are the action of the supply and demand for money in the money market. What determines the money supply or often referred to as the money supply is the government through the central bank and the amount is fixed for a certain period of time.

Theories

Classical and Keynesian Static Models

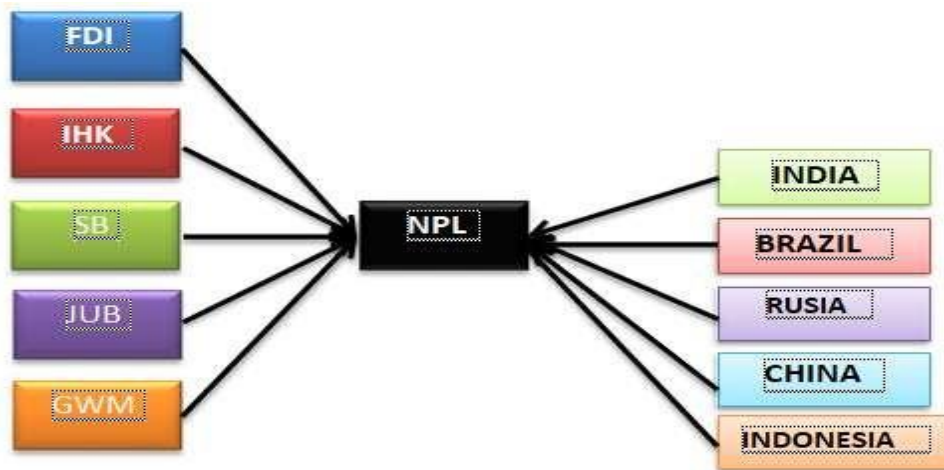
The balance of supply and demand for the money stock explains that aggregate output or income and the general price level are exogenous variables. Exogenous output or aggregate income and the general price level are irrelevant assumptions. In the macroeconomic model, output or aggregate income and the general price level are equilibrium variables determined in the system. Output or aggregate income and the general price level are the two equilibrium variables of aggregate demand [AD] and aggregate supply [AS].

Aggregate demand is the balance of output or aggregate income and the general price level produced by two market balances, namely the goods market balance [IS] and the money market balance [LM]. Aggregate supply is the balance of output or aggregate income and the general price level produced by the equilibrium of the labor market and production.

This section will discuss the goods market equilibrium model [IS], money market equilibrium model [LM], aggregate demand model [AD], classical aggregate supply model [AS], Keynesian aggregate supply model [AD] and maximal equilibrium analysis. A decrease in current usage lowers the IS plan and an increase in the original cash stock increases the LM plan, so that total interest falls and the overall rate of value rises. A decrease in total interest and an increase in the overall level of value will reduce the original and full use of the family. This level indicates that the

investigation of greatest utility is in accordance with the IS and LM examination. The following is the conceptual framework for the Classical and Keynesian Static Model ARDL Panel in

the Application of Macroprudential Policy in Five Emerging Market Countries:



RESEARCH METHODS

This research was conducted on five emerging market countries, namely India, Brazil, China, Russia and Indonesia. To support and encourage a quantitative analysis, a model is used, namely the ARDL Panel, in which the ARDL Panel model is able to explain the two-way relationship in the long-term economic variables used as endogenous variables.

This study uses data collection techniques by means of documentation studies, namely collecting variable data and processing data from previous information related to the problems to be studied. The data used in this study is secondary data obtained from the Worldbank

and CEIC and processed using Eviews 10 from 2010 to 2019.

ARDL Panel

Panel data is using data between time and data between countries. The ARDL panel regression is used to obtain the estimation results of each individual characteristic separately by assuming the existence of cointegration in the long-term lag of each variable. Autoregressive Distributed Lag (ARDL) introduced by Pesaran et al. (2001). This technique examines each lag variable located in I (1) or I (0). On the other hand, the ARDL regression result is a test statistic that can be compared with two asymptotic critical values. Panel Regression Test with the formula:

$$NPL_{it} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e \tag{3.18}$$

The following is the regression panel formula by country:

$$NPL_{INDIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.19}$$

$$NPL_{BRAZIL_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.20}$$

$$NPL_{CHINA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.21}$$

$$NPL_{RUSSIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.22}$$

$$NPL_{INDONESIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.23}$$

RESULTS AND DISCUSSION

The results of the ARDL panel data analysis stated:

Table 1 ARDL Panel Output

Dependent Variable: D(NPL, 2)				
Method: ARDL				
Date: 04/18/21 Time: 21:07				
Sample: 2012 2019				
Included observations: 40				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (1 lag, automatic): D(GWM) D(IHK) D(JUB)				
Fixed regressors: C				
Number of models evaluated: 1				
Selected Model: ARDL(1, 1, 1, 1)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
D(GWM)	-0.039189	0.021495	-1.823131	0.0859
D(IHK)	0.194956	0.012442	15.66947	0.0000
D(JUB)	0.082634	0.026116	3.164085	0.0057
Short Run Equation				
COINTEQ01	-0.573173	0.190196	-3.013598	0.0078
D(GWM,2)	-0.035028	0.031015	-1.129400	0.2744
D(IHK,2)	-0.060919	0.064357	-0.946578	0.3571
D(JUB,2)	-0.021015	0.022517	-0.933302	0.3637
C	-0.688592	0.294917	-2.334864	0.0321
Mean dependent var	-0.002925	S.D. dependent var	1.145402	
S.E. of regression	1.140563	Akaike info criterion	1.218368	
Sum squared resid	22.11501	Schwarz criterion	2.342514	
Log likelihood	0.586719	Hannan-Quinn criter.	1.637438	
*Note: p-values and any subsequent tests do not account for model selection.				

Source : *Output Views 2021*

The accepted ARDL Panel Model is a model that has a cointegrated lag where the main assumption is that the coefficient value has a negative slope with a level of 5%. ARDL Panel Model requirements: negative value (-0.52) and significant ($0.00 < 0.05$) then the model will be accepted. Based on the acceptance of the model, data analysis can be carried out on a country-by-country panel.

Based on the results of the research above, that which is significant in the long term affects Non-Performing Loans (NPL) in the Five Emerging Market Countries, namely the Consumer Price Index (CPI). Then in the short term nothing will affect the Non Performing Loan (NPL). The leading indicator of the effectiveness of variables in strengthening Macroprudential Policy in Emerging Markets is the Consumer Price Index and the Money Supply as seen from the long run and short run stability, where the long run variable significantly controls macroprudential policy.

Leading indicator of the effectiveness of the state in controlling macroprudential policies in five emerging market countries, namely India (Consumer Price Index (CPI) and the Money Supply (JUB)), Brazil (Required Demand Deposit (GWM), Consumer Price Index (CPI) and the Money Supply

(JUB), China (Required Statutory Reserves (GWM), Consumer Price Index (CPI) and Money Supply (JUB)), Russia (Consumer Price Index (CPI) and Total Money Supply (JUB) and Indonesia (Required Statutory Reserves (GWM)), Consumer Price Index (CPI) and Money Supply (JUB).

From the panel, it turned out that the Consumer Price Index (CPI) and the Money Supply (JUB) were also able to become leading indicators for the implementation of macroprudential policies in five emerging market countries (India, Brazil, China, Russia and Indonesia) but their positions were unstable in both long and short runs. run.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the ARDL Panel method, it can be concluded: From the ARDL panel, the Consumer Price Index, the Money Supply and the Statutory Reserves are the leading indicators in the Five Emerging Market Countries (India, Brazil, China, Russia and Indonesia), but their positions are unstable in the short run. The main leading indicators of classical and Keynesian static models in the application of macroprudential policies in five Emerging Market Countries, namely the Consumer Price Index and the Money Supply as seen from the long run, where the variables Consumer Price Index and Money Supply are not significant but in the long run significant in controlling macroprudential policies as proxied by Non Performing Loans (NPL).

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EXCHANGE RATE SYSTEM CONTROL MODEL THROUGH THE IN 8 APEC COUNTRIES OPEN ECONOMIC MODEL

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ABSTRACT

This study aims to analyze the variables of inflation, interest rates, exports, imports, JUB, the effect on exchange rates and GDP in 8 APEC countries namely America, Australia, China, Singapore, Malaysia, Indonesia, Japan and South Korea. This type of research is quantitative analysis using secondary data from 2005 to 2020 (time series) and cross-sectional data obtained from the World Bank, Monetary Authority of Singapore, CEIC and Bank Indonesia. The data analysis technique used is the VAR analysis model. The results of the VAR analysis show that the past variable (t-1, t-2) has a contribution to the current variable, either for the variable itself or for other variables. In the medium and long term there is a change in the influence of each standard deviation of each variable from being positive to negative and vice versa.

Key words : exchange rate, exports, gdp, imports, inflation, interest rates, money supply

INTRODUCTION

Understanding Currency Exchange Rates According to (Mankiw, 2007), the currency exchange rate between two countries is the price of the currency used by residents of these countries to trade with each other. (Fabozzi and Modigliani, 1995) defines currency exchange rate as the amount of one country's currency that can be exchanged per unit of another country's currency, or in other words the price of one currency against another.

The upward adjustment or increase in currency exchange rates made by the central bank is called revaluation. Meanwhile, the downward adjustment or decrease in currency exchange rates made by the central bank is called devaluation. The difference in the exchange rate of a country's currency (exchange rate) is in principle determined by the amount of demand and supply of that currency (Levi, 1996).

Based on the graph above, it can be seen that the movement of the exchange rate of each country against the USD exchange rate has ups and downs. China, which was the first victim of the Covid-19 outbreak, was actually able to strengthen the Yuan Renminbi exchange rate against the USD in December 2020, touching YCN 6.96/USD from the previous YCN 7.03/USD. This is because in the spot foreign exchange market in China, it is allowed to increase or decrease 2% from the middle rate on the trading day. The middle exchange rate of the Yuan against the United States Dollar is based on the weighted average of prices offered by market participants prior to the opening of interbank trading each working day.

(According to Setiawan, 2009) that the depreciation of the rupiah against the USD is very influential on increasing inflation conditions in Indonesia. However, according to (Suriani, 2014) the exchange rate variable has no causal relationship to inflation in Indonesia. The weakening of the rupiah exchange rate makes the price of imported goods increase because more rupiah is needed to obtain these imported goods, as well as goods with imported production raw materials..

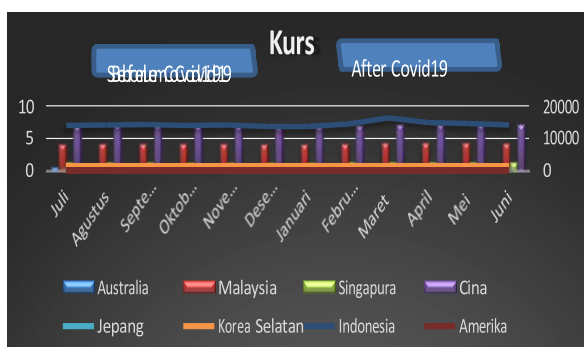


Figure 1: Exchange rate (usd) July 2019 to June 2020

Source : <https://id.tradingeconomics.com>

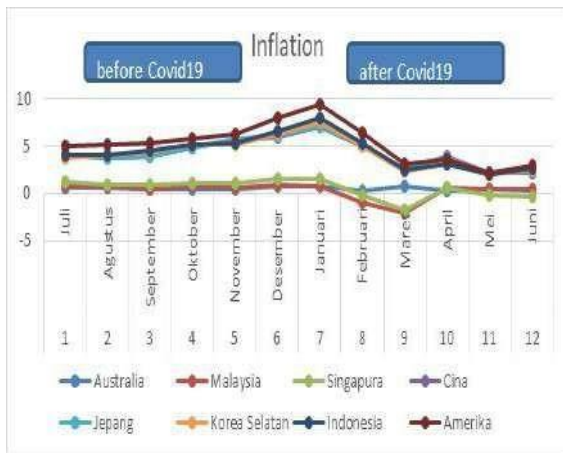


Figure 2 : Inflation (%) July 2019 to June 2020 Based

on the graph above, it can be seen that inflation in each country decreased simultaneously in April 2020. Indonesia previously had an inflation rate of 0.1%, changed to 0.08% in April, South Korea previously had an inflation rate of -0.2%. changed to -0.6% in April, Japan's previous inflation rate of 0% changed to -0.2% in April, America's previous inflation rate of 0.7% turned down to 0.5% in April . Singapore's previous inflation rate of 0.3% changed to -0.1% in April, Australia's previous inflation rate of 0.7% turned down to 0.3% in April, Japan's previous inflation rate of 0.3% turned down to 0% in April.

Inflation is one form of economic disease that often arises and is experienced in almost all countries. The tendency of rising prices in general and occurs continuously (Dwi, 2002). (Rohim, 2011) which states that there is a negative and significant relationship between interest rates and inflation.

Theories

Fixed Exchange Rate System Stability

Economic stability is an economic condition where there are no too large changes or fluctuations in the macro economy. In other words, a stable

economy is an economy whose output growth is steady, does not have high inflation or more than 10%, and does not experience frequent recessions. An economy that often experiences recession or is experiencing high inflation is an unstable economy. Economic stability is also a condition that is reflected in the improvement of an economy. Efforts to maintain macroeconomic stability are carried out through measures to strengthen the resilience of the domestic economy against various shocks that arise, both from within and from abroad.

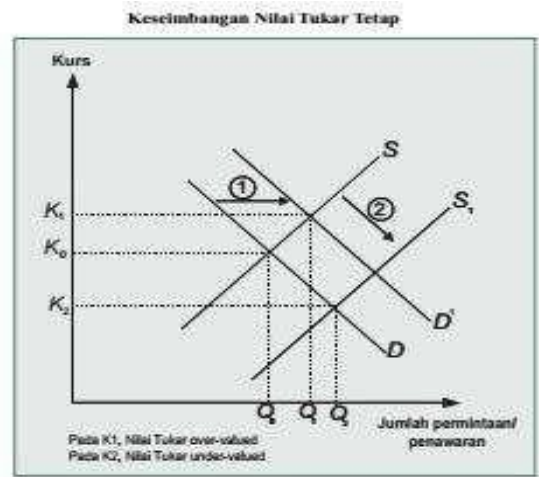


Figure 3: Fixed exchange rate balance

A fixed exchange rate system is a regime in which the monetary authority determines a fixed exchange rate permanently. Fixed exchange rate system means the value of $e_t = e$. The substitution of the value of $e_t = e$ in equations (1.16A) and (1.16B) explains that in a fixed exchange rate system, monetary policy cannot be determined exogenously. Monetary policy is aimed at maintaining the exchange rate at par $e_t = e$. This condition is called the description of the monetary policy of the fixed exchange rate regime. In a fixed exchange rate system, the IS model and the LM model change to:

$$y_t = \beta_0 + \beta_1 [R_t^* - E_t(p_{t+1} - p_t)] + \beta_2 [p_t - e - p_t^*] + v_t \tag{1.29A}$$

$$m_t - p_t = \alpha_0 + \alpha_1 y_t + \alpha_2 R_t^* + \varepsilon_t \tag{1.29B}$$

The effect of shocks [v_t and ε_t] on currency exchange rates and price levels is based on the assumption that p_t^* , R_t^* and m_t are constant in the long run so:

$$B_t = -\beta_1 [E_t(p_{t+1} - p_t)] + \beta_2 [p_t - e] + v_t \tag{1.30A}$$

$$-p_t = C + \varepsilon_t \tag{1.30B}$$

where B and C each are constants for all variables and parameters contained in each variable. The domestic price level is determined by the shock of government consumption, foreign output and money demand, namely:

$$p_t = \theta_{10} + \theta_{11} v_t + \theta_{12} \varepsilon_t \text{ dimana } E_t p_{t+1} = \theta_{10} \quad (1.31A)$$

$$e = \theta_{20} + \theta_{21} v_t + \theta_{22} \varepsilon_t \text{ dimana } E_t e = \theta_{20} \quad (1.31B)$$

Substitution to (1.30A) and (1.30B) will give the following equations between shocks:

$$B_t = -\beta_1[-\theta_{11}v_t - \theta_{12}\varepsilon_t] + \beta_2[\theta_{10} + \beta_2[\theta_{10} + \theta_{11}v_t + \theta_{12}\varepsilon_t - \theta_{20} - \theta_{21}v_t - \theta_{22}\varepsilon_t] + v_t \tag{1.32A}$$

$$-\theta_{10} - \theta_{11}v_t - \theta_{12}\varepsilon_t = C + \varepsilon_t \tag{1.32B}$$

Equations (1.32A) and (1.32B) are met with four parameters or coefficients, namely:

1. $0 = \beta_1[\theta_{11}] + \beta_2[\theta_{11} - \theta_{21}] + 1,$
2. $0 = \beta_1[\theta_{12}] + \beta_2[\theta_{12} - \theta_{22}],$
3. $\theta_{11} = 0,$ dan
4. $-\theta_{12} = 1.$

From these four parameters or coefficients, the solution parameter or coefficient is obtained, each of which is $\theta_{11} = 0,$ $\theta_{12} = -1,$ $\theta_{21} = 1/\beta_2,$ and $\theta_{22} = (\beta_1 + \beta_2)/\beta_2.$ Therefore, the price level and par value of the domestic currency are respectively

$$p_t = \theta_{10} - \varepsilon_t \tag{1.33A}$$

$$e = \theta_{20} + \frac{1}{\beta_2} v_t + \frac{\beta_1 + \beta_2}{\beta_2} \varepsilon_t \tag{1.33B}$$

when $\beta_1, \beta_2 < 0.$ The response of the domestic price level [pt] to a shock to the demand for the money stock [ε_t] is negative or the domestic price level will fall if the demand shock for the money stock is positive. The response of the par value of the domestic currency [e] to the shock of government consumption and foreign output [v_t] is negative and a response to the shock of the domestic money stock [ε_t] is positive. The par value of the domestic currency will appreciate if the shock of government consumption and foreign output is positive, on the contrary, the exchange rate

of the domestic currency will depreciate if the shock of money demand is positive.

Open economy model

An open monetary economic analysis with rational expectations includes determining the floating exchange rate. Trade relations with certain countries adhere to the fiat money system, meaning that paper money sold by the monetary authority is an internal transaction tool. The price of one unit of currency against another is determined by the foreign exchange market, which is called the exchange rate. The use of macroeconomic aggregation model is an analytical tool in determining currency exchange rates.

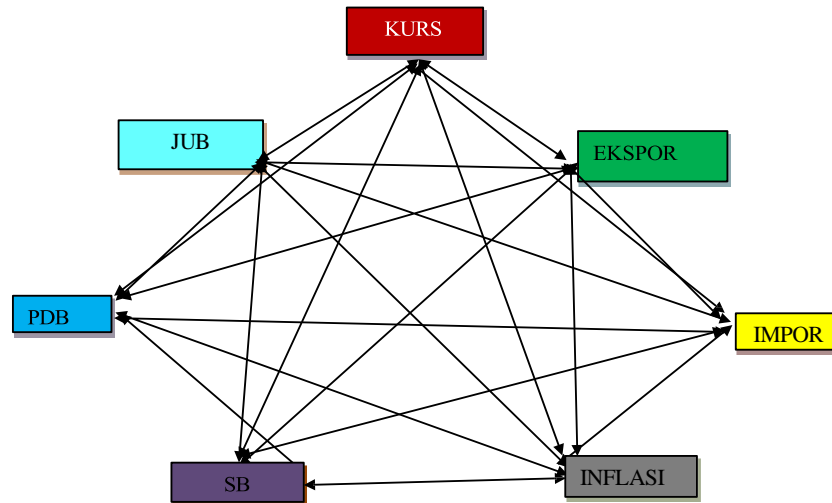
The inclusion of international trade in the IS Model explains the open economy model, namely:

$$y = c + i + g + x \tag{1.8}$$

when:

- y = aggregate real output,
- c = household real consumption,
- i = the firm's real investment or consumption,
- g = real government consumption, and
- x = is net real exports.

The conceptual framework in this study with the VAR approach is as follows:



RESEARCH METHODS

This research was conducted on 8 countries with the strongest exchange rates in developed countries in the world (America, Australia, Malaysia, Singapore, South Korea, Japan, China,

and Indonesia). The data that will be used in this research is secondary data from the World Bank. <http://www.worldbank.org>. The data used in this study is secondary data taken and processed from the Worldbank (World Bank) and Bank Indonesia from 2001 – 2019 (18 years).

VAR (Vector Autoregression) Models

$$\begin{aligned}
 KURSt &= \beta_{10}INFt-p + \beta_{11}JUBt-p + \beta_{12}PDBt-p + \beta_{13}EKSt-p + \beta_{14}SBI t-p + \beta_{15}IMPt-p + et1 \\
 INFt &= \beta_{20}JUBt-p + \beta_{22}PDBt-p + \beta_{23}EKSt-p + \beta_{24}SBI t-p + \beta_{25}IMPt-p + \beta_{26}KURSt-p + et2 \\
 JUBt &= \beta_{30}PDBt-p + \beta_{31}EKSt-p + \beta_{32}SBI t-p + \beta_{33}IMPt-p + \beta_{34}KURSt-p + \beta_{35}INFt-p + et3 \\
 PDBt &= \beta_{40}EKSt-p + \beta_{41}SBI t-p + \beta_{42}IMPt-p + \beta_{43}KURSt-p + \beta_{44}INFt-p + \beta_{45}JUBt-p + et4 \\
 EKSt &= \beta_{50}SBI t-p + \beta_{51}IMPt-p + \beta_{52}KURSt-p + \beta_{53}INFt-p + \beta_{54}JUBt-p + \beta_{55}PDBt-p + et5 \\
 SBI t &= \beta_{60}IMPt-p + \beta_{61}KURSt-p + \beta_{62}INFt-p + \beta_{63}JUBt-p + \beta_{64}PDBt-p + \beta_{65} EKSt-p + et6 \\
 IMPt &= \beta_{71}KURSt-p + \beta_{71}INFt-p + \beta_{72}JUBt-p + \beta_{73}PDBt-p + \beta_{74}EKSt-p + \beta_{75}SBI t-p + et7
 \end{aligned}$$

Where :

- Kurs = Exchange Rate (US\$)
- INF = Inflation (%)
- JUB = Money supply M2,(%)
- PDB = Gross Domestic Product (%)
- EX = Export (US \$)
- SBI = Central bank interest (%)
- IMP = Export (US\$)
- et = random disturbance
- p = length of lag Model VAR will be met with Model VAR

RESULTS AND DISCUSSION

VAR Estimation Results

Vector Autoregression Estimates
 Date: 02/25/21 Time: 13:25
 Sample (adjusted): 2 128
 Included observations: 127 after adjustments
 Standard errors in () & t-statistics in []

	EKS	IMP	INF	JUB	KURS	PDB	SB
EKS(-1)	0.934754 (0.05335) [17.5206]	-0.027585 (0.04518) [-0.61057]	-0.553523 (1.05522) [-0.52456]	0.999195 (1.52352) [0.65585]	141.0060 (595.284) [0.23687]	0.742574 (1.00907) [0.73590]	0.099467 (0.95910) [0.10371]

IMP(-1)	-0.007804 (0.06153) [-0.12683]	0.988349 (0.05210) [18.9689]	-1.214118 (1.21695) [-0.99768]	-4.024007 (1.75701) [-2.29026]	-17.59217 (686.517) [-0.02563]	-4.554204 (1.16372) [-3.91349]	0.025833 (1.10609) [0.02335]
INF(-1)	0.013021 (0.00749) [1.73755]	0.011800 (0.00635) [1.85958]	0.417126 (0.14821) [2.81437]	0.398476 (0.21399) [1.86214]	150.2215 (83.6115) [1.79666]	-0.217526 (0.14173) [-1.53478]	0.291560 (0.13471) [2.16432]
JUB(-1)	-0.009920 (0.00309) [-3.21413]	-0.006899 (0.00261) [-2.63935]	0.197585 (0.06105) [3.23660]	0.379311 (0.08814) [4.30355]	-3.947062 (34.4386) [-0.11461]	0.188435 (0.05838) [3.22789]	-0.110195 (0.05549) [-1.98598]
KURS(-1)	-1.01E-05 (5.1E-06) [-2.00306]	-6.54E-06 (4.3E-06) [-1.52431]	8.21E-05 (0.00010) [0.81954]	-8.58E-05 (0.00014) [-0.59336]	0.831949 (0.05651) [14.7214]	8.36E-05 (9.6E-05) [0.87270]	1.72E-05 (9.1E-05) [0.18843]
PDB(-1)	0.011159 (0.00492) [2.26889]	0.006378 (0.00416) [1.53135]	-0.224413 (0.09728) [-2.30698]	0.090307 (0.14045) [0.64301]	-30.17377 (54.8762) [-0.54985]	0.166275 (0.09302) [1.78750]	0.023470 (0.08841) [0.26546]
SB(-1)	0.017790 (0.00819) [2.17237]	0.015020 (0.00693) [2.16593]	0.247450 (0.16197) [1.52774]	0.109063 (0.23385) [0.46637]	151.6232 (91.3733) [1.65938]	-0.247366 (0.15489) [-1.59707]	0.340979 (0.14722) [2.31615]
C	0.387175 (0.28553) [1.35600]	0.187056 (0.24179) [0.77363]	9.546697 (5.64735) [1.69047]	20.40388 (8.15356) [2.50245]	-1103.400 (3185.84) [-0.34634]	23.45547 (5.40035) [4.34332]	1.244895 (5.13292) [0.24253]

Estimation Proc:

=====
LS 1 1 EKS IMP INF JUB KURS PDB SB

VAR Model:

=====
EKS = C(1,1)*EKS(-1) + C(1,2)*IMP(-1) + C(1,3)*INF(-1) + C(1,4)*JUB(-1) + C(1,5)*KURS(-1) + C(1,6)*PDB(-1) + C(1,7)*SB(-1) + C(1,8)

$$EKS = C(1,1)*EKS(-1) + C(1,2)*IMP(-1) + C(1,3)*INF(-1) + C(1,4)*JUB(-1) + C(1,5)*KURS(-1) + C(1,6)*PDB(-1) + C(1,7)*SB(-1) + C(1,8)$$

$$IMP = C(2,1)*EKS(-1) + C(2,2)*IMP(-1) + C(2,3)*INF(-1) + C(2,4)*JUB(-1) + C(2,5)*KURS(-1) + C(2,6)*PDB(-1) + C(2,7)*SB(-1) + C(2,8)$$

$$INF = C(3,1)*EKS(-1) + C(3,2)*IMP(-1) + C(3,3)*INF(-1) + C(3,4)*JUB(-1) + C(3,5)*KURS(-1) + C(3,6)*PDB(-1) + C(3,7)*SB(-1) + C(3,8)$$

$$JUB = C(4,1)*EKS(-1) + C(4,2)*IMP(-1) + C(4,3)*INF(-1) + C(4,4)*JUB(-1) + C(4,5)*KURS(-1) + C(4,6)*PDB(-1) + C(4,7)*SB(-1) + C(4,8)$$

$$KURS = C(5,1)*EKS(-1) + C(5,2)*IMP(-1) + C(5,3)*INF(-1) + C(5,4)*JUB(-1) + C(5,5)*KURS(-1) + C(5,6)*PDB(-1) + C(5,7)*SB(-1) + C(5,8)$$

$$PDB = C(6,1)*EKS(-1) + C(6,2)*IMP(-1) + C(6,3)*INF(-1) + C(6,4)*JUB(-1) + C(6,5)*KURS(-1) + C(6,6)*PDB(-1) + C(6,7)*SB(-1) + C(6,8)$$

$$SB = C(7,1)*EKS(-1) + C(7,2)*IMP(-1) + C(7,3)*INF(-1) + C(7,4)*JUB(-1) + C(7,5)*KURS(-1) + C(7,6)*PDB(-1) + C(7,7)*SB(-1) + C(7,8)$$

VAR Model - Substituted Coefficients:

=====

$$\text{EKS} = 0.934754421398*\text{EKS}(-1) - 0.0078037536711*\text{IMP}(-1) + 0.0130205025479*\text{INF}(-1) - 0.00992047792065*\text{JUB}(-1) - 1.01453467926\text{e-}05*\text{KURS}(-1) + 0.0111589039809*\text{PDB}(-1) + 0.0177900570784*\text{SB}(-1) + 0.387175012972$$

$$\text{IMP} = - 0.0275852619813*\text{EKS}(-1) + 0.988348632439*\text{IMP}(-1) + 0.0118004097196*\text{INF}(-1) - 0.0068985744779*\text{JUB}(-1) - 6.53789890873\text{e-}06*\text{KURS}(-1) + 0.00637786786063*\text{PDB}(-1) + 0.0150203168128*\text{SB}(-1) + 0.187056218952$$

$$\text{INF} = - 0.553522950645*\text{EKS}(-1) - 1.21411797362*\text{IMP}(-1) + 0.417126203849*\text{INF}(-1) + 0.197585295572*\text{JUB}(-1) + 8.20993298173\text{e-}05*\text{KURS}(-1) - 0.224412580093*\text{PDB}(-1) + 0.247450186593*\text{SB}(-1) + 9.54669725718$$

$$\text{JUB} = 0.999194655386*\text{EKS}(-1) - 4.02400667796*\text{IMP}(-1) + 0.398476267897*\text{INF}(-1) + 0.379310909126*\text{JUB}(-1) - 8.58206333924\text{e-}05*\text{KURS}(-1) + 0.0903071211957*\text{PDB}(-1) + 0.109062636919*\text{SB}(-1) + 20.4038815145$$

$$\text{KURS} = 141.005968906*\text{EKS}(-1) - 17.5921677446*\text{IMP}(-1) + 150.221545821*\text{INF}(-1) - 3.94706236478*\text{JUB}(-1) + 0.831949113319*\text{KURS}(-1) - 30.1737659944*\text{PDB}(-1) + 151.623171548*\text{SB}(-1) - 1103.40000212$$

$$\text{PDB} = 0.74257420053*\text{EKS}(-1) - 4.55420364732*\text{IMP}(-1) - 0.217525530747*\text{INF}(-1) + 0.188435368781*\text{JUB}(-1) + 8.36008398103\text{e-}05*\text{KURS}(-1) + 0.166275302077*\text{PDB}(-1) - 0.247366136582*\text{SB}(-1) + 23.4554738551$$

$$\text{SB} = 0.0994673464719*\text{EKS}(-1) + 0.0258326088274*\text{IMP}(-1) + 0.291560075417*\text{INF}(-1) - 0.110194993101*\text{JUB}(-1) + 1.71572885751\text{e-}05*\text{KURS}(-1) + 0.0234703796961*\text{PDB}(-1) + 0.340978510568*\text{SB}(-1) + 1.24489544633$$

The conclusion of the contribution of VAR analysis shows the largest contribution of one and two to a variable, which is then analyzed as follows:

VAR analysis of exports

The biggest contribution to exports was the export itself in the previous period and was followed by interest rates in the previous period. The current increase in exports is also influenced by the increase in the amount of inflation in the previous year. The inflation rate will greatly affect the level of exports carried out by the country. If the inflation rate is high, the availability of exporter funds used for production funds will be higher, making export prices more expensive and causing a decrease in the number of exports.

VAR analysis of imports

The biggest contribution to savings was imports from the previous period, followed by interest rates from the previous period. High interest rates will limit public consumption on credit, which in turn will reduce borrowing by importers which will cause the value and volume of imports to decrease.

VAR analysis on inflation

The biggest contribution to inflation is the exchange rate of the previous period and inflation itself. If domestic inflation from the previous year increases while inflation in other countries is

relatively stable, the price of domestic goods will be more expensive than other countries, or in other words, the prices of foreign goods will be cheaper. In this way, the export of domestic goods will decrease and lead to a decrease in demand for the country's currency, which causes the country's exchange rate to weaken against foreign currencies.

VAR analysis of JUB

The biggest contribution to the money supply was exports in the previous year, followed by inflation in the previous period. This can be interpreted when exports increase in the previous year there will be an increase in income in the community so that there is a tendency for someone to spend the money they have. This will cause the money supply to increase.

VAR analysis of exchange rates

The biggest contribution to the exchange rate was the interest rate of the previous year, followed by inflation of the previous period. The weakening of a country's exchange rate causes the price of imported goods to increase because it takes a larger amount of currency value to get these imported goods. Likewise, goods with imported raw materials for production. This will also increase the price of domestic production which can lead to inflation. The depreciation of a country's exchange rate against a foreign currency also results in an increase

in the value of exports. Cheaper prices for domestic goods attract foreign parties to increase the amount of demand for their goods so that prices will slowly rise and cause inflation.

VAR analysis of gdp

The biggest contribution to GDP is the previous year's exchange rate, followed by exports of the previous period. This means that if the exchange rate strengthens (appreciates), the value of exports will also increase, so that if exports increase, GDP will also increase. If the increase in gross domestic product leads to an increase in people's income, the increase in income will increase purchasing power and increase demand.

VAR analysis of interest rates

The biggest contribution to interest rates is the previous year's exchange rate followed by the interest rate itself in the previous period. This means that if there is an increase in interest rates by the central bank, it will reduce the level of public consumption because people will save more (saving in banks), with more people saving in banks, the money supply will decrease which will then decrease inflation.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out, the following conclusions can be drawn:

- 1) The largest variable contribution to exports is exports for the previous year and then followed by interest rates for the previous year.
- 2) The variable that contributed the most to imports was the import itself in the previous period and the second largest contribution was the interest rate for the previous year.
- 3) The biggest contribution to inflation is the previous year's exchange rate. Then the next year's contribution from inflation itself.
- 4) The variables that contributed the most to the money supply were exports for the previous year and then inflation for the previous year.
- 5) The largest contribution to the exchange rate came from the interest rate variable for the previous year, followed by inflation for the previous year.
- 6) The biggest variable contribution to GDP is the exchange rate for the previous year and then exports from the previous year.
- 7) The largest contribution to interest rates is the exchange rate for the previous year and followed by the interest rate itself for the previous year.
- 8) Based on the results of the response of one standard deviation of the variables studied

above, it can be concluded that there is a change in the effect of each standard deviation of each variable from being positive to negative and vice versa the negative being positive in the medium term and in the long term. These results explain that there are different responses from monetary variables and aggregate supply and demand balance variables, both positive and negative responses. This condition shows that all the variables studied are correlated with each other in the medium and long term.

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CHANGES TO THE KEYNESIAN CLASSIC STATIC MODEL AND IS-LM AGGREGATE DEMAND DERIVATION TO POST-COVID-19 AGGREGATE DEMAND

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ABSTRACT

The purpose of this study is to analyze the Classical and Keynesian models in controlling aggregate demand (money supply) after Covid-19 in Brazil, Russia, India, Germany and Indonesia. This research uses ARDL Simultaneous regression analysis method with testing using Eviews 10 . Simultaneous regression analysis results show that INV, KPM have a positive inelastic effect on JUB. KPM, SB, TAX and JUB have a positive elastic effect on GDP.

Key words: aggregate demand control, classical and keynesian models, covid-19, gross domestic product, money supply

INTRODUCTION

Economic stability can actually be measured by the stability of the currency in the economy (Novalina & Russiadi, 2018). Economic growth is an illustration of the impact of government policies implemented, especially in the economic sector. Economic growth is the rate of growth formed from various economic sectors which indirectly describes the level of economic growth that occurs.

In 2019, Indonesia was in the second highest position in terms of economic growth, behind China in the first position with a growth of 6.1%. India, South Korea and the United States followed behind Indonesia in the third to fifth position with a growth of 4.7%; 2.2%; and 2.1%.

According to classical economists (in Sadono Sukirno, 2004: 73) said that the sum of all expenditures in the economy (aggregate expenditure), which includes consumption by households and investment by entrepreneurs, will always be equal to the value of all production created by all corporate sectors. at the level of full employment.

Based on the table and figure above, we can see that there have been fluctuations in GDP in the five countries due to Covid-19. In the second quarter of 2020, all countries experienced a decrease from the previous quarter, namely the first quarter, in Indonesia, during the Covid-19 period, in the second quarter of 2020, 246020101 decreased from the previous quarter. In the second quarter of 2020, Brazil also experienced a significant decline, which was 330216,000 from the previous quarter. In the second quarter of 2020, Russia also experienced a significant decline, which was 327048,629 from the previous quarter. on country Germany amounted to 858540.347, India also experienced a significant decrease of 513302.462 from the previous quarter. However, there is a significant difference, seen from the data, that the country of Indonesia has not experienced too much economic shock after Covid-19. The decline in GDP is bad for the economy because it will lead to a prolonged economic crisis. if national income increases, the demand for money will increase, but because the money supply does not change, there will be an excess demand for money in society (Rahardja and Manurung, 2008:229).

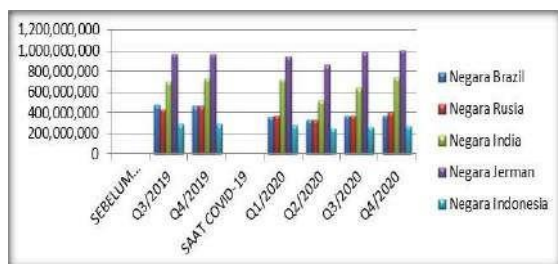


Figure 1: Graph of Quarterly Data Changes in GDP In The Five Largest GDP Countries 2019-2020
Source: Ceicdata

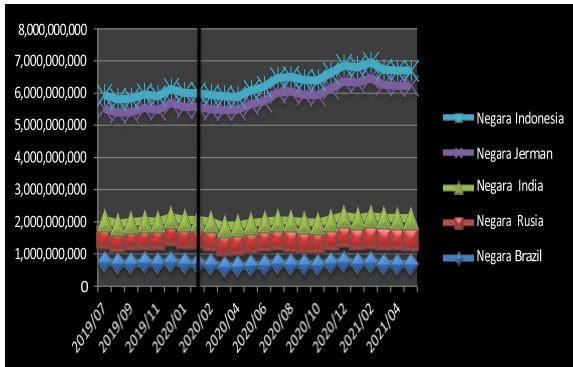


Figure 2: Graph of JUB Data In The Five Largest GDP Countries

Source: Ceicdata

As it is known that Covid-19 appeared in January 2020, this also has an impact on the money supply in the community. From the table and graph above, there are fluctuations in the money supply in the

community in the five countries. Germany, which is the highest GDP contributor to In The Five Largest GDP Countries, experienced an increase in February 2021, the money supply amounted to 4296211,143 USD from the previous month of 4201865,094. The State of Indonesia in February 2021 the amount of money in circulation in the community also decreased by 478632,913 USD from the previous month of 4,0049,522 USD. In the same month, February 2021, Brazil also experienced an increase of 747155,961 USD from the previous month of 715875,436 USD. The Russian state experienced an increase in the money supply in February 2021 by 781573,217 USD from the previous month of 755362,105 USD. Likewise, India in February 2021 during the Covid-19 period experienced a decrease in the money supply in the community by 643319,805 USD from the previous year of 647398,407 USD.

Theories

Classic static model

The company's production functions are:

$$y = f(n,k)$$

The stock of fixed capital is in the production process for a period of time, so the short-run company's production function is:

$$y = f(n)$$

The stock of fixed capital is in the production process for a period of time, so the short-run company's production function is:

$$y = P \times y - W \times n - FC = P f(n) - W \times n - FC$$

$$\frac{\partial(NR)}{\partial n} = P f(n) - W = 0 \text{ atau } f(n) = \frac{W}{P} \quad (16.12)$$

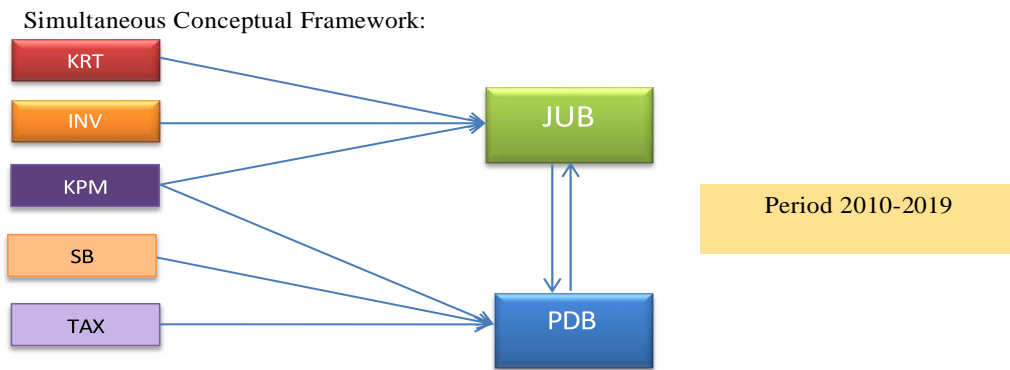
Where FC = firm's fixed costs. Equation (16.12) explains that the optimal use or demand for labor is when the marginal productivity of labor [f'(n)] sama dengan upah riil (W/P). Therefore, an increase in real wages will reduce the use or demand for labor because an increase in the use of labor will result in a smaller marginal productivity of labor. [f'(n) < 0]. This proportion formulates the labor demand model as follows:

$$n = h\left(\frac{W}{P}\right) = h(w), h < 0 \quad (16.13)$$

Keynes's theory of money demand

The Money Market is the intersection of the demand for money (MD) and the supply of money (MS). MD is the community's need for cash to support their economic activities. MS is the amount of money provided by the government and banks, namely all currency and demand deposits in circulation.

The financial theory put forward by Keynes generally explains 3 things, namely: (1) the goals of society to ask for (using money), (2) the factors that determine the interest rate, (3) the effect of changes in the money supply on the country's economic activities.



RESEARCH METHODS

This research model was conducted on five countries or In The Largest GDP Countries, namely Brazil, Russia, India, Germany and Indonesia. The data that will be used in this research is secondary data from the World Bank (World Bank), <http://www.worldbank.org>, Ceicdata.com, and Tradingeconomics from 2010 – 2019 (10 years).

Based on the criteria above, the identified equations in this study are as follows:

$$\begin{aligned} \text{LOG(JUB)} &= C(11) + C(12)*\text{LOG(KRT)} + C(13)*\text{LOG(INV)} + C(14)*\text{LOG(KPM)} + C(15)*\text{LOG(PDB)} + e1 \\ K &= 4, k = 2, m = 4 \\ \text{LOG(PDB)} &= C(21) + C(22)*\text{LOG(KPM)} + C(23)*\text{LOG(SB)} + C(24)*\text{LOG(TAX)} + C(25)*\text{LOG(JUB)} + e2 \\ K &= 4, k = 2, m = 4 \end{aligned}$$

RESULTS AND DISCUSSION

Simultaneous Equation Estimation Results

System: NEWSIMULTAN
 Estimation Method: Two-Stage Least Squares
 Date: 01/17/21 Time: 21:31
 Sample: 1 50
 Included observations: 50
 Total system (balanced) observations 100

	Coefficient	Std. Error	t-Statistic	Prob.
C(10)	-7.474201	2.202859	-3.392954	0.0010
C(11)	-3.832346	2.983768	-1.284398	0.2023
C(12)	0.403700	0.211491	1.908826	0.0595
C(13)	1.084550	0.112501	9.640350	0.0000
C(14)	5.597470	2.825882	1.980787	0.0507
C(20)	3.080384	0.249880	12.32743	0.0000
C(21)	-0.444774	0.070804	-6.281810	0.0000
C(22)	-0.005118	0.001898	-2.696661	0.0084
C(23)	0.086232	0.027931	3.087310	0.0027
C(24)	0.452591	0.116138	3.897023	0.0002

Determinant residual covariance 3.67E-08

Equation: LOG(JUB)=C(10)+C(11)*LOG(KRT)+C(12)*LOG(INV)+C(13)*LOG(KPM)+C(14)*LOG(PDB)

Instruments: KRT INV KPM SB TAX C

Observations: 50

R-squared 0.833749 Mean dependent var 3.464435

Sumber: Output Eviews10, 2021

Equation 1 .	Adjusted R-squared	0.818972	S.D. dependent var	0.068948	Test Results equation is
The first	S.E. of regression	0.029336	Sum squared resid	0.038726	
	Durbin-Watson stat	0.470296			

the equation

$$\text{Equation: LOG(PDB)} = C(20) + C(21) * \text{LOG(KPM)} + C(22) * \text{LOG(SB)} + C(23) * \text{LOG(TAX)} + C(24) * \text{LOG(JUB)}$$

Instruments: KRT INV KPM SB TAX C

Observations: 50

R-squared	0.575485	Mean dependent var	3.342419
Adjusted R-squared	0.537750	S.D. dependent var	0.016638
S.E. of regression	0.011312	Sum squared resid	0.005758
Durbin-Watson stat	0.518689		

used to

simultaneously determine the Money Supply and Gross Domestic Product with the following equation:

$$\text{LOG(JUB)} = C(10) + C(11) * \text{LOG(KRT)} + C(12) * \text{LOG(INV)} + C(13) * \text{LOG(KPM)} + C(14) * \text{LOG(PDB)} + e1$$

Based on these equations, the output results of Eviews10 with the Two-Stage Least Square model are as follows:

$$\text{JUB} = -7.474201 - 3.83 * \text{KRT} + 0.40 * \text{INV} + 1.08 * \text{KPM} + 5.59 * \text{PDB} + e1$$

Based on the estimation results above, it can be shown that $R^2 = 0.833749$ which means that the variables KRT, INV, KPM and PDB are able to explain GDP of 83.37% and the remaining 16.63% JUB is influenced by other variables outside the estimates in the model.

Based on the estimation results obtained by the t-count value, there is 1 variable that affects the JUB variable where the investment prob value is $0.00 < 0.05$ so that the variable is declared to have a significant effect.

and variable KRT, INV, GDP > 0.05 so that these variables are declared influential but not significant.

Equation 2 . Test Results

The second equation is the equation used to simultaneously determine the Money Supply and Gross Domestic Product with the following equation:

$$\text{LOG(PDB)} = C(20) + C(21) * \text{LOG(KPM)} + C(22) * \text{LOG(SB)} + C(23) * \text{LOG(TAX)} + C(24) * \text{LOG(JUB)} + e2$$

Based on this equation, the output results of Eviews10 with the Two-Stage Least Square model are as follows:

$$\text{PDB} = 3.080384 - 0.44 * \text{KPM} - 0.005 * \text{SB} + 0.08 * \text{TAX} + 0.45 * \text{JUB} + e2$$

Based on the estimation results above, it can be shown that $R^2 = 0.575485$ which means that the KPM, SB, TAX and JUB variables are able to explain GDP by 57.54% and the remaining 42.46% of GDP is influenced by other variables outside the estimates in the model.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the Simultaneous method, it can be concluded: Simultaneous effect of classical and keynesian models in The Five Largest GDP Countries that KRT has a negative elastic effect on JUB. INV has a positive inelastic effect on JUB. KPM has a positive inelastic effect on JUB. GDP has a positive elastic effect on JUB. Simultaneous effect of classical and keynesian models in The Five Largest GDP Countries that KPM has a negative inelastic effect on GDP. SB has a negative inelastic effect on GDP. TAX has a positive inelastic effect on GDP. JUB has a positive inelastic effect on JUB.

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ANALYSIS OF LEARNING OUTCOMES INTRODUCTION OF ELECTRONIC COMPONENTS IN INDUSTRIAL ELECTRONICS SUBJECTS BASED ON AUGMENTED REALITY

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ABSTRACT

Electronics is a system that studies weak current power tools operated by controlling the flow of electrons or electrically charged particles in a device such as computers, electronic equipment, thermocouples, semiconductors, and so on. Learning media by utilizing Augmented Reality technology can increase students' learning interest and make it easier to understand electronic components, and know the level of feasibility of electronic component learning media using Augmented Reality technology. So in this research aims to create a learning medium using Augmented Reality technology in basic electronic learning. In testing this application will be tested to junior high school students and will be given a Pre-Test and Post-Test, which later the grades of students will be collected and then will be analyzed using SPSS, the values of the students will be compared and the expected results will be applied to the students.

Key words: augmented reality, educational games, electronic components

INTRODUCTION

Learning is an interactive process between teachers and students to achieve learning goals in various ways, including through observation and understanding of what is learned. Learning media using technology at this time becomes a factor that can support in the success of the learning process, one of which is smartphones. Using a smartphone is not only a communication tool, but also serves as a place to store data, learning media, means of finding entertainment (games) and so on.

Electronics is the science that studies weak current power tools operated by controlling the flow of electrons or electrically charged particles in a device such as computers, electronic equipment, thermocouples, semiconductors, and so on. The science that studies such tools is a branch of the physical sciences, while the design form and form of making electronic circuits are part of electrical engineering, computer engineering, and the science or engineering of electronics and instruments. To understand the science of electronics, students must learn the basics of electronics starting from the introduction of electronic components that include shapes, names, models, types, sizes and so on.

Augmented reality is a technology that combines two-dimensional (2D) or three-dimensional (3D) virtual objects together, and then projects those virtual objects in real time. With Augmented Reality objects that previously could only be viewed in 2D, can be displayed as virtual objects that appear in real environments. Augmented Reality technology can be applied to android-based smartphones. One of the applications of the field is to build an application of introduction of 3D electronic components by using Augmented Reality technology that is very useful in improving the teaching and easy to understand learning

process to support in the delivery of materials as well as an alternative means for students in basic learning of electronics, especially about electronic components, so that it is expected to help teachers in delivering materials and facilitate students in the process of learning. This research aims to create a learning medium.

Augmented reality is a technology that combines two-dimensional and three-dimensional objects into a real environment and then converts them to virtual objects in real time. Augmented reality is divided into two.:

a. *Marker*

The marker is a square black and white image with a thick black border and has a white background color. The system will recognize the position and orientation of markers and be able to create a 3-dimensional virtual world.



Figure 1. Transistor Figure 2. Resistor Variable

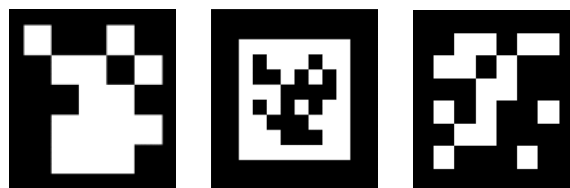


Figure 3. Marker

b. *Markerless*

Markerless to display digital elements. The development of augmented reality without markers can mark tracking, such as:

- **Face Tracking**
Face tracking is markerless, uses an algorithm to developed so system can recognize human faces in general by recognizing the position of the nose, eyes, and mouth.
- **3D Object Tracking**
Which only recognizes human faces in general, 3D object tracking techniques can recognize all forms of objects that are around
- **Motion Tracking**
This is captures the motion, widely used in movie productions that attempt to simulate motion.
- **GPS Based Tracking**
This is takes data from the GPS and the compass and displays it in the desired direction.

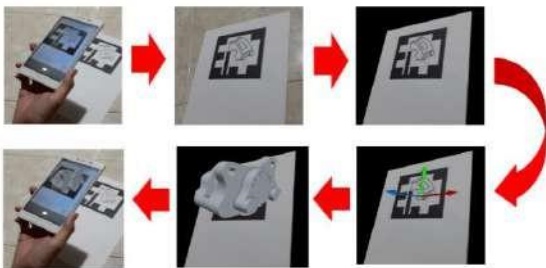


Figure 4. Augmented Reality

RESEARCH METHODS

In this research discusses the design of the system and the stage of analysis that will be applied to the electronic component system. System design and analysis will discuss all the preparations that will be the main point of mind of this research, starting the beginning of the system to be created.

Data collection methods

This is done to find out the data from the smartphone used and the learning features and content that is in the learning. In addition, questionnaires can be used to evaluate applications that have been created, as well as collect information as basic material to compile records to ensure validation of data that has been obtained successfully. The questionnaire consists of Pre-Test and Post-Test, to find out how much the student has improved after using this application.

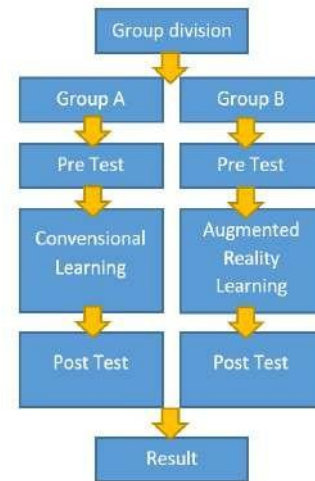


Figure 5. Research Scheme

Flowchart

A flowchart is a diagram with graphical symbols that expresses the flow of an algorithm or process that displays the steps symbolized in the form of a box, along with the sequence by connecting each of these steps using arrows.

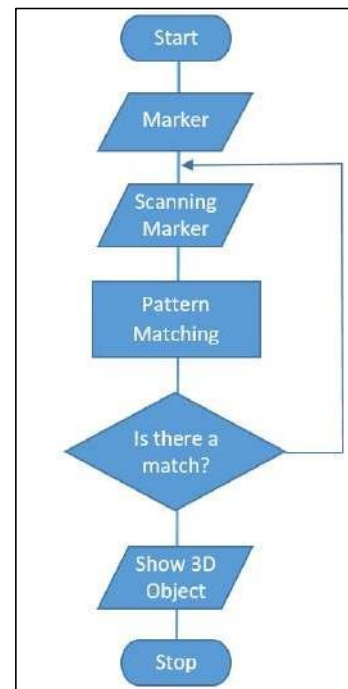


Figure 6. Flowchart

The flow diagram shows the introduction of electronic components there is some processing that the first step begins with the user having to prepare a marker image. Next, the user scans markers using a smartphone. Once the scan is complete, the android device will perform the process of detecting markers using a smartphone camera. If the android device detects the presence of a target it will send a signal to the application to bring up 3D objects of electronic components on the android device screen. When the system does not successfully detect the marker, then the system will not display the shape of the object 3D electronic components and the system re-scans the target. If the user presses the info button then the system will display an explanation of the 3D object of the electronic component.

RESULTS AND DISCUSSION

The product developed in this study is an interactive learning medium with 3D visualization. The following is an overview of learning media with 3D visualization.



Figure 7. AR Interface

In Figure 7 the main menu display in the Elektronik Component Augmented Reality application. There are navigation buttons, namely the start menu button to detect 3D object markers, the basic theory menu for viewing electronic material, the component menu for viewing basic electronic components and symbols, the menu button to organize sound and view information, and the exit menu to leave the application.

Marker implementation

The implementation of markers in the design there are 15 electronic component objects. This object is useful to facilitate user understanding in knowing electronic components in 3D form.



Figure 8. Marker Implementation

System Testing

This system test is a test of the program based on input and output truth criteria, as well as including validation and handling of input errors. System software is often associated with bug searches, program imperfections, errors in programs that cause failures in software system execution. The results of the program trial of the application of the introduction of electronic components can be seen in table 1.

Table 1. Testing Scheme

No	Menu	Trial Scenario	Status
1	Main Menu	View the app's main menu	Succeeded
2	AR Menu	Displays smartphone camera features for marker detection	Succeeded
3	Basic	Displays an explanation of electronic components and symbols	Succeeded
4	Component	Displays an explanation of electronic components and symbols	Succeeded
5	About	View an explanation of application development	Succeeded
6	Sleding Menu	Menampilkan penjelasan sebelum dan sesudah	Succeeded
7	Menu Keluar	Menutup Aplikasi	Berhasil

Respondent satisfaction score testing

In this test is used to find out the value of satisfaction to respondents to the Basic Electronic Introduction Learning Application Using Android-Based Augmented Reality. The test was conducted by asking each respondent to fill out a questionnaire that had been submitted to the respondent and provide a satisfaction score for each element given. On the satisfaction value is given the parameters of points A up to point E. Each point has a value that is point A is worth 100, point B is worth 80, point C is worth 60, point D is worth 40, and point E is worth 0. Each number on the answer points in each element is multiplied by the value of each point and divided by the number of respondents. The average of total assessments is classified according to a table of satisfaction criteria.

After testing by conducting a survey of 20 respondents. Results are obtained with a variant assessment. Here are the results of the survey of respondents can be seen in table 2.

Table 2. Survey Results for Respondents

Satisfaction Element	Satisfaction Score				
	A	B	C	D	E
This app is easy to use	8	15	0	0	0
This application is	4	14	3	0	0

practically used.					
This application is effectively used as an introduction to electronic components.	5	14	6	0	0
This application is very useful in learning the imposition of electronic components in junior high school.	4	13	7	0	0
The interactive design of the application looks interesting and interactive	3	15	3	0	0
This app is easy to understand.	5	11	6	0	0
This application is in accordance with the needs of junior high school students.	3	14	3	0	0

After the survey results in table 3 can be calculated the number of values on each indicator with the values A = 100 to E = 0. From the results of the calculation obtained the number of values as in table 3.

Table 3. Application Test Score Results in Respondents

No	Question	Number of values
1	This app is easy to use	84
2	This application is used	86
3	This application is effectively used as an introduction to electronic components.	81
4	This application is very useful in learning the introduction of electronic components in junior high school.	82
5	The interactive design of the application looks interesting and interactive	84
6	This app is easy to understand.	81
7	This application is in accordance with the needs of junior high school students.	83
Average		83
Kategori		Setuju

Based on table 3 it is seen that the results of respondents' assessment of the application value an average of 81.4. So it can be concluded that the results of the assessment of respondents include the category "Agree".

CONCLUSION

Based on the results of research and testing of AR Elektronika applications that have been done, it was concluded that the AR Elektronika recognition application can run on Android mobile devices. This application is made android-based to be practical and more interesting to learn students, obtained the test results as stated in table 4 with a score of 81% of respondents agreed that the AR Electronika learning application is easy to use, effectively used as an introduction to electronic components, and makes it easier to understand electronic components.

This AR Elektronika application uses markers to display 3D electronic component objects, so it will increase students' interest in not getting bored easily in learning basic electronic components, based on the results of t-tests that have been done obtained a signification value of 0.01 which means smaller than 0.05. Therefore, from the basis of the t test decision, if the value is significantly smaller than 0.05 then H1 is accepted, which means there is a significant difference in students' learning interests between the Non-AR Group and the AR Group.

This android-based AR Elektronika application program requires further development, electronic component objects are displayed only 15 basic electronic component objects, so it is expected that in the future there will be more, so that more and more widely in the knowledge provided by the application, and this application is very influential on lighting when the electronic component marker detection process is carried out.

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IMPLEMENTATION OF ISAK 35 IN EDUCATION FOUNDATIONS IN SIDOARJO

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ABSTRACT

Non-business organizations are commonly referred to as non-profit organizations. Financial reporting of non-profit organizations is regulated in special standards for non-profit organizations in PSAK (Statement of Financial Accounting Standards), namely PSAK 45. However, over time, PSAK 45 is now replaced by ISAK 35 (Interpretation of Financial Accounting Standards 35). ISAK 35 regulates the process of Presentation of Financial Statements of Non-profit Oriented Entities which has been ratified as of April 11, 2019 by IAI. This standard is effective as of January 1, 2020. The purpose of the study was to determine the differences in the results of the application of PSAK 45 with ISAK 35 in the financial statements of educational foundations in Sidoarjo, and to be able to present the financial statements of educational foundations using the new guidelines established, namely ISAK 35. The method used applied to this research is descriptive qualitative method. The data used include primary and secondary data. The primary data used is information obtained from interviews and the foundation's 2019 financial report files. The secondary data used is a literature review related to research topics, including ISAK 35, PSAK 45, as well as previous articles discussing financial reporting for non-profit organizations. Data collection techniques used interviews, case studies, and direct observation. Based on the results of the study, it can be concluded that so far educational foundations have properly implemented PSAK 45 in the presentation of their financial statements. After the implementation of ISAK 35, several differences can be found in the presentation of financial statements, in general, it can be seen in the elements of the financial statements. The financial statements of non-profit organizations presented in PSAK 45 are the statement of financial position, activity report, cash flow statement, and notes to financial statements. Meanwhile, ISAK 35 presented includes a statement of financial position, comprehensive income report, report on changes in net assets, cash flow statement, and notes to financial statements. In addition to the elements of financial statements, there are also differences in the elements of financial statements, including in net assets, there are differences in terms of classification and presentation in financial statements. The suggestion that the author proposes is that the preparation or presentation of financial statements as of 2020 can be guided by ISAK 35, considering that the standard has become effective as of January 1, 2020.

Key words: financial statements, foundation, non-profit, isak 35

INTRODUCTION

Broadly speaking, organizations are divided into two types when viewed from their operational objectives, namely, for-profit or profit-oriented organizations, commonly called business organizations, and non-profit organizations. Non-profit organizations do not have ownership because non-profit organizations are owned by the community.

The responsibility of non-profit organizations is the same as the responsibility of business organizations, namely in the form of financial statements. Non-profit organizations are required to make an accountability report in the form of financial statements because most of the resources obtained for the operations of this non-profit organization come from the community, of

course, the community requires a form of accountability for the organization's activities. The preparation of the financial statements of non-profit organizations also goes through the accounting process, as well as the preparation of the financial statements of business organizations in general. However, there are slight differences in presenting financial statements, because non-profit organizations in each of their activities have their own characteristics and there are various types of non-profit organizations.

The presentation of financial statements based on and in accordance with PSAK will be considered fair, otherwise if it is not in accordance with PSAK it will be considered unreasonable. PSAK which discusses the presentation of financial statements of non-profit organizations is PSAK 45. As of April 11, 2019 this PSAK 45 has been revoked

by IAI and replaced by ISAK 35, namely Presentation of Financial Statements of Non-profit Oriented Entities. ISAK 35 has been ratified as of April 11, 2019 and is effective as of January 1, 2020.

This new thing directly gives orders to non-profit organizations that have been preparing their financial statements based on PSAK 45 to change the guidelines to ISAK 35, because it has started made effective in 2020. The Education Foundation in Sidoarjo is no exception where this research will be conducted. The Education Foundation has prepared annual financial reports based on PSAK 45. With this new regulation, this research aims to determine the differences in financial statements presented with the application of PSAK 45 and the application of ISAK 35, and in order to be able to present financial statements in accordance with the standards. accounting that has been determined by ISAK 35 based on the data that has been obtained. It is hoped that the results of this research can help the Education Foundation in compiling financial statements for 2020 based on ISAK 35.

RESEARCH METHODS

This study used a qualitative method. Where this qualitative research aims to understand social phenomena that come from the participant's perspective. Participants referred to in qualitative research are people or parties who provide information through interviews, observations, data, opinions and thoughts of participants, as well as their perceptions.

The data used include primary data and secondary data. The primary data used is information obtained from interviews and the foundation's 2019 financial report files. The secondary data used is a literature review related to research topics, including ISAK 35, PSAK 45, as well as previous articles discussing financial reporting for non-profit organizations.

After the data is collected then the data will be processed using qualitative data analysis. The analysis was carried out based on the researcher's ability to reason by connecting the data, information, and facts obtained. Therefore, this research is also called naturalistic research, because the research does not use measuring equipment, and the field situation is natural or natural, without any manipulation or as it is.

The data collection technique in this qualitative research is to present the results of the interview, then the analysis is carried out on the problems found, thus a clear picture of the object under study will be obtained, from here a conclusion will be drawn.

RESULTS AND DISCUSSION

The research was conducted at the X Education Foundation which was established in the Sidoarjo area. This educational foundation manages 25 school units ranging from Play Group to Univercities which has 12 study programs. Education Foundation X is a compliant taxpayer, always on time in tax reporting. So far, financial reports have been prepared based on PSAK 45 concerning financial reporting for non-profit organizations. As of April 11, 2019, IAI has ratified ISAK 35 and revoked PSAK 45, therefore here the researcher will implement ISAK 35 for financial statements of educational foundations in 2019, and to find out the difference in presentation between ISAK 35 and PSAK 45.

Financial statements of educational foundations based on psak 45

Education Foundation X in Sidoarjo prepares financial reports based on SAK ETAP (Financial Accounting Standards for Entities Without Public Accountability). Educational foundations choose to apply SAK ETAP, because the requirements for SAK ETAP are seen as simpler when compared to the latest developments of other SAKs. The educational foundation continues to focus on the fair presentation of financial statements and full disclosure of relevant and reliable financial information to users, as required by this standard.

The financial statements of the Education Foundation have so far been prepared in accordance with PSAK 45. In detail, the following is the presentation of the financial statements of the Education Foundation in Sidoarjo based on PSAK 45:

1. Statement of financial position

The statement of financial position or commonly called the balance sheet is one of the elements of the financial statements prepared every year. the end of the accounting period by providing information on financial position including assets, liabilities, and equity of an organization in that period. Statement of financial position or balance sheet Education Foundation in Sidoarjo in 2019 has the following elements:

1) Cash and cash equivalents

Cash and cash equivalents question is a cash balance of cash either cash onhand and cash are in the bank, as well as deposits in the form of bank deposits that earn bank interest based on the interest rate of the bank concerned.

2) Receivables

Receivables are other receivables, namely loans to teachers and employees of the

- Foundation and are settled by paying monthly salary deductions.
- 3) Fixed assets
Fixed assets are stated at cost plus expenses incurred to repair the assets until they are operational. Fixed assets at the Education Foundation in Sidoarjo are divided into 5 groups, namely land, buildings, machinery, vehicles, and inventory.
All repair and maintenance expenses if they do not meet the criteria for recognizing the addition of fixed assets are recognized as operating expenses. If the repair and maintenance expenses can provide value added economic benefits to property and equipment, it must be capitalized to the value of fixed assets.
The value of fixed assets will be derecognized if there is a sale or disposal of other rights, or it is no longer able to provide future economic benefits. The gain or loss from the retirement of fixed assets is calculated from the difference between the total book value and the net proceeds from the sale or disposal of rights and is recognized in the statement of activities for the period concerned.
Depreciation of fixed assets uses the straight-line method based on the percentage according to the foundation's policy, except for land that is not depreciated.
 - 4) Fixed assets under construction

- 5) Short-Term Liabilities
Short-term liabilities are other short-term liabilities obtained from borrowing third party funds with a repayment period of less than one year.
- 6) Net Assets
Net assets are the remaining excess of education funds in assets after deducting any liabilities. The net assets of the foundation include unrestricted net assets, temporarily restricted net assets and permanently restricted net assets.
Unrestricted net assets; is net worth in the form of resources whose use is not limited to a particular purpose.
Temporarily tied up net assets; is net assets in the form of resources whose use is limited for certain purposes for a certain period of time by the foundation or funder.
Permanently tied up net assets; is net assets in the form of resources whose use is permanently restricted for certain purposes by the foundation or funder.

The 2019 X Education Foundation Financial Position Report is presented in Figure 1 below.

LAPORAN POSISI KEUANGAN
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	Cat.	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit	KETERANGAN	Cat.	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ASET				LIABILITAS DAN ASET BERSIH			
Aset Lancar				Liabilitas Jangka Pendek			
Kas dan Setara Kas	2d,3,4	109.010.000	91.790.000	Hutang Lain-lain	8	32.100.000	38.860.000
Piutang Lain-lain	2f,5	31.520.000	8.460.000	Jumlah Liabilitas Jangka Pendek		<u>32.100.000</u>	<u>38.860.000</u>
Jumlah Aset Lancar		<u>140.530.000</u>	<u>100.250.000</u>	Aset Bersih			
ASET TIDAK LANCAR				Aset Bersih Tidak Terikat			
Aset Tetap	2g,6			Aset Bersih Tidak Terikat	2i,3,9	472.330.000	423.160.000
Tanah		66.200.000	57.700.000	Aset Bersih Terikat Temporer	2i,3,10	-	-
Bangunan		253.410.000	248.230.000	Aset Bersih Terikat Permanen	2i,3,11	4.000.000	4.000.000
Mesin		14.620.000	14.620.000	Jumlah Aset Bersih		<u>476.330.000</u>	<u>427.160.000</u>
Kendaraan		6.430.000	6.430.000	TOTAL PASIVA		<u>508.430.000</u>	<u>466.020.000</u>
Inventaris		79.770.000	82.710.000				
Akumulasi Penyusutan		420.430.000	409.690.000				
Aset Tetap Bersih		<u>(162.700.000)</u>	<u>(146.070.000)</u>				
Aset Tetap Lainnya							
Aset tetap dalam penyelesaian	2h,7	110.170.000	102.150.000				
Jumlah Aset Tidak Lancar		<u>367.900.000</u>	<u>365.770.000</u>				
TOTAL ASET		<u><u>508.430.000</u></u>	<u><u>466.020.000</u></u>				

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan Ini*

Figure 1. Financial Position Report of Education X Foundation in 2019

2. Activity Reports

Activity reports are reports that provide information about events or about the causes

of changes in quantity and net worth. Items that affect changes in net assets are income and expenses.

1) Recognition of income

Revenue is recognized when there are economic benefits going to an educational foundation and the income can be measured reliably.

Education service income is all income received from the community in exchange for compensation for educational goods/services provided to the community. Education service income is then broken down by the type of service provided. Revenue is recognized when it is received or the right to collect it arises in connection with the goods/services of education provided, or there is a

commitment between the Foundation and the community.

Grants/donations income is income received from the government, community or other organizations without imposing any obligations on the foundation to provide goods/services. Grants/donations are classified as unrestricted grants/donations and temporary bound grants/donations.

Other income comes from non-operational income from educational foundations, such as interest income from bank checking services.

LAPORAN AKTIVITAS

PER 31 DESEMBER 2019 / 31 DESEMBER 2018

(dalam rupiah)

KETERANGAN	Cat.	31 Des. 2019	31 Des. 2018
		Un Audit	Un Audit
PERUBAHAN ASET BERSIH TIDAK TERIKAT			
Pendapatan tidak terikat :	2j,12		
- Layanan Pendidikan		321.360.000	293.240.000
- Hibah/Sumbangan		37.770.000	33.120.000
- Lainnya		<u>4.320.000</u>	<u>570.000</u>
Jumlah Pendapatan Tidak Terikat		363.450.000	326.930.000
Beban Tidak Terikat :	2j,13		
- Personil		222.590.000	203.230.000
- Barang dan Jasa		31.500.000	38.390.000
- Perjalanan		4.890.000	4.170.000
- Perbaikan dan Pemeliharaan		32.460.000	39.600.000
- Lainnya		<u>22.840.000</u>	<u>22.540.000</u>
Jumlah Beban Tidak Terikat		314.280.000	307.930.000
Kenaikan (Penurunan) Aset Bersih Tidak Terikat		49.170.000	19.000.000
PERUBAHAN ASET BERSIH TERIKAT TEMPORER			
Pendapatan Terikat Temporer	2j,14		
- Layanan Pendidikan		-	-
- Hibah / Sumbangan		-	-
- Lainnya		<u>-</u>	<u>-</u>
Jumlah Pendapatan Terikat Temporer		-	-
Beban Terikat Temporer	2j,15		
- Personil		-	-
- Barang dan Jasa		-	-
- Lainnya		<u>-</u>	<u>-</u>
Jumlah Beban Terikat Temporer		-	-
Kenaikan (Penurunan) Aser Bersih Terikat Temporer		-	-
KENAIKAN (PENURUNAN) ASET BERSIH		49.170.000	19.000.000
Aset Bersih Awal Tahun		427.160.000	408.160.000
Penyesuaian aset bersih tidak terikat	3,9	-	-
Penyesuaian aset bersih terikat temporer	3,10	-	-
		<u>427.160.000</u>	<u>408.160.000</u>
ASET BERSIH AKHIR TAHUN		476.330.000	427.160.000

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan ini*

Figure 2. Activity Report of the X Education Foundation in 2019

2) Expense Recognition

Expenses are recognized when assets are disbursed in connection with operational

and non-operational needs of educational foundations. In net assets, expenses are recognized when there is a decrease in an asset or an increase in a liability that arises and can be measured reliably. The burden on educational foundations is divided into unrestricted burden and temporarily bound burden. The elements of the expenses themselves consist of personnel expenses, goods and services expenses, travel expenses, repair and maintenance expenses, and other expenses.

The 2019 X Education Foundation Activity Report is presented in Figure 2.

3. Cash Flow Statement

The cash flow statement is a report that shows cash flows including increases in cash and decreases in cash. Reports are prepared on a cash basis. The cash flow statement preparation method used is the indirect method. Cash flows are grouped into cash flows from operating activities, investing activities, and financing activities. The 2019 X Education Foundation Cash Flow Statement is presented in Figure 3.

LAPORAN ARUS KAS
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ARUS KAS DARI AKTIVITAS OPERASI		
Laba (Rugi) Tahun Berjalan	49.170.000	19.000.000
Penyesuaian :		-
Penyusutan Aktiva Tetap dan Amortisasi	<u>16.630.000</u>	<u>10.690.000</u>
	<u>65.800.000</u>	<u>29.690.000</u>
(Kenaikan) Penurunan Piutang lain-lain	(23.060.000)	(4.970.000)
(Kenaikan) Penurunan Uang Muka Asuransi	-	-
Kenaikan (Penurunan) Hutang Lain-lain	(6.760.000)	19.510.000
	<u>35.980.000</u>	<u>44.230.000</u>
Kas dari Aktivitas Operasi (a)		
ARUS KAS DARI AKTIVITAS INVESTASI		
(Kenaikan) Penurunan Aktiva Tetap	(10.740.000)	(26.260.000)
(Kenaikan) Penurunan Gedung Dalam Pembangunan	(8.020.000)	(8.350.000)
	<u>(18.760.000)</u>	<u>(34.610.000)</u>
Kas dari Aktivitas Investasi (b)		
ARUS KAS DARI AKTIVITAS PENDANAAN		
Kenaikan (Penurunan) Hutang Bank	-	-
	<u>-</u>	<u>-</u>
Kas dari Aktivitas Pendanaan (c)		
Kenaikan (Penurunan)	<u>17.220.000</u>	<u>9.620.000</u>
Penyertaan Modal	-	-
Kas Awal	91.790.000	82.170.000
	<u>109.010.000</u>	<u>91.790.000</u>
Kas dan Setara Kas Akhir		

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisah Dari Laporan ini*

Figure 3. Cash Flow Statement for Education X Foundation in 2019

The application of isak 35 in the financial statements of the education foundation

The presentation of the financial statements of non-profit organizations is almost the

same as the presentation of business organizations, only the difference lies in the terms. In the financial statements of non-profit organizations for Income Statements the term is replaced with Activity Reports, but in ISAK 35 the term is changed again to Comprehensive Income Statements. In the Financial Statements of business organizations there is a Statement of Changes in Capital, while in the financial standard of non-profit organizations PSAK 45 which previously did not exist now in ISAK 35, it became available with the term Report on Changes in Net Assets. The following is the presentation of the Financial Statements of the Education X Foundation for 2019 if you apply the ISAK 35.

1. **Statement of Financial Position**
The statement of financial position using ISAK 35 is not significantly different from the report using PSAK 45. There is no difference in the presentation of assets, assets are grouped into current assets and non-current assets. The presentation of liabilities is still the same as the classification of short-term and long-term liabilities. There is no difference in the presentation of net assets in full, only the use of different terms, net assets are presented in terms of restrictions from resource providers. The presentation of the 2019 Education X Foundation Financial Position Report based on ISAK 35 is shown in Figure 4.

LAPORAN POSISI KEUANGAN
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019	31 Des. 2018	KETERANGAN	31 Des. 2019	31 Des. 2018
	Un Audit	Un Audit		Un Audit	Un Audit
ASET			LIABILITAS DAN ASET NETO		
Aset Lancar			Liabilitas Jangka Pendek		
Kas dan Setara Kas	109.010.000	91.790.000	Hutang Lain-lain	32.100.000	38.860.000
Piutang Lain-lain	31.520.000	8.460.000	Jumlah Liabilitas Jangka Pendek	32.100.000	38.860.000
Jumlah Aset Lancar	140.530.000	100.250.000			
ASET TIDAK LANCAR			Aset Neto		
Aset Tetap			<i>Tanpa pembatasan dari pemberi sumber daya</i>		
Tanah	66.200.000	57.700.000	Surplus Akumulasian	427.160.000	408.160.000
Bangunan	253.410.000	248.230.000	Penghasilan Komprehensif	49.170.000	19.000.000
Mesin	14.620.000	14.620.000	<i>Dengan pembatasan dari sumber daya</i>	-	-
Kendaraan	6.430.000	6.430.000	Jumlah Aset Neto	476.330.000	427.160.000
Inventaris	79.770.000	82.710.000			
	420.430.000	409.690.000			
Akumulasi Penyusutan	(162.700.000)	(146.070.000)			
Aset Tetap Bersih	257.730.000	263.620.000			
Aset Tetap Lainnya					
Aset tetap dalam penyelesaian	110.170.000	102.150.000			
Jumlah Aset Tidak Lancar	367.900.000	365.770.000			
TOTAL ASET	508.430.000	466.020.000	TOTAL LIABILITAS DAN ASET NETO	508.430.000	466.020.000

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan Ini*

Figure 4. Financial Position Report of Education X Foundation in 2019 by applying ISAK 35

1. **Comprehensive Income Report**
The Comprehensive Income Report presents information in the form of a summary of income and expense reports. This Comprehensive Income Report if in PSAK 45 the term is an Activity Report. In PSAK 45, the Activity Report shows changes in the value of

net assets in an accounting period. While in ISAK 35 changes in net assets are presented separately in the Statement of Changes in Net Assets. The 2019 X Education Foundation Comprehensive Income Report if implementing ISAK 35 can be seen in Figure 5.

**LAPORAN PENGHASILAN KOMPREHENSIF
PER 31 DESEMBER 2019 / 31 DESEMBER 2018**
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
TANPA PEMBATAAN DARI SUMBER DAYA		
Pendapatan tidak terikat :		
- Layanan Pendidikan	321.360.000	293.240.000
- Hibah/Sumbangan	37.770.000	33.120.000
- Lainnya	<u>4.320.000</u>	<u>570.000</u>
Jumlah Pendapatan	363.450.000	326.930.000
Beban Tidak Terikat :		
- Personil	222.590.000	203.230.000
- Barang dan Jasa	31.500.000	38.390.000
- Perjalanan	4.890.000	4.170.000
- Perbaikan dan Pemeliharaan	32.460.000	39.600.000
- Lainnya	<u>22.840.000</u>	<u>22.540.000</u>
Jumlah Beban	314.280.000	307.930.000
Surplus (Defisit)	<u>49.170.000</u>	<u>19.000.000</u>
DENGAN PEMBATAAN DARI PEMBERI SUMBER DAYA		
Pendapatan		
- Layanan Pendidikan	-	-
- Hibah / Sumbangan	-	-
- Lainnya	<u>-</u>	<u>-</u>
Jumlah Pendapatan	-	-
Beban		
- Personil	-	-
- Barang dan Jasa	-	-
- Lainnya	<u>-</u>	<u>-</u>
Jumlah Beban	-	-
Surplus	<u>-</u>	<u>-</u>
TOTAL PENGHASILAN KOMPREHENSIF	<u><u>49.170.000</u></u>	<u><u>19.000.000</u></u>

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan ini*

Figure 5. Comprehensive Income Report of Education X Foundation in 2019 by implementing ISAK 35

2. Statement of Changes in Net Assets
The statement of changes in net assets shows information about changes in the unrestricted net worth of resource providers and limited

net worth of resource providers. The 2019 X Education Foundation Net Asset Change Report if implementing ISAK 35 can be seen in Figure 6.

LAPORAN PERUBAHAN ASET NETO
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
 (dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ASET NETO TANPA PEMBATAAN DARI PEMBERI SUMBER DAYA		
Saldo awal	4.000.000	4.000.000
<i>Surplus tahun berjalan</i>	-	-
Saldo Akhir	<u>4.000.000</u>	<u>4.000.000</u>
<i>Penghasilan Komprehensif</i>		
Saldo awal	423.160.000	404.160.000
Penghasilan komprehensif tahun berjalan	49.170.000	19.000.000
Saldo Akhir	<u>472.330.000</u>	<u>423.160.000</u>
TOTAL	<u>476.330.000</u>	<u>427.160.000</u>
ASET NETO DENGAN PEMBATAAN DARI PEMBERI SUMBER DAYA		
Saldo Awal	-	-
<i>Surplus tahun berjalan</i>	-	-
Saldo Akhir	-	-
TOTAL ASET NETO	<u>476.330.000</u>	<u>427.160.000</u>

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan ini*

Figure 6. Report on Changes in Net Assets of Education Foundation X in 2019 if implementing ISAK 35

2. Cash Flow Statement

Cash Flow Statement is a report that presents cash inflows and outflows, the report is prepared using the indirect method, in the

Statement of Cash Flows PSAK 45 with ISAK 35 there is no change. The 2019 X Education Foundation Cash Flow Statement based on ISAK 35 can be seen in Figure 7.

LAPORAN ARUS KAS
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
AKTIVITAS OPERASI		
Surplus	49.170.000	19.000.000
Penyesuaian :		-
Depresiasi Aset Tetap dan Amortisasi	16.630.000	10.690.000
	<u>65.800.000</u>	<u>29.690.000</u>
(Kenaikan) Penurunan Piutang lain-lain	(23.060.000)	(4.970.000)
(Kenaikan) Penurunan Uang Muka Asuransi	-	-
Kenaikan (Penurunan) Hutang Lain-lain	(6.760.000)	19.510.000
	<u>35.980.000</u>	<u>44.230.000</u>
Kas Neto dari Aktivitas Operasi (a)		
AKTIVITAS INVESTASI		
(Kenaikan) Penurunan Aktiva Tetap	(10.740.000)	(26.260.000)
(Kenaikan) Penurunan Gedung Dalam Pembangunan	(8.020.000)	(8.350.000)
	<u>(18.760.000)</u>	<u>(34.610.000)</u>
Kas Neto dari Aktivitas Investasi (b)		
AKTIVITAS PENDANAAN		
Kenaikan (Penurunan) Hutang Bank	-	-
	<u>-</u>	<u>-</u>
Kas dari Aktivitas Pendanaan (c)		
	<u>17.220.000</u>	<u>9.620.000</u>
Kenaikan (Penurunan) Neto Kas dan Setara Kas		
	<u>91.790.000</u>	<u>82.170.000</u>
Kas dan Setara Kas Awal		
	<u>109.010.000</u>	<u>91.790.000</u>

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan ini*

Figure 7. Cash Flow Statement for Education X Foundation in 2019
if implementing ISAK 35

CONCLUSION

This study aims to determine the differences in financial statements that apply PSAK 45 with ISAK 35 at educational foundations in Sidoarjo, and in order to be able to present financial statements of educational foundations in accordance with ISAK 35 as a substitute for PSAK 45 financial accounting standards.

Based on the results of the analysis of the research conducted, it can be concluded that the Financial Statements of the educational foundation X so far have been guided by PSAK 45. The financial statements of the educational foundation X for 2019 are presented, among others, consisting of a

Statement of Financial Position, Activity Report, Cash Flow Statement, and Notes to Financial Statements. While in ISAK 35 the reports presented consist of Statements of Financial Position, Statements of Comprehensive Income, Statements of Net Assets, Statements of Cash Flows, and Notes to Financial Statements. ISAK 35 has only been effective as of January 1, 2020, so as a start this research can help present the 2019 financial statements based on ISAK 35, so that it can be continued in the future for 2020.

During the process of implementing ISAK 35, several differences can be found in the presentation of financial statements with the previous guidelines.

namely PSAK 45, the differences can be detailed as follows:

1. Statement of Financial Position with the application of ISAK 35 in the presentation of net assets with restrictions and without restrictions, while in PSAK 45 the presentation of assets in terms of temporary and permanent assets.
2. The Statement of Comprehensive Income with the application of ISAK 35 is different from the Activity Report in PSAK 45. In PSAK 45, besides presenting the entity's activities, it also presents changes in net assets.
3. Reports on Changes in Net Assets in accordance with ISAK 35 are presented separately, previously in accordance with PSAK 45 were presented separately in the Activity Report. The Statement of changes in net assets shows information about changes in the unlimited net worth of resource providers and the limited net worth of resource providers, which will later appear in the Statement of Financial Position.
4. Statement of Cash Flows is prepared using the indirect method, for the statement of cash flows and notes to the financial statements there is no change.

SUGGESTIONS

Suggestions that researchers can give so that in 2020 the presentation of financial statements of educational foundations can be guided by ISAK 35. As an initial guide, we can use the 2019 Financial Statements of Educational Foundations which we have processed with presentation according to ISAK 35.

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IMPROVEMENT OF ALUMINUM CABINET PRODUCTION SYSTEM WITH LEAN MANUFACTURING APPROACH

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ABSTRACT

Sonoma All Series is one of the products in PT Aneka Regalindo aluminium unit that has a large volume of requests, but often face the problem of delay in the completion and delivery of the products due to the waste on the production floor. The purpose of this study is to determine the types of waste and provide alternative improvements to reduce waste on the production floor using a approach lean manufacturing. The method used in this research is value stream mapping, to map the information and material flows that occur. The first step is to describe the real condition of the company into the current state value stream map. Identification of waste using the 5W-1H method. The proposed improvement is described in the future state value stream mapping. With the implementation of the proposed improvement, it is expected to reduce the waste that occurs, so as to reduce the lead time production from 186.01 minutes to 135.07 minutes and increase Process Cycle Efficiency from 32.45% to 44.33%.

Key words: lean manufacturing, lead time, reduce, value stream mapping, waste

INTRODUCTION

In the industrial world, both industries engaged in services and manufacturing industries will always experience competition between business actors operating within the same business scope and with players with different business scopes. Loyal customers are one of the determining factors for whether or not an industry will survive.

PT ANEKA REGALINDO Aluminium unit is a company engaged in the production of furniture with the main raw material is Aluminium. The production system at PT ANEKA REGALINDO Aluminium unit is to produce goods according to customer orders (job orders). But in a series of production processes there are several kinds of waste. Use of method Lean Manufacturing is the appropriate method used by companies to identify waste in the production process so that the company is capable of reducing or abolishing the activity - activity that does not add value. Lean can be defined as a systemic and systematic approach to identifying and eliminating waste, or non-value-added activities through continuous improvement by flowing the product (material, work-in- process, output) and information using a pull system from internal and external to pursue excellence and perfection (Gasperz, 2006).

The problem faced by PT VARIOUS REGALINDO unit Aluminium is often fix repair frame chairs because the frame does not correspond

to the mall, the results of wicker chairs are not in accordance with the sample that has been approved by the buyer, often doing a search of the need box in the packaging process, transportation is not smooth in the production area due to the arrangement of goods and supplies outside the specified transportation limit.

Types of waste

Kaufman Consulting Group (1999) in Gasperz (2008) has formulated 10 types of waste in the manufacturing industry, where the 10 types of waste are grouped into four main categories, namely: People, Quantity, Quality and Information. Below is a breakdown of the 10 types of waste and approaches to reducing it.

1. People

This waste is a waste caused by humans. There are 3 types of waste caused by humans, namely:

- a) Waiting. The type of waste that occurs due to waiting time.
- b) Motion. This type of waste occurs because of the large number of movements that workers should not need to do.
- c) Processing. The type of waste that occurs due to a process that does not provide added value in the production process.

2. Quality

Waste by producing products that are not in accordance with predetermined standards due to errors in the manufacturing process.

3. Information

Waste due to the wrong flow of information at the stages of the production process. This waste is divided into 3 categories, namely:

- a) Planning : The ineffectiveness of planning the production process.
- b) Scheduling : Ineffectiveness in scheduling the production process.
- c) Execution : Differences in the implementation of the planning and scheduling of the production process.

4. Quantity

This waste is caused by the number of products along the flow of the production process. This waste is divided into 3 categories, namely:

- a) Moving Things /Transportation : Excessive transportation throughout the production process.
- b) Inventory: Excessive inventory of goods, both raw materials and finished materials.
- c) Making Too Much / Overproduction: Production in excess of the quantity ordered by the buyer.

Value stream mapping

Value Stream Mapping (VMS) is a concept of lean manufacturing that shows a picture of all activities or activities carried out by a company (Wilson, 2010). Value Stream Mapping consists of 2 types, namely:

- 1. The Current State Map is a configuration value stream of the current product, using specific icons and terminology to identify waste and areas for improvement.
- 2. Future State Map is a mapping of the company's condition in the future as a proposed improvement plan from the existing current state map.

One of the metrics lean that need to be measured is Process Cycle Efficiency (George, 2002). Process Cycle Efficiency is a way of measuring to see the efficiency of a factory, because by using this metric it can be seen how the percentage of processing time to the overall production time is carried out by the factory. The formula for calculating the efficiency of the process cycle is:

$$\text{Process Cycle Efficiency} = \frac{\text{Value Added Activity}}{\text{Total Lead Time}} \times 100\%$$

5W-1H

This method is in the form of questions which include What, Why, Who, Where, When and How. These questions are used to get a clearer and complete picture of improvements to a work

manufacturing, What states the type of waste, Where states the source of waste, When states when waste occurs, Why states what causes waste to occur and How states what improvements are proposed to reduce waste.

RESEARCH METHODOLOGY

Describes the stages used in solving research problems that take place systematically, based on the theories described in chapter II.

Data collection and processing

Data collection was carried out at PT ANEKA REGALINDO Aluminium unit in July 2014 - May 2015. The data sources used are:

1. Primary data

Sources The primary data obtained through observation and interviewing the parties concerned with this research. This primary data consists of processing cycle times in each process on the production floor.

2. Secondary data

Secondary data is obtained through secondary data obtained from archives and documents related to the company's production process. Secondary data consists of:

- a. Product Request
- b. Information flow on the production floor
- c. Product specifications

Products with the greatest demand with relatively frequent ordering frequencies become material for research, because large purchases will have an impact on the company if in the production process there are activities that do not provide added value, which is often called waste.

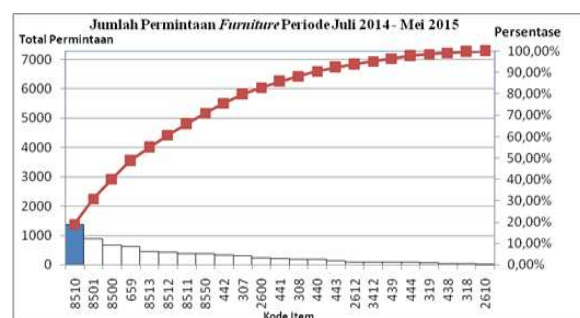


Figure 1. Pareto Chart – Demand Furniture

By looking at the Pareto Chart above, it can be seen that there are 10 items furniture that account for 80% of demand furniture at PT ANEKA REGALINDO's Aluminium unit. But the most

system. 5W + 1H in application in the field of lean

dominant are only 8 items which are 1 series, namely the **Sonoma All Series** with the largest total demand with a short order frequency each time it is requested.

Current state map

Current State Value Stream Mapping is a map of the initial condition of the production system prior to the proposed improvement. To make it easier to make current state value stream mapping, it is better to group production activities. Group of

activities that provide added value (value added activity (VA), group of activities that do not provide added value but is a necessity to assist value added activities (necessary but non value added activity (NNVA) and groups of activities that do not provide added value (non value added activity) (NVA).

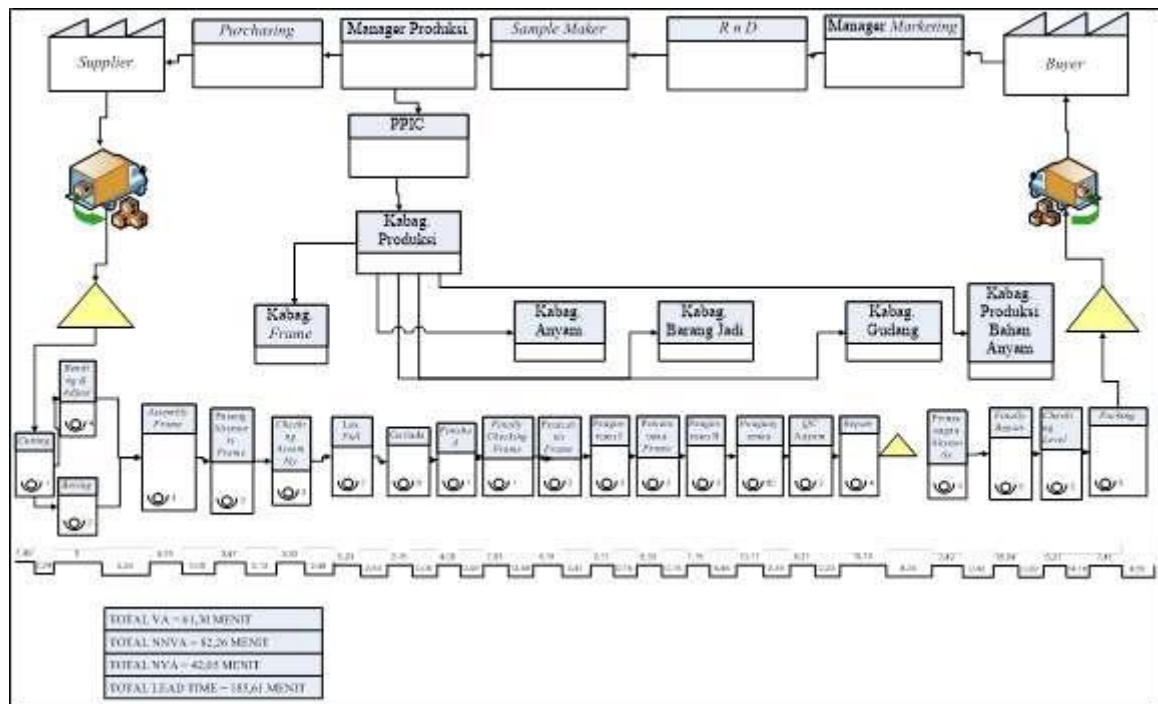


Figure 2. Current State Value Stream Mapping

Table 1. Identification of Waste on the Production Floor with the 5W-1H Method

Type of Waste (What)	Source of Waste (Where)	Executor (Who)	Time It Happened (When)	Cause It Happened (Why)*	Suggestions for Improvement (How)
Defects Frame does not fit mall	Assembly Frame	Welder	Each frame is finished assembly	1.Incorrect component installation.	1.Assembling components into a panel.
				2. Components that do not fit the mall are still being assembled.	2.Replacing the mall from plywood with mall from aluminium
				3.The condition of the mall is not good	3. Checking the mall regularly.
Process Repair Weaving Weaving	Process Weaving	people	every time the goods arrive	1.No sample images in the weaving process weaving	1.Provide detailed pictures on each weaver.

				2. The handicrafts of workers who change from time to time	
Transport. Repairing boxes.	Finished goods production floor. Finished	goods production workers.	Every time they carry out production activities.	1. Ignoring the function of transportation barrier	Implement the use of transportation boundary lines.
Motion The activity of looking for boxes	Packing	Employees producing finished goods	Whenever production is running	1. There is no good and standard inventory management system.	1. Carry out a box storage arrangement system by grouping items alphabetically and labelling

*The cause (why) is obtained from an analysis of the root causes of the problem with 5WHY

Future state mapping

The design of the future state value mapping is carried out by considering the proposed improvements based on the analysis results from the current state value mapping. The first step is to check the mall on a regular basis and replace the mall from plywood with malls from aluminium.

Second, providing detailed drawings of weavers for weavers. Third, the application of the use of transportation boundary lines in the goods production area so, the improvement of the work method with the 5S method (Seiri, Seiton, Seiso, Seiketsu, Shitsuke)

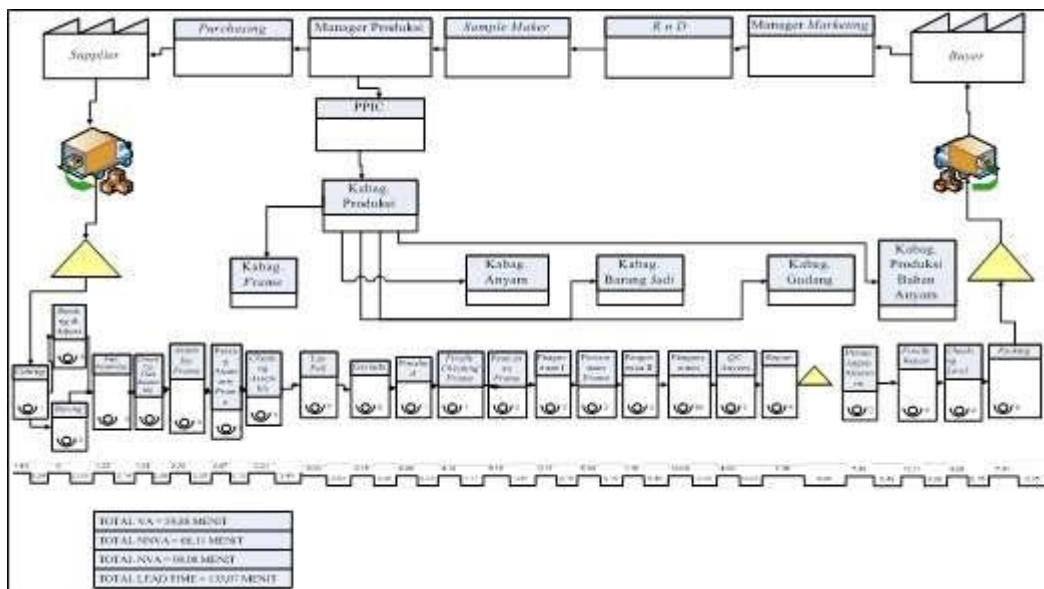


Figure 4. Future State Value Stream Mapping

RESULTS AND DISCUSSION

In this chapter, the results of the analysis and data processing that have been carried out previously using will be explained current state value stream mapping to be used as a basis for developing

recommendations for improvements to systems and production processes using future state value stream mapping.

Table 2. Percentage of Time Use on Current State Value Stream Map

No.	Activity Group	Time (minutes)	Use of Time (%)
1.	Value Added Activity	61.30	33.03 %
2.	Necessary but Non Value Added Activity	82.26	44.32 %
3.	Non Value Added Activity	42.05	22.66 %
TOTAL		185.61	100

From the table above, it can be calculated that the process cycle efficiency is 33.03 %.

Table 3 Percentage of Time Use on Future State Value Stream Map

No.	Activity Group	Time (minutes)	Use of Time (%)
1.	Value Added Activity	59.88	44.33 %
2.	Necessary but Non Value Added Activity	66.11	48.94 %
3.	Non Value Added Activity	09.08	6.72%
TOTAL		135.07	100

From the table above, it can be calculated that the process cycle efficiency is 44.33%.

CONCLUSION

The conclusions obtained from this study include the following:

1. The types of waste in the manufacture of the Sonoma All Series on the production floor are:
 - a) Waste of Defects the frame does not match the mall due to inaccuracy in the installation of components, and the condition of the mall is not good.
 - b) waste Process in the process repair caused by the absence of a image handle sample weaving woven.
 - c) wasted Motion in the process of looking for boxes caused by a poor inventory arrangement system.
 - d) wastage Transportation in the section packing which resulted in some boxes being damaged and had to be repaired due to neglect of the function of the transportation line dividing line.
2. There are four proposed improvements to the future state value stream mapping and the application of the 5S method to reduce the causes of waste, namely:

- a) Panel assembly prior to assembly frame and replacing malls of plywood with malls of aluminium.
- b) Provide details of weaving drawings to weaving workers.
- c) Carry out a storage arrangement system for boxes using an alphabetical and labelling system.
- d) Apply the function of the line dividing the transportation line.

Based on the results of the proposed improvements, it was found that the decreased Lead Time production from 186.01 minutes to 135.07 minutes and the increased Process Cycle Efficiency from 32.45% to 44.33%.

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ANALYSIS OF GOODS CONTROL USING ECONOMIC ORDER QUANTITY METHOD FOR OPTIMIZATION OF GOODS INVENTORY IN HOME SHOPPING COMPANY SIDOARJO

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ABSTRACT

This study has the aim of applying the Economic Order Quantity method in order to analyze inventory control at home shopping companies to optimize inventory. Many companies, especially new companies, still use traditional goods control but have not used effective and efficient methods. Companies must pay attention to inventory so as not to run out of stock or excess, therefore inventory control is needed.

This research uses descriptive qualitative methods, namely research conducted by identifying the problems found, described so that the problems that will be discussed are seen with the help of qualitative analysis. The results showed that inventory control using the EOQ method, the company can precisely determine: safety stock to minimize the occurrence of material shortages, can calculate correctly Lead Time, namely the time lag between ordering the goods to the company, and can determine ROP to avoid delays in ordering and delivery of goods to customers. In the 2019 period, the EOQ was 56 units with a frequency of 38 orders, Safety stock was 300 units, ROP 330 units. The 2020 EOQ period is 57 units, with 39 times of Time, 147 units of Safety stock and 177 units of ROP.

Key words: analysis, control, economic order quantity, lead time, reorderpoint, safety stock

INTRODUCTION

In Indonesia, more and more new companies appear which of course can increase competition between companies, increasingly fierce competition, of course, makes companies have to take into account everything that will be an important point so that companies can compete. In controlling inventory, the company should take into account the most effective and efficient method or method. The company must pay more attention to the inventory of goods so as not to run out of stock or excess inventory. In order for the company to get the maximum profit as expected, of course it is necessary to have inventory control.

Inventory management in running a business in the company, especially companies that sell goods or ready-to-sell products (finished goods). Inventory management is the activity of regulating/managing the right level of inventory so that the amount is not too large and not too small, in accordance with the needs of the further production process, so that inventory costs can be controlled.

In inventory management there are various ways of purchasing materials or goods, namely:

1. One-time purchase
2. Staged purchase
3. Purchase EOQ

In order for the company to optimize inventory, the company can apply the Economic Order Quantity method. The EOQ method seeks to achieve the minimum possible inventory levels, lower costs and better quality. Planning the EOQ method in a company will be able to minimize the occurrence of out of stock so that it does not interfere with processes within the company and is able to save inventory costs incurred by the company because of the efficiency of raw material inventory within the company concerned. (M. Trihudyatmanto, Wonosobo 2017).

This method is used to determine the number of purchases or orders for goods or raw materials that are economical, so they do not make purchases all at once, but gradually by achieving optimal volume and cost as the basis for determining the balance between order costs and storage costs.

In inventory management there are terms Safety Stock, Lead time, and Reorder Point:

1. Safety Stock is the number of goods to anticipate the worst possibility, the worst possibility that can happen is the number of requests that suddenly spikes sharply or the delivery of goods takes too long. So prone to make you run out of product.
2. Lead time is the time lag between ordering until the goods arrive at your hands.
3. Reorder Point (ROP) is the time when the company must place an order for its raw

materials again, so that the receipt of the ordered raw materials can be on time, because ordering raw materials cannot be received on the same day. (Dewi, Herawati, and Wahyuni 2019)

For companies that use traditional methods and have not used the Economic Order Quantity method for their inventory procurement policy, it is very appropriate to apply the Economic Order Quantity method so that it is very likely that the company can optimize operational costs and can minimize order cancellations by customers and can overcome any obstacles that occur. This research focuses on one product that has the highest selling power, namely the product with the item name AZHIKRA.

1. What is the Safety Stock and Reorder Point for AZHIKRA Products for the 2019 and 2020 periods?
2. How is the EOQ method applied in inventory control for AZHIKRA Products?
3. What is the total inventory cost for the 2019 and 2020 periods using the EOQ method?
4. How much is the Safety Stock and Reorder Point for AZHIKRA Products calculating the Economic Order Quantity method?
5. What are the results of the comparison or difference between the company's method and the EOQ method for the 2019 and 2020 periods?

LITERATURE REVIEW

A. Inventory

(Heru 2020) Inventory is all goods or materials that are stored where the inventory is an investment (assets used in the further production process or sold, in a space (warehouse) waiting to run smoothly) which is important in a company.

1. Inventory of Raw Materials (Raw Material Inventory) That is the basic material that is the main component of a product even though there are other elements in the product.
2. Work in Process Inventory, namely raw materials that have been processed to be converted into finished goods but until the end of a certain period the production process has not been completed.
3. Inventory of Finished Goods (Finished Goods Inventory) That is raw materials that have been processed into finished products that are ready to use and ready to be marketed.

B. Inventory management

Krajewsky & Ritzman, (2002) define Operations Management as directing and supervising the processes that transform inputs into goods and services (outputs). The process is the main

activity of the organization that is used to work and achieve common goals. Basically Operations Management is one of the functions within the company, where large companies generally separate each function into separate departments, each function has certain responsibilities according to its duties. Each function in the company is interconnected.

(Franklin & Thomas in Handoko) Production and operations management are efforts to manage resources/factors of production in the process of transforming them into various products or services. (Pontas Pardede) Management of production and operations as the direction and control of various activities that process various types of resources to make certain goods or services. So it can be concluded that operational management is an activity to optimally manage/manage resource management in the process of transforming inputs into outputs. (Rita Indah Mustikowati, SE 2012)

Sofyan Assauri, (2016: 18) states that the purpose of control is: To ensure that the company does not run out of inventory, so that it can result in the cessation of operations.

- a. Keeping the inventory formation by the company is not too large or excess so that the costs incurred from the inventory are not too large.
- b. Keeping purchases in small quantities can be avoided, as this can result in large ordering costs.
- c. Keeping buyers small can be avoided, as this can result in large ordering costs.

C. Cost of Inventory Cost

Handoko (1999: 336-338) states that in making a decision that will affect the amount (amount) of inventory, operational managers must consider the variable costs associated with the procurement of inventory. By knowing the costs involved or related to inventory, managers are expected to be able to make wise decisions about the most economical inventory levels in their company.

1. Economic Order Quantity (EOQ)

Gitosudarmo (2002:101), Economic Order Quantity (EOQ) is the most economical volume or purchase amount to be carried out at each purchase. Likewise the opinion of Hansen and Mowen (2005:473). Economic Order Quantity (EOQ) is an example of an inventory system that aims to determine the order quantity that will minimize total costs. (Economic Order Quantity = economic order quantity) is a method to determine the most economical (optimal) order quantity for one order, which minimizes inventory costs. The

method used to determine the amount of raw material purchases that are economical, so that they do not make purchases all at once, but gradually by achieving optimal volume and cost.

2. EOQ Policies

(M. Trihudiyatmanto, 2017) states that the raw materials or goods available in ensuring the smooth production process and costs incurred by the company in connection with the company are minimal, then the action that needs to be taken is to determine the Economic Order Quantity (EOQ), Safety Stock, Reorder Points (ROP).

A. Determining the economical amount of raw materials (EOQ) Every industrial company, in its effort to carry out the production process, is by making a purchase. In making the purchase of raw materials that must be purchased to meet the needs for a certain period so that the company does not lack raw materials and can also get these materials at a minimum cost. The costs that arise in connection with the purchase and inventory of raw materials (carrying cost and ordering cost) after being calculated, the optimal purchase amount can be determined or called EOQ, namely the quantity of materials that can be obtained with minimal costs or often referred to as the number of purchases required. optimal.

B. Determining safety stock (Safety Inventory) An industrial company needs to have a number of raw materials or goods that are always available in the company to ensure the continuity of its business. Inventory of raw materials is usually called safety stock or safety stock. Safety stock is an inventory that is reserved as a safeguard against the continuity of the company's production process (Ahyari, 2003 1199).

C. The order or purchase of the item cannot arrive on time so it will be delayed. Besides that, those that affect the size of the inventory are:

1. The amount purchased each time an item is ordered.
2. Determination of the standard estimate of the need for goods
3. Determine the reorder point (Reorder Point)

D. ROP (Reorder Point)

Hansen and Mowen (2005:470), Re-Order Point is the point in time at which a new order must be placed (or preparation begins). Reorder point is the time at which the order must be held again so that the arrival of the ordered

material on time when the stock above safety stock is equal to zero. (Riyanto, 2001: 83). The formula for ROP (Re Order Point) is as follows: $ROP = () \times (Leadtime)$ Reorder Point is calculated based on the multiplication of the lead time with the need for goods within a certain period of time. In general, lead time is calculated based on external factors, namely the length of time for production and delivery of goods by vendors.

Calculating the lead time from the purchase order entering the vendor until the goods are received by the company. In reality, there are other factors that make a major contribution to the overall lead time or lag time, namely the company's internal factors. An example of an internal factor that affects lead time is the time required for the approval process. Due to various reasons, conditions often occur where the authorities are late in providing an approval which results in a material request from the department cannot be immediately processed into a purchase order. The delay in the approval process results in the lead time required for the goods to be used by the department longer. This causes various problems, one of which is the cancellation of an order by the customer (Izza Nabilah Alfiyana, Dyah Ayu Astuti, Angga Kurniawan 2018).

Manahan P. Tampubolon (2013: 99) There are two systems that can be applied to determine when a reorder is held, namely:

1. Quantity Reorder Point System (Q/R System)

What is meant by the Quantity Reorder Point System is that the amount of inventory that is reordered is very dependent on the inventory needs for the conversion process, in fact the use of material inventory is never constant and always varies.

2. Periodic Inventory System This system is a method of ordering at Constant Time Interval (every; Week, Month, or Quarter, etc.), but the number of orders varies depending on how much material is used between the time of the last order and the time of the next order. Therefore, based on a fixed time interval, the reorder point is carried out regardless of the amount of inventory that is still available. (Maulan Irwadi, S.E., M.Si. 2014)

E. Safety Stock

Herjanto (1994:144) Safety Stock is an inventory made to protect or maintain the possibility of a shortage of materials/goods, for example due to the use of materials that are greater than the original estimate or delays in receiving the ordered materials. Safety stock is the amount of goods to anticipate the worst possibility. Bad possibilities that can happen

include the number of requests that suddenly spike sharply or the delivery of goods that take too long. So prone to make you run out of product. (Martina 2020)

Safety stock is a security stock, where if there is an obstacle such as an increase in orders and obstacles in the process of shipping goods. With the Safety Stock, it will be very helpful if there are obstacles as mentioned, the Safety Stock is of course calculated based on the formula, not just storing or hoarding an inventory of goods. The amount of safety stock as disclosed by Slamet (2007:161) is determined by the formula:

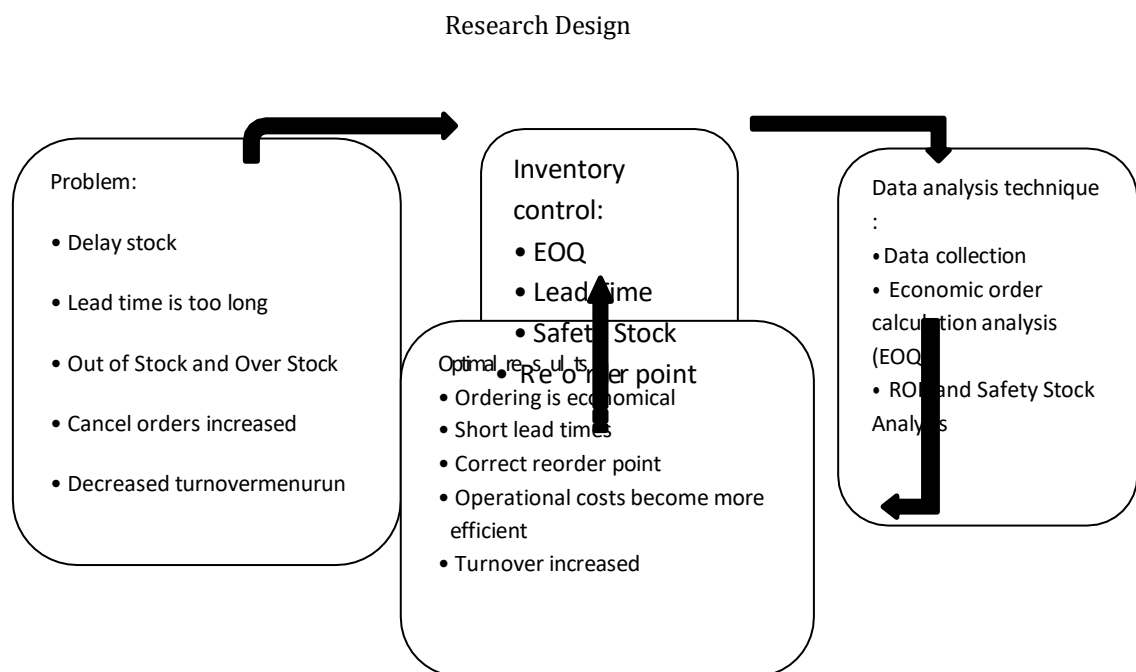
$$\text{Safety stock} = (\text{maximum usage} - \text{average usage}) \times \text{Lead time}$$

F. Lead Time

Lead time is the time lag between ordering until the goods arrive at your hands. While the lead

time demand is the estimated number of requests during that time lag. The length of time can range from several weeks or even months. The length of time depends on the difficulty level of the goods ordered, the amount, and the distance it takes to deliver the goods. (Martina 2020)

Lead Time is the waiting time from the delivery of goods until the goods are in the hands of consumers or customers. Lead Time is very influential on the process of buying and selling an item, where if the lead time is too long it can result in losses such as canceling orders by customers because they feel that the service is not good because they wait too long for the goods ordered. Therefore, it must really take into account the Lead Time so that it can be shortened and not too long.



RESEARCH METHODS

Object of research

The object of this research is the Home Shopping company, namely PT Lejel shopping which is located in Sidoarjo, more precisely in the warehouse section. By obtaining average inventory data, customer order data, and cancel order data from the netshopping system in the office, as well as office operational cost data.

Research methods

The method in this study is a descriptive qualitative method, namely by identifying the problems found by the author, described clearly so

that the core problems will be seen with the help of qualitative analysis.

Suryabrata, (2013:14) states that descriptive research is research that intends to make (descriptive) jokes about situations or events with the aim of making a systematic, factual, and accurate picture of the facts and characteristics of the population of a particular area.

Data collection

1. Literature study: by using relevant literature books and studying from journals and Final Project Reports related to the research being studied. Looking for books that are related to

- the research theme in the campus library and also looking for journals on the internet.
2. Interview: conducting interviews directly with parties or sources in the company. Starting from the company manager by conducting interviews about the management system applied in the company and also about the obstacles experienced so far, as well as discussing the EOQ method that will be researched later. Then conduct interviews with accounting about the total cost of inventory and talk about the method that will be used as research, namely the EOQ method. The last one is an interview with the warehouse or logistics staff regarding the warehouse flow and about the inventory control system that has been implemented so far in the company. By conducting direct interviews with resource persons, we will be able to analyze the problems faced by the company and can find out whether we can implement the EOQ method in the company.
 3. Observation: observing the process in the field, starting from the demand for goods, controlling inventory, calculating Safety Stock, Reorder Point and arriving at the consumer. The first is to observe how the company obtains stock of goods and how the company distributes or sells goods to the customer. Finding out how and how many reorder points the company does, observing how many reorder points are in a one month period. After that, find out about the

safety stock in the warehouse, whether it is correct or not. After making direct observations in the field, we will be able to find out the flow in the company starting from the demand for goods, reordering, securing stock and reaching the hands of the customer.

Data analysis technique

1. Economic Order Calculation Analysis

In ordering or requesting goods, we must determine in advance how many economical orders are made each time an order is made and the frequency of the order time which can be determined using the Economic Order Quantity (EOQ) method. In the EOQ model, the inventory costs considered are inventory holding costs and inventory ordering costs. In its implementation, it can be formulated as follows, according to (Heru 2020):

EOQ(Q) = Optimum number of items per order (EOQ)

D = Amount of goods needed (unit/year)

S = Ordering cost (every time you order)

h = Cost of storage and warehouse maintenance (%)

P = Price of Goods (Rp/unit)

H (hxP) = Storage cost (Rp/unit/year)

F = Order frequency (every time / year)

L = Lead Time = Distance between orders (days/year)

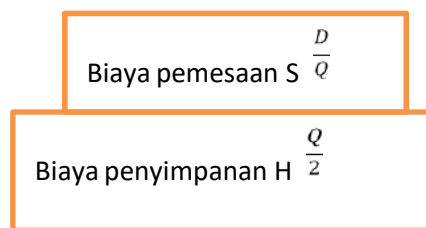
TC = Total Cost of Inventory (Rp/year)

$$EOQ = \sqrt{\frac{2DS}{H}}$$

$$EOQ = \sqrt{\frac{2DS}{hP}}$$

$$F = \frac{D}{Q}$$

Total Ordering Cost = Ordering Cost x Order Frequency



Total Storage Cost = Storage Cost x Average Inventory

TIC = Ordering Fee + Storage Fee

$$TIC = S \frac{D}{Q} + H \frac{Q}{2}$$

ROP and Safety Stock Analysis

Reorder points

Reorder point is the time at which the order must be held again so that the arrival of the ordered

material on time when the stock above safety stock is equal to zero. (Riyanto, 2001: 83).

The formula for ROP (Re Order Point) is as follows:
 $ROP = (rata \ ratapermintaanperhari) \times (Leadtime)$. Reorder Point is calculated based on

the multiplication of the lead time with the need for goods within a certain period of time.

Safety Stock

Safety stock is a security stock, where if there is an obstacle such as an increase in orders and obstacles in the process of shipping goods. With the Safety Stock, it will be very helpful if there are obstacles as mentioned, the Safety Stock is of course calculated based on the formula, not just storing or hoarding an inventory of goods. The amount of safety stock as disclosed by Slamet (2007:161) is determined by the formula:

$$\text{Safety stock} = (\text{maximum usage} - \text{average usage}) \times \text{Leadtime}$$

Comparative Analysis of Company Methods With EOQ Method.

To find out the efficient and effective method in optimizing inventory at PT Lejel Home Shopping

Sidoarjo, it is necessary to do a comparison between the Company's Method and the EOQ Method. So it can be seen which method can be applied to optimize inventory at PT Lejel Home Shopping Sidoarjo.

RESULTS AND DISCUSSION

Average Demand and Inventory

Based on observations that have been made at PT Lejel Home Shopping Sidoarjo, data obtained by focusing on one product of the three best seller products that have the highest selling power, namely the product with the item name AZHIKRA. Is as follows :

Table 1 Order requirements for Azhikra products for the 2019 and 2020 periods.

DATA KEBUTUHAN BARANG PERIODE 2019 PT LEJEL SHOPPING SIDOARJO								
NO	ITEM CODE	ITEM NAME	TOTAL ORDER	TOTAL AMOUNT ORDER	ORDER QUANTITY	AMOUNT ORDER	CANCEL ORDER QUANTITY	AMOUNT CANCEL ORDER
1	100815	[NEW AZHIKRA] TASE	2158	Rp2,978,040,000	1605	Rp2,214,900,000	553	Rp763,140,000

DATA KEBUTUHAN BARANG PERIODE 2020 PT LEJEL SHOPPING SIDOARJO								
NO	ITEM CODE	ITEM NAME	TOTAL ORDER	TOTAL AMOUNT ORDER	ORDER QUANTITY	AMOUNT ORDER	CANCEL ORDER QUANTITY	AMOUNT CANCEL ORDER
1	100815	[NEW AZHIKRA] TASE	2249	Rp3,103,620,000	1658	Rp2,288,040,000	591	Rp815,580,000

Based on the table above, the data on the need for goods or orders for AZHIKRA products has increased, namely in the 2019 period of 2158 and in 2020 the number of 2249. In the 2019 period the total order for AZHIKRA products was 2158 units, the total order amount was Rp. 2,978,040,000, the order quantity was 1605 with order amount IDR 2,214,900,000, cancel order quantity 553 with

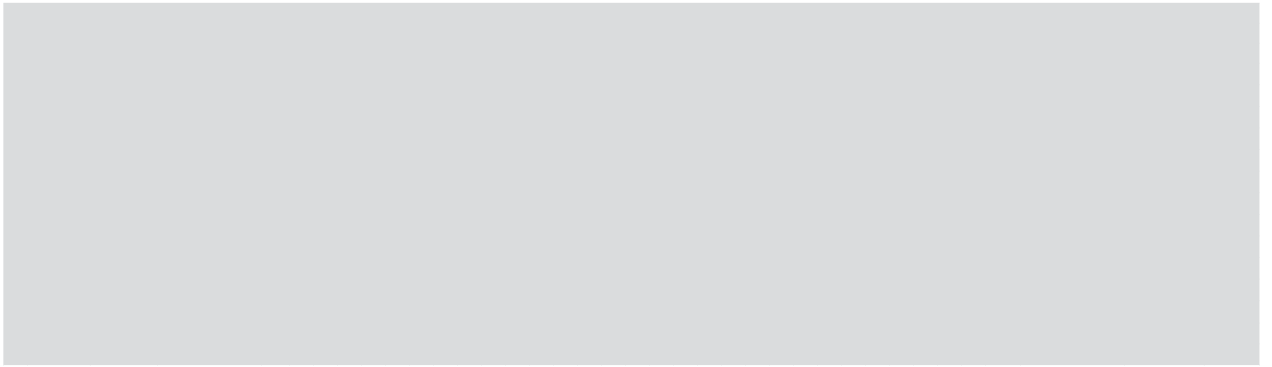
cancel order amount IDR 763,140,000. And in the 2020 period, the total order for AZHIKRA products is 2249 units, the total order amount is Rp. 3,103,620,000, the order quantity is 1658 with the order amount Rp. 2,288.040,000, the cancel order quantity is 591 with the cancel order amount Rp. 815,580,000.

Table 2 Average inventory of Azhikra products for the period 2019 and 2020.

NO	PERIODE	ITEM NAME	STOCK/AWAL BULAN	SHIPPING STOCK																												TOTAL	Frekuensi Pemesanan	Kebutuhan Stock	Safety Stock																												
				PERIODE 2019																																																											
	2019			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30																														
1	Januari	NEW AZHIKRA	104				65						65								45													10	205	5	192	117																									
2	Februari		132							15																										120	4	191	61																								
3	Maret		123									20																							125	4	234	14																									
4	April		14				60																												175	4	150	39																									
5	Mai		39																																155	5	154	40																									
6	Juni		40																																120	3	166	4																									
7	Juli		4																																150	2	100	24																									
8	Agustus		44																																20	2	50	14																									
9	September		14																																20	2	9	25																									
10	Oktober		5																																50	1	0	55																									
11	November		5																																240	4	214	31																									
12	Desember		31																																110	4	145	4																									
TOTAL																																																															
RATA RATA																																																															

NO	PERIODE	ITEM NAME	STOCK/AWAL BULAN	SHIPPING STOCK																												TOTAL	Frekuensi Pemesanan	Kebutuhan Stock	Safety Stock																												
				PERIODE 2020																																																											
	2020			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30																														
1	Januari	NEW AZHIKRA	-19																																	200	5	179	2																								
2	Februari		2																																	100	4	117	-15																								
3	Maret		-15																																	210	6	176	19																								
4	April		19																																	40	220	5	176	63																							
5	Mai		63																																	150	4	177	36																								
6	Juni		36																																	250	4	187	99																								
7	Juli		187																																	90	4	133	144																								
8	Agustus		144																																	60	3	134	70																								
9	September		70																																	140	6	143	67																								
10	Oktober		67																																	85	4	134	59																								
11	November		119																																	54	3	140	109																								
12	Desember		109																																	62	5	145	92																								
TOTAL																																																															
RATA RATA																																																															

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Based on the table above, it explains the average inventory of AZHIKRA products for the period 2019 and 2020 at PT Lejel Home Shopping Sidoarjo. In the 2019 period for safety stock or the remaining stock per month is very unstable with the emergence of a stock shortage problem in June, namely -6 units, at the beginning of July experiencing a stock shortage of -6 units, and in December also experiencing a stock shortage of -4 units .

In the 2020 period, there were also problems including regarding the initial stock and safety stock or the remaining stock held per month, namely there was a shortage of stock in January at the beginning of the month of -19 units, there was a shortage of stock in February which was -15 units, and a shortage of stock in February. the beginning of March which is -15 units. This is of course because there is no method for determining the right safety stock and reorder point in order to optimize inventory at PT Lejel Home Shopping Sidoarjo.

Booking fee

The booking fee consists of internet, telephone and Expedition.

total storage costs in the period 2019 and 2020 at PT Lejel Home Shopping Sidoarjo. In 2019 the total cost for renting a shophouse was Rp. 95,000,004, PLN + PDAM costs Rp. 10,500,000, and the total cost is Rp. 105,500,004. In 2020 for shophouse rental Rp. 95,000,004, PLN + PDAM costs Rp. 7,500,000, and the total cost is IDR 102,500,000.

1 Economic order calculation

The EOQ method allows companies to make the most economical orders with a constant number of requests and Lead Time, and also to optimize inventory to avoid stockouts.

$$EOQ = (2DS/(h.p))$$

Information:

EOQ = Economical purchase quantity

S = Cost per order

D = Number of needs for one period

h = Storage cost shown as a percentage of the purchase price per unit

p = Purchase price per unit

Optimal Purchase Quantity for the Year 2019

Based on the data previously mentioned, it is known:

D = 2,158 units

S = 100,000

h = 10%

p= 1,380,000

$$EOQ = (2.2158.100000/(10\%.1380000))$$

$$= (431600000/138000) = 3127 = 56$$

Based on calculations using the EOQ method, it can be seen that the company should purchase 56 units per order. The average reorder of AZHIKRA products by the company during 2019 was 30 units per order, while the number of economical orders according to the EOQ calculation was 56 units per order.

Optimal Purchase Quantity for the Year 2020

Based on the data previously mentioned, it is known:

D = 2,249 units

S = 100,000

h = 10%

p= 1,380,000

$$EOQ = (2.2249.100000/(10\%.1380000))$$

$$= (431600000/138000) = 3.259 = 57$$

Based on calculations using the EOQ method, it can be seen that the company should purchase 57 units per order. The average reorder of AZHIKRA products by the company during 2019 was 30 units per order, while the number of economical orders according to the EOQ calculation was 57 units per order.

Determination of Reorder Frequency

To determine the frequency of purchasing the most profitable merchandise, it can be done by dividing the need for merchandise for one period by the optimal purchase of merchandise.

2019 Period

Based on the data previously mentioned, it is known:

D = 2,158 units

EOQ(Q) =56 units

$$F = D/Q = 2158/56 = 38.5 \approx 38 \text{ times}$$

From the calculation of the formula above, the results of the quantity of inventory for each time the order is 56 units and the frequency of ordering is 38 times. So that the total cost of inventory can be calculated using the Economic Order Quantity (EOQ) method as follows:

$$TC = S D/Q + H Q/2$$

$$= 100,000 2158/56 + 138,000 56/2$$

$$= 3,853,571 + 3,864,000 = 7,717,571$$

2020 Period

Based on the data previously mentioned, it is known:

D = 2,249 units

EOQ(Q) =57 units

$$F = D/Q = 2249/57 = 39.4 \approx 39 \text{ times}$$

From the above formula calculation, the results of the inventory quantity for each time the order is 57

units and the order frequency is 39 times. So that the total cost of inventory can be calculated using the Economic Order Quantity (EOQ) method as follows:

$$TC = S D/Q + H Q/2$$

$$= 100,000 \cdot 2249/57 + 138,000 \cdot 57/2$$

$$= 3,945,614 + 3,933,000 = 7,878,614$$

Calculation of Safety Stock

Based on table 4.2 data that has been previously attached, the calculation of Safety Stock on AZHIKRA products is known as follows:

Calculation of safety stock for the period 2019

Known :

Maximum requirement = 234

Average requirement = 134

Safety stock = (maximum demand - average requirement) waiting time

Safety stock = (234 - 134) 3

Safety stock = (234 - 134) 3

Safety stock = 300

Calculation of safety stock for the 2020 period

Known :

Maximum requirement = 187

Average requirement = 138

Safety stock = (maximum demand - average requirement) waiting time

Safety stock = (187 - 138) 3

Safety stock = (187 - 138) 3

Safety stock = 147

Reorder Point Calculation

The reorder point is the time at which the order must be held again so that the ordered goods arrive on time when the safety stock is zero.

Based on the data in table 4.2 which has been previously attached, the calculation of the reorder point for AZHIKRA products is known as follows:

Reorder Point Calculation for the 2019 Period

Known :

d = Average daily requirement

L = Lead time

SS = Safety Stock

ROP = (d x L) + SS

ROP = 2158/365 x 5 + 500

ROP = 530

Based on the above calculations, it can be seen that the reorder point or reorder point for the 2019 period is 530 units, where when the stock shows the number 530 units, a reorder must be made so that the ordered goods come right when the safety stock is zero.

Reorder Point Calculation for 2020 Period

Known :

d = Average daily requirement

L = Lead time

SS = Safety Stock

ROP = (d x L) + SS

ROP = 2249/365 x 5 + 245

ROP = 275

Based on the above calculations, it can be seen that the reorder point or reorder point for the 2020 period is 275 units, where when the stock shows the number 275 units, a reorder must be made so that the ordered goods come right when the safety stock is zero.

CONCLUSION

From the results of calculations that have been carried out using the EOQ method, it shows that the quantity of orders and the frequency of orders can be calculated accurately and can optimize inventory compared to the method used by PT Lejel Home Shopping Sidoarjo.

Based on calculations using the EOQ method, it can be determined the amount of safety stock or safety stock to guard against increased consumer demand or delays in the schedule for AZHIKRA product orders in the 2019 period, the safety stock is 500 units and the 2020 period is 245 units. Then based on the Reorder Point (ROP) in the 2019 period it was 530 units and the 2020 period was 275 units.

In the previous company method, the amount of safety stock was not calculated and the Reorder Point had not been set, causing various problems such as increasing customer cancel orders. Where this can be detrimental to the company where previously the customer wanted to buy some or even many AZHIKRA products, choosing to decide to cancel an order due to delays in the willingness or delivery of goods to the customer. If the company can minimize the occurrence of stock delays, of course the customer will not cancel the order and will repeat orders for AZHIKRA products. By using the EOQ method, of course, the company can minimize stock delays and can optimize inventory.

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ANALYSIS OF PISTON HEAD VARIATIONS TO THE PERFORMANCE OF THE HONDA SUPRA X 125CC MOTORCYCLE

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ABSTRACT

Two-wheeled motor vehicles on the market today, more pursuing efficiency or fuel economy and increasing engine performance. The compression ratio is greater than previous productions, as well as the quality of fuel today is better. It is intended to improve the performance of the engine. The most important factor to increase the performance is to increase the compression ratio so that the combustion is maximized. The goal to be achieved in this study is to find out the effect of changes in torque and power resulting from two concave and flat piston surface shapes on the 2006 Honda Supra 125cc vehicle. This test is performed on a four-stroke motor under standard conditions with a concave piston head that will be varied with a flat piston head. By using a concave piston kepal with the highest torque value with a value of 11.85 N.m, while for the highest power with a value of 9.8hp. In the study using a flat piston kepal the highest torque value with a value of 22.39N.m, while the highest power that can be produced is 14.9hp. So this is what produces the highest power is a flat piston head so that combustion using a flat piston head is more maximal compared to using a concave piston hammer.

Key words: deep combustion, power, sunken and flat piston head, torque, 125cc supra motorcycle

INTRODUCTION

Energy is a natural need for humans, so that without a source of energy, life on earth will not be able to walk. Advances in science and technology and the rapid increase in human numbers resulted in massive exploitation of energy sources. Transportation is one of the many advances in the field of knowledge. Humans need a means of transportation to carry out various things so that vehicles that are an absolute means of transportation are needed. With the increasing number of people, the number of vehicles is increasing and the need for petroleum fuel as an energy source will also increase. Even though the energy source is getting thinner and will one day run out. Therefore, it is necessary to take savings measures, one way is to improve the performance of an engine that will affect the power and fuel consumption needed.

In the process of burning a four-step Honda Supra x 125cc motorcycle, there are several losses. These losses result in no perfect combustion in the combustion chamber, so theoretically the energy that can be utilized from fuel to be converted from mechanical energy to drive the vehicle is only about 30% while the remaining 70% is lost in the form of exhaust heat, cooling losses and mechanical losses. The causes include the lack of perfection of the combustion process of the mixture of fuel and air so

that there will be imperfect combustion in the combustion chamber and result in performance produced by low engines. The combustion improvement on the Honda Supra x 125cc four steps is done by improving the combustion system in the combustion chamber by changing the shape of the piston head with variations of concave and flat piston heads to improve the performance of the engine.

Combustion plays an important role in determining the characteristics of a combustion motor where the low level of efficiency comes from the combustion process that occurs. To measure the characteristics of a fuel motor can be known by looking at the specifications of fuel consumption, motor acceleration, and maximum speed/top speed. Theoretically with a large pressure in the combustion chamber, the combustion process of the mixture of air and fuel will be more perfect and it is needed in improving engine performance which includes fuel consumption, acceleration, and maximum speed/top speed.

This is used 2 variations of piston heads with concave surfaces and flat surfaces, in a deep combustion requires a compression ratio to make combustion more perfect and can produce power in the vehicle more maximally. Pistons (Thoracic) are the engine components that first receive energy from combustion. The energy is then passed on with the thoracic rod. In the piston section has a ring that

usually amounts to 3 rings for a 4-step combustion motor, two rings as a compression retaining ring so as not to leak and one ring as a lubrication ring on the piston. The main function of the piston is to receive the pressure resulting from the combustion of the gas mixture and forward the pressure to rotate the crank shaft through the piston rod/connecting rod.



Figure 1. Piston Head Shape

Compression is when the gas and air in a cylinder are condensed in very small volumes. This occurs in the process of moving the piston upwards before the mixture of air and fuel is burned by spark plugs along with fuel in the combustion chamber. Compression ratio means the ratio between the volume of the cylinder when the piston is at its lowest point with the piston's position at the very top point. The higher the ratio means the more compressed air there is, and the fuel burned can be more and more.

Motor power is one of the parameters in determining the performance of the motor. The understanding of power is the amount of motor

$$P = \frac{2 \cdot \pi \cdot n \cdot T}{60} \text{ Nm/s (watt)}$$

work for a certain period of time as the unit of power is selected wattage. To calculate the magnitude of the power of the motor 4 steps used formula:

and,

P = Power (Watt)

n = Engine laps (rpm)

T = Torque (Nm)

Torque or motor turning moment is force multiplied by arm length, on the motor the force is the power of the motor while the arm length is the length of the thoracic step. If the length of the arm is extended to produce the same moment it takes a smaller force, and vice versa if the distance is the same but the force is enlarged then the resulting moment will be greater as well. This means that the greater the combustion pressure in the cylinder, the greater the moment produced. Maximum torque does not have to be generated at the time of maximum power at the same time. Torque (moment) is very closely related to the volumetric efficiency of the motor, meaning that the moment is very dependent on the amount of fuel that can be sucked into the cylinder and then burned, because the more fuel that can be burned means the higher or greater the force produced to push the thoracic. The torque of the motor will be maximum at the time of maximum efficiency. The magnitude of the rotary moment for the 4-step motor can be calculated by the formula:

$$P = \frac{2 \cdot \pi \cdot n \cdot T}{60} \text{ Nm/s (watt)}$$

And,

T = Torque (Nm)

P = Power (Watt)

n = Engine laps (rpm)

RESEARCH METHODS

Data collection uses the *Dynotest tool*. The motorcycle used is a Honda Supra 125 cc in 2006. Discussion and calculation using the *Dynotest tool*. This analysis process will be described in detail in the following flowchart:



Figure 2. Flowchart of the research process

Observations are conducted to take data directly on research objects both directly and with the help of research support tools. This research uses tools and materials used for research and also as self-protection from accidents at the time of research.

RESULTS AND DISCUSSIONS

Dynotest is used to measure the maximum performance of torque and power on a motorcycle. Torque is the ability of the engine to drive a vehicle
Test 1

from stationary to running, this torque is related to vehicle acceleration. While power is interpreted, how fast the vehicle reaches a certain speed. The unit of torque is called (N.m) and the unit of power is called HP. Engine devices that support dyno test performance include rollers, blowers, safety systems, and motor locks so as not to shake when the motor is fully gassed on top of the dynotest engine. The results of the test are then displayed on the computer screen.

1. Testing Using a Concave Piston Head
- 2.



Figure 3. Dynotest Machine Test Results Graph

Seen from this image from the rpm of 4500 graphics for power to rise continuously up to 6377 rpm and that's where the highest power is 9.5HP that can be produced from a motorcycle in the first test stage using a piston head with a concave surface, and after that the power decreases to 9500 rpm the power produced is only 6.4HP. In contrast to the torque graph that only increases at the initial

rpm, namely from rpm4500 to 4747 only, and rpm 4747 that is obtained the highest torque up to 11.58NM. And after in the torque of 11.58NM torque graph data decreased, until at the highest rpm the torque data even decreased drastically to 6.4NM was also at the highest rpm, which is 9500. And the next few Stages until Test Stage 5 are presented in the following Table data;

Table 1. Test Phase Results Using Concave Piston Head

RPM	Test 1		Test 2		Test 3		Test 4		Test 5	
	Power	Torque	Power	Torque	Power	Torque	Power	Torque	Power	Torque
4500	7.4	11.55	7.5	11.64	7.6	11.82	7.5	11.64	7.4	11.60
5000	8.2	11.52	8.3	11.58	8.4	11.73	8.3	11.62	8.4	11.75
5500	8.7	11.11	8.7	11.08	9.0	11.40	8.9	11.36	9.0	11.46
6000	8.9	10.63	9.2	10.78	9.3	10.82	9.3	10.89	9.3	10.84

6500	9.4	10.18	9.4	10.15	9.7	10.50	9.8	10.61	9.7	10.48
7000	8.8	8.86	9.4	9.45	9.7	9.70	9.4	9.39	9.5	9.53
7500	9.0	8.42	9.0	8.45	9.1	8.55	9.3	8.66	9.3	8.70
8000	8.6	7.54	8.6	7.56	8.9	7.80	9.0	7.93	9.0	7.91
8500	8.0	6.60	8.1	6.71	8.3	6.83	8.6	7.14	8.6	7.10
9000	7.2	5.59	7.4	5.75	7.4	5.75	7.8	6.10	7.5	5.85
9500	6.4	4.69	6.4	4.72	6.3	4.63	6.8	5.06	6.6	4.86

3. Testing Using A Flat Piston Head

Test 1

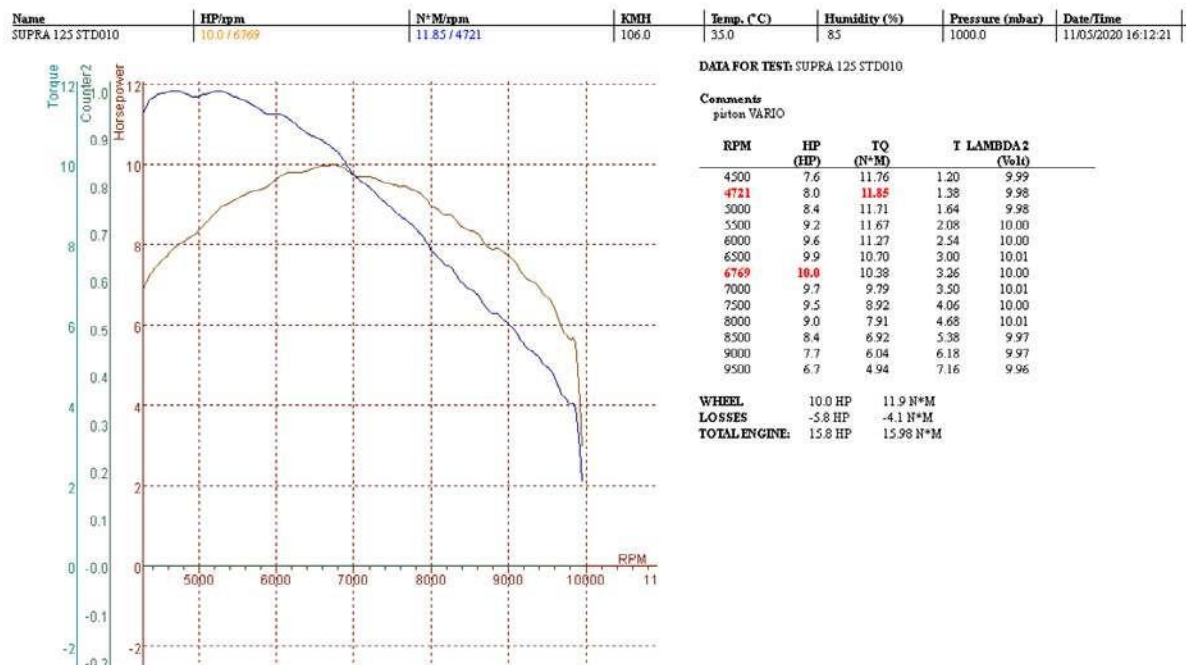


Figure 4. Dynotest Machine Test Results Graph

Seen from this graphic image the comparison after the turn of the piston head from the concave surface instead with a flat surface for its own power the graph rises from 4500 rpm to 6769 rise drastically. The rpm of 4500 power produced is only 7.6HP, while at the rpm point 6769 power up to 10.0HP and

after that the power graph decreases to the highest rpm which is 9500 power that d produce only 6.7HP. For the torque itself the highest point is at rpm 4721 with 11.85NM of torque, and after that torque drops dramatically to 9500 rpm the torque is only 4.94NM.

Table 2. Test Stage Results Using a Flat Piston Head

RPM	Test 1		Test 2		Test 3		Test 4		Test 5	
	Power	Torque	Power	Torque	Power	Torque	Power	Torque	Power	Torque
4500	7.6	11.76	7.4	11.58	7.3	11.30	7.0	10.96	14.9	22.39
5000	8.4	11.71	8.5	11.80	8.3	11.69	8.6	12.00	11.9	16.87

5500	9.2	11.67	9.0	11.53	8.9	11.36	9.3	11.89	9.3	11.89
6000	9.6	11.27	9.7	11.36	9.6	11.21	10.0	11.64	9.8	11.48
6500	9.9	10.70	9.6	10.43	9.8	10.59	10.1	10.88	10.0	10.80
7000	9.7	9.76	10.0	9.98	10.2	10.28	10.6	10.64	10.2	10.17
7500	9.5	8.92	9.6	8.98	9.6	8.98	9.7	9.11	9.4	8.80
8000	9.0	7.91	9.2	8.11	9.2	8.13	9.5	8.33	8.8	7.69
8500	8.4	6.92	8.6	7.12	8.7	7.17	8.9	7.33	8.4	6.95
9000	7.7	6.04	7.7	6.05	7.6	6.06	7.8	6.07	7.6	5.90
9500	6.7	4.94	6.6	4.91	6.9	5.09	6.6	4.91	6.2	4.61

From the data Tabel 3 and 4 obtained the following data on torque tests and power tests on flat piston heads. There are 5 test stages that have the highest power of 14.9hp, for the highest torque of 22.39. Here are the results of the power and torque test comparison of the 2 piston head variations on the Supra 125cc. The maximum data of the 2 variations on torque and power results are as follows:

1. The largest power difference produced in the research experiment using the surface shape of a flat piston head can produce power of 14.9 HP while with a concave surface shape is only able to produce the highest power of 9.8 HP.
2. The largest torque difference produced in the five final test stages, using pistons with a flat surface shape is able to produce torque of 22.39 NM while those using pistons with concave surface shapes are only able to produce torque of 11.82 NM.

So the conclusion for the greater torque test using a flat piston head is 22.39 N.m and, for greater power, using a flat piston head of 14.9 HP.

CONCLUSION

This research can be concluded the effect of flat piston head variations on the torsi produced on supra 125cc motorcycles in 2006 which is best r, namely with a result of 22.39 N.m. It can be concluded the effect of variations in piston use with a flat surface on the power produced on supra motorcycles 125cc in 2006 which is best with a result of 14.9 HP.

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PROOF OF WORK MOTIVATION ON EMPLOYEE PERFORMANCE (STUDY AT WIRASATYA TNI AD HOSPITAL SINGARAJA BALI)

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ABSTRACT

This study aims to obtain evidence of work motivation on employee performance by adopting the theory of Herzberg, Ganesan, Shankar & Weitz (1996) and Richard & Anderson (1994) to develop the concept of work motivation in two dimensions, namely: 1) The intrinsic dimension consists of: job characteristics, improvement of skills, and achievement opportunities; 2) Extrinsic dimensions consisting of: Rewards in accordance with achievements, work environment, and motivating policies. Research objectives include: a. knowing the influence of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital Bali; b. To find out which indicators have the most influence on Employee Performance. Teknik Pengumpulan Data dilakukan melalui: Wawancara, Observasi, Studi dokumenter, dan Kuesioner. The analyzes carried out include: Instrument Validity and Reliability, Multiple linear regression analysis, T-test to determine whether or not each coefficient is significant in the multiple regression equation, and F-Test to determine the effect of all independent variables on the dependent variable. The test results show that all instruments are valid and reliable, the results of multiple regression analysis with the equation $Y = 0,065 + 0,065 X_1 + 0,109 X_2 + 0,502 X_3 + 0,259 X_4 + 0,019 X_5 + 0,024 X_6$. The results of the T test and F test that prove the positive influence of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali. Achievement Opportunity Indicator is the most dominant indicator of influence on Employee Performance.

Key words: work motivation, employee performance

INTRODUCTION

One of the concepts of work motivation was popularized by Ganesan, Shankar & Weitz (1996) and Richard & Anderson (1994) which stems from Herzberg's two-factor theory. This theory examines work motivation in two dimensions, namely the intrinsic and extrinsic dimensions. Intrinsic factors refer to the employees themselves while extrinsic factors refer to various things that come from outside the employees themselves. Intrinsic factors include: fun work, achievement opportunities and increased skills. Extrinsic factors include: rewards that are in line with expectations, a conducive work environment and motivating company policies.

The concept of employee performance put forward by experts on employee performance, namely Agus Dharma (1995: 111) that performance is something that is done or a product/service produced or provided by a person or group of people. Various measures of performance include: quantity of work, quality of work and timeliness of work. Hasibuan (1996:167) says performance is the result achieved by workers compared to the standards set both concerning quantity and quality.

The TNI AD Wirasatya Singaraja Bali Hospital, which is a military institution whose main task is not only

to provide health services to soldiers or the military, TNI-AD civil servants and their families, but also to provide health services to the general public. This hospital always strives to improve the quality of health services in order to provide satisfaction to its patients.

Characteristics The daily work of employees is to serve patients from the ER (Emergency Unit) until patients return to their respective homes after going through the treatment process. The work of serving these patients is divided into 3 (three) shifts, namely shift I: days starting from 08.00 – 16.00; shift II from 16.00 – 24.00; and shift III from 24.00 – 08.00 WITA. Each employee will have the same opportunity for the three shifts without exception by rotating in such a way.

All employees receive training opportunities on procedures for carrying out work in accordance with their respective fields. This training is carried out by the hospital management either by going directly to the job (on the job training) or at certain scheduled times. In addition, every Friday there is physical fitness exercise for employees. At the end of each event the hospital management always provides direction on the development of the quality of work and things that should be improved so that services to patients can be improved from time to time. Directions are focused on the work that has been done and the things that are considered lacking that must be improved.

Hospital management provides opportunities for outstanding employees to improve their performance, especially in their work. For employees who have achievements, there are opportunities to improve their achievements by participating in studies elsewhere in the field of knowledge that are relevant to their work. As has been done, the hospital has sent several managerial employees to the nearest college. Likewise, organic employees are given the opportunity to develop their education. With the knowledge received, the manager assigns duties and responsibilities that are equivalent to the education they have. This shows that the hospital provides opportunities for employees to improve their performance.

Employees receive benefits consisting of a fixed salary, position allowances and bonuses based on the profits earned by the hospital. The amount of salary given is in accordance with education and work experience. Benefits are given to managerial employees as well as organic employees. Employees who occupy structural positions receive structural position allowances, while employees who carry out organic activities receive work professional allowances. This professional allowance is different for each profession, whether it's a doctor, a nurse, a midwife, a pharmacist, etc.

This hospital has a good working environment. This is reflected in the layout of the room, which reflects a place that strongly supports the effectiveness of employees' work. Each room has been equipped with adequate air ventilation. Illumination of each room is obtained from sunlight during the day and electricity at night. This in addition to providing comfort to work can also provide health. Coloring for the hospital adheres to a distinctive color that reflects health, namely white. This in addition to functioning for coolness also gives meaning to health for the hospital. Every room is protected from noise because every room has been equipped with soundproofing facilities except for the 3rd class room which is inhabited by many patients. The work environment is also equipped with good work equipment so that employees avoid fatigue and reflect higher ergonomics.

This hospital in setting company policies always involves employees, even though the management involves many soldiers, but in setting policies the hospital does not use an authoritarian system, but involves employees in every policy making. For example, the policy on treatment rates, here the manager involves medical personnel to calculate the costs incurred as well as the expected profit so that the treatment rates borne are in accordance with the patient's economic condition. Likewise, the policy on bonuses that will be given to employees, in this case the finance department is invited to negotiate on bonuses that will be given based on the achievements of each employee. All other policies have also involved employees so that there are rarely complaints between managers and employees because it is felt that they adhere to the element of openness.

Based on the aspect of employee performance,

it appears that the quality of work of employees is marked by the fulfillment of health for patients who come for treatment. Quantity can be seen from the completion of each job serving the patients who come to the hospital. Service is always on time, there is never a delay in work. Based on this explanation, this research was conducted in the form of Proof of Motivation on Employee Performance (Study at the TNIAD Wirasatya Singaraja Hospital, Bali).

Formulation of the problem

- a. Is there an effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali?
- b. Which indicators have the most influence on Employee Performance?

Research Objectives

- a. To determine the effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali.
- b. To find out which indicators have the most influence on employee performance.

RESEARCH METHODS

The operational definition of the variables studied, namely work motivation is the drive that exists within employees that activates, empowers, and directs behavior in carrying out tasks within the scope of work, which consists of: a) Job characteristics (KP), b) Improve skills (MK), c) Achievement opportunities (KB), d) Rewards according to expectations (IH), e) Work environment (LK), and f) Company policy (KPr). Employee Performance is the best work given by employees as measured by a) quantity of work (Kwl), b) quality of work (Kwt), and c) punctuality (KW). Sampling was done by proportional stratified random sampling. Data was collected by using interviews with leaders and employees, observation, document studies, and questionnaires. The data analysis technique used to analyze the available data is multiple regression analysis, t test, and F test. Validity and reliability analysis is carried out as a prerequisite in the data analysis technique. The indicators that most affect employee performance are done by selecting the highest Beta coefficient value on the results of regression analysis.

RESULTS AND DISCUSSION

Questionnaires that have been distributed to respondents are then tested for prerequisites before answering the research hypothesis. Table 1 is the result of the validity and reliability test in this study.

Table 1. Validity and Reliability Analysis Results

Dimension	Indicator	Validities	Reliabilities
KP	KP1	0,7642	0,8089
	KP2	0,6588	
	KP3	0,5606	
MK	MK1	0,5639	0,7230
	MK2	0,5082	
	MK3	0,5820	
KB	KB1	0,6273	0,8500
	KB2	0,5574	
	KB3	0,4500	
IH	IH1	0,6490	0,6798
	IH2	0,6490	
	IH3	0,4190	
LK	LK1	0,5104	0,6377
	LK2	0,3813	
	LK3	0,4517	
KPr	KPr1	0,5983	0,6842
	KPr2	0,3205	
	KPr3	0,6155	
Kwl	Kwl1	0,5479	0,7249
	Kwl2	0,5900	
	Kwl3	0,5051	
Kwt	Kwt1	0,5479	0,7249
	Kwt2	0,5900	
	Kwt3	0,5051	
KW	KW1	0,3066	0,6469
	KW2	0,5140	

Dimension	Indicator	Validities	Reliabilities
	KW3	0,5667	

Table 1 above shows that the question items on all indicators have a correlation value greater than 0.3, meaning that all indicators are valid. All variable dimensions have an alpha coefficient value greater than 0.6 meaning all dimensions are reliable. This means that it can be used for further testing

Multiple Regression Analysis

To determine the effect of work motivation on employee performance, multiple regression analysis techniques were used. The independent variable is work motivation which has six indicators, namely job characteristics, skills improvement, achievement opportunities, rewards as expected, work environment, and motivating policies. While the bound indicator is the performance of employees who have three indicators, namely: quality of work, quantity of work and timeliness.

The results of multiple regression analysis can be seen in Table 2 below:

Table 2. Effect of work motivation on employee performance

Model	Indicator	Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	.065	.308	.212	.833
	KP	.065	.196	332	.741
	MK	.109	.062	1.75	.086
	KB	.502	.210	2.38	.021
	IH	.259	.126	2.06	.045
	LK	.019	.126	.155	.878
	KPr	.024	.055	.443	.660

Table 1 above shows a positive influence on all indicators consisting of job characteristics (KP), skills improvement (MK), achievement opportunities (KB), expected rewards (IB), work environment (LK), and motivating policies (KM) on employee performance (KK). Thus, the regression line equation can be made as follows:

$$Y = 0,065 + 0,065 X_1 + 0,109 X_2 + 0,502 X_3 + 0,259 X_4 + 0,019 X_5 + 0,024 X_6$$

T-Test Analysis

The results of the T-Test analysis can be seen in table 3 as follows.

Table 3. T-Test Analysis Results

Dimension	T-count	T-Table	Description
KP	0,332	1,645	There is no significant effect
MK	1,753	1,645	There is a significant effect
KB	2,356	1,645	There is a significant effect
IH	2,061	1,645	There is a significant effect
LK	1,155	1,645	There is no significant effect
KPr	0,443	1,645	There is no significant effect

F-Test Analysis

The results of the F-Test analysis show that the calculated F value is 47.0 while the F Table value is 3.65. The value of F Count is greater than the value of F Table means that there is a positive and significant effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali.

Most influential indicators

The results of the Work Motivation Impact Test on Employee Performance prove that the Achievement Opportunity Indicator is the most dominant indicator of influence on Employee Performance. This is evident from the beta coefficient of 0.502 which is the highest beta coefficient compared to other indicators.

Discussion

Every company is always trying to improve the performance of its employees. This is done by increasing the motivation of the employees.

Likewise, the TNI AD Wirasatya Singaraja Hospital Bali, from the results of interviews with the management, it can be said that the issue of work motivation has been carried out as optimally as

The author has determined six dimensions of work motivation which include: Job characteristics, Improve skills, Opportunities for achievement, Rewards as expected, work environment, and motivating policies. While the dependent variable is employee performance which has three dimensions, namely:

work quality, work quantity and timeliness.

The 6 (six) dimensions that have been determined are only 3 (three) that really motivate employees, namely: Improving skills, Opportunities for achievement and Rewards as expected. The results of interviews with employees obtained information that employees really crave an increase in skills related to their respective professions. Likewise regarding the opportunity for achievement, from the interview results obtained information that the opportunity for achievement really encourages employees to work harder. This is because employees are very aware that as people who work in the health sector, there is a great opportunity to show achievement. This achievement opportunity really encourages employees to work hard. Another thing is the expected Rewards. The employees who were interviewed stated that the benefits they received were very meaningful for the

employees to fulfill their daily family obligations. Thus, possible, especially improving the benefits for employees in line with the rising prices of goods today. The employees really appreciate the gift from the TNI AD Wirasatya Singaraja Bali Hospital by working harder.

Meanwhile, the other 3 (three) dimensions do not encourage employees to work hard, including: Job characteristics, work environment and motivating policies. Based on the results of interviews with employees who were successfully contacted stated: Job characteristics are not a motivating thing because it has become the duties and responsibilities of employees. Frequent transfers (rotations) cause employees not to be too panicked about certain job characteristics but whatever the duties and responsibilities must be done properly. The work environment in hospitals is not something that motivates because around the hospital there are often deaths terrible events, for example, people are seriously ill due to accidents. In addition, the smell of drugs and other chemicals sometimes causes people to not feel at home in the hospital environment. Hospital policy is not something that motivates because the policies made are more in the field of paying for hospitalization for official patients (for the army) and general patients (for the general public) not policies in the field of personnel.

Various policies concerning personnel are usually outlined from managerial officials. For example, regarding the personnel salary policy, until

now there has been no improvement. In fact, the increase in oil prices causes the prices of basic necessities to increase. The increase in the price of basic necessities that occurred caused the weakening of the purchasing power of the personnel of the TNI AD Wirasatya

Singaraja Hospital in Bali. The hospital should think about an increase in salary for its personnel. This is why the personnel have not felt the existence of a motivating policy.

The results of the analysis prove that opportunity to achieve is the most dominant indicator affecting employee performance. The results of interviews with employees leveled achievements to be a boost to improve achievement and bonus.

CONCLUSION

Based on the results of the analysis, conclusions can be drawn, namely: partially from the 6 (six) indicators used to measure the work motivation of the employees of the Army Hospital in Singaraja, it turns out that all of them have a positive effect on employee performance. However, judging from the level of significance, it turns out that there are only 3 (three) indicators that have a positive and significant effect. These indicators are improving skills, opportunities for achievement and rewards as expected. The remaining 3 (three) indicators have a positive but not significant effect. The three indicators are: job characteristics, work environment and motivating policies. This is proven through the results of the t test with a significant level of 5%. Simultaneously, of the 6 (six) indicators used to measure employee motivation at the Army Hospital in Singaraja, all of them have a positive effect on employee performance. This is proven through the results of the F test with a significant level of 5%. Of the six indicators used to measure employee motivation at the Army Hospital in Singaraja, it turns out that the opportunity for achievement is the most influential indicator on employee performance.

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LINGUISTIC FORENSIC ANALYSIS ON CAR RENTAL AGREEMENT AT PRIVATECAR RENTAL AGENCY

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ABSTRACT

Linguistic forensics can be seen as an applied linguistic science because forensic linguistics uses the application of language analysis that can include phonetics, phonology, lexicogramatika, semantic discourse and other linguistic elements for the benefit of legal processes. In its increasingly dynamic development, language analysis in forensic linguistics has a unique dimension that requires special study. This research aims to discuss aspects in the dimension of language analysis used for forensic linguistics with the main variety of writing. The discussion of the variety is associated with the language used in the lease agreement as well as the context implied in it. The discussion is also enriched with references to several studies to display the potential that can be explored more deeply. The method used in this study is qualitative descriptive method because this research focuses on the dimensions of language analysis that is typical in forensic linguistics i.e. comparative dimension, differentiator and gauge. It is expected that this article can contribute insight to the development of forensic linguistics researches next.

Key words: forensic linguistics, language analysis, lease agreements, variety of writings

INTRODUCTION

The need for four-wheeled vehicles is now increasing, especially in big cities. Besides as a livelihood for drivers or drivers online, cars are also needed when wanting to vacation with family or attend meetings. This thing that makes car rental business become one of the opportunities that many businesses die by. According to CNN Indonesia (2020) the new order of life or new normal in the minds of the corona virus (Covid-19) pandemic that the government has started to run has become a blessing for the car rental business. Vehicle rentals are now starting to rise, although they are not 100 percent recovered as before. However, when running a car rental business, there are some things that are currently notice, one of them terms of term that applied in the lease rent a car. This is required a letter of agreement to rent a car (<http://libera.id>). Therefore that the business run can have a strong and clear bond between customers and car rental owners.

With car rental agreement, both parties can feel comfortable and trust each other which then this can increase the development of the car rental business itself. According to Halim Firman Muhammad (2018), in terms of renting a four-wheeled vehicle namely car, there is a need for a rental agreement that has been agreed between the two parties, namely the renter and the party renting out there is a compulsion from the other party, but voluntarily by the parties. Thus this car rental agreement is very necessary because it can show the rights and obligations between each

party, namely customers and car providers.

With car rental agreement is necessary because at this time there are many defaults or unwanted events such as accidents or embezzlement of rented cars. The police often handle cases of embezzlement preceded by rental efforts against car rental entrepreneurs (liputan6.com, 2021). Car rental agreements will make all parties bound and related to each other in case of unwanted things can be prosecuted legally both criminally and civilly.

One way to avoid is by analyzing car rental agreements using linguistic forensics. With linguistic forensic content in a rental agreement that in this case is devoted to the car rental agreement can be analyzed whether harming one party or not. The language in the agreement can potentially be ambiguous or not, or potentially involve violations of the law or not. According to Hugo (2017) linguistic forensics can position language, crime and law through an interdisciplinary perspective as an important part of the human being faced throughout his life. Therefore that linguistic forensics is an absolute certainty for everyone based on logic and observation obtained from the value of taste and logicity.

Forensic linguistics can be defined as the application of linguistics in the field of law (Coulthard & Johnson, 2010; Gibbon & Turel, 2008; Olson, 2004). Therefore it can be understood that forensic linguistics is the application of linguistic science can include theory, methods and analysis of language for legal purposes, for example criminal

law, civil law, state at law, customary law, environmental law and others. The development of forensic linguistics is very dynamic so it is necessary development to analyze the language from legal documents to the analysis of the language itself that can be used as evidence of a crime. Thus, this article focuses on analyzing the documents of car rental agreement using forensic linguistics in order to know the agreement content the harm one party or not.

RESEARCH METHODS

The method used in this study is the analysis of language structure and descriptive qualitative research. According to Sendari Ayu Anugerah (2019) Qualitative Descriptive Research is a research method that utilizes qualitative data and described descriptively, the type of qualitative descriptive research is often used to analyze, phenomenon, or social circumstances. Type qualitative descriptive research is a combination of descriptive and qualitative research. Type of qualitative descriptive research displays the results of data as it is without manipulation process or other treatments. This research focuses on the dimensions of language analysis in forensic linguistics. Written variety is the type of data that is used as an object. The type of data for this research is secondary data obtained from articles and mini-research. The technique of collecting data from this research is through literature study which is used as a way to collect data related to dimensions analysis of language in forensic linguistics. Then, the data obtained were analyzed through a qualitative approach. A qualitative approach has been carried out by describing and explaining the data. The subject of this research is CV. Atsa Jaya Makmur Rent a Car Suko Sidoarjo.

RESULTS AND DISCUSSION

Language structure analysis is concerned with studying the linguistic structure which includes linguistic structural units such as morphological, syntactic and semantic analysis of linguistic studies forensics. General characteristics of forensic linguistics that allow it to be aligned into linguistic practices and other ethical analysis as follows: (1) having forensic parameters (legal and criminal) on linguistics, (2) is a surgical tool used in hacking language, legal and criminal relationships, (3) also referred to as language studies against legal texts, (4) dismantling the pragmatism of the language of law, (5) uncovering language crimes, and (6) become the pillar of reconstruction between the disputing parties.

Area of forensic linguistic research. McMenamin (2002) suggests that the areas of forensic linguistic research in the realm of language and law can be described as follows: (1) Auditory Phonetics. Auditory Phonetics in forensic linguistics research includes: speaker identification by victims and witnesses, sometimes called "ear-witnesses", earwitness line-ups, also called-ups or voice parades, voice perception and discrimination, voice imitation or disguise, effect of listener's first language on speaker identification, identification of social or regional accent or dialect, listener perception of speaker's age, reverse speech, telephone speaker recognition, and speaker identification by morphology and syntax. (2) Acoustic Phonetics. Acoustic Phonetics in forensic linguistics research includes: speaker identification by phonetic analysis, speaker identification by voice quality, speaker identification by phonological variation in diphthongs, speaker identification by speaking speed, physical characteristic of speaker: height-weight, formant frequencies, speaker profiling related to regional and social group, effect to intoxication on speech, phonetic manifestations of speaker's affective state, foreign accent in voice discrimination, accent disguise or imitation, voice disguise, voice characteristics of identical twins, comparability of speech samples, inference of voice loudness from measurement of pitch, disambiguating speech from background sounds, enhancement of audio record of disputed utterances. (3) Semantics: Meaning of Interpretation. Semantics as the study of meaning in forensic linguistic research includes, interpretation of words, phrases, and sentences, interpretation of text: contracts, insurance policies, communications, restraining order, statutes, and legal texts, ambiguity in text and laws, interpretation of spoken discourses in reading of rights, interpretation of jury instructions. (4) Pragmatics and Discourse, discourse and pragmatics as the study of implied meaning in forensic linguistic research includes, forensic discourse analysis, pragmatic analysis of linguistic and extralinguistic contexts of utterances, pragmatic analysis of a will, perceived vs intended meaning, discourse of specific context, analysis of dictation, transcript of recorded conversations, language of immigration, language of defendants, language of the courtroom, discourse of lawyers and clients, discourse of trial lawyers, discourse of courtroom questions, language of jury instruction, language of specific speech acts, threats discourse, promising, warning, offer and acceptance, defamation, denial, perjury, sexual harassment, sexual assault, and car sales. (5) Writing style and freedom of inquiry. Writing style and freedom of inquiry as study applications in forensic linguistic research include, descriptive methods of authorship identification, dialect evidenced in

written language, question time and occasion of writing, stylometry and statistical methods in questioned authorship: forensic and literary, corpus linguistics in forensic analysis, corpus linguistics, computer programs related to questioned authorship, cumulative sum chart for author identification. 6) Legal language. Legal language as part of forensic linguistic research includes revealing that legal texts must be interpreted based on a logical proposition model, namely as a statement that can be judged true or false (in a certain sense) according to the rules of reasoning (bd. McMenamin, 2002:79; Leyh, 2011:41). 7) Language of the Courtroom. Language studies in courtrooms include language of witnesses, witness examination, sexual assault victims, language of lawyer, language of judges.

8) Interpretation and Translation. Interpretation or interpreter is a complex skill and any condition, including in a forensic context includes, pre-trial interpreting, courtroom interpretation, interpretation with cultural and dialect differences, questioning in interpretation testimony, absence of interpretation, courtroom role of the interpreter, interpreter education, translation.

Basic principles of forensic linguistics. Forensic linguistics has a basic principle that can be used to avoid confusion in the analysis of legal texts (Gibbons, 2003), i.e., forensic linguistics is an interdisciplinary branch of science that bridges the world of language and law. This principle is seen in the area of forensic linguistic studies that become strong evidence in decisions that have legal impact.

Identify crimes with consideration of linguistic features. Proving the suitability of linguistic and legal features. Language (linguistics) helps parse crime types. Text and context strongly support forensic linguistic actions. The sequence of crime events becomes one of the important elements in forensic linguistic identification. Interaction between two or more parties in crimes is very important in helping to uncover language crimes, and locutionary, illumination, and locale actions are very supportive in linguistic forensic identification.

Forensic linguistic mechanism of action. The devices dissected by forensic linguistics include analyzing linguistic documents of parliamentary products (law makers), personal will, judgments and subpoenas, laws, and other legal products (unions or ministries). Other things are proving trademark and intellectual property disputes, meaning disputes and the use of anonymous text

author identification (threatening letters, cell phone texts, emails), identification of plagiarism cases, tracing the history of asylum seekers, reconstructing mobile phone texts and a number of other issues (Ollson, 2008). Application of linguistic methods to dissect the problem (language) of law is only one side where forensic linguistics is an application of science, in different linguistic theory can be applied to the analysis of language samples in the investigation. Thus, forensic linguistics experts can record the results of observations on research conducted in fields as diverse as language and memory studies, conversation analysis, discourse analysis, grammar theory, cognitive linguistics and others. Reasons for dependence on a broad spectrum of linguistic fields are understood: the data linguists receive for analysis likely requires something to be said about how the average person remembers the language, how the conversation is constructed, the type of speaker move or author makes in the process of a conversation or written text, or they may need to explain to the court some aspect of the structure of the phrase or sentence. In short, forensic linguistics experts apply linguistic knowledge and linguistic techniques in reviewing legal cases or legal processes or personal disputes between other parties that may be in legal action consisting of several types of actions taken.

In relation to language in legal products, this language structure analysis examines the structure of language in legal products to dissect the use of language in legal products, whether it is in accordance with linguistic rules so that in addition, the analysis of the structure of language in the study of legal products can also arrive at recommendations for simplification of complex sentences in the court process legal products so that they are easier to understand (Subyantoro, 2019).

Lease or lease agreement is regulated in article 1548 to article 1600 of the Civil Code. The provisions governing the lease agreement are contained in article 1548 of the Civil Code which states that a lease is an agreement by which one party binds himself to give the other party the enjoyment of an item, for a certain period of time and by paying a price, which the party agrees to payment (<https://sinta.unud.ac.id>). One of research subject that have been analyzed using linguistics forensic is a car rental agreement on CV Atsa Jaya Makmur Rent a Car.



A rental agreement for customers and entrepreneurs is an agreement that binds both of them in a relationship bond. The customer can only accept what which has been presented by the CV Atsa Jaya Makmur Rent a Car. In the agreement the customer is not included in the making of the agreement that will be mutually agreed upon. The term “take it or leave it” made by CV Atsa Jaya Makmur Rent a Car, the language used is easy for customers to understand. Therefore that car rental agreements can run smoothly, many even end up becoming regular CV Atsa Jaya Makmur Rent a Car. The language used is not complicated, easy to understand, simple and to the point. Also the contents of the agreement are not too many and long so that customers do not need much time to read or write learn it. The words used are general and not special words that are rarely used in communication. Adverbs of time, conjunctions and types of sentence can be detected and understood easily. Anatomy of the letter of agreement already consists of title, opening, comprehension, basis of consideration, content of the agreement, closing and signature (Widjaja, 2004). Also in the content of the agreement has contained the rights and obligations of each party where according to article 1550 of the Civil Code, the renter has an obligation to handover the rented goods to the tenant, keep the rented goods so that the goods can be used in accordance with the intended purpose and ensure

that the renter can use the rented goods without interruption during the rental period. While the obligations of the tenant among others have also been established in the agreement, namely, using the rented goods as best as possible and in accordance with the agreed purpose and pay the rental price in accordance with the agreed time. In the agreement has also listed rental procedures, clear tenant data, rental price determination, pick-up and return agreement, usage time or return deadline, force majeure, the existence of security deposits or late fines for the tenant and other special provisions. Which is all an analysis of language rather than forensic linguistics.

The result of this description are then used to analyze that this written lease agreement document can be used as a written statement of the bond between the two parties in the lease agreement a car.

CONCLUSION

As a part of applied linguistics, forensic linguistics is a new comer in the world of law which is “on the rise”, at least for various cases in the country that have attracted the attention of the public as a new beacon of the state for us, forensic linguistics is able to explore the language area of legal documents. Therefore the presence of

forensic linguistics can be a lantern in the world of solving various matters related to law. We need a concrete role and the presence of experts linguist to pursue this field.

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QUALITY ANALYSIS OF CANE SUGAR JUICE FROM DOUBLE EFFECT VACUUM EVAPORATOR PROCESS IN THE MAKING OF CANE SUGAR

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ABSTRACT

Evaporator is a device that functions to produce concentrated solutions. Several types of cane sugar manufacturing methods have been carried out, for example with traditional methods, evaporator methods, vacuum evaporator methods, and others. Process optimization is the key to increasing efficiency that can produce better products. This is because sugar cane is also a commodity that plays an important role in maintaining national economic stability. This research will discuss the effect of using a vacuum evaporator with two double effects on the process of making sugar cane. This type of evaporator can utilize evaporated steam from effect 1 and reuse it for evaporation in effect 2. In addition, it is conditioned under a vacuum to reduce its boiling point so as to reduce energy requirements. The purpose of this study was to determine the results of the quality of sugar cane juice processed using a double effect evaporator. For example water content, viscosity, degree brix, reducing sugars, and other supporting parameters. Evaporation is carried out at 65°C under vacuum (-60 CmHg). The duration of the evaporation process is ± 5 hours at a time with 50 liters of starting material. The test results show that the double effect evaporator can reduce the average initial water content of materials up to 70.8%, can increase carbohydrate content up to 39.1%, viscosity up to 54.2%, and °Brix up to 48.6%. In addition, it was found that ash content was in accordance with SNI (Indonesian national standards), which was 0.63% (under 2%).

Key words : cane sugar, double effect vacuum evaporation, evaporator

INTRODUCTION

Evaporator is a device that functions to produce concentrated solutions. In the industrial world the benefits of this tool are for the initial thickening of liquids before further processing, reduction in liquid volume and to reduce water activity. For example the use of evaporators in the sugar industry. Several methods are used in the sugar manufacturing industry, both small and large scale. Sugar making is usually done on a small scale is the manufacture of brown sugar from sugar cane juice, because it can be done by traditional methods with only the need for simple equipment. Sugar cane is also called sugar which has biological functions on human health, including cytoprotective, anticariogenic, anti-carcinogenic, and antioxidant effects (Jaffe, 2012).

Several types of cane sugar methods have been carried out, for example with traditional methods. The weakness of this method is that there is still no temperature control that can cause the results of a darker color process, and use high temperatures that can increase the loss of important substances,

such as sucrose (Lesthari, 2006). In addition, the evaporator method is also used. However, it still requires a relatively high temperature in the evaporation process (Gbabo et al., 2004). The next development is the vacuum evaporator method, this method can reduce the boiling point of the material being processed because it is processed under atmospheric pressure. This process makes it possible to better maintain the quality of processed sugar cane (Supriatna, 2008).

Process optimization is the key to increasing efficiency that can produce better products. This is because sugar cane is also a commodity that plays an important role in maintaining national economic stability. So that the improvement of the production process or method in producing cane sugar is important to be studied.

This research will discuss the effect of using a vacuum evaporator with two double effects (double effect) on the process of making sugar cane. This evaporator will utilize two process rooms (effects) in conducting sap evaporation simultaneously. In effect room 1, roomie will be heated using a stove up to a certain volume. The

effect 1 evaporation process will produce water vapor which will be reused in the next process in effect 2. On the inside of effect 2 is equipped with a heat exchanger, which will be filled with steam from effect 1. So that the juice that has been processed from effect 1 will be flowed on effect 2 and evaporate again with the heat source of water vapor produced effect 1.

The process is expected to improve energy efficiency because it can utilize water vapor from effect 1. In addition, the evaporation process is conditioned under a vacuum to reduce the boiling point of the juice being processed. This research will observe several parameters of the quality of sugar cane juice processed using a double effect evaporator. For example water content, viscosity, degree brix, reducing sugars, and other parameters that can be used as a reference to determine the success of the process.

RESEARCH METHODS

1. Tools and materials

The tools used to support research include a set of double effect vacuum evaporator machines, hand refractometer (TI-13NI342), analytical scales, ovens, desiccators, stoves, gealas beaker, manomater, pipette, meter, ruler, sugar cane grinder, filter, steorfoam box. While the materials used in this study include sugarcane juice, water, 12 kg LPG (Liquid Petroleum Gas), ice cubes, sodium benzoate, lime.

2. Research methods

The evaporation process is carried out using 50 liters of sugar cane juice in one process. Evaporation is carried out at 65°C under vacuum (-60 CmHg). The duration of the evaporation process is ± 5 hours at a time.

To find out the performance and influence of the double effect evaporator engine, several items were tested. Water content testing, carried out by the method of drying in the oven. Testing of oBrix, and the sugar content in the sap material before after the process of using an evaporator machine including, the results of the process effect 1, and the results of the second effect process (the final result). This measurement is done using a hand refractometer. Testing the thickness of the sap from the starting material, material resulting from effect 1, and the second process effect material using a viscometer, and several other tests such as some proximate test items.

There are 7 samples tested including:

1. Sample A = Initial sample
2. Samples 1.1 = Sample from effects 1 repeat 1
3. Sample 2.1 = Sample from effect 2 repeat 1
4. Sample 1.2 = Sample from effects 1 repeat 2

5. Sample 2.2 = Sample from effects 2 repeat 2
6. Sample 1.3 = Sample from effects 1 repeat 3
7. Sample 2.3 = Sample from effects 2 repeat 3

3. Double effect vacuum evaporator scheme

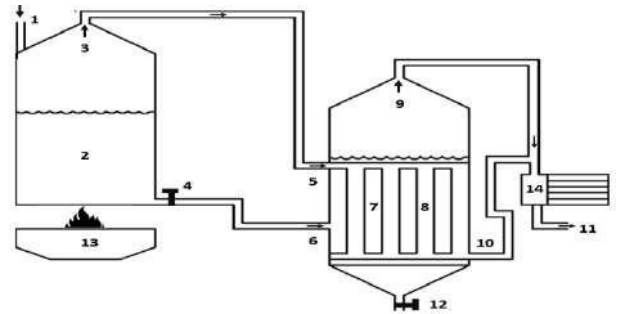


Fig 1. Schematic design of the double effect evaporator

Information :

1. Input channel
2. Material space process (effect 1)
3. Steam the results from evaporation effect 1.
4. Product output channels-1
5. Steam effect 1 enter to heat exchanger
6. Material entered in effect 2
7. Material space-2 (effect 2)
8. HE (Heat Exchanger)
9. Steam-2
10. Condensate-1
11. Condensate-2
12. Products-2 (final product)
13. Heater
14. Vacuum pump

RESULT AND DISCUSSION

1. Preparation of Sugarcane juice/sap material

The material used is roomie from the results of sugar cane milling. Material was obtained in the area of Pagak, Malang, East Java. The sap material needed for each testing process is 50 liters, and will be repeated 3 times so that the sap needed is 150 liters. Based on preliminary research, the results of the sap obtained from grinding 5 kg of sugar cane is as much as 2 liters, so that it takes approximately 5 quintals or 500 kg of sugar cane to obtain 150 liters of sugar juice.

Sugarcane material that has been obtained is cleaned by using water to separate it from dirt (glugut) that is on the sugar cane stems. After cleaning and sorting, a sugar mass of 520.7 kg was obtained with an initial mass of 550 kg. The next step is grinding using a sugar cane grinding machine. Based on the results of grinding, the average yield of milled data is 37%, so that from 520.7 kg mass of sugarcane, the volume of sugar cane is obtained as much as 193 liters. Then add 3

ml of sodium metabisulfite or sodium benzoate for preservation every 1.5 liters of sugar cane juice. The testing process lasted for 2 days, so the samples were stored in a sterofom with the addition of ice cubes and table salt to maintain RH during the process of storing the sap in the sterofom.

2. Product testing result

Testing of evaporation material is carried out to determine differences in material content before and after evaporation process using a double effect evaporator. The tests include proximate tests including carbohydrate, protein, fat, water, ash content, and viscosity tests, as well as the total dissolved solids or degrees of brix from each sample.

Carbohydrate (reducing sugar)

The carbohydrate content of the ingredients before and after evaporation in effect 1 and effect 2 can be seen in Fig 2.

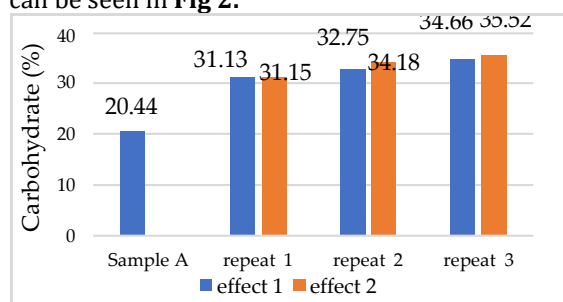


Fig 2. Carbohydrate content of starting material and evaporation results

Based on the results of tests on carbohydrate content of Sugar Cane (GMT) it can be seen that there is a significant increase in the percentage of carbohydrate values of the ingredients before and after the process, an average of 39.1%. In each replication the carbohydrate content of effect 2 output material is relatively greater than the effect output 1 material. The amount of carbohydrate indicates the amount of sugar or solids in brown sugar cane. Heryani (2016), explains the source of carbohydrates contained in roomie consists of sucrose, glucose, fructose and water. Increased carbohydrate content indicates an increase in sugar content in the material after the evaporation process.

Moisture content

The moisture content of an in product shows the percentage of water content contained in the material expressed in percent. The water content

data can be seen in Fig. 3.

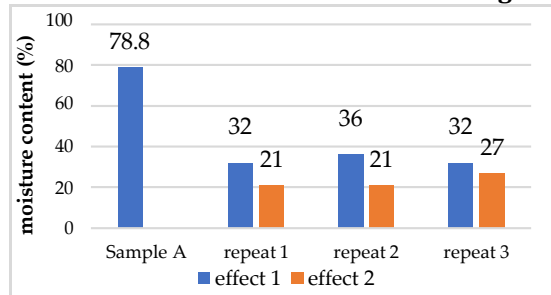


Fig. 3. Graph of water content in starting material and evaporation results

From the data that has been obtained, it can be seen if the water content of the material decreases significantly after the evaporation process is carried out. The magnitude of reduction in the average water content from the initial material to the final product was 70.8%. From initial volume is 50 liters, to final process is average about 21,5 liters. As for each repetition of water content the product tends to decrease from effect 1 to effect 2. The decrease in water content that occurs in effect 1 is greater than the decrease in water content that occurs in effect 2. This is likely due to the heat source in effect 1 using a stove directly, whereas in effect 2 using steam heat from the evaporation process effect 1. So that the possibility of heat received by the material in effect 2 is still less when compared to effect 1. In addition, the volume of the processed material will affect the release of water from the material. The less water content of an product, the release of water bonds from the material will be heavier.

A decrease in water content that is not too large can represent the efficiency of the evaporation process that occurs in small-value evaporators. Based on SNI 01-6237-2000 (Indonesian national standards) data, the requirement for brown sugar water content is max 10% for quality II and 8% for quality I. From the results of the evaporation of sugar cane juice with a double effect evaporator, the moisture content of the material is still not in accordance with SNI quality requirements. This can occur because the water evaporated in effect 1 and effect 2 is still less than SNI. The lack of evaporated water can be caused by the heat received by the material to convert the liquid phase into gas is still not large enough. In addition, another possibility is that the processing time is not optimal. Maharani (2014) explained that making cane brown sugar requires a condition where the stopping of the evaporation process must be precise and the water content in the material is only small. This is because improper conditions will cause the process of printing sugar cane to fail.

Viscosity

Viscosity is a measure of the thickness of a fluid. The viscosity data of the initial sugar cane and sugar cane juice after the evaporation process can be seen in Fig. 4.

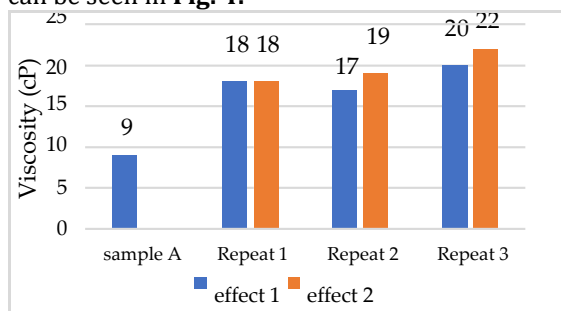


Fig. 4. Viscosity of starting material and evaporation results

Viscosity data from the product in each repetition of the evaporation process tends to increase. The increase can reach 54.2% from the viscosity of the starting material to the final result after being processed with an evaporator. The increase in the value of viscosity in effect 1 is greater than in effect 2. It is likely that the evaporation of water in effect 2 is more severe due to the decrease in water content entering effect 2. The amount of heat received in effect 1 is greater than that received effect 2. In addition, the processing time also affects the amount of viscosity. According to Diniyah (2012), with a long times the evaporation will be able to cause an increase in material viscosity. This is because the more evaporated water and the total dissolved solids in the material increases, the viscosity will also increase.

°Brix degree

The degree brix is a unit that states the amount of dissolved solids or the amount of solids dissolved in every 100 grams of solution. The Brix data of the initial sugar cane and sugar cane juice after the evaporation process can be seen in Fig. 4.

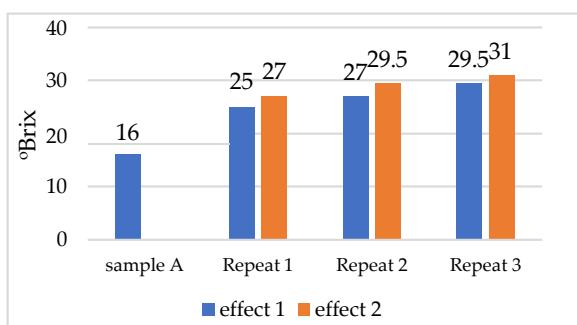


Fig. 5. Degree of brix in starting material and evaporation results

Based on the data above there was a significant increase in the initial material and after the evaporation process. The average °Brix increase

is around 48.6%, which is an increase from 15 ° brix - 31 ° brix. It is known that the sugar cane sap brix after evaporation is 25 - 31 ° brix. This value is still below the quality requirement of cane brown sugar from SNI 01-6237-2000 which is a minimum of 65% for quality I. This shows that the evaporation process is still not running efficiently. Especially in the process of changing the liquid phase into steam. So the percentage of solids in the material is still high.

The quality of the initial ingredients before processing also influences. According to Sukardi (2010), sugarcane is a product that is easily damaged so that the time gap between logging and grinding is not too long. In theory, efforts should be made to ensure that the maximum grace period between milling and cutting is no more than 36 hours. A grace period that is too long will cause damage to sugar cane.

Ash Content

Ash content associated with minerals a material in the form of organic and inorganic salts. Ash content is also related to the cleanliness of a processing process. Ash content from samples before and after evaporation in effect 1 and effect 2 can be seen in Fig. 6.

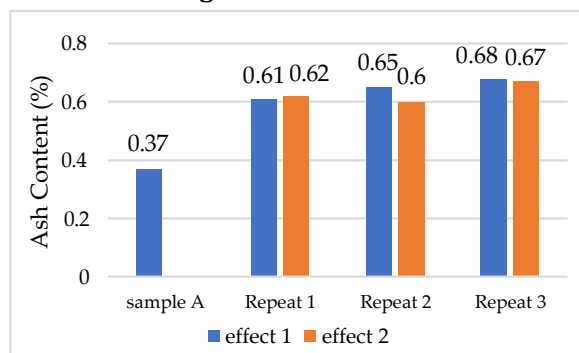


Fig. 6. Ash content in starting material and evaporation results

Based on the data it can be seen if the ash content of the material increases after the evaporation process is carried out. The initial ash content of the material was 0.37%, while the ash content of the evaporation material ranged from 0.61 to 0.68%. Increased ash content can occur due to the addition of sodium metabisulfite (sodium benzoate) in the process of preserving sugar cane juice. According to Maharani literature (2012) the calculated ash content in brown sugar is the content of sodium metabisulfite and other minerals such as lime for sugar cane juice purification. Ash content according to SNI standard for ant sugar maximum of 2%. From the results of the whole process it can be seen that the levels of the sap of the results of the double effect vacuum evaporator have fulfilled SNI standards.

CONCLUSION

Conclusion

The results showed that the yield of sugarcane juice from the process of harvesting to grinding was 37% on average. Sample testing shows the results after the evaporation process on the material will increase the carbohydrate content of the material (39.1%), reduce the moisture content of the material (70.8%), increase the viscosity of the ingredients (54.2%), increase the degree of brix (48,6%) and ash content was in accordance with SNI (Indonesian national standards), which was 0.63% (under 2%).

Suggestion

Research results using a double effect evaporator still found some results that are still below standard. So that further research can be done to optimize these results, for example by evaluating machine performance, improving research methods, and testing methods.

Acknowledgment

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ANTIOXIDANT ACTIVITY OF ETHYL ACETATE EXTRACT FROM PURPLE AND YELLOW PASSION FRUIT PEEL

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ABSTRACT

Antioxidants are compounds that can counteract the free radicals in the body. Free radicals are compounds that do not have an electron pair in their outer orbital and can damage cells and tissues in the body. Antioxidant compounds are also obtained from purple passion fruit (*Passiflora edulis* f. *edulis* Sims) and yellow passion fruit (*Passiflora edulis* Sims f. *flavicarpa* Deg) peel. This study aimed to determine the value of the antioxidant activity of ethyl acetate extract from the purple and yellow passion fruit peel, which was expressed by the IC₅₀ (Inhibitor Concentration₅₀) value. The purple and yellow passion fruit peel powder were macerated using ethyl acetate. The research method used was DPPH (2,2-diphenyl-1-picrylhydrazyl). The results showed that the IC₅₀ values of ethyl acetate extract from the purple and yellow passion fruit peel were 24.701 and 65.358 mg/L, respectively. Therefore, it can be concluded that the antioxidant activity of ethyl acetate extract from the purple passion fruit peel is stronger than the yellow passionfruit peel.

Key words: antioxidant, dph, IC₅₀, purple and yellow passion fruit peel, value

INTRODUCTION

Passion fruit (*Passiflora edulis*) is one type of fruit that contains antioxidants and benefits to increase immunity. The fruit part of *Passiflora edulis* was often used as beverage products (passion fruit juice). However, the fruit processing produces waste of passion fruit peel that is still not processed correctly, damaging the environment. In Indonesia, there are two types of *Passiflora edulis*, purple and yellow passion fruit, with different content. The purple passion fruit contains 1.16% carotenoids, 1.06% flavonoids, 0.012% alkaloids, and 88 mg/100g of ascorbic acid. In comparison, yellow passion fruit contains 0.058% carotenoids, 1% flavonoids, 0.7% alkaloids, and 75.09 mg/100g of vitamin C. Therefore, it allows for differences in antioxidant capacity (Munda & Dwiatmaka, 2012).

Free radicals are molecules that do not have electron pairs, so they are labile and reactive (Kusumah et al., 2021). Free radicals can come from within the body, i.e. normal cell metabolism, outside, such as pollution, cigarette smoke, radiation, and drugs. Cells or molecules oxidized by free radicals will then be damaged in the body (Lushchak, 2014), (Paliwal et al., 2017). Therefore, antioxidants are needed that can play a role in warding off free radicals in the body by bonding with free radicals to form non-reactive free radicals (Hunyadi, 2019). Antioxidants can be synthetic and natural. However,

artificial antioxidants are very dangerous (Hidayati et al., 2017). Therefore, many reports about research on natural antioxidants. Natural antioxidants are found in fruits, one of which is in passion fruit (Kusumahet al., 2021)

In this study, the technique used to find out antioxidants in the peel of passion fruit by extraction of maceration method using ethyl acetate solvent (semi-polar). Ethyl acetate is a semi-polar solvent that can attract polar and non-polar compounds (Angkasa & Namira, 2021). Other researchers also use ethyl acetate as a solvent for the maceration process on different fruit peels, such as *Evodia lunu-ankenda* (Gaertn) Merr. Good results of 16.55 ± 0.89 ppm belong to the category of potent antioxidants (Venkatachalam et al., 2009). The maceration process is carried out by several stirring times at room temperature. The advantages of the maceration method are easy and do not need high heating so that the thermostable chemical compounds can be protected (Susanty & Bachmid, 2016).

The antioxidant activity test is performed using the DPPH method (2,2-diphenyl-1-picrylhydrazil). According to some researchers, such as Charissa et al., 2016, the DPPH method is straightforward, simple, fast, requires a small sample, and is sensitive. Uji antioxidant activity can be seen from the value of IC₅₀. IC₅₀ is an extract concentration (ppm) that can inhibit free radicals by 50%. Therefore, the smaller the IC₅₀ value means,

the stronger the antioxidant activity (Charissa *et al.*, 2016).

RESEARCH METHODS

Tools and materials

The tools used in this study are *rotary evaporator vacuum*, UV-Vis spectrophotometer, and vortex. The materials needed in this study include purple passion fruit peel (*Passiflora edulis f. edulis* Sims), yellow passion fruit peel (*Passiflora edulis flavicarpa* Deg), aqubiadest, ethyl acetate, ascorbic acid, and DPPH.

Sample preparation

The purple and yellow passion fruit peel were weighed and washed with clean water. Then, passion fruit peel was cut into small pieces and dried by

aerated. Next, the samples were blended and sieved until the powder was formed with a size of 60 mesh (Ngibad & Lestari, 2020).

Fabrication of ethyl acetate extract from purple and yellow passion fruit peel

A total of 100 g of each purple and yellow passion fruit peel powder was macerated using ethyl acetate solvent as much as 400 mL at room temperature. The maceration process was carried out for 24 hours and filtered until obtained filtrate and dregs. Then, the filtrate was put in the container while the dregs were re-macerated using a new ethyl acetate solvent of 400 mL. The maceration process was carried out as many as four repetitions. Then, the filtrates were collected to be concentrated with a *rotary evaporator* until the concentrated extract was obtained. The yield of each extract was calculated using the following formula:

$$\% \text{ Yield} = \frac{\text{Extract weight (g)}}{\text{Sample weight (g)}} \times 100\%$$

Preparation of standard and samples solution

Standard solution of ascorbic acid and sample was made with concentrations (5, 20, 40, 60, and 80) mg/L by making the stock solution of 1000 mg/L, then diluted using a measuring volumetric flask into a standard solution of 100 ppm. The standard solution will be made some dilution to make a standard series solution of ascorbic acid and samples that are concentrations (5, 20, 40, 60, and 80) mg/L.

Antioxidant assay

$$\text{Antioxidant activity (\%IC)} = \frac{\text{Control absorbance} - \text{Sample absorbance}}{\text{Control absorbance}} \times 100\%$$

After that, the calibration curve was created to state the relationship between the concentration of the assay solution and the %IC. Then, the sample concentration is placed on the x-axis, and the inhibition per cent is placed on the y-axis. Finally, IC₅₀ values are calculated based on the regression equation formula of the calibration curve.

RESULT AND DISCUSSION

Antioxidant activity assay from ethyl acetate extract of purple and yellow passion fruit peel was carried out using the DPPH method. The basic principle in the antioxidant assay using the DPPH method is the presence of a chemical reaction between antioxidant compounds and DPPH free radicals through the reaction mechanism of giving hydrogen atoms by antioxidant compounds to DPPH

Each solution of samples and standard antioxidants was picked as much as 1 mL and mixed with a solution of 6×10^{-5} M DPPH as much as 3 mL in the test tube. Then, the solution was homogenized with vortex for 1 minute. After the incubation process for 30 minutes at room temperature, the sample solution absorbance and control were measured at a wavelength of 515 nm using a UV-Vis spectrophotometer. The experiment was done with three repetitions. The following formula calculated the antioxidant activity:

free radicals that result in a change in the colour of

the solution from purple to yellow or from deep purple to faded purple. This discolouration causes a decrease in the absorbance value of the sample.

In this antioxidant activity assay, we used a 1:3 ratio. 1 mL of sample solution (ethyl acetate extract of purple or yellow passion fruit peel and ascorbic acid) was mixed with 3 mL of DPPH solution for each concentration variation of the assay solution. The perfection of the reaction between the DPPH solution and the solution of the assay solution was maximized by the vortex treatment for 1 minute. The percentage of inhibition can be determined by the difference in absorption between the sample and the control absorbance measured using the UV-Vis spectrophotometer at wavelength 515 nm. The results of the antioxidant activity assay using DPPH methods of vitamin C and ethyl acetate extract of purple and yellow passion fruit skin are shown in (Table 1)

Table 1. Results of antioxidant activity assay of ascorbic acid and ethyl acetate extract from purple and yellow passion fruit peel

Concentration (mg/L)	Percentage of inhibition against DPPH radicals (%)		
	Ascorbic acid	Ethyl acetate extract of purple passion fruit peel	Ethyl acetate extract of yellow passion fruit peel
5	48.8	45.9	43.3
20	60.6	49	45.7
40	70	53.3	46.6
60	77.9	57.3	50.1
80	85.8	61	51.3

The greater the concentration of the assay solution, the greater the inhibition of DPPH radicals. Thus, the concentration of the assay solution and the %IC against radical DPPH has a comparable relationship. The concentration of ethyl acetate extract of purple passion fruit peel is greater than ethyl acetate extract of yellow passion fruit peel.

IC50 is the solution concentration from the assay sample needed to inhibit 50% of DPPH free radicals. IC50 values can be determined by graphing the relationship between sample concentration (x-axis) and per cent inhibition (y-axis). IC50 values are calculated based on the formula of the linear regression equation. Based on the graph of the

relationship between the concentration of ethyl acetate extract from purple and yellow passion fruit peel with % antioxidant power in figures 1 and 2, obtained linear regression line equations $y = 0.2025x + 44.998$ and $y = 0.106x + 43.072$, respectively. Determination of IC50 value was done by entering the number 50 into variable y so that the value of x will be known. The x value is the IC50 value. In addition, according to other researchers, ethyl acetate extract with other research objects also has high antioxidant activity, namely ethyl acetate extract of nutmeg stems of 64.14ppm and mycelium extract of Ganoderma sp. of 581.80 ppm. This indicates that the ethyl acetate extract has high antioxidant activity.

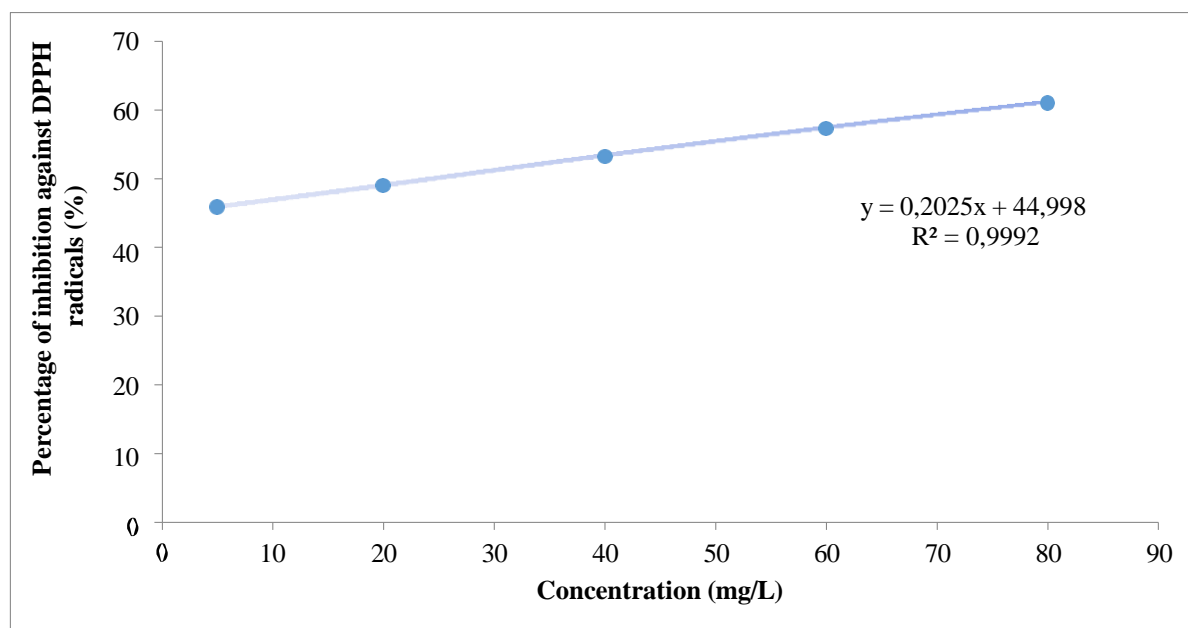


Figure 1. Graph of relationship between the concentration of ethyl acetate extract of purple passion fruit peel with the percentage of inhibition against DPPH radicals

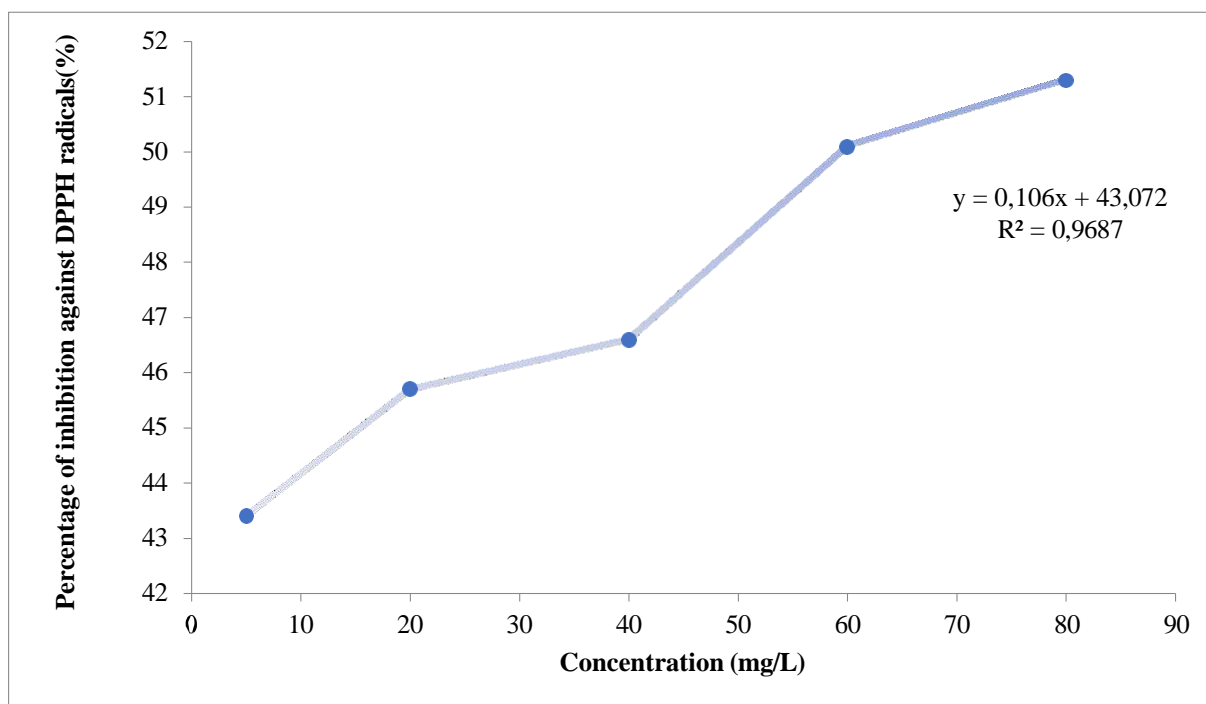


Figure 2. Graph of relationship between the concentration of ethyl acetate extract of yellow passion fruit peel with the percentage of inhibition against DPPH radicals

The smaller the IC₅₀ value indicates that the antioxidant activity of the extract is getting stronger. The results of the antioxidant assay of the ethyl acetate extract from purple passion fruit peel have a smaller IC₅₀ value than yellow passion fruit peel. The smaller the IC₅₀ value of extract suggests that the extract is potentially potent as an antioxidant. Ethyl acetate extract of purple passion fruit peel belongs to the category of very strong, while ethyl acetate extract of yellow passion fruit peel belongs to the category that is strong at IC₅₀ value. It also indicates that the purple and yellow passion fruit peel has secondary metabolite compounds that can become antioxidant compounds.

CONCLUSION

Based on the results of this study, it can be concluded that the antioxidant activity (IC₅₀ value) of ethyl acetate extract of purple passion fruit peel (24.701 mg/L) is more potent than yellow passion fruit peel (65.358 mg/L).

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SERVICE QUALITY EVALUATION OF PACKAGE DELIVERY (CASE STUDY: J&T EXPRESS KRIAN)

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ABSTRACT

During the expedition business competition, J&T express Krian needs to improve the quality of the services provided. Therefore, it is necessary to know how customers evaluate the services that have been provided so far. The service quality (servqual) method is used in this study by measuring five dimensions of service quality, namely the dimensions of reliability, tangible, assurance, responsiveness, and empathy. Stages of analysis are then carried out to determine the gap between customer perceptions and customer expectations of the services provided to customers. From the results of the study, the largest gap came from the tangible dimension of -0.38, reliability of -0.29, and assurance of -0.09 while the dimensions of empathy and responsiveness had met customer expectations. So, it is necessary to prioritize service improvements related to the three dimensions that have these negative values.

Keywords: Expedition Service, Service Quality, Servqual

INTRODUCTION

Service companies in carrying out the service process, are required to be able to meet and understand what customers want from the services offered. In the service industry, providing satisfaction for customers is one of the main factors in the process of developing the company. According to Tjiptono quoted by (Ardhyani & Singgih, 2017), superior services provided to customers can increase customer satisfaction and have an impact on increasing sales of products and services and even on the income earned by the company.

J&T Express is one of the few shipping companies in Indonesia and was established in 2015. Now "J&T Express" has grown and has approximately 1,200 branch offices in Indonesia and one of its auxiliary branch offices is in Krian, Sidoarjo. Related to service problems, so far the J&T Express Krian doesn't know how customers assess the services provided by J&T Express, because on the field couriers only ask for receipts only and never ask about feedback from customers. Therefore, there is a need for the identification of the quality of services aimed at improving the quality of service. One method to measure service quality is servqual (service quality). According to Wijaya Parasuraman quoted by (Belo, Armandina Maria, Joko Susetyo, 2016), the servqual method is used to be known for the quality of service by looking at the value or value gap (gap) between the perception or expectations of the customer before using the service and the reality that the customer receives or feels after receiving or using the service.

In the servqual according to Parasuraman quoted by Wijaya in (Belo, Armandina Maria, Joko Susetyo, 2016), the dimensions of service quality are tangible or physical evidence, assurance, responsiveness, reliability, and the last is empathy. According to (Ekasaridkk, 2017),

in the servqual method will be identified factors that affect the quality of service J&T Express Krian by determining the attributes and five dimensions of servqual and knowing the level of quality and improvement of J&T Express service Krian based on the calculation of gap servqual.

RESEARCH METHODS

The method of measuring service quality that is often used by many studies is servqual (service quality) which means the quality of service. According to (Situmorang & Nasari, 2019), a servqual is a measuring tool where customers can assess the services received by identifying several connected factors. Servqual results can be known by comparing the perception or expectations of customers before using the service and the reality that customers receive or feel after receiving or using the service.

The servqual method was developed by Zeithaml (Paramitasari, 2016), user-based approach is used to measure the quality of services qualitatively in the form of questionnaires using the five dimensions of service quality, namely tangible, reliability, responsiveness, assurance, and empathy.

Questionnaire Creation

In this study, questionnaires were used to obtain information from the customer. The creation of questionnaires used on a Likert scale is closed. Closed questionnaires are questionnaires whose answers have been provided. Respondents provide appropriate answers in the fields provided. The use of closed questionnaires makes it easier for respondents to fill out answers. The questionnaire is three parts, for the first part, namely the identity of the respondent. The second and third parts consist of research attributes displayed in

the form of statements for the scale of assessment of reality and expectations. Attributes or statement items are derived from *theservqual* instrument. The study used five dimensions with 15 attributes or research items, the measurement scale using a 5-point Likert scale. strongly disagree with (STS). Disagree, (TS). Less Disagree, (KS). Agree, (S) and strongly agree with (SS). Here is table 1 describing the attributes or items used for each question as follows:

Table 1. research items

Dimension	Indicator / Item	Reference
Tangible	P1	The place at J&T Express Krian is comfortable and clean (Paramitasa ri,2016)
	P2	The location of J&T Express Krian is easy to reach or strategic (Paramitasa ri,2016)
	P3	Employees of J&T Express Krian look clean and tidy (Paramitasa ri,2016)
	P4	The equipment used by J&T Express Krian was modern and up to date (Syahrullah et al., 2018)
	P5	J&T Express Krian provides secure parking (Syahrullah et al., 2018)
Reliability	P6	Delivery at J&T Express Krian is never late and accurate from the estimated time that has been promised by employees to customers. (Wilujeng et al., 2019)

	P7	J&T Express Krian always provides discounted shipping on the marketplace (such as shoope, bukalapak, Tokopedia, etc.) (Wilujeng et al., 2019)
Assurance	P8	The delivery price of J&T Express Krian is written on the receipt, according to what the customer pays when receiving the goods (Wilujeng et al., 2019)
	P9	Employees of J&T Express Krian provide good service (Situmorang & Nasari, 2019)
	P10	System transaction in J&T Express Krian is going well (Ray dkk, 2020)
	P11	Hospitality and courtesy of employees J&T Express Krian was good (Ray dkk, 2020)
Empathy	P12	The employees of J&T Express Krian always prioritize customer interests (Ray dkk, 2020)
	P13	The employees of J&T Express Krian always try to understand (Sahita et al., 2021)

		customer needs	
Responsiveness	P14	The employees of J&T Express Krian are very responsive when performing administrative services to customers	(Sahita et al., 2021)
	P15	The employees of J&T Express Krian are very responsive when getting a request to pick up a package at the customer location	(Sahita et al., 2021)

From table.1 the research items describe the attributes and conditions that exist in the J&T Express Krian.

Population

According to Sugiyono in (M.Kurniawan, 2017), the population is the area of the object that is observed to be studied and drawn conclusions. Determining the population is a very important stage in research that requires information from respondents. The population in this study is the customers at J&T Express Krian scattered in the villages of Junwangi, Terungkulon, Barengkrajan, Katerungan, Sedenganmijen, Sidomojo, Ponokawan and Kemasan.

Sampling

Sampling the number of samples is very important, to determine the number of samples that are sufficient to represent the population in a study. Based on Bernoulli's formula, the adequacy test of sample or respondent data can be seen as below:

$$N \geq \frac{(Z_{\alpha})^2 pq}{e^2}$$

$$N \geq \frac{196^2 \times 0,97 \times 0,03}{0,05^2}$$

$$N \geq \frac{3,8416 \times ,0291}{0,0025}$$

N ≥ 44,716224 or rounded up to 45 respondents.

Spread of Questionnaires

Questionnaires were randomly distributed to customers at J&T Express Krian. The deployment time on

January 2021 until May 2021. The number of questionnaires that will be distributed is 45 questionnaires and the number of questionnaires returned and appropriate by 100%.

RESULTS AND DISCUSSIONS

The table below shows the recapitulation of 45 respondents taken based on the gender and intensity of respondents who were then sampled in the study.

Table 2. Gender and Intensity of Respondents

	Quantity of Respondent	Percentage
Gender		
Male	34	75,56%
Female	11	24,44%
Total	45	100%
Intensity of Respondent		
Frequently	41	91,11%
Rarely	4	8,89%
Total	45	100%

Based on table 2, most respondents are male (34 respondents or about 75.56%) then the total female respondents amounted to 11 people or about 24.44%. Then for the intensity of respondents who often use expedition services in their needs, about 41 people or 91.11% while the intensity of respondents who have only ever or rarely used expedition services in meeting their needs as many as 4 people or 8.89%.

Questionnaire Validity Test

Validity testing is necessary to be known valid or not questionnaire. In this study, the validity test was obtained by using *the correlation of Pearson Bivariate (Pearson Moment Product)* and *Corrected Item Total Correlation*, using a confidence level of 95% with a level of accuracy of 5% and N = 45 using the formula $df = n - 2$ then $df = 45 - 2$ and the result is 43. After doing the calculation, the table was obtained with the amount of 0.248. To find out the questionnaire that is valid or invalid, then the next step is to compare the r table with the calculated r.

Example of decision making: 1. If the calculated r has a value greater than the table r means the questionnaire is valid. 2. If the count has a smaller value than the table r means the questionnaire is invalid.

Table 3. Recapitulation Test validity of J&T Express Krian Expectation Assessment

Harapan				
Dimensi	Item N = 45	Pearson Correlation	r Tabel df = (N-2) = 0,248	Status
Tangible	P1	0.639	0.248	Valid
	P2	0.422	0.248	Valid
	P3	0.673	0.248	Valid
	P4	0.584	0.248	Valid
	P5	0.443	0.248	Valid
Reliability	P6	0.574	0.248	Valid
	P7	0.321	0.248	Valid
Assurance	P8	0.622	0.248	Valid
	P9	0.485	0.248	Valid
	P10	0.520	0.248	Valid
Emphaty	P11	0.510	0.248	Valid
	P12	0.630	0.248	Valid
	P13	0.399	0.248	Valid
responsiveness	P14	0.540	0.248	Valid
	P15	0.623	0.248	Valid

Table 4. Recapitulation test validity of J&t Express Krian reality assessment

Kenyataan				
Dimensi	Item N = 45	Pearson Correlation	r Tabel df = (N-2) = 0,248	Status
Tangible	P1	0.661	0.248	Valid
	P2	0.495	0.248	Valid
	P3	0.616	0.248	Valid
	P4	0.575	0.248	Valid
	P5	0.607	0.248	Valid
Reliability	P6	0.351	0.248	Valid
	P7	0.570	0.248	Valid
Assurance	P8	0.504	0.248	Valid
	P9	0.622	0.248	Valid
	P10	0.688	0.248	Valid
Emphaty	P11	0.465	0.248	Valid
	P12	0.298	0.248	Valid
	P13	0.725	0.248	Valid
responsiveness	P14	0.717	0.248	Valid
	P15	0.628	0.248	Valid

Based on tables 3 and 4 it can be known that each item of question rcalculates has avalue greater than r tableand the result is positive. Then thequestion item is valid. Valid questions are then continued to conduct reliability tests.

Questionnaire Reliability Test

Reliability testing is needed to know the consistency that is a measuring tool used whether it can be used as a mainstay and still be consistent if the measurement is repeated. Reliability testing in this study was conducted using Cronbach's Alpha method. Indicators are expressed as reliable when Crombach's Alpha value is greater than the table r. Here are the results of reliability questionnaires that have been distributed to respondents.

Table 5. Cronbach's Alpha for J&T Express Krian expectations assessment

Reliability Statistics	
<i>Cronbach's Alpha</i>	<i>N of Item</i>
0.805	15

Based on the results of table 5 produces a Cronbach's Alpha value of 0.805. This value is further compared to the table r value with N = 45, and is sought in the significant table value r distribution of 5%, and obtained the table value of 0.248. Cronbach's Alpha=0.805 r table is 0.248 which means the items in the expectation assessment arealreadyreliable. The correlation position is at a verystrong level.

Table 6. Cronbach's Alpha for J&T Express Krian Reality assessment

Reliability Statistics	
<i>Cronbach's Alpha</i>	<i>N of Item</i>
0.847	15

Based on the results of table 6, Cronbach's Alpha value of 0.847. This value is further compared to the table r value with N = 45, and is searched in the table value distribution of a significant 5% and obtained the value of the table r as much as 0.248. Cronbach's Alpha=0.847 r table 0.248 means the items in the real assessment are already reliable. The correlation position is at a very strong level.

Calculation of SERVQUAL Values

Gap values per item are obtained based on the value of reality and the value of expectations. Gap values that get a positive value indicate that the service has performed services that are under customer expectations. Meanwhile, if the gap value gets a negative value, it means that reality is lower than the customer's expectations. The table below shows the results of the servqual calculation as follows:

Table 7. Recapitulation of servqual value recapitulation

Dimension	Item	Reality Score	Expectation Score	Skor Servqual
Tangible	P1	3.69	3.18	0.51
	P2	3.11	3.24	-0.13
	P3	3.73	3.16	0.58
	P4	3.02	3.40	-0.38
	P5	2.93	3.31	-0.38
Reliability	P6	3.00	3.29	-0.29
	P7	3.84	3.24	0.60
Assurance	P8	3.11	3.20	-0.09
	P9	3.84	3.16	0.69
	P10	3.69	3.20	0.49
Empathy	P11	3.82	3.31	0.51
	P12	3.27	3.09	0.18
	P13	3.64	3.02	0.62
Responsiveness	P14	3.73	3.29	0.44
	P15	3.78	3.09	0.69
Average		3.48	3.21	0.27
Total		52.22	48.18	

Based on table 7. It is known that the satisfaction of J&T Express Krian looks from the five dimensions of Servqual has a reality of 3.48 while on the assessment of expectations of 3.21 and resulted in a gap value of 0.27. Of the 5 dimensions, there are two in the empathy and responsiveness dimensions that are positive because they meet customer expectations, while there are still three negative gaps. The smallest negative gap ranks first in the assurance dimension in P8 with a gap value - 0.09, the second rank in the reliability dimension in P6 with a gap value - 0.29, and the third increase in the tangible dimension in P4 and P5. With a gap value of equally -0.38, the negative gap occurs because there is no expectation of the support for the quality of services provided by J&T Express Krian, it still does not meet customer expectations.

CONCLUSION

Calculation of servqual score and servicequality level for each dimension, pair of expectations and reality for each question on J&T Express Krian respondent is Tangible dimension, there are 5 items, out of 5 items there are 2 items that are negative value or the quality level is still poor. The items with the highest negative values are P4 and P5, from the P4 indicator containing about (The equipment that used by J&T Express Krian was modern and up to date) of -0.38 the data shows many customers who feel that the equipment and equipment used by J&T Express Krian are not yet modern, suggestions of improvement from the P4 indicator that uses

modern and up to date equipment. And from the P5 indicator containing about (J&T Express Krian provides safe parking space) of -0.38 of the data also shows many customers who feel that their vehicle is in a parking lot that is not safe because there is no parking attendant standing guard, for that it is given remedial advice so that the parking location is given a parking attendant who is on guard so that customers feel safe with their vehicles. While the *reliability* dimension, there are 2 items, of the 2 items there is 1 item that is a negative value or the level of quality is still bad, the item with the highest negative value is P6 contains about (delivery at J&T Express Krian is never late and accurate from the estimated time that has been promised by employees to customers) of -0.29. The data showed that many customers who felt that shipments at J&T express Krian were never late and accurate were still low. Delivery time is the period of the customer to order the product until the product arrives in the customer and also the product ordered right at what the customer wants. Therefore, it is necessary to make improvements in managing the time so that the timing is not late with what the customer expects. While the Assurance dimension, there are 3 items, out of the 3 items there is 1 item that is a negative value or the quality level is still bad. The item with the highest negative value is the P8 which contains about (The delivery price of J&T Express Krian written on the receipt, according to what the customer pays when receiving the goods) amounted to -0.09. The data showed that customers who felt the delivery price of J&T Express Krian written on the receipt, under what the customer paid when receiving the goods was not appropriate. The delivery price is not appropriate for the customer because customers sometimes pay more than what is written on the receipt. For that, it is given suggestions to improve the money paid more by the customer to be included donations according to customer approval. Empathy Dimension there are 3 items, of the 3 items are all positive because they meet customer expectations. Dimension *responsiveness*, there are 2 items, out of 2 items that are all positive value, because it has met customer expectations.

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AUTOMATIC WATER TANK CONTROLLER USING ANDROID-BASED ULTRASONIC AND ARDUINO SENSORS

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ABSTRACT

In everyday life, filling water reservoirs is still done manually. The problem arises when the water level in the pool is unknown, and the reservoir may be overflowing or empty due to a lack of control over the reservoir. Moreover, we often meet people who forget to turn off the water pump when the water reservoir is full. This causes a waste of water and electricity, resulting in wasted water. The design and manufacture of Automatic Water Tank Control using Arduino is expected to facilitate humans in daily life. In this automatic water reservoir control device, using an ultrasonic sensor HC-SR04, the detection of maximum water level Of and minimum On provides data instructions to Arduino WeMos so that the initialization of the signal sent provides clarity of commands to the relay so that NO (Normally Open) and NC (Normally Closed) are generated.) which functions to turn on and turn on the water pump. From several results of hardware and software testing carried out using an experimental circuit and through Arduino WeMos D1 ESP8266, the following conclusions can be drawn: The water level is detected by the Ultrasonic Sensor, the display of water level information on the LCD appears to change according to the water level. In the reservoir, the time taken to reach a maximum water level of 6 liters is 2 minutes 41 seconds, can control and monitor water reservoirs anywhere using the Internet.

Key words: arduino, automatic water reservoir, controller, iot

INTRODUCTION

Water is an absolute necessity for human life. Humans use water for various purposes, both for their consumption and to help with daily work. The intended use of water for consumption is for drinking and to help with daily work, such as bathing, washing, and irrigating crops.

As technology develops, water use in everyday life is usually accommodated in a water reservoir. In supplying water from the source to the reservoir, a water pump is needed to fill it so that the existence of the water pump is an inseparable part of the pool's existence. This is done to anticipate whether the water

RESEARCH METHODS

The design of this system consists of Hardware and Software. The hardware consists of the Arduino WeMos D1 ESP8266 board and the HC-SR04 Ultrasonic Sensor. Monitoring data is displayed on applications designed for desktop and Android in graphical form. The application is created using the C++ programming language for Desktop and AIDE Applications development on Android devices.

Specifications of tools and materials

The tools and materials in this study are as follows:

- supply dies due to clean water disturbances during the dry season.
- In everyday life, filling water reservoirs is still done manually. The problem arises when the water level in the pool is unknown, and the reservoir may be overflowing or empty due to a lack of control over the reservoir. Moreover, we often meet people who forget to turn off the water pump when the water reservoir is full. This causes a waste of water and electricity, resulting in wasted water.
- Android
- Arduino WeMos D1 ESP8266
- Relay Module 5V
- LCD 16x2
- ESP8266 wifi module
- Ultrasonic Sensor
- Male-Male, Male-Female, Female-Female Jumper Cables
- Mini Water Pump 6V
- 12V Arduino Arduino Adapter
- PCB, Water Pump Hose, water bottle, Solder.
-
-

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The cost that needs to be provided to make an automatic pump circuit for the thesis task is less than 300 thousand. These tools and materials can only be used to operate one water pump system. This system is quite powerful because it can control applications by adding a Bluetooth or wifi module integrated with mobile phones with the Android operating system.

Arduino wemos d1 esp8266

Wemos D1 R2 is a development board specifically designed for IoT purposes and compatible with Arduino.

Arduino is an electronic board that contains the ATmega328 microprocessor in one of its products, namely Arduino UNO. This device can produce electronic products at simple to complex levels. LED control, robot control, remote monitoring via the Internet, and controlling electronic devices at home are examples of using Arduino.



Figure 1. Arduino WeMos D1 ESP8266

Ultrasonic sensor hc-sr04

The HC-SR04 Ultrasonic Sensor is an ultrasonic sensor that can measure the distance between the barrier and the sensor. HC-SR04 has two components, namely ultrasonic transmitter, and ultrasonic receiver. Ultrasonic transmitters emit ultrasonic waves with a frequency of 40 kHz, and then ultrasonic receivers capture the results of ultrasonic wave reflections that hit objects. The travel time of ultrasonic waves from the transmitter to the receiver is proportional to 2 times the distance between the sensor and the reflecting field.

Supposedly, there is no need to wait for the water until it is filled in modern times. Because there are already tools that can turn off or turn on the water pump automatically if the water starts to run out or is almost full, it is an Ultrasonic Sensor that can detect water volume, water height, as well as water quality in tanks, rivers, lakes, and the like accurately and easily.



Figure 2. Ultrasonic Sensors

Relay Module 5V 1 Channel Relay is an electrically operated Switch and is an Electromechanical component consisting of 2 main parts, namely Electromagnet (Coil) and Mechanical (set of Switch Contacts). Relay uses the Electromagnetic Principle to drive the Switch Contact so that a small electric current (low power) can conduct higher voltage electricity. For example, a Relay that uses 5V and 50 mA electromagnets can move the Armature Relay (which serves as its switch) to conduct 220V 2A of electricity.

This relay module can be used as a switch to run various electronic equipment. For example, electric lights, electric motors, and other electronic equipment. Control of the ON/OFF switch (relay) is fully determined by the output value of the sensor, which after processing, the microcontroller will generate a command to the relay to perform the ON/OFF function.



Figure 3. Relay Module 5V 1 Channel

LCD 16x2 (blue backlight)

LCD (Liquid Crystal Display) is a widely used viewer module because of its attractive appearance. The LCD widely used today is the M1162 refurbished LCD because the price is quite cheap (Wardhana, 2006). LCD M1162 is an LCD module with a 2x16 display (2 rows x 16 columns) with low power consumption. The module is equipped with Arduino WeMos specifically designed to control the LCD.



Figure 4. LCD 16 x 2

Wifi module esp8266

ESP8266 is a wifi module that functions as an additional microcontroller such as Arduino to connect directly to wifi and make TCP/IP connections.

This module requires around 3.3V of power and has three wifi modes, namely Station, Access Point, and Both. This module is also equipped with a processor, memory, and GPIO where the number of pins depends on the type of ESP8266 that we use. This module can stand alone without using any microcontroller because it already has equipment like a microcontroller.



Figure 5. Wifi Module ESP8266

Tool work design

The design and manufacture of Automatic Water Tank Control using Arduino is expected to facilitate humans in daily life.

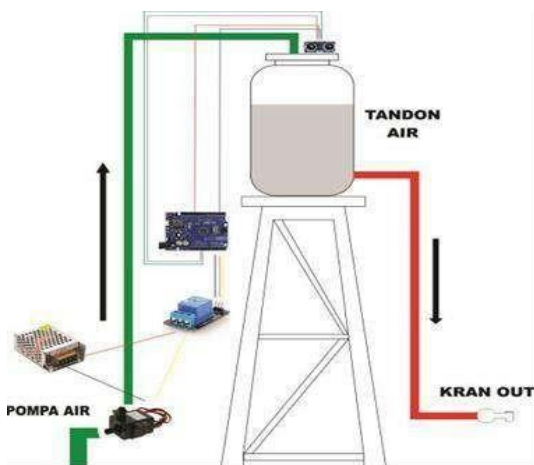


Figure 6. Tool Work Design

Flow chart

The flowchart shown in the Figure below shows the working principle of the automatic pump operating system with Arduino. In the initial condition, the pump is "off," The sensor will measure the water level in the reservoir and send it to Arduino every 3 seconds.

Arduino WeMos D1 ESP8266 processes the data and compares it with the commands read in the program. If the water has reached the set upper limit, the pump remains in the "off" position. Arduino will

instruct the relay to turn on the pump if the water has reached the set lower limit. Arduino will process the data, and then it will be displayed on the LCD in the form of water level information. The LCD will display information data according to the water level using a transistor as an amplifier. The transistor will receive data from the connected cable from the Ultrasonic Sensor that controls the water; if the transistor receives data, then the transistor will amplify the voltage of 0.2 volts to 12 volts to the Arduino by giving logic 1 and 0, if the sensor detects the water level there will be a change from logic 1 to logic 0.

The pump operating system automatically using Arduino in this study is summarized in a section shown in the Figure below. While the working principle of the automated system is described using a flowchart.

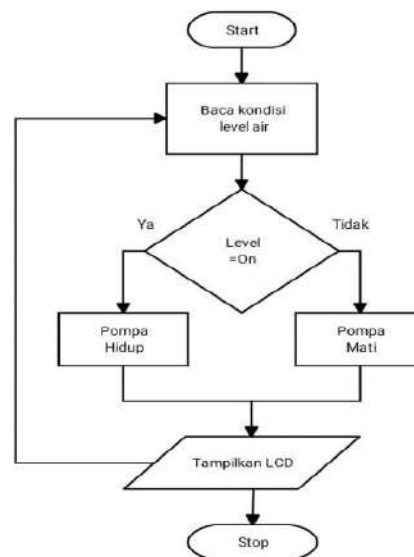


Figure 7. Automatic Water Tank Flowchart

RESULTS AND DISCUSSION

After designing the water level control system is complete, the next stage is testing the hardware and software. The testing phase consists of hardware testing, software testing, and testing and analysis of the overall tool.

Hardware Testing

Hardware testing the prototype system for controlling the water level uses a digital multimeter. Testing is done by measuring each circuit block's input and output voltage. Each input and output of each circuit block is tested one by one.

This program is made in the basic compiler programming language in hardware testing. In the schedule below, there are no more errors or errors in

writing or program logic, and this means that the program can be entered into the IC to be compiled into a microcontroller/Arduino kit to be downloaded via a downloader cable that has been determined through the help of computer media, and then run into a system that has been made following the data or applications made. The test of this section uses the press of a computer, sending data that is caused or written in the basic compiled language of Bascom AVR. The computer is the core of the system because the computer is the main medium in sending data that is just a program to get the desired system design.

This test is a direct test where all parts are connected to one desired system. The system device in this final project consists of a power supply circuit, ultrasonic sensor, LCD, and Arduino, which are interconnected into one. When designing this tool, starting from a power supply connected to a 220 Volt AC source voltage, it is converted by a power supply circuit into a 5 Volt input voltage for both LCD and Arduino. This circuit measures current, voltage, and power in a load. The overall rotation can be seen in Figure 8.



Figure 8. Tool Work Design

In this study, the test will be carried out by placing a load on the water reservoir, which has been adjusted to the water level. The LCD will provide information if the ultrasonic sensor detects the water level.

Then the water increases until it reaches a height of 20 cm. Arduino will process the data to display to the LCD that the water in the reservoir is at the height of 20 cm. This 20 cm height indicates that the pool is full so that Arduino will turn off the relay for the water pump. The water pump will turn off if the measurement has reached the specified upper limit.

And if the water in the reservoir is close to the lower limit of the predetermined water level of 5 cm, then the water pump will automatically turn on.



Figure 9. Overall Physical Form of the Tool

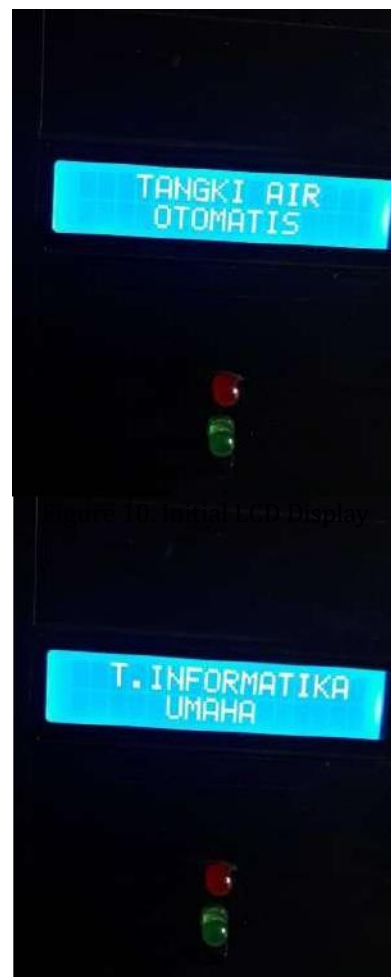


Figure 11. Second Display of LCD



Figure 12. Display of Water Level Information



Figure 13. Initial Appearance of the Splash Screen

Software testing

Interface design is the process of describing how a system display is formed. The IoT Water Controller application is designed with a user- friendly appearance, so it is hoped that it will make it easier for customers to use this application.

Testing this automatic water reservoir controller is accessed via Android by activating the wifi module that already exists in the automatic water reservoir circuit by connecting to data or the Internet and must also be given a name (Water Tank) with a password (12345678). In this application, there are several layouts or forms, among others.

Splash screen

Splash Screen is a form displayed at the beginning when the application/program is run. The IoT Water Controller application uses a splash screen that appears a fraction of a second when you first open the IoT Water Controller application. Here, the splash screen is intended as an aesthetic to show the application's identity only, without other functions. The design of the splash screen layout for the IoT Water Controller application is presented in Figure 13.

Main menu

The main menu contains CONNECT or DISCONNECT menus at the top. And there is the monitoring of the status of water reservoirs. At the bottom, there is a menu OFF, AUTO, ON.

In this main menu, all we have to do is select the CONNECT menu to connect to the wifi module contained in the automatic water reservoir circuit. Then we can see or monitor the state of the water in the water reservoir by looking at the application. And also, we can control the water reservoir at any time with the OFF and ON menu options. Then press the DISCONNECT menu to exit the IoT Water Controller application. If we have finished maintaining the water reservoir, press the AUTO menu. The control will automatically return to the water reservoir and not depend on the remote IoT Water Controller application.



Figure 14. IoT Water Controller Main Menu Application

Here we can see a graph of the water going up in filling the water reservoir for 3 seconds. The data is taken from the data sent by the ultrasonic sensor.

And also we can check the condition of the water pump if there is a problem. In this way, when the user starts the application, the water level will be restricted as a benchmark. After being stored as a benchmark for the next 20 seconds, it will detect whether the volume of water is increasing or not. The status of the water pump is declared dead.

Sensor A and sensor B are used to see the condition of the sensor if there is a problem and as a backup alternative if sensor A or B is damaged. Here we can see from the sensor's color applied to the remote. If the sensor is green, it means that the sensor is on. If white means the sensor is dead or damaged.

Parameterize is used to set the upper limit for the height of the reservoir, which is a maximum limit of 100 cm on Android or remote.

Overall Tool Testing And Analysis

Table 1. Overall test results

Water level limit(cm)	Time (second)	Volume (liter)	Status
1 - 5	36	1	ON
6 - 8	25	2	ON
9 - 11	25	3	ON
12 - 14	25	4	ON
15 - 17	25	5	ON
18 - 20	25	6	ON
Total 2 minutes 41 seconds full water			

The test results show that the automatic water reservoir control system using Arduino has been successful in design and implementation and proven by testing.

CONCLUSION

Conclusion From several results of hardware and software testing carried out using an experimental circuit, and through Arduino WeMos D1ESP8266, the following findings can be obtained:

Can control and monitor water reservoirs anywhere using the Internet. An ultrasonic sensor detects the water level. The water level information displayed on the LCD appears to change according to

the water level in the reservoir. The time taken to reach a maximum water level of 6 liters is 2 minutes 41 seconds.

Suggestions In this study, there are still things that can be developed in the future and become material for further research. In terms of remote control, the response is still not reactive. Therefore, the development that can be done is to replace the network with a better one to be used efficiently and quickly.

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ANALYSIS OF POTENTIAL OPERATIONAL HAZARDS REACH STACKER USING FAILURE MODE EFFECT ANALYSIS (FMEA) AND FAULT TREE ANALYSIS (FTA) IN CONTAINER COMPANIES

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ABSTRACT

Container service companies operate 24 hours serving all loading and unloading activities. Reach stacker (RS) is a supporting means in loading and unloading. The Failure Mode Effect Analysis (FMEA) and Fault Tree Analysis (FTA) are methods that can be used to analyze failures in RS components and protect risk priority number (RPN) values. Pareto diagram is determine critical components in RS. The failure mode of the pareto is used as a top event in the FTA analysis to determine the basic event and the minimum cutset. Analysis with FTA conducted from FMEA results, FTA obtained four top events that are overheating on the main engine there are eight basic cause spreader twist-lock jammed there are seven basic causes, damaged batteries there are five basic causes, alternators are damaged/burned there are four basic causes.

Key words: fmea, fta, pareto

INTRODUCTION

Container companies are companies engaged in port services that provide container loading and unloading facilities for domestic and international markets and containers companies into terminals. The biggest 2nd in INDONESIA is located in Surabaya, East Java. The company's motto is *a reliable terminal with service excellence*. The company's Operations Continue For 24 Hours So That Loading and Unloading Activities can Cause Potential Failure in work tools. According to (Rasyid, 2012), *Reach Stacker* is a special *mobile crane* for lifting containers used in container terminals. Reach stacker plays an important role in the smooth loading and unloading process in container companies so that failures can occur at any time then, it is necessary to identify hazards in each component. *Reach stacker* aims to know every risk that exists in each component of *the reach stacker*.

Failure Mode Effect Analysis (FMEA) can identify and know each *failure* and effect that arises in each component contained in *the reach stacker*. According to (Gaspersz, 2002) in (Haryanto Pandapotan Pasaribu, 2013), FMEA is a circular risk analysis technique used to identify how equipment, Facilities/systems can fail and the consequences caused.

Pareto diagrams are used to classify data from left to right by ranking highest to lowest to find the most important problems for you. Immediate

remedial action is taken until the problem becomes low or can be controlled.

According to (Thomas Pyzdek, 2002) in (Haryanto Pandapotan Pasaribu, 2013), *Fault Tree Analysis* (FTA) is some combination of errors (*faults*) formed Using Diagram Models Made in Parallel and Parallel. Sequence to find the initial cause of failure of *the failure event*. FTA can be used to find the root cause of an unwanted event, and also, the losses incurred do not come from a single point of failure (Tara Ferdiana, 2015).

the purpose of the identifiers on the reach stacker is expected by the container company to know what are the Potential failures that can occur and proper control efforts in minimizing the occurrence of that failure.

RESEARCH METHODS

The analysis method is done to find situations or events that are the cause of the occurrence of accidents and or losses that may occur at work.

Failure Mode Effect Analysis (FMEA)

FMEA aims to identify the system failure mode and the potential effects of each failure mode. The steps of FMEA preparation are:

1. Reviewer of the process or product, the FMEA team must review the product or system process.
2. *Brainstorm* potential *failure mode*, discuss possible failures that can affect the process, and focus on the

elements one by one to get a more thorough list of failure modes.

3. Creating a list of *the potential effects* of each failure mode, the failure mode is written on the FMEA worksheet to find out the risk rating for each failure.
4. Determining *the severity* of each effect that occurs, team members estimate the severity based on the knowledge and expertise of team members (*expert judgment*).

Table 1. Impact/severity (S) criteria

Score	Severity	Information
1	Unclear	Hardly any traces
2	Minor	The former is felt by the customer but does not interfere with the operation of the tool
3	Moderate	Component failure that causes the tool to become damaged/ must be replaced
4	Major	Component failure that caused the tool to be inoperable
5	Catastrophic	Dangerous without warning

5. Determining *the occurrence* rating for each failure mode, the team estimated how often failure modes could occur and performed *expert judgment*.

Table 2. Event Frequency Level Criteria (O)

Rating	Score	Description
Almost certainly	5	Very high risk of being exposed several times a year
Very Likely	4	A risk that may occur more than 12 times in 12 months
Maybe	3	It is not impossible that risks occur and may occur sometime in 2-5 years.
Almost Impossible	2	The risk may happen again at some point, but it is almost impossible.
Infrequently	1	The odds are almost impossible; one happens in 10 years.

6. Determining the detection rating for each mode of failure and effect, the FMEA team in this step identifies current controls that can detect failures or effects from failure.

Table 3. Detection Rate Criteria (D)

Ranking	Detection	Description
1	Certainly	It can be directly detected
2	Easy	It can be detected after it occurs
3	Quite Difficult	It can be known after the whole process ends
4	Difficult	Check the unit's management.
5	Very Difficult	Detection results are not accurately interpreted

7. Calculate the Risk Priority Number (RPN) value for each failure.

The priority value of risk (RPN) is a multiplication of:

$$RPN = \text{Severity} \times \text{Occurrence} \times \text{Detection} \quad (1)$$

The total RPN value is derived from the calculation of each failure that may occur in each tool component. The highest priority level is obtained for the type of failure in each component.

8. Making the failure mode priority of the RPN value can then be improved. The failure mode can be prioritized sequentially, from the highest to lowest risk priority numbers. The percentage value is obtained from the division between the RPN value of each component divided by the total value of RPN multiplied by one hundred percent. Then the cumulative percentage value of RPN is the sum of the initial percentage value of the component added the value of the following component percentage until the next up to 100%.
9. Elimination and failure reduction that occurs with failure mode must be eliminated.
10. Calculating the RPN result of the reduced or eliminated failure mode, the failure mode performed by the action should be a significant reduction in the RPN.

Fault Tree Analysis (FTA)

FTA is done to evaluate large complex dynamics systems to understand and prevent problems. The first step of the FTA is to determine the "Top event" of the accident event or the condition of the specific system desired, which is reduced to several structured parts. Based on the rules and logic of the FTA.

The FTA symbol consists of 4 categories: *Basic events, gate events, conditional events, and transfer events*. Here are the steps in the creation of FTA based on *Hazard Analysis Techniques for system safety* by Clifton A. Ericson:

1. Set a system. Understand system design and operation.
2. Set an unwanted event at the top. Describe the problem that has been established and arrange the desired event appropriately for the creation of the analysis,
3. Arrange limits. Set rules on Analysis and Boundaries, reach out to problems and record all rules.
4. FTA, follows the construction process, regulations, and logic to build an FTA model on a system.
5. FTA evaluation. Check if any FTA models are incorrect, complete, and accurately describe the system design.
6. Validation of FTA. Modification of FTA as foundation requirements during validation or system design changes
7. I am documenting the analysis. Create documents across the entire analysis with supporting data. Set

it as a customer product or as a reference in the future.

Expert Judgement

Expert judgment assessment is to ask experts in the field concerned to help determine what may occur in the operation of the reach stacker. The selection of expert judgment should not be made carelessly; therefore, researchers have several criteria in determining expert judgment. These criteria include:

1. Have participated in risk assessment on reach stacker
2. Have experience in the process of operating reach stacker
3. Willing to spend time during business hours to be asked for information related to reaching stacker
4. Have much knowledge about the dangers that exist in the operation of the reach stacker
5. Have a good reputation in the company.
6. Neutral, honest, and confident.

The most crucial requirement for experts on hazard identification is that all participants have information relevant to the sub-system to be identified and valued. Some examples of expert judgment are the operator, supervisor, and someone directly related to the plate or scenario evaluated.

Hiraki Control

Concerning three risks, risk control is done by reducing the likelihood or severity with the control hierarchy, among others:

1. Elimination: control by eliminating the source of the danger directly. This method is very effective because the source of the danger is eliminated so that the potential risk of danger becomes lost.
2. Substitution: control by replacing dangerous tools, materials, systems, or procedures in a safer direction or a lower potential risk of harm.
3. Engineering control: control by making improvements to the design of equipment, addition of equipment, and installing safety to the equipment.
4. *Administrative* control: control by providing recommendations to improve the recruitment system of workers with high capability, experience, and certification and create procedures.
5. Personal protective equipment (APD): control by providing appropriate protective equipment for workers, operators, and *maintenance* parties.

RESULTS AND DISCUSSIONS

In this study, researchers conducted 15 equipment components in the *reach stacker*. All of these components will be entered into the FMEA worksheet to analyze the failure mode and the effects and causes of the failure.

Failure Mode Effect Analysis (FMEA)

The FMEA analyzed component is the first component of the reach stacker. These components are interrupted failure mode failure, which can happen to the component. The failure mode has an impact. Each impact will be assessed to identify the potential failure based on the existing effect and determine the magnitude of risk priority number (RPN) obtained from severity, occurrence, and detection values.

RPN values were reevaluated by providing recommendations on existing failure modes to avoid such failures. The recommendation is aimed at lowering the previous RPN value to be lower. FMEA analysis results on the reach stacker are four failure methods from 4 different components. The highest RPN value of 40 is the engine component with overheating failure mode on the engine. This overheating can cause the reach stacker to not operate for a while, hamper the container loading and unloading process, and cause enormous losses. The value of the effect is five because it can cause damage to components in the engine reach stacker. If it has suffered damage to the internal components of the engine, then you have to make repairs that require no small cost.

The cause of this overheating failure is the lack of oil in the engine. The cause of the test is rated with a value of 4 because it often occurs to detect the lack of oil is to look at the level of oil indicators. It is effortless to detect by 2, but it can cause fatal damage if not treated quickly. From these recommendations, the person in charge is a mechanic with the most extended target work as early as 6 hours with a record of ready replacement components. If not Ready, the work can take as long as three weeks. With the prevention and recommendation, the value of RPN can be lowered with severity value 4, occurrence three, and detection 2.

Diagram Pareto

Diagram Pareto in this research shows critical components of the *reach stacker* equipment whose results from the diagram will be analyzed using the *fault tree analysis* (FTA) method to be known. The fundamental cause of component irregularity. From the analysis results, it is known that there are 28 failure modes and RPN values in each component of the *reach stacker* with a value of 20%.

There are four components and failure modes included in the critical component. Components included in critical components include *failures preader* with *twist-lock* failure mode-locking or opening the container, *overheating* on the *main engine*, battery with low failure mode *voltage*, alternator with alternator failure mode is damaged. These components will be analyzed again with the FTA method to obtain the fundamental cause of damage/failure of the component.

Fault Tree Analysis (FTA)

FTA analysis is to get the primary event and the minimum cut set. At the same time, the minimum cut set is a collection of *primary events* that can cause *top events*

to occur. The data from the manufacture of FTA comes from critical components found in pareto diagrams to further identify the cause of the component failure. Failure mode will be *the top event* on the FTA chart and will be searched for the primary cause of the failure mode. This FTA analysis will be assisted by interviews with the supervisor reach stacker as an expert in his field. The fundamental causes of *overheating* events on the *main engine* are as follows:

1. Hydraulic oil pump leaks
2. Leaking Oil Hose
3. Wear oil container engine seal
4. Install cables break and short circuit
5. *The cooling fan* is broken.
6. *Sensor level coolant error*
7. Radiator leak
8. Leaking radiator hose

From the calculation of probability above, it can be known that *the primary cause* in the form of a leaky oil hose and a wear oil storage seal gets values of 0.999 and 0.918, which means that the value is very high because it is close to 1. There is the possibility of overheating on the main engine as much as five times/year.

FTA *twist-lock spreader reach stacker* is damaged. To avoid to events it is necessary to eliminate the *actual event* in the minimal *cut set* or cut the series of items at least the *cut set*. The *twist-lock* failure crashed include:

1. Leaking hydraulic hose
2. Wear container machine seal
3. Saggy sensor bolts
4. Dirty engine oil
5. There are grams in the holding cylinder
6. *Lifetime* cable
7. *Lifetime* sensor

The probability value of 0.98 means that the value is very high because it is close to the number 1, and the probability of a *twist lock* jammed as much as three times/year.

FTA battery is damaged, the fundamental cause of the *Accusoak/* damaged event is as follows:

1. Saggy battery locking bolts
2. Accu cable breaks
3. *Lifetime* battery
4. Leaks in the battery
5. Damaged alternator

Probability values of 0.77 and 0.87 mean that the value is close to the number 1 and the probability of *Accu* being damaged/soaked as much as three times/year.

FTA alternator damaged/burned, the primary cause of the event of the alternator damaged/burned is as follows:

1. Lack of care on alternators
2. Short circuit
3. Dusty coils
4. *Lifetime* component

The probability value of 0.87 means close to the number 1 and the probability of the alternator being damaged/burned as much as 2.5 times/year.

Recommendations

Recommendations on risks posed by failure require control measures to minimize risks. The assessment of recommendations for assessing risk is carried out based on *the hierarchy of control*.

Table 4. Recommendations on overheating on the main engine.

No	Basic Cause	Recommendations
1	Leaking oil hose	- Oil hose change - The oil hose tightening system uses a strong seal
2	Hydraulic oil pump damaged	- Hydraulic oil pump change after engine hour meter reaches 20,000 EHRM - Regular hydraulic oil changes
2	Oil shelter engine seal	- Replacement of seal material suitable before 20,000 EHRM - Routine inspection of shelter seals
4	Broken/shorted cable	- Replace the appropriate material - Routine maintenance and prohibited <i>bypass</i> installation cables
5	Lack of care	- Replacement of suitable materials - Routine care
6	Leaking Radiator	- Replacement of leaky radiators - A routine check of radiator water conditions
7	Leaking radiator hose	Replacement of the appropriate radiator hose before/near the <i>engine hour meter</i> limit of 10,000 EHRM
8	Sensor level coolant error	Replacement of appropriate sensors before/near the <i>engine hour limit</i> of 10,000 EHRM

Table 5. Recommendations on Spreader Twistlock Reach Stacker

No	Basic Cause	Recommendations
1	Leaking hydraulic hose	- Replacement of hoses that correspond to the type of oil - Routine care
2	There are gram cylinders in the oil.	- Replace hydraulic oil once every six months
3	Saggy sensor bolts	- Replace the appropriate material - Routine care
4	Broken pump seal	- Replacement of seal material accordingly - Routine inspection of shelter seals
5	Dirty Oil	- Replace hydraulic oil every six months - Use of hydraulic oil by the type and type of oil
6	<i>Lifetime</i> cable	- Replacement of suitable material cables

7	Lifetime sensor	- Replacement of appropriate sensors
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alternators are damaged/burned there are 4 *basic causes*.

Table 6. Recommendations on Accubroken/soak

No	Basic Cause	Recommendations
1	Saggy battery lock	- Proper use of battery locks - Examination before surgery
2	There is a leak in accu	- Replace the appropriate material - Examination before surgery
3	Battery cable disconnected	- Replacement of cables under existing currents - Examination before surgery
4	Lifetime tools	Replace the appropriate material
5	Damaged alternator	Replacement of the new alternator

Furthermore, each *basic cause* is used in determining recommendations for potential hazard control. The recommendations aim to reduce the risk of damage during the operation of the reach stacker and preventive measures that interfere with the hierarchy of control consisting of elimination, substitution, technical control, system, administrative control, and PPE to minimize the probability of failure in a system.

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Table 7. Recommendations on Damaged/Burned Alternators

No	Basic Cause	Rekomendasi
1	Dusty coils	- Replacement of coils if they are found to be damaged - Routine check-ups - Dust cleaning by air spraying
2	Short circuit	- Replace the appropriate material - Routine check-ups - Prohibited by fitting on electrical installations
3	Lifetime component	- Replacement of suitable materials
4	Lack of care	- Replace the appropriate materials - Weekly check cleaning

CONCLUSION

FMEA is obtained that the failure of reach stacker components, among others, *overheating in the main engine, spreader twist-lock reach stacker jammed*. Unable to lock or open containers, batteries are damaged, alternators are damaged, *dirty water cooling filters*, brake pads wear out. From the results of the determination of critical components in the *Pareto* diagram, it can be concluded that there are four components and failure modes included in the critical component. Components included in critical components include *engine with main engine overheating failure method, twist-lock spreader with stuck twist-lock failure cannot lock or open container, battery with battery mode is damaged, alternator with damaged alternator failure mode that causes the battery not to charge*. Analysis with FTA conducted from FMEA results, FTA obtained four *top events* that are *overheating on the main engine* there are 8 *basic cause spreader twist-lock jammed* there are 7 *basic causes*, damaged batteries there are 5 *basic causes*,

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OPTIMIZING THE NUMBER OF EMPLOYEES USING THE WORKLOAD ANALYSIS APPROACH IN MAINTENANCE PT. AMG

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ABSTRACT

According to the Great Dictionary of Indonesian (Depdikbud: 1995: 628) optimization comes from the word optimal which means best, while optimizing the number of employees is maximizing the number of employees to do work that has added value and benefits the company. *It is important to avoid overwork, which is a waste of energy and money.* This research uses the Worksheet Analysis method by dividing work into three groups, namely NV (Non value Added is a job that does not have added value in the organization, unprofitable for the company and must be reduced), V (Value Added / added value, existing value-added work that must be improved) and normative. The steps taken are to define, measure, analyze, improve, and control and be applied in a particular way. Eliminate, Combine, Rearrange, and Simplify. Eliminate non-value-added jobs, integrate neutral jobs, and combine multiple jobs into one job. The result was 108% in December 2014 and 111% in December 2015, compared to the target. The number of employees with the number of employee reductions in December 2013 was 27% and 39% in December 2015.

This research aims for the success of this program to help the company's overall financial performance. In addition, the manufacturing industry can implement this unhindered with corporate and union relations.

Key words: eliminate, non-value added, optimization, simplify, value added, work sheet analysis

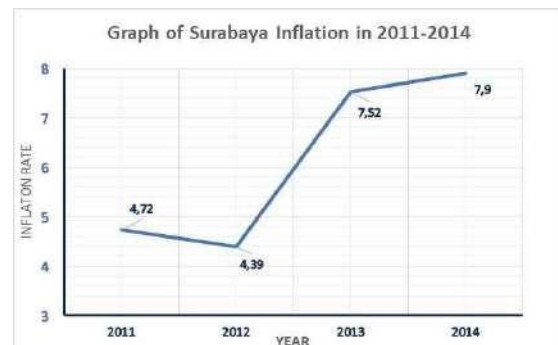
INTRODUCTION

Workload is the number of task activities that must be completed by a member or even by a group of people over a period of time under normal circumstances (Haryanto, 2010). Workload analysis is a commonly used method of determining the amount or quantity of labor required. The amount of manpower required to complete a position can be determined first of all by determining the actual amount of time required to complete the office (Moekijat, 2008.)

In today's competitive industry, innovation is needed in order for companies to survive and make good profitable. Only a manufacturing industry that will produce products of high quality and high yield results with the smallest possible losses can survive in stiff competition.

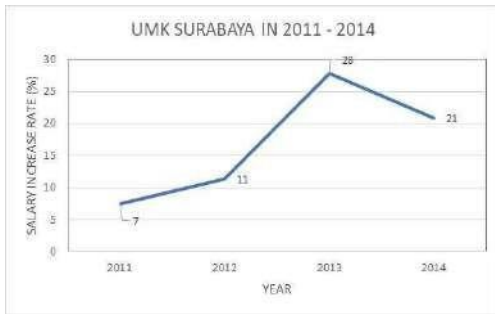
In today's competitive industry, innovation is needed for companies to survive and make profitable. Only a manufacturing industry that will produce high-quality, high-yield products with the smallest possible losses can survive stiff competition. To realize the above requires reliable human resources.

Companies will be increasingly difficult because of the cost burden due to the increase in labor costs of about 8~12% per year which is the dominant factor of national inflation, especially inflation in Surabaya around 4.3% to 7.9% in 2011-2014. Like the graph below



Picture 1 Graph of inflation rate in Surabaya 2011-2014 :
Sumber Badan Pusat Statistik Kota Surabaya

In addition, the Minimum Wage of Regencies / Cities (UMK) which rises up every year and jumped about 28% in 2013 and will remain high in the coming year, this can be seen the trend from 2011-2014. The same will also burden the cost of labor costs where there is a change in the status of contract workers to permanent workers until the end of August 2014. The UMK Surabaya as seen in the graph below



Gambar 2 Graph of UMK Surabaya 2011-2014 : Sumber Peraturan Gubernur Jatim 2011-2014

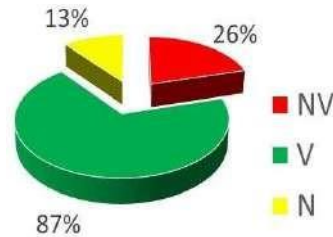


Figure 3 Categories of jobs in Department electrical, Day time

Looking at the two charts above, there will certainly be an increase in costs due to labor cost factors. Companies must seriously maintain real and consistent improvements in the quality of human resources, one of which is paying attention to the number of employees needed compared to existing workloads. If the workload can be optimal, effective, and efficient then the number of employees will be in line with existing standards. So that the reduction in costs sacrificed to work can be achieved.

It is also important to improve the competence of employees who will do more work than routine work.

When employees are unable to manage machinery and production it will negatively impact the working performance capabilities of machinery and production which ultimately greatly affects the company's profits as productivity decreases.

In this study using worksheet analysis methods whose purpose is to produce an efficient, comfortable, safe, healthy and efficient work system. By dividing work into three groups, namely NV (non value added) means work that does not have added value, can be categorized as waste / loss, V (added value) means work that has added value that must be leveled and normal. The following data as below

From Figure 3 The job category in Electrical Department of day time, it Job scope of work consists of 26% Non Value added, 87% Value added and 13% normal, Of the three categories of work maintenance division decided that optimization began in 2013. The starting point of the project is the introduction to all the staff and employees involved. We have a target of 25% reduction in employee numbers in December 2014 and 35% in December 2015. As can be seen in Table 3. Maintenance Man Power Arrangement data below

Table 3 Maintenance Man Power Arrangement

Man Power Arrangement	Jun-13				Dec 14				Dec 15			
	AMG	BP	Unit Price	Total	AMG	BP	Unit Price	Total	AMG	BP	Unit Price	Total
TOTAL MAINTENANCE (M+E)	104			104	98			98	85			85
TOTAL MAINTENANCE Staff	31			31	31			31	29			29
TOTAL MAINTENANCE Wolkler	73	20		93	67			67	56			56
ELECTRICAL	56			56	47			47	44			44
ELECTRICAL STAFF	15			15	15			15	15			15
ELECTRICAL WOLKER	41			41	32			32	29			29
MECHANICAL	48			48	51			51	41			41
MECHANICAL STAFF	16			16	16			16	14			14
MECHANICAL WOLKER	32	20		52	35			35	27			27

Table 1 Types of Day Time Jobs in Electrical Departments ,

KIND OF JOB LOAD	HOUR/MONTH	
TBM, KY (safety)	112	5
Tool Preparation	167	8
Equipment Patrol	291	14
Regular Mint (RM)	214	10
Countermeasure/Repair (PM)	525	25
Corrective Maint (CM)	81	4
Truble Shoouting (BM)	0	0
Fabrication Work	187	9
Meeting & Training	5	0
5S/ Cleaning	110	5
Non Value	440	21
TOTAL	2132	100

Table 2 Categories of Day time jobs in Department electrical,

NV	440	26%
V	1465	87%
N	227	13%
TOTAL	1692	100%

Note :

Red Colour = Non Valued Added

Greed = Valued added

Yellow = Normatic

Researchers will only focus on the **Non Value Added category**, to find the root of the problem and how to achieve the target.

From the table above, where the number of employees decreased from 38 people to 32 people in 2014 and to 29 people in 2015. The mechanical department also declined from 52 to 32 in 2014 and 27 in 2015. The steps to achieve the target of reducing the number of employees are enhanced by: eliminating, combining, reorganizing and simplifying. In addition, it also increases motivation and understanding to all employees and prevents possible effects caused by this project. .

The purpose of the study was to come up with concepts and identify ineffective jobs so that it could be applied how to reduce the number of workers without any effect due to the reduction in the number of employees. Job performance remains normal. The details of the purpose of this study are as follows::

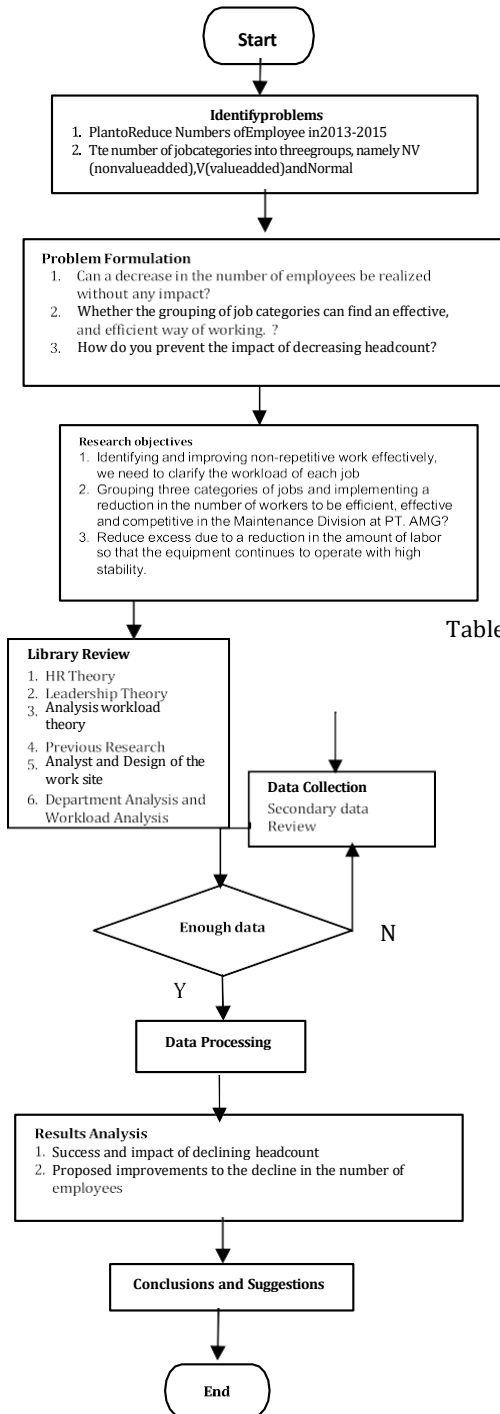
1. To effectively identify and improve non-repetitive work, we need to clarify the workload of each job.
2. Group three categories of work and implement a reduction in the number of workers to be efficient, effective and competitive in Division Maintenance at PT.
3. Reduce excess due to a reduction in the amount of labor

so that equipment remains
operational with high stability.

RESEARCH METHODS

Research activities start from discussions of advanced data retrieval and identification of parallel problem study literature and analysis of problem solving results, so that it can run well and there are no differences in direction and objectives.

To solve the problem needs to be formulated solution steps so that problem solving becomes structured and systematic. As in the flow chart below:



Gambar 1 Flowchart research

RESULTS AND DISCUSSIONS

The data collection was conducted in the Maintenance Division of PT AMG. Where in the maintenance division consists of 3 departments each led by a department manager. Mechanic Department, Department of Electricity and Engineering department. Only in the Electricity department there are shift jobs and daytime jobs. The other two department day time, although sometimes mechanic departments there is shift work, so the data grouped shiftwork and day time work.

Data taken from 2013 to December 2015, continued until December 2019 as an evaluation, this data is a collection of problems (damage) during the period, as can be seen in table 3 Maintenance Man Power Arrangement

Table 4 Kind of Job Day Time in Electrical Department

D OF JOB LOAD	UR/DAY	
, KY (safety)	3,73	5
Preparation	5,57	8
Equipment Patrol	9,70	14
ular Mint (RM)	7,13	10
intermeasure/Repair (PM)	17,50	25
rective Maint (CM)	2,70	4
ole Shoouting (BM)	0,00	0
rication Work	6,23	9
eting & Training	0,17	0
Cleaning	3,67	5
Value	14,67	21
AL	1,07	100

Table 5 Job Day Time Summary in Electrical Department

KOJ	UR AY	%
NV	14,67	21%
V	48,83	69%
N	7,57	11%
TOTAL	71,07	100%

Based on table. The above 5 it appears that non-value added work is a job that does not have added value in the organization of 14.67 hours which is detrimental to the company and must be reduced, if working for 8 hours per day it can be reduced by 2 people.

Table 6 Summary of Job Shifts in the Electrical Department

ORY	IN HOUR							IN PERCENTAGE						
			4	W-5	W-6	TAL					-6	-7	ERAGE	
alue	1		1	1,8	1,8	7,8	%	20%			%	%	36%	
e			3	4,7	4,7	1,8	%	64%			%	%	44%	
al			8	0,7	0,7	0,5	%	16%			%	%	21%	
TOTAL	7,2	7,2	7,2	7,2	7,2	7,2	7,2	50,2	100%	100%	100%	100%	100%	

Based on Tabel. 6 Summary of Job Shift in Electrical Department above it is seen that the work in shifts

that are Non value Added by 17.8, if working for 7 hours per day can be reduced by 2 people, because shifts there are 3 groups, then reduced NOE to 6 people

Table 7 Summary job day time in Mechanical Department

CATEGORY OF JOB	MECHANICAL IN HOUR						MECHANICAL IN PERCENTAGE							
	COOLD	RM	UTILITY	FURNACE	M/3-LEHR	CVD	TOTAL	COOLD	RM	UTILITY	FURNACE	M/3-LEHR	CVD	AVERAGE
Non Value	2,42	2,18	1,83	1,63	3,03	7,19	18	30,2%	27,3%	22,9%	20,4%	37,8%	89,9%	38%
Value	4,83	4,82	5,75	5,63	4,25	0,59	26	60,4%	60,2%	71,9%	70,4%	53,8%	7,4%	54%
Normal	0,75	1,00	0,42	0,73	0,72	0,22	4	9,4%	12,5%	5,2%	9,2%	9,0%	2,7%	8%
TOTAL	8	8	8	8	8	8	48	100%	100%	100%	100%	100%	100%	100%

Based on Table 7 Summary job day time in Mechanical Department above it is seen that non-value added work of 18 hours means that it can be reduced, if working for 8 hours per day it can be reduced by 2 people.

Table 8 Summary job day time in Mechanical Department CVD Unit

ACTIVITY	Existing
TBM, KY (Safety)	5,0
Tool Preparation	5,0
Equipment patrol	10,6
Rutin Maint (RM)	-
Countermeasure / Repair (PM)	27,1
Do special job (CM)	9,2
Trouble shooting (BM)	-
Fabrication / Improvement Work	-
Meeting & Training	-
S.S / Cleaning	13,5
Non Value	629,0
TOTAL Hour/Mont --> 3 person	699,4
TOTAL Hour/day --> 1 person	7,8

Based on Table 8 Summary Job Day time in Mechanical Department CVD unit above it is seen that non-value added work of 7.8 hours can be reduced, if working for 7 hours per day it can be reduced by 1 person, because of special shifts with 3 groups, it is reduced to 3 people.

Table 9 Job Inventory Electrical/ Mechanical Department Summary

	ELE-1		ELE-2		MEC-1		MEC-2		TOTAL		TOTAL A REDUCE	
	N	30	N	30	N	30	N	30	N	30	N	60
TBM	N	30	N	30	N	30	N	30	N	120	N	60
Cleaning	N	25	N	25	N	25	N	25	N	100	N	50
Receiving Part	N	30	N	45	N	30	N	45	N	150	N	150
Servicing	V	149	V	65	V	149	V	65	V	428	V	428
Manual Record	V	93	V	165	V	93	V	165	V	516	V	0
Comp Record	V	108	V	119	V	108	V	119	V	454	V	340
Sholat	N	20	N	15	N	20	N	15	N	70	N	70
Irtirahat	N	60	N	60	N	60	N	60	N	240	N	240
MUDA	NV	25	NV	16	NV	25	NV	16	NV	82	NV	822
TOTAL		540		540		540		540		2160		2160
TOTAL MH/D		9		9		9		9		36		9
NV IN MINUTE	0,4	5%	0,3	3%	0,4	5%	0,3	3%	1,37	4%	14	38%
V IN MINUTE	5,8	65%	5,8	65%	5,8	65%	5,8	65%	23,3	65%	13	36%
N IN MINUTE	2,8	31%	2,9	32%	2,8	31%	2,9	32%	11,3	31%	9,5	26%

Based on Table 9 Summary of Job Inventory Electrical / Mechanical Department above it appears that non-value added 14 hours can be reduced, working for 8 hours per

day can be reduced by 2 people with 2 hours of overtime. Of all the data mentioned above, one table is like the following table.

Table 9 Summary Job in Maintenance Division

CATEGORY OF JOB	MAN HOR/DAY					IN PERCENTAGE				
	ELECTRICAL		MECHANICAL		M/E	ELECTRICAL		MECHANICAL		M/E
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory
NV IN HOUR/DAY	14,7	17,8	18,3	7,0	13,7	20,6%	35,5%	38,1%	89,9%	38,1%
V IN HOUR/DAY	48,8	21,8	25,9	0,6	12,8	68,7%	43,5%	53,9%	7,4%	35,6%
N IN HOUR/DAY	7,6	10,5	3,8	0,2	9,5	10,6%	20,9%	8,0%	2,7%	25,4%
TOTAL	71,1	50,2	48,0	7,8	36,0	100,0%	100,0%	100,0%	100,0%	100,0%
MAN POWER	1,8	2,5	2,3	1,0	2,0					
AL MAN POWER (per)	15									

From Table 9 Summary Job in Maintenance Division, seen the results of a reduction in the number of workers by 15 people, The impact of the reduction is the increasing number of working with value added categories where jobs have added value for the company, while the normal category is still the same, as seen in table 10 and Table 11 below.

Table 10. Comparison before and optimization of the number of workers in maintenance division

CATEGORY OF JOB	BEFORE					AFTER				
	ELECTRICAL		MECHANICAL		M/E	ELECTRICAL		MECHANICAL		M/E
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory
NV IN HOUR/DAY	14,7	17,8	18,3	7,0	13,7	0	0	0	0	0
V IN HOUR/DAY	48,8	21,8	25,9	0,6	12,8	64	40	44	8	27
N IN HOUR/DAY	7,6	10,5	3,8	0,2	9,5	7,6	10,5	3,8	0,2	9,5
TOTAL	71,1	50,2	48,0	7,8	36,0	71,1	50,2	48,0	7,8	36,0

Table 11. Comparison of Performance Before and After Optimization of The Number of Workers in Maintenance Division

CATEGORY OF JOB	BEFORE					AFTER						
	ELECTRICAL		MECHANICAL		M/E	AVERAGE	ELECTRICAL		MECHANICAL		M/E	AVERAGE
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory		Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	
NV IN HOUR/DAY	20,6%	35,5%	38,1%	89,9%	38,1%	44,5%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
V IN HOUR/DAY	68,7%	43,5%	53,9%	7,4%	35,6%	41,8%	88,4%	79,1%	92,0%	97,3%	75,6%	86,3%
N IN HOUR/DAY	10,6%	20,9%	8,0%	2,7%	26,4%	13,7%	10,6%	20,9%	8,0%	2,7%	26,4%	13,7%
TOTAL	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

From Table 11. Comparison of Performance Before and After Optimization The number of workers in the Maintenance Division, there was an increase in the Valued Added job category up by 44% from 42% to 86.3%, as seen in this graphic.

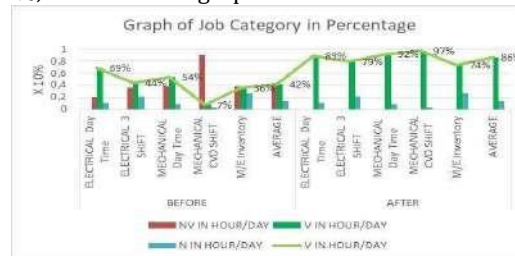


Figure 4 Graph Of Job Categories in Maintenance Division

As seen in figure 4 graph of job categories in Maintenance Division as a whole up 21 % to 90% with an average increase of 44 %, the way of delivery and reducing excesses to employee reduction, as follows.

The problem-solving step to achieve the target is divided into 3 categories"

1. Solve it with only activities without any investment only slightly change the organization so that it can increase efficiency to optimize the work.
 - a) Combine Coating and Hot maintenance Section (Person) CVD SHIFT (Person)--> Morning/Afternoon/Night
 - b) Reduce quantity of maintenance for B and C Class
 - c) Combine Regular Maintenance work Hot-Cold
2. Using physical and a small amount of investment:
 - a) All forklift handle by rental (factorial) All forklif use rental, so no need man power for maintenance
 - b) Building maintenance fully handle by Business Partner
 - c) Bench marking and comparation with similar companies
 - d) REDUCED By Simplify of ADMINISTRATION and SERVICING WORK time
3. **With investment :**
 - a) Rearrangement of Electrical & Mechanical spare part at one warehouse
 - b) Additional Remote Monitor/ Operation Water treatment A1/A2 at Power station

Discussion

From the results of research that has been done and has been analyzed, in general it can be concluded that there is a significant change in performance - production performance before the optimization of the number of employees in the maintenance division.

1. Dari management perspective
 - a) Accidents still happen even we take a lot of countermeasures, so less NOE (Number of Heads) is better
 - b) Increase labor costs significantly
 - c) It's important labor as ckp
 - d) It is appropriate to reduce NOE (GA project), and large pensions for SDA by increasing productivity through the scientific method, garuda project
 - e) Based on our opinion, we never cut permanent employees
 - f) We will gather employee opinions to get the same perception, focus on effectiveness and comfort.
 - g) Employee benefits
 - i) Pension workers (SDA's big pension)

iii) Project Garuda (GA Project)

Within 3 years of the optimal number of employee, performance – performance of human resources and performance of production equipment becomes better.

-
Thus this study can answer the original goal is to reduce costs by implementing Optimizing the number of employees and increasing employee capabilities.

CONCLUSION

THE WORKLOAD ANALYSIS has been successfully implemented to reduce number of employee by 44% to average 21% from 90% previously. This has successfully reduced 15 person its expenditure labor cost saving provide savings and benefits about US\$ 12.519 per month.

The corrective action is taken to eliminate the causes of an existing non valued added job to address the problems identified. After trying combine, eliminating, simplifying and rearrangement job. In the efforts of improvement it is install remote monitor for water treatment equipment to power station for near operator which is considered under nearly. And also rearrangement of Electrical & Mechanical spare part at one warehouse

This researcher recommends to companies should start seriously to take care of the improvement of human resource quality in a real way and consistent with appropriate training, considering that employees are unable to negatively affect the ability to work the production machine and in the meantime greatly affect the company's profit due to the stopped of equipment.

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INCREASING LEARNING MOTIVATION FOR SMAN 1 BALIGE STUDENTS BASED ON WHATSAPP GROUP DURING THE COVID-19 PANDEMIC ON CIRCULATION SYSTEM MATERIALS

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ABSTRACT

This research is to improve student motivation to learn online during the covid-19 pandemic on the circulation system material using problem-based learning models. The data collection in this study was carried out through filling out a questionnaire in the form of a Google Form that was sent through WhatsApp Group students of class XI IPA SMAN 1 Balige. Data in the form of a Likert scale were analyzed descriptively quantitatively and qualitatively by the formula used: $P = \frac{\sum skor}{N} \times 100\%$. Based on the results of the data obtained from the answers in the questionnaire, the analysis of researchers that 75% of students agreed to the implementation of an online learning system as a solution during the covid-19 pandemic period and 61% of students agreed that WhatsApp Group was easier to use, but only 48% agreed to use the WhatsApp Group as a learning medium. After the data have been analyzed and tested for validity, results are obtained based on students' answers that WhatsApp Group has not been proven to be able to increase student motivation. This happened because this research was carried out without a continuous cycle so mistakes were not evaluated.

Key words: learning motivation, problem based learning models, whatsapp group

INTRODUCTION

Government through the Ministry Education and Culture imposed a policy to continue working and studying from home as a result of the COVID-19 pandemic in March 2020. This resulted in the learning system in Indonesia changing from face-to-face to online learning.

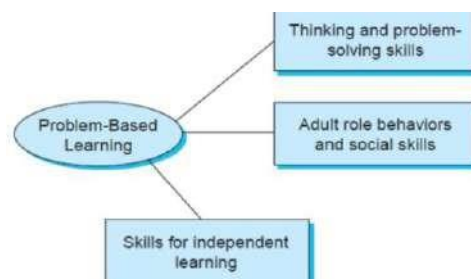
The online learning system is not an educational culture in Indonesia so students are not used to it, but learning must continue so that there are no lags. To deal with this problem, researchers are trying to increase students' learning motivation in the WhatsApp Group-based Circulation System material using a problem-based learning model.

RESEARCH METHODS

According to (Rusman, 2017) with the application of problem-based learning models students are required to be active in discussions during the learning process and teachers must be able to provide motivation and enthusiasm in helping solve problems given according to learning materials.

This is also in line with the statement (Depdiknas, 2004) which states that the problem-

based learning model is a teaching approach using real-world problems as a context for students to learn to think critically and solve skills, as well as gain knowledge and basic concepts. Meanwhile (Titi, 2018) states that problem-based learning emphasizes the active participation of students to grow problem solving skills and critical thinking skills and encourage students to identify their own knowledge and skills. The purpose of designing a problem-based learning model is to help students develop their thinking in solving problems and developing their intellectual skills as well as learning to become more mature with real experiences or situations that are adapted and become more independent learners (Lismaya, 2019: 23).



Source: (Lilis Lismaya, 2019)

The online learning system used is the WhatsApp Group feature. Based on the results of research (B. Lillian, 2012) that the role of m-learning in this case the WhatsApp application which is used as a learning medium is able to create a conducive academic atmosphere because students can learn at any time so that its implementation is able to provide a relaxed learning atmosphere. (Firdaus, 2018) states that WhatsApp is used as a means of exchanging information in the form of text, images, videos, files, voice messages, locations and can even form groups that allow interaction between many people in one room so that discussions can be easier.

Furthermore (Sri Narti, 2017) describes that the WhatsApp application is an online messaging application in which you can copy-paste messages that can be forwarded to others without having to retype them and there is a group chat feature where users can collect some contacts from the application in a group chat.

So it can be said that the WhatsApp feature in the form of WhatsApp Groups has benefits both pedagogically, socially, and even technologically, so that this application has an impact in the form of support for online learning, which can be in the form of delivering announcements or information to certain groups of people, sharing ideas and learning resources and even supporting online discussions. online anytime and anywhere. Based on the results of research (Rambe and Bere, 2013) found the results that WhatsApp Group was able to increase student learning motivation, accelerate the occurrence of study groups in building and developing knowledge.

The use of the WhatsApp application is expected to increase student learning motivation during the COVID-19 pandemic. According to (Arief M. Sardiman, 2011) motivation is the overall driving force in students that causes learning activities, which ensure the continuity of learning activities so that the goals desired by the learning subject can be achieved. So it can be concluded that motivation is the drive that activates, channels and directs one's attitudes and behavior to achieve the desired goal. Therefore, research was conducted in an effort to increase the motivation of class XI IPA 1 SMAN 1 Balige students on the Circulation System material through the WhatsApp Group application feature during the covid-19 pandemic.

This research was conducted online starting from interviews, distributing questionnaires, data collection to data analysis. The subjects of this study were students of class XI IPA 1 SMAN 1 Balige. The first implementation was carried out by distributing a questionnaire in the form of a Google Form through a WhatsApp group. The data that has been obtained based on the completed questionnaire will be analyzed descriptively quantitatively and

qualitatively. The data from the questionnaire is in the form of a Likert scale with four categories of choices, namely Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA), with the formula used:

$$P = \frac{\sum \text{skor}}{N} \times 100\%$$

Meanwhile, to calculate the interval distance in the assessment of student motivation questionnaires, the formula is used:

$$(J_i) = \frac{(4 - 1)}{4} = 0,75$$

Table 1. Assessment Classification

Interval	Category
3,25 < SA < 4,00	Very Good
2,50 < SA < 3,25	Good
1,75 < SA < 2,50	Enough
1,00 < SA < 1,75	Less

RESULT & DISCUSSION

This classroom action research was conducted online because it was not possible to do it directly due to the ongoing Covid-19 pandemic. The subjects of this study were students of class XI IPA 1 SMAN 1 Balige. Before distributing the questionnaire, the researcher first conducted interviews with 5 students as representatives via WhatsApp to find out the condition of class XI science students during the online learning system and the interview results showed that as a solution there were several subjects that used the WhatsApp Group feature as an online learning medium. After conducting the interview, the researcher then sent a questionnaire link in the form of a Google Form to a class XI IPA 1 student to be forwarded to his class's WhatsApp Group. This aims to seek to increase students' learning motivation in Biology lessons during the Covid-19 pandemic.

Based on the results of the data obtained from the answers in the questionnaire, the researcher's analysis shows that 75% of students agree with the implementation of the online learning system as a solution during the COVID-19 pandemic, 65.9% are not interested in the online learning system, and 98% of students use the WhatsApp feature. Groups and 64% of them like the WhatsApp Group feature. Even though they like this feature, they are often bored, as evidenced by the 63% of them stating that they were bored while learning to use WhatsApp Groups. Compared to other learning applications, 61% of students agree that WhatsApp Groups are easier to use, even though 52% of students admit that they are not active when learning using WhatsApp Groups so

that only 38% of students easily understand the material delivered through WhatsApp Groups.

Even though they are not active, they actually think that the Circulation System material is very interesting, 70% of the students stated that they were enthusiastic when studying the Circulation System material, so according to 50% of the students, the Circulation System material was suitable to be delivered via WhatsApp Group and was also suitable for discussion according to 62 % student. After doing online learning through WhatsApp Group, the critical thinking level of 60% of students in solving problems has increased and 60% of students understand the Circulation System material provided and even 48% of students are interested in further material using WhatsApp Group.

This study aims to increase student learning motivation during the covid-19 pandemic which requires students and teachers to do online learning at home. This increase in motivation is done because students are not familiar with online learning and there is no direct face-to-face interaction between teachers and students. So to make this easier, the researcher provides an online media or platform in the form of the WhatsApp Group feature on the Circulation System material.

After conducting interviews with several students of class XI IPA 1, SMAN 1 Balige then distributed a questionnaire in the form of a Google Form. After conducting interviews and the results of data analysis showed that there was no increase in motivation shown by students because in this study only one cycle was carried out so there was no comparison before and after learning.

The cycle is carried out only once due to the limited time the researcher has in observing, collecting data and analyzing data so that there is no next cycle. Instead, they only processed the results of student questionnaire answers in the form of statements that they were not enthusiastic when learning through WhatsApp Groups which tended to be boring so that students were not active during the online learning process.

This is contrary to the results of research (Pusvyta Sari, 2015) that the online learning system / e-learning is a learning system that can be used to stimulate student motivation and the results of research (Rambe and Bere, 2013) which found that WhatsApp Group was able to increase student learning motivation, accelerate the occurrence of study groups in building and developing knowledge. This happens because this research was conducted without a continuous cycle so that the errors were not evaluated.

CONCLUSION

Based on the results of the classroom action research that has been carried out, it can be concluded that the use of WhatsApp Group as an online learning medium in the Circulation System material cannot increase student motivation as evidenced by the results of data analysis based on student answers in the questionnaire that has been distributed.

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PROMOTION AND BRAND IMAGE IN BUILDING BRAND AWARENESS

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ABSTRACT

The development of coffee outlets or what is claimed to be a modern cafe has recently been growing rapidly in all regions in Indonesia where the term cafe originated from the coffee shop business which is widely available on street corners in Indonesia. This business was then made modernly by adopting the sale of Starbucks coffee, which then led to the public's mindset that drinking coffee may look exclusive. This brilliant inspiration for middle-up class coffee shops was then adapted by entrepreneurs in Indonesia who later created cafes that serve coffee using the latest atmosphere. The concept of this coffee shop has become a trend that is selling well among young people and adults so that it becomes a business that has enough prospects to work on. However, many businesses have fallen and even survived in recent years because consumers are critical in choosing products that match their class and expectations. Therefore, the company must be able to make efforts to create brand awareness as did Starbucks as it became a brand leader in coffee sales in the world. Starbucks promotion and brand image formation were analyzed in this study. Regression analysis was applied to find out the effect of promotion and brand image on brand awareness. The result shows that these two variables positively and significantly influence brand awareness. The better the company in building channels of information and persuasion in introducing a product or service, the better the public awareness in recognizing products and services. Meanwhile, the better the brand image received by the public, the awareness of the brand product will be higher.

Key words: brand awareness, brand image, promotion

INTRODUCTION

The development of coffee shops or what is claimed to be a modern cafe has recently been growing rapidly. Talking and seeing the rapid development of cafe business currently, it cannot be separated from the origins of the existence of this business in Indonesia. The cafe business started with drinks using similar words, namely coffee. The inspiration to modernize the way of drinking coffee is not original from Indonesia. This idea began with the historic origin of the emergence of Starbucks, which then resulted in people thinking that drinking coffee could look classy.

Likewise when Starbucks was present in Indonesia. This brilliant inspiration for upscale coffee shops was then adapted by people in Indonesia. Since then, cafes have been born that serve coffee using the latest atmosphere. The proliferation of coffee outlets in Indonesia makes this coffee outlet business quite tempting. Currently, consumers are very critical in determining a product that suits their comfort.

Coffee outlets have now become a reality that has colored the pattern of Indonesian people's lives. Therefore, companies must be observant in selling their products and services considering the intense

competition. There will be many choices for customers in choosing products or services that are in sync with their expectations. The development of coffee shops with a slightly different concept, for reasons of customer satisfaction, and of course to accept the market in order to get a profit or margin for the business.

Starbucks Corporation is a coffee company and global coffee shop network of America Association headquartered in Seattle, Washington. In Indonesia, the Starbucks coffee chain is operated by PT Mitra Adiperkasa Tbk. Starbucks is already present in 12 cities in Indonesia using more than 150 outlets (www.starbucks.co.id. 2018) offerings sold at Starbucks include coffee, tea, and accompanying snacks. On September 27, 2012, Starbucks Indonesia was named one of the top 10 brands in Indonesia by The Nielsen Company and Campaign Asia Pacific's Asia's Top 1000 Brands report with a ranking of 10. (www.swa.co.id 2012) Starbucks always socializes what will happen to corporate social responsibility events that have been carried out, humanism events, the creation of new dishes, and product development to their Facebook, Twitter and Instagram social media accounts which have followers of more than 10 million people. Based on this, it can be said that

Starbucks also focuses on strengthening the emotions of customers through humanism programs through promotions on its social media channels.

Besides doing promotion of the quality and creativity of its products, at the same time this will attract the attention of new customers as a result of which customers will see the Starbucks brand as not only a food and beverage company but a company that has a high sense of sociality. From the quality and creativity side of the products promoted by Starbucks, it creates a premium and out of the box image of Starbucks products in the community as a result, the possibility of people buying will also be higher because of this uniqueness.

Data Konsumen Starbucks Coffee Mall Ratu Indah Makassar

Tahun	Konsumen Starbucks
2018	54.700
2019	50.167
2020	40.509

Sumber: Starbucks Coffee Mall Ratu Indah Makassar

Based on the data above, it is known that there has been a drastic decline in Starbucks consumers. Where in 2018 Starbucks Coffee customers still occupy 54,700 people. Meanwhile, in 2020 Starbucks consumers fell to 40,509 people. The pandemic has made a big change, especially in the food and beverage industry. This facts makes the authors quite excited to find out what the cause is, in which the current study were trying to find out how to build brand awareness of Starbucks Coffee Mall Ratu Indah Makassar even during this pandemic

Starbucks, especially in Indonesia, continues to make various efforts such as promotions in sales which are given every day in various forms, especially during the pandemic. It can be seen that even though Starbucks is the largest coffee shop brand globally, Starbucks continues to make sales promotion efforts continuously every day, especially during the COVID-19 pandemic. Starbucks builds its brand image by establishing a commitment to waste management and the use of appropriate materials. Starbucks is also taking advantage of the campaign by teaching customers the proper ways to reuse, reduce and recycle product packaging.

The current research were finding out whether Promotions and Brand Image have partial effect in increasing Brand Awareness at Starbucks coffee Mall Ratu Indah Makassar and whether

Promotion and Brand Image have a simultaneous effect in increasing Brand Awareness at Starbucks coffee Mall Ratu Indah Makassar.

LITERATURE REVIEW

Promotion in Indonesian Dictionary is an introduction in order to advance the trade business and so on. Promotion is a term that is already familiar to Indonesian people. The term promotion is an adopted word from English, namely promote, which also adopts from Greek, namely Promore. In simple terms, promotion can be interpreted as "Introduction to Advertising", an effort to convey a message about the lesser known so that it becomes known to the public.

Promotion from Suryadi is a series of activities to communicate, provide knowledge and convince people of a product so that they recognize the greatness of the product, as well as bind their thoughts and feelings in a form of loyalty to the product. Suryadi (2011:8). from Manap promotion of homogeneous communication that conveys convincing explanations to potential consumers about goods and services. Manap (2016).

Merupakan jumlah promosi penjualan yang dilakukan dalam suatu waktu melalui media promosi penjualan. Kotler dan Keller (2016:272) According to Kotler and Keller, promotion indicators include:

1. Promotional Message; It is a measure of how well the promotional message is carried out and delivered to the market.
2. Promotional Media; Is a medium used by companies to carry out promotions.
3. Promotion Time; Is the length of promotion carried out by the company.
4. Promotion Frequency; Is the number of sales promotions carried out at a time through sales promotion media. Kotler and Keller (2016:272)

According to Buchari Alma, the primary purpose of promotion is to provide information, attract attention and then increase sales (Buchari Alma, 2011). Promotion can provide benefits for both producers and consumers. The advantage for consumers is that consumers can manage their spending better, for example, consumers read advertisements, they can buy goods at lower prices while consumers are persuaded to buy these goods when they are not necessarily needed. The advantage for producers means that promotions can avoid price competition because consumers buy goods because they are interested in using their brand. Promotion not only increases sales but can also stabilize profit production.

The element of promotional mix as follow:

1. Advertising. Any form of non-personal communication about an organization, product,

service or idea by a known sponsor. Advertising is one of the forms of promotion that people talk about the most because of its wide reach. The advantage of advertising through mass media means the ability to attract the attention of consumers, especially products whose advertisements are popular or well known to the public.

2. Direct marketing (Direct Marketing). Efforts of the company/organization to communicate exclusively with the target prospect using the intent to generate a response or a sales transaction.

3. Interactive Marketing. Changes are driven by advances in communication technology that allow interactive communication through mass media, in this case the primary means the internet, which currently has become an attractive advertising medium.

4. Sales Promotion. In general, it can be divided into 2 parts, namely promotion of consumer-oriented sales aimed at users or end users of an item/service which includes gift coupons, product sample gifts and discounts.

5. Public Relations. An attempt to do good things to gain religion or an attempt to create and maintain mutual understanding between the organization and its publics.

6. Personal Selling. A form of direct communication between the seller and the prospective buyer. The seller tries to help and persuade potential buyers to buy the products offered. This individual and personal communication in personal selling allows the seller to match the buyer.

Brand image

According to Kotler and Armstrong, a brand (brand) is a seller's promise to consistently inform buyers of a particular set of characteristics, benefits, and services. Kotler and Armstrong (1997) stated that the best brand as a guarantee of quality. According to a marketing executive, brands can convey four levels of meaning; functional and emotional, Value of buyers and Personality (Kotler:2003). Knapp argues that the brand is the internalization of a number of impressions received by customers and consumers that result in a specific position in their memory of the perceived emotional and functional benefits. Knapp (2001).

According to Kotler, the brand image is the consumer's perception of the company or its products. Kotler (2013). According to him, the image cannot be implanted in a consumer's mind suddenly or given through one medium. Instead, the image must be conveyed through every available communication vehicle and disseminated repeatedly because without a powerful image it is very difficult for a company to attract new customers and retain existing ones.

Brand image is the interpretation of the accumulation of various kinds of news received by consumers (Simamora & Lim, 2002). From Kotler, the interpreter is the consumer who interprets the meaning of news Kotler (2005). Image issues can be seen from the logo or symbol used by the company to represent its products, where symbols and symbols. The logo is not a differentiator from similar competitors, but can also reflect the quality and vision and mission of the company.

Brand awareness

Brand awareness is one of the variables that have shown that brands can hypnotize perceptions and even taste as described by Aaker that brand enlightenment has been shown to affect perceptions and even preferences. Aaker (2003). People like the familiar and are ready to assume all kinds of good behavior towards things that are familiar to them. According to Aaker, brand awareness can affect perceptions, feelings of pleasure, and behavior. Aaker (2015: 08). People like things that are familiar to them and tend to think positively of things they already know well. Furthermore, brand awareness can be a sign of success, commitment, and substance. The logic means that if a brand is known in the community, then there is a perfect reason. Finally, whether a brand can be reversed at key moments in the buying process and whether the brand is positioned among the brands that customers are considering.

Dimensions and Indicators of Brand Awareness; 1. Recognition, the minimum level of brand enlightenment. This is crucial when a buyer determines a brand at the time of making a purchase., 2. Recall, recall of the brand based on someone's request to mention a certain brand in a product class. This is termed using unaided home reminders, because it is out of sync with the socialization task, the respondent does not need to be helped to come up with the brand, 3. Top-of-mind, if a person is asked exclusively without being given a donation, reminder and he can reveal a brand name, then the brand that is mentioned the most first is the top of mind. using other terms, the brand means the main brand of the various brands that exist in the minds of consumers.

METHODS AND RESULT

This research was conducted at Starbucks Coffee Mall Ratu Indah Makassar (Jl. DR Ratulangi No.35, Mamajang Luar, Kec. Mamajang, Makassar City), the time of the study was from December 2021 - January 2022. Data collection method applied to obtain the data were questionnaires and literature study. The type of data used in this study is quantitative data, namely data obtained in the

form of numbers obtained from questionnaires distributed and related to the problems studied. Sources of data used in this study consisted of two kinds, namely primary data and secondary data. Primary data is data obtained by the author through direct observation or observation from the company, as well as observations, questionnaires, and direct interviews with company leaders and staff according to the needs in this study. Secondary data is data obtained indirectly, namely the data obtained by the author from company documents and literature books that provide information about the promotion process and brand image in increasing brand awareness.

The population in this study were all consumers who purchased products at Starbucks Coffee Mall Ratu Indah Makassar. Bungin (2017) argues that an infinite population is a population that has data sources that cannot be determined quantitatively. Therefore, the population area is infinite and can only be described qualitatively. Non-Probability Sampling was applied, meaning that not all variables in the population have equal opportunities. It can be concluded that the sample of this study was 100 respondents.

After the completion of data collection, they were then processed using multiple linear

regression analysis, this technique applied to test the effect of the independent variable on the dependent variable. The analysis technique in this study will use the SPSS 22.0 program.

From the research result found out that the respondent's work is varied, so the researcher categorizes it into 5 categories and the results of the research show that the number of respondents who have student jobs is 66 respondents, those who have private jobs are 11 respondents, those who have student jobs are 11 respondents, and 3 respondents have civil servant jobs, and 9 respondents have self-employed jobs. Because of that Starbucks customers are mostly students and private employees. Students have the highest percentage, the reason is that at Starbucks there are many students who do assignments and meet with friends because some campuses still don't allow to stay on campus. From the 100 sample people in this study, 25 respondents aged <20 years, >25 years old were 10 people, and 65 people aged between 20-25 years. It can be concluded that most of the customers at Starbucks Coffee Mall Ratu Indah Makassar are aged between 20-25 years, as many as 65 people.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,027	1,868		-2,156	,034
	Promosi	,319	,077	,377	4,131	,000
	Brand Image	,617	,128	,440	4,821	,000

a. Dependent Variable: Brand Awareness

Sumber: Output SPSS, 2022

The above equation is explained as follows:

a = -4.027 is a constant value, if the values of X1 and X2 are considered 0 then the value of Brand Awareness is -4.027.

1 = 0.319 means that the Promotion variable has a positive effect in increasing Brand Awareness and if the Brand Awareness variable increases by one unit, the Promotion will increase by 0.319 units.

2 = 0.617 means that the Brand Image variable has a positive effect in increasing Brand Awareness and if the Brand Awareness variable increases by one unit, then the Brand Image will increase by 0.617 units.

Hasil Uji t

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,027	1,868		-2,156	,034
	Promosi	,319	,077	,377	4,131	,000
	Brand Image	,617	,128	,440	4,821	,000

a. Dependent Variable: BRAND AWARENESS

Sumber: Output SPSS, 2022

The basis for decision making if $t_{count} > t_{table}$ (1.660) and the value of $sig < 0.05$, it can be said that the X variable has a positive and significant effect on the Y variable.

Based on the table above, the following explains the effect of each independent variable partially:

a. Promotion (X1)

The results of testing with SPSS for the Promotion variable (X1) on Brand Awareness (Y) obtained a t_{count} value of 4.131 $>$ t_{table} 1.660 and a sig value. $0.000 < 0.05$. This means that the Promotion variable (X1) has a positive and significant influence in increasing Brand Awareness (Y).

Hasil Uji F

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	331,827	2	165,914	61,623	,000^b
	Residual	261,163	97	2,692		
	Total	592,990	99			

a. Dependent Variable: Brand Awareness

b. Predictors: (Constant), Brand Image, Promosi

Sumber: Output SPSS, 2022

The basis for decision making is if $F_{count} > F_{table}$ (3.09) and the value of $sig < 0.05$, it can be said that the X variable has a positive and significant effect on the Y variable.

Based on the results of the simultaneous test from the table above, it is shown that the F_{count} is 61.623 while the F_{table} results in the distribution table with an error rate of 5% (0.05) is 3.09. This means that $F_{count} > F_{table}$ (61.623 $>$ 3.09). In the table above it can also be seen that the value of sig . 0.000 is smaller than 0.05, because the value of sig . smaller than 0.05 then the regression model can be used to predict Brand Awareness or it can be said that Promotion and Brand Image together (simultaneously) have a positive and significant effect on increasing Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar

Based on the table shows the magnitude of the coefficient of determination (Adjusted R²) = 0.551, meaning that the Promotion and Brand Image variables together affect the Brand Awareness variable by 55.1%, the remaining 44.9% is influenced by other variables not included in this research model such as advertising attractiveness variables, brand identity, etc.

CONCLUSION

1. Promotion and Brand Image partially have a positive and significant effect on increasing Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar.
2. Promotion and Brand Image simultaneously have a positive and significant effect on Brand Awareness at Starbucks Coffee Mall Ratu Indah Makassar.

Hasil Analisis Koefisien Determinasi

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,748 ^a	,560	,551	1,64085

a. Predictors: (Constant), Brand Image, Promosi

Sumber: Output SPSS, 2022

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THE HINDRANCES FACED BY PRE-SERVICE TEACHERS OF TEACHER TRAINING AND EDUCATION FACULTY IN ONLINE TEACHING DURING THE COVID-19 PANDEMIC

(A CASE STUDY OF PRE-SERVICE TEACHERS PERSPECTIVES AT SMP NEGERI 14 TEGAL)

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ABSTRACT

This study aims to find out what hindrances are faced by pre-service teachers in online teaching during the Covid-19 pandemic and how they overcome them. This research project used qualitative research design. The subject were 12 pre-service teachers who had been practicing teaching at SMPN 14 Tegal for one month. Based on the research findings, it was found that the percentage of responses of 12 respondents to 21 questions in the interview after coding. The first aspect of pre-service teacher readiness in online teaching 44%, aspects of availability of facilities, quotas, and environmental conditions indicate 42%. Internet connectivity shows 42%, cost aspect there is 47%. And the power outage shows 30%. In the aspect of time management there are 47%. And the last aspect about interruptions from family members showed 28%. This study reveals that during online learning, the aspect of pre-service teacher readiness was not enough. It needed readiness from the student's side as well. Without students' participation and readiness, the learning process becomes meaningless. Institutional support is also important in bridging the gap between pre-service teachers, tutor teachers, and their parents, which assists teachers in monitoring and managing students at home. Thus, students could learn to manage their time better, and their learning progresses.

Key words: hindrances, online learning, pre-service teacher, teaching practice

INTRODUCTION

Corona Virus Disease (COVID-19) is an infectious disease caused by the newly discovered corona virus. This virus spreads very quickly and has spread to almost all countries, including Indonesia. The existence of Covid-19 has a major impact on aspects of life, especially in the field of education. Educational institutions have implemented online teaching and learning. As a consequence of the Covid-19 pandemic, online learning is inextricably linked to the issues that obstruct its implementation, like online learning for prospective teachers in educational institutions, given that this learning method is used by graduate institutions for pre-service teachers and education. Pre-service teachers, in particular, find it difficult to teach with an online system. Teaching with an online system is a challenge for pre-service teachers, especially for the first year using an online system during the current pandemic.

During the Covid-19 pandemic, teaching and learning activities, including field experience practice or OPK3 or PPL (Praktik Pengalaman

Lapangan), were shifted from face-to-face to an online system. Students of Field Experience Practice (PPL) S1 Program, Faculty of Teacher Training and Education (FKIP) require students in teaching practice to be able to have good mastery of learning technology. Field experience practice is one of the curricular activities carried out by students, and is a compulsory course for every student in the faculty of education, which includes teaching practice. OPK3 is normally taken in odd semesters, such as the seventh semester with students requirements.

Dhawan (2020) states that online teaching and learning allows educators to adjust their procedures and processes based on the needs of students. Pre-service teachers, in particular, find it difficult to teach with an online system. Teaching with an online system is a challenge for pre-service teachers, especially for the first year using an online system during the current pandemic. This online learning is certainly a new challenge for teachers which makes them have to master online learning media to carry out learning activities and are expected to be able to be creative in the learning

process so that learning objectives can be achieved optimally (Mantra, 2020).

As prospective teachers are not only required to be experts in delivering teaching materials/materials offline (face to face in class), but also required to be able to use the online learning system. Of course, there are some hindrances in the online learning process, especially during the Covid pandemic; this is a challenge for pre-service teachers, so they must usually find their own solutions to the obstacles they face.

LITERATURE REVIEW

There are many factors, both teachers, students, as well as other external factors, that pose pre-service challenges in teaching online systems, including challenges other than technology issues and coming from the teachers themselves related to the lack of teacher readiness. Pre-service teachers were trained for online learning in terms of digital literacy and technical devices used for online learning, as well as positive online learning experiences and challenges (Ogbonnaya, 2020). Könings, K. (2007) state that lecturers and students have very different perspectives on teaching and learning. Hindrances classified as daily hassles include academic deadlines, time management, balancing academic workloads or receiving lower grades than anticipated (Ainscough et. al, 2017). In some cases, unqualified teachers are a challenge and create several obstacles. A teacher who has adequate abilities will be hampered if it cannot be carried out properly. In addition, other obstacles can also come from other factors, such as school facilities and teaching aids/media (Mardiah, 2020).

If a school can meet the requirements of students and teachers, it will negatively affect their teaching and learning process which does not run as well as it should. They often need the ability to explore and focus on their own and others' original designs in order to develop trust and teaching skills (Cameron, 2006; Kearney, 2007).

1. Pre-service teacher

Pre-service teachers are positioned on student teaching sites several times during their undergraduate training, according to Pawan, et al (2017), so that they can see firsthand how the theory they study at university is put into effect, as well as understand and participate in it. According to Ogbonnaya (2020), pre-service teacher experiences can help them understand the possible struggles of their potential students, helping them to possibly accommodate student challenges in the future. Meanwhile, they would need many practice

lecturers in order to improve teacher competencies such as class management, developing an engaging learning environment and maintaining positive relationships with dents (Naila, 2019).

2. Teaching online during the coronavirus pandemic

According to Mardiah (2020). There are several hindrances in the event of a pandemic, such as:

1. The lack of internet access/WIFI, electricity, computers, PC, and other infrastructures that support the teaching process.
2. The lack of less expensive software.
3. Learners do not feel sufficiently motivated because they might feel isolated.
4. Students' Poor interaction makes it difficult for them to concentrate on a pixelated video screen as they hear noise and feedback such as rustling papers, bikes, cars, horns, kettles, wind, and so on.
5. The issue of ability and expertise, some lecturers and students are unskillful and illiterate using digital technology.
6. Attitude towards ICT (Information, communication and technology), awareness of the importance of ICT in learning including E-learning needs to be promoted persistently.

3. Pre-service teacher perspectives

Pre-service teachers seek out good learning designs to use as models for their own classrooms and learning environments. They often need the ability to explore and focus on their own and others' original designs in order to develop trust and teaching skills (Cameron, 2006; Kearney, 2007), to encourage these pre-service teachers to share and analyze their learning designs. This will help experienced teachers evaluate the performance, importance, and limitations of individual learning designs, as well as their experiences using them. If provided the chance, these teachers will apply what they have learned in their professional lives. According to Cameron & Campbell (2011), the utilization of well-tested teaching strategies

provides students with opportunities to be sessions and conversations with friends and

encouraged to gain theory, knowledge and understanding of content in innovative ways.

RESEARCH METHOD

This research used qualitative research design. According to Fraenkel & Wallen (2009: 435), qualitative research are particularly concerned with how things look, particularly from the perspective of research subjects. As a result, qualitative research

gathers data from the point of view of the study's subject, which is then evaluated to reach a conclusion. The subjects of this study were 12 pre-service teachers from various departments of the Teacher Training and Education Faculty of Pancasakti University Tegal academic year 2021/2022 who had been practicing teaching at SMPN 14 Tegal for one month. Teaching practice program was carried out for one month from

January 11 to February 11, 2021. In this study, There were 12 students of 7th semester of various majors. They were 7 female students and 4 male students. There are three roles of the researcher; first as the collector, the researcher collected data from questionnaire. Second as the analyst, after finding the result of the questionnaire, the researcher analyzed the data.

RESULT & DISCUSSION

Result

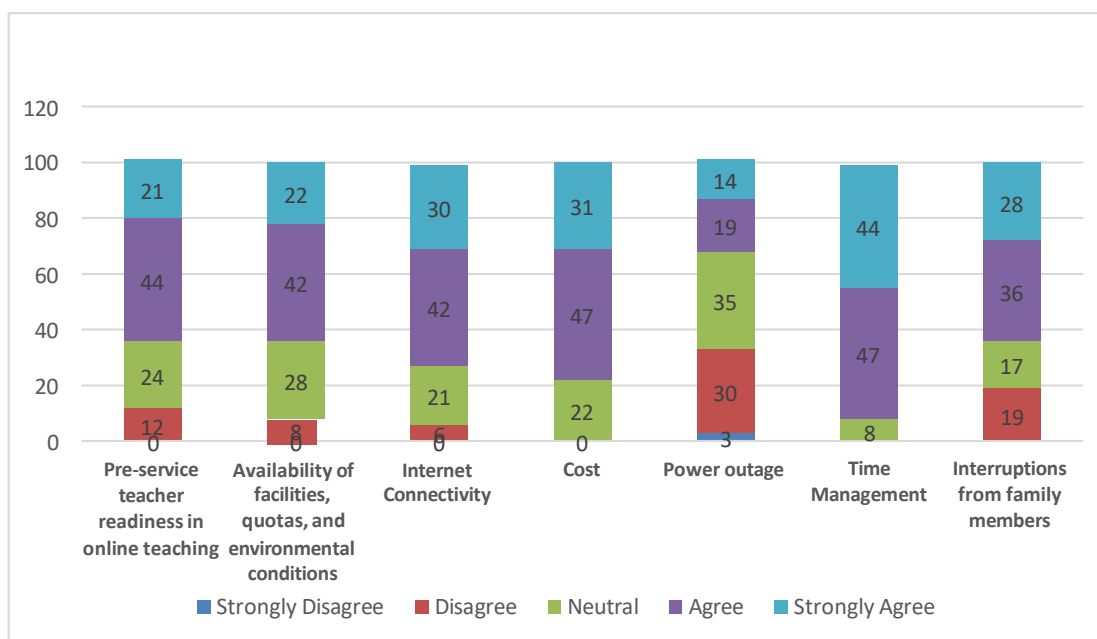


Figure 4.1 Chart of Questionnaires Responses

The data above is the result of a questionnaire from 7 assessed aspects. The data above shows that according to the perspective of pre-service teachers, some teachers still lack readiness to teach online. School facilities or infrastructure is also a problem because 40% of pre-

service teachers agree that there is a lack of adequate school facilities. Meanwhile, challenges also come from the pre-service teachers themselves. Pre-service teachers are still not able to manage learning time

Tabel 4.2 Review Result of Interview

No	Question	Answer	f	%
1.	Menurut Bapak/Ibu guru praktikan, bagaimana pelaksanaan pembelajaran daring di sekolah ini ?	Bored	1	8
		Lack of learning gain	2	17
		Unmotivated	2	17
		Challenge	7	58
		Opportunity	5	42
		Enjoy	3	25

2.	Apa kendala yang muncul saat pembelajaran daring	Time management	3	25
		Limitation of device	1	8

	diterapkan di sekolah ini akibat pandemic covid-19?	Limitation of Internet	8	67
		Competence of ICT	4	33
		Lack of Students' responsibility and response	9	75
		Do not have good environment for learning	1	8
3	Solusi apa yang dapat dilakukan terkait hambatan dalam proses pembelajaran daring ?	ICT training for teacher	3	25
		Coordinate with students' parent	3	25
		Learning in group	1	8
		Extra package data	1	8
		Device support	1	8
		Time management, (preparation)	5	42
		More Active	1	8
		Psychological Support	1	8

The interviews revealed that students and pre-teachers faced many problems. The learning process affected by students and pre-service teacher. In this study, students felt bored and unmotivated in the learning process which motivation can help students to get better achievement in academic field. It was also caused lack of interaction teacher and students, thus motivated students and students learning gain was big challenge and opportunity when teacher can maintain and communicate.

Online learning during pandemic the pre-service teachers and students faced the hard time management how to manage time for study, time for doing the task, and time for work this problem can be solved through responsibility. This also need coordination schools and parent to bound relationship that could help students in maintain time management. Beside unphysical problems they also faced the physical problems such as limitation of teaching media, limitation of internet, teacher and students competence of ICT. It needed extra efforts and partnerships to solve these. Stakeholder better prepare the teacher readiness toward ICT to support online learning.

DISCUSSION

Base on the result, the data analysis from questionnaire and interview. The researcher through this part tried to elaborate pre-service teachers' perception about distance learning, the schools, students, and their way to solve or opinion to face it.

Pre-service Teacher Readiness In Online Teaching

Online learning was challenging for pre-service teachers. Simatupang (2020) stated that teachers need to be prepared to do online teaching and follow every technological development in the world of education. From the questionnaire it could be seen that the pre-service teachers prepared

lesson plans and learning material before teaching. However, it did not give many benefit which from the interview:

(P1) : *"Tidak semua siswa bisa hadir kelas tepat waktu malah jika dipresentase lebih banyak yg tidak masuk, beberapa temen belum siap juga dengan mode daring karna terbiasa secara tatap muka. Selain itu siswa juga cerita kalau mereka sambil berkerja jadi kurang dalam mengatur waktu. Kendala kuota juga sih buat siswa"*

Participant 1 said many students could not attend the class. Even if she prepared the learning material, the process of learning could be delivered perfectly because students only access the class if they want. She and her friends felt not ready for online learning. They felt that face to face learning gives more confidence it supported by 58% students agree if they felt nervous and 8% answer strongly agree if they were nervous to teaching online.

(P2): *"Kendala paling susah ketika siswa tidak masuk ke platform dan tidak mengerjakan tugas"*

Participant 2 also felt that teaching online was not satisfied in running online learning because she could not control her students presence and their tasks. The interview indicated readiness of online learning needed not only from teachers' side but also from students' awareness.

1. Institutional Support and ICT Competencies

The limitation of students' situations and knowledge to access or to use high technology for learning is problematic and big jobs for institution with to achieve modern era of education students and institution should update and grown alongside with technology.

(P3) : *"Kandalanya yaa itu, belum banyak aplikasi atau platform pembelajaran yang saya tahu, dan juga terkait internet yang harus selalu terkoneksi."*

The other participant admitted she did not know much applications for learning. It is a challenge for campus and school to train and teach their students about online learning tools. Beside the applications also need to always connect with the internet connection.

(P4) : *"Untuk kendalanya biasanya dari siswanya, siswa yang kurang paham akan cara menggunakan platform pembelajaran tsb, siswa yang kurang aktif, siswa yang selalu mengeluh ke saya terkait internet dari mereka sendiri."*

In ICT competencies not only teachers need training but also students. From participant 4 interview could be seen that many students did not know or understand to used application and platform. Students also complain about the packages data because they used their private data that cost more money.

2. Poor of connectivity

(P5) : *"Kendalanya biasanya waktu awal mengajar susah mengoneksikan internet, butuh beberapa menit."*

The interview result from participant 5 revealed that the internet connection provided by the school was difficult to connect. It might be the reason why students used their own quota to teach in online learning.

(P6): *"siswa yang selalu mengeluh ke saya terkait internet dari mereka sendiri, dan banyak juga gangguan suara dari siswa yang cukup mengganggu dalam pembelajaran online."*

(P7) : *"Kendala yang sering saya temui banyak siswa yang bolos tidak masuk ke meet, selain itu WiFi/internet di sekolah untuk singgah mengajar kurang terkoneksi jadi saya harus pakai kuota sendiri untuk mengajar."*

Students also faced this problem especially during online video conference or virtual meeting. Virtual meeting needs higher speed and big bandwidth to running stable and

better experience. The students who could not access the internet, they chose to be absent from the class with this reason. This problem needs serious treatments because the core of online learning in the device and the internet connection.

3. Time Management

(P5): *"Solusinya, saya setiap mengajar masuk pagi, sejam sebelum itu harus udah nyalain laptop buat mengoneksikan internet."*

Pre-service teacher in managing time during online learning, could manage or control the time more effective and efficient. It involved the teaching, learning materials, and teaching

something related to teaching practice and commitment with a limited time. That is why managing time is essential, thus they could accomplish specific tasks, projects, and goals complying with a due date.

(P8) : *"Menurut saya hal ini bisa disebabkan orang tua tidak tahu jadwal anak so, dari pihak sekolah bisa memberi jadwal ke orang tua"*

Participant 8 found that the class in the morning was class with a few attendants and reported that students in early morning; they usually could not wake up early. He suggested to the school to coordinate with students' parents. This movement could help school gain more intense relationship with the parents.

4. Learning distraction

In the success of learning process there are many factors that are affected. Distraction is one of problems that commonly faced. This research revealed some distractions that happened to students during the online learning through questionnaire and interviews. The questionnaire questions 19, 20, and 21 showed the disruption from the family during online learning was obstacle for pre-service teacher. Even for teachers the distraction from family members is still challenged. The questioner also revealed that environment did not support for learning and

teaching.

(P9) : *"siswa yang selalu mengeluh ke saya terkait internet dr mereka sendiri, dan banyak juga gangguan suara dr siswa yang cukup mengganggu dalam pembelajaran online"*

From the interview it could be seen during the online class students did not have quiet environment to for learning. Especially in virtual meeting that quiet situation needed to focus on the learning process. Hayla revealed the learning process disturb by environment such as activity of their parents, their neighbor and students itself.

media. From Ayu's interview, it can it could be seen that the pre-service teacher prepares

5. Negative attitude

An attitude is tendency to respond a certain way towards something. A good attitude is essential to construct good learning behavior and vice versa. This research found negative emotion and dissatisfaction from the interview. The participants' utterance:

(P10) : *"Yang sering muncul biasanya terkait internet serta kurangnya partisipasi siswa dalam Pembelajaran"*

(P11) : *"Paling utama ya respon siswa sangat problematic, juga siswa beralasan internet sama hp gak dukung zoom"*

(P12) : *"Kendala paling susah ketika siswa tidak masuk ke e-learning dan tidak mengerjakan tugas"*

From this statement, it could be seen that students made problems that caused the learning proses delayed. Elsa also felt that, students in her class did not attend the online learning. The other participant also supported his opinion that students didn't follow the learning process or open the e-learning. The factor could be lack of time management or also it could be that students did not have interest in online learning. Whatever, it also showed that students were lack of motivation to access or to reach the class which according to Suhery et al (2020) students who does have motivation tend to fail in academic aspect.

(P12) : "Solusinya bisa mengendalikan dan mampu mengatur siswa yang kurang aktif menjadikan lebih aktif, selalu saya kasih support pada awal dan akhir sesi untuk lebih giat belajar dan sadar akan pentingnya belajar, dan itu biasanya setiap pertemuan pembelajaran saya lakukan."

Participant 12 had similar suggestion and she implemented during online learning. She spent extra effort to maintain students who were not active during the learning. She always gave support while opened or ended the section of learning. Elsa charged students motivation and reminded them of the important of study. Thus students' desire for learning could improve. According to Konings (2007) desires play a role in the teaching and learning process. If the students' have desires with respect, obviously they can join a learning process well.

CONCLUSION

1. This research showed that the hindrances faced by pre-service teachers in teaching online during the covid-19 pandemic. Based on the data analysis, it was found that there were several hindrances faced by pre-service teachers, because after all, teachers must be ready in critical situations like this COVID-19 pandemic. The data collected both from questionnaire and interview did not show significant different answers. The issues needs the readiness from pre-service teachers and also from the students' side. Even it the pre-service teacher prepares anything without students' participations and their readiness, the learning process will become meaningless. The teacher readiness needs to be alongside with the competencies. The competencies, the researcher meant is the competencies toward the technology which is important in online learning.
2. How do they overcome the hindrance. In this research, it was found that the pre-service teachers were lack of competencies. It could be solved through institutional support. They should

help to facilitate pre-service teacher with the training about online learning media. The training is the first step because the media sometime also could not run well without good internet connections. The pre-service teachers spent their private money to get better connection to buy data package. It was also faced by students. With the institutional support the cost could be reduced. The support from institution also important to bridge the teachers with their parents which could help teacher to monitor and manage students at home. Thus students got better time management and the learning will run well. Without good communication the students' attitude toward the learning was negative. Practical students should have thorough preparation before carrying out OPK3. Because the OPK3 program is held in schools, that means that practical students must maintain relationships with tutors/shadow teachers, school teachers, students, and teams so that there is no miscommunication.

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ANALYSIS OF THE DEVELOPMENT OF THE CULINARY INDUSTRY TOWARDS INCOME OF MSME (MICRO, SMALL AND MEDIUM ENTERPRISES) IN MEDAN SELAYANG DISTRICT, MEDAN CITY

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ABSTRACT

This study aims to analyze the effect of capital, consumption, production, distribution, technology, KUR, product innovation, number of workers and length of business on the income of MSME actors in Medan Selayang District, Medan City, the number of samples used is 200 culinary businesses. The method used is a quantitative method. The results of the Confirmatory Factor Analysis (CFA) analysis show that there are only 4 factors formed, namely Business Length, Consumption, Distribution and Capital. Based on the results of Multiple Linear Regression Analysis, there are two variables that affect the income of MSME actors, namely consumption and distribution which have a significant effect on the income of MSME actors in the Medan Selayang sub-district, Medan City. The higher the number of consumers and the more even distribution will increase the income of MSME actors.

Key words: capital, distribution, msme, technology consumption

INTRODUCTION

National economic growth is largely determined by the dynamics and development of the regional economy, while the regional economy is generally supported by small and medium-scale economic activities. Business units that fall into the category of Micro, Small and Medium Enterprises (MSMEs) are the lifeblood of determining regional and national economic development. The Micro, Small and Medium Enterprises (MSME) sector is a formidable business in the midst of the current economic crisis.

The Micro, Small and Medium Enterprises (MSME) sector is an important part of the national economy and development. The growth of the MSME sector currently looks encouraging. The role and business activities of the MSME sector since the economic crisis hit our country. Considering that MSMEs are the drivers of the economy and national development, a strategy is needed to empower the sector. The MSME sector empowerment policy is directed to support efforts to reduce poverty and inequality, create job opportunities and increase exports. (Saleh, 2014)

In these developments, MSMEs as one of the pillars of the economy in Indonesia must be able to answer these challenges and must be able to reach changes around them. Marketing communication must be done as well and as effectively as possible to potential customers. Advertising activity means the activity of disseminating news (information) to the market (community/consumer). The public needs to know who is acting through the advertising

medium (Marketing, Marketing Management, 2017). Capital is something that is needed to finance the company's operations from establishment to operation. Own capital is capital that comes from the owner of the company and is embedded in the company for an indefinite period of time (Kasmir, 2003). Meanwhile, foreign capital or loans are capital obtained from parties outside the company and are usually obtained on loans.

There are several obstacles experienced by MSME actors in Medan Selayang District, Medan City, ranging from licensing, human resources (HR), promotion, product innovation, technology. Illegal levies carried out by several elements, as well as the uneven distribution of government assistance to the development of MSMEs in the Medan Selayang District. A common obstacle for MSME actors is business capital, because most MSME actors borrow additional capital from banks with conditions that must be met by the borrower. Many of them find it difficult to meet these requirements so that many MSME actors fail to borrow capital from the related bank.

With the obstacles faced by MSME actors in the city of Medan in developing their business to be more advanced and more innovative to break the rate of economic growth for the country, there must be a policy from the local government to help the development of MSMEs in the city of Medan, because with government policies In developing a culinary business, entrepreneurs find it helpful, as well as lighten the burden for MSME business actors in running their business.

Table 1.1: Number of Culinary Businesses (Restaurants/Restaurants and Food Stalls) in Medan Selayang District in 2010 to 2019

Anual	Number of Culinary Businesses for Restaurants and Food Stalls
2010	328 business
2011	356 business
2012	356 business
2013	356 business
2014	391 business
2015	403 business
2016	398 business
2017	398 business
2018	398 business
2019	398 business

Source: Central Bureau of City Statistics (Medan, 2021)

In 2010 the number of restaurant and food stall culinary businesses recorded at the Central Statistics Agency was 328 businesses spread across Medan Selayang District, from 2011 to 2015 there was an increase in the number of restaurant and food stall culinary businesses spread over 403 culinary businesses in Medan Selayang District. Until now, the number of culinary businesses in 2016 to 2019 has decreased by 398 culinary businesses, restaurants and food stalls spread across Medan Selayang District, if we examine the causes of the decline in the number of culinary businesses, it is caused by many factors that influence the development culinary business in Medan Selayang District.

Based on the background of the problems described above, the authors are interested in studying the Analysis of Culinary Industry Development on the Income of MSME (Micro, Small and Medium Enterprises) in Medan Selayang District, Medan City.

I. Theories

Capital theory

Capital is a collection of money or goods that are used as the basis for carrying out a job. In English, capital is called capital, namely goods produced by nature or humans to help produce other goods needed by humans with the aim of making profits. Capital is a very vital thing in a business or company. Without capital the business cannot run as it should. Starting from large businesses and even small businesses need capital to run their business (Sadono, 2002).

Consumption Theory

In everyday terms, consumption can be interpreted as a form of fulfilling needs, both for food and non-food needs. Consumption is one of the macroeconomic variables which is symbolized by the letter "C" and comes from English, namely consumption. Consumption is defined as the expenditure of goods and services by households. The meaning of goods here includes household spending for durable goods, such as vehicles and household appliances, and for non-durable goods such as food and clothing. Meanwhile, the meaning of service here includes intangible goods, such as haircuts and health care. In addition, household spending on education is also included in service consumption (Mankiw, 2013).

Production Theory

Production is the end result of a process or economic activity by utilizing several inputs or inputs. With this understanding it can be understood that production activities are combining various inputs or inputs which are also called factors of production into outputs so that the value of these goods increases. Another definition of production is the end result of a process or economic activity by utilizing several inputs or inputs. With this understanding it can be understood that production activities are defined as activities in producing output by using certain production techniques to process or process inputs in such a way (Sadono, 2002).

Distribution Theory

Distribution is a company activity so that products / services are easily obtained by target consumers. Distribution is the activity of distributing goods or services from producers to consumers. Distribution activities have an important role for producers, because these activities are able to distribute goods produced by producers to the community. If the goods or services are not distributed to consumers, the results of the production will only accumulate in the warehouse so that producers will experience losses. Goods or services will be useful if they are in the hands of consumers. Therefore, producers try to distribute these goods or services to consumers (Tjiptono, 2002).

Technology Theory

Technology actually comes from the French "La Technique" which can be interpreted as "All processes carried out in an effort to realize something rationally". Information technology is a means and infrastructure (hardware, software, useware) systems and methods for obtaining, transmitting, processing, interpreting, storing, organizing, and using data meaningfully (Warista, 2008). The same thing was also expressed by (Rianto, 2011) information technology is defined as science in the field of computer-based information and its development is very rapid. Information technology is a technology used to process data (Lamatenggo, 2011).

Product Innovation Theory

Innovation is a new product, service, idea, and perception from someone. Innovation is a product or service that is perceived by consumers as a new product or service. In simple terms, innovation can be interpreted as a breakthrough related to new products. innovation is not only limited to the development of new products or services (Kotler, 2013).

MSME Actors Theory

Small Business is a productive economic business that stands alone, which is carried out by individuals or business entities, which are not subsidiaries or branches of companies that are owned, controlled. Small business criteria as referred to in the Law of the Republic of Indonesia Number 17 of 2013 concerning Micro, Small and Medium Enterprises. According to BPS (Central Bureau of Statistics) Small and Medium Enterprises are based on the quantity of labor. Small businesses are business entities that have a workforce of 5 to 19 people, while medium businesses are business entities that have a workforce of 20 to 19 people. 99 people. SME actors are individuals or entities in any form which in their business activities or work produce goods, import goods, export goods, conduct

trading businesses, and utilize goods (Mardiasmono, 2008).

RESEARCH METHODS

This type of research is causal research, causal design is useful for analyzing how a variable affects other variables (Umar, 2008), and is also useful in experimental research where the independent variable is treated in a controlled manner by the researcher to see the impact on the dependent variable in a controlled manner. live. The place of this research was conducted in Medan Selayang District, Medan City. The population is the total number of objects studied (Sugiyono, 2008, p. 73). The sample is part of the number and characteristics possessed by the population (Sugiyono, 2003, p.73). The population in this study was 398 culinary businesses. The sample in this study was MSME.

Data analysis method

1. Confirmatory factor analys (CFA)

Confirmatory Factor Analysis aims to find a way to summarize the information contained in the original (initial) variable into a new set of dimensions or variate (factor) with the formula :

$$X_1 = A_{i1} F_1 + A_{i2}F_2 + A_{i3}F_3 + A_{i4}F_4 + + V_iU_i$$

Information :

- Fi = I standardized variable
- Ail = Regression coefficient of the variable to I on the common factor I
- Vi = Standardized regression coefficient of variable I on unique factor to I
- F = Common factor
- Ui = Unique variable for the Ith variable
- M = Sum of common factors

Clearly the common factors can be formulated as follows :

$$F_i = W_{i1}X_1 + W_{i2}X_2 + W_{i3} X_3 + \dots + W_{ik} X_k$$

Where :

- Fi = Factor I estimate
- WI = Factor weight or factor coefficient score
- X K = Number of variables

2. Multiple linear regression

Multiple linear regression is a measuring tool used to measure the presence or absence of a correlation between several variables (Rusiadi, 2013: 138), with the form of the regression equation as follows :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon$$

Where :

- Y = Income of MSME

a = price Y when X_1 and $X_2 = 0$ (constant price)
 β = Regression coefficient
 X_1 = Capital
 X_2 = Consumption
 X_3 = Production
 X_4 = Distribution
 X_5 = Technology

X_6 = KUR
 X_7 = Product Innovation
 X_8 = Total manpower
 X_9 = Length of business
 ϵ = Error Term

Based on the theoretical basis and previous research, the following framework is formed for the analysis in this research :

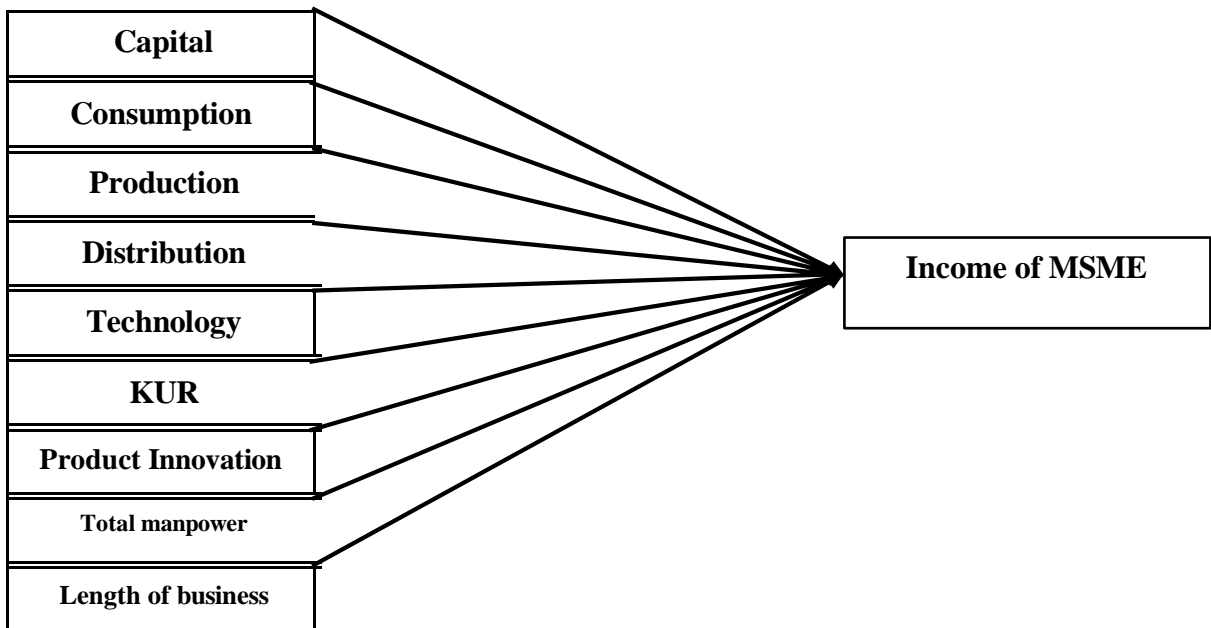


Figure 3.1 Confirmatory Factor Analys (CFA) Conceptual Framework

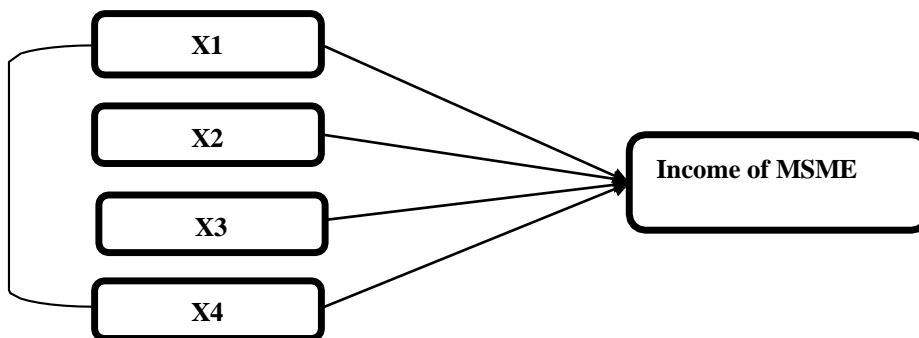


Figure 3.2 : Conceptual Framework of Multiple Linear Regression

RESULTS AND DISCUSSION

1. Results of confirmatory factor analysis (cfa) data analysis

The results of the Barlett's test of Sphericity and Kaiser-Meyer-Olkin (KMO) with the help of SPSS 23 software is shown in the table below.

Table 4.1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.558
Bartlett's Test of Sphericity	Approx. Chi-Square	46.323
	Df	36
	Sig.	.116

Source: SPSS Processing Results version 16.0 (2020)

Table 4.1 above shows the value obtained from the Bartlett's test of Sphericity is 46.323 with a significance of 0.116, this means that there is a correlation between variables (significant < 0.050). The results of the Kaiser-Meyer-Olkin (KMO) test obtained a value of 0.558 where the number is already above 0.5. Thus the variables in this study can be processed further. The next step is the Measure of Sampling Adequacy (MSA) test, where each variable is analyzed to find out which variables

can be processed further and which should be excluded. To be processed further, each variable must have an MSA value > 0.5. The MSA value is contained in the Anti-Image Matrice table in the Anti-Image Correlation section, namely the correlation number marked "a" with a diagonal direction from top left to bottom right. The results of the MSA test for this research variable are shown in the following table.

Anti-image Matrices

	capital	Consumption	production	distribution	technology	KUR	Product Innovation	Total manpower	Length of business	
Anti-image Covariance	capital	.978	-.033	.029	-.060	.039	.049	.046	-.086	.051
	consumption	-.033	.942	.120	-.034	.025	.089	-.094	.093	-.070
	production	.029	.120	.957	-.036	.006	.067	.041	-.097	.039
	distribution	-.060	-.034	-.036	.966	.015	-.123	-.040	.088	.000
	technology	.039	.025	.006	.015	.960	.107	.025	.039	.129
	KUR	.049	.089	.067	-.123	.107	.937	-.110	.033	-.023
	Product innovation	.046	-.094	.041	-.040	.025	-.110	.938	-.036	-.137
	Total manpower	-.086	.093	-.097	.088	.039	.033	-.036	.948	.086
	Length of business	.051	-.070	.039	.000	.129	-.023	-.137	.086	.929
Anti-image Correlation	capital	.472 ^a	-.034	.030	-.062	.041	.051	.048	-.089	.054
	consumption	-.034	.551 ^a	.127	-.036	.026	.095	-.100	.099	-.075
	production	.030	.127	.579 ^a	-.037	.006	.071	.043	-.102	.041
	distribution	-.062	-.036	-.037	.520 ^a	.015	-.130	-.042	.092	.000
	technology	.041	.026	.006	.015	.554 ^a	.113	.027	.041	.136
	KUR	.051	.095	.071	-.130	.113	.530 ^a	-.117	.035	-.025
	product innovation	.048	-.100	.043	-.042	.027	-.117	.590 ^a	-.038	-.146
	Total manpower	-.089	.099	-.102	.092	.041	.035	-.038	.546 ^a	.092
	Length of business	.054	-.075	.041	.000	.136	-.025	-.146	.092	.603 ^a

Source: Processing Results of SPSS version 16.0 (2021)

a. Measures of Sampling Adequacy(MSA)

From table 4.2 above, it is known that the variables in this study have MSA values > 0.5 so that the variables can be analyzed as a whole further.

Total Variance Explained

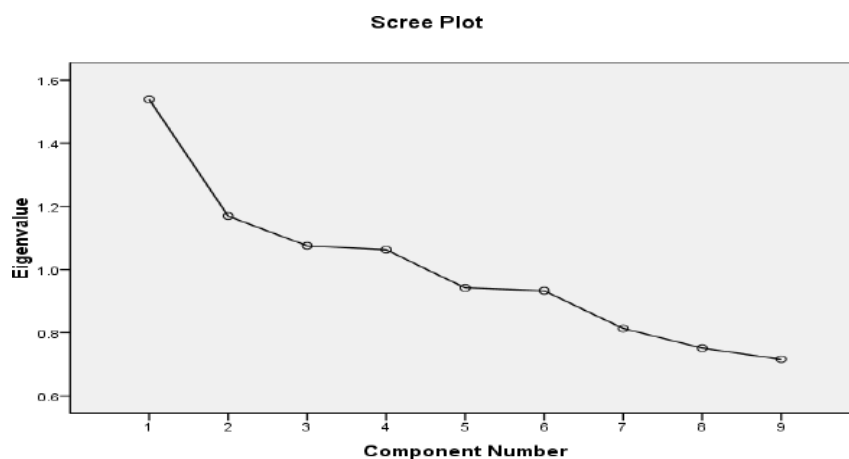
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.540	17.107	17.107	1.540	17.107	17.107	1.309	14.545	14.545
2	1.169	12.992	30.099	1.169	12.992	30.099	1.282	14.243	28.788
3	1.075	11.944	42.043	1.075	11.944	42.043	1.161	12.903	41.691
4	1.062	11.805	53.848	1.062	11.805	53.848	1.094	12.158	53.848
5	.942	10.463	64.311						
6	.933	10.361	74.673						
7	.813	9.032	83.705						
8	.751	8.346	92.051						
9	.715	7.949	100.000						

Extraction Method: Principal Component Analysis.

Source: Processing Results of SPSS version 16.0 (2021)

Based on the results of the total variance explained in the initial Eigenvalues table, it is known that there are 4 component variables that are factors that affect the income of MSME actors. Eigenvalues show the relative importance of each factor in calculating the variance of the 9 variables analyzed. From the

table above, it can be seen that there are only four factors formed, because the four factors have a total value of eigenvalues above 1 which is 1,540 for factor 1, 1,169 for factor 2, 1,075 for factor 3, and 1,062 for factor 4. stop at only 4 factors that will participate in the next analysis:



Source: Processing Results of SPSS version 16.0 (2021)

Figure 4.1 : scree plot component number

The scree plot graph shows that from one to two factors (the line from the Component Number = 1 to 2 axis), the direction of the graph decreases quite sharply. While from number 3 to number 4 it decreases then number 4 to number 5 decreases below number 1 from the Y axis (Eigenvalues). This shows that four factors are the best for summarizing the eight variables.

Results of Multiple Linear Regression Data Analysis

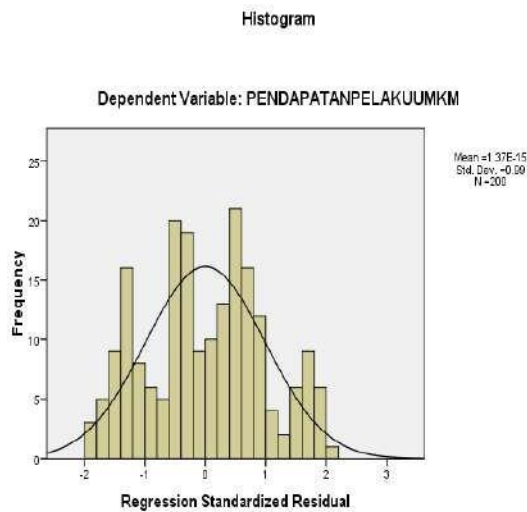


figure 4.2 Source: Processing Results of SPSS version 16.0 (2021)

Normal P-P Plot of Regression Standardized Residual

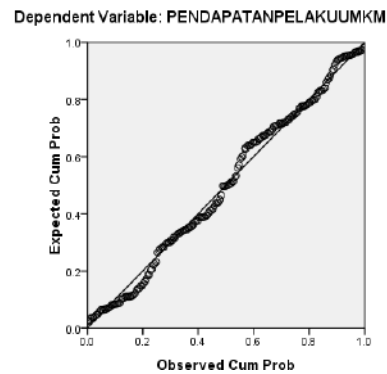


figure 4.3 Source: Processing Results of SPSS version 16.0 (2021)

From the picture above, it can be seen that the data in this study has been normally distributed, which can be seen from the histogram image which has the convexity is balanced in the middle and can also be seen from the normal pp plot picture that the points are between the diagonal lines, it can be concluded that data distribution is normally distributed.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	4.900	1.103		4.444	.000					
Length of busines	.112	.068	.116	1.663	.098	.130	.118	.115	.983	1.017
consumption distribution	.206	.083	.173	2.483	.014	.179	.175	.172	.986	1.014
capital	-.148	.064	-.160	-2.313	.022	-.149	-.163	-.160	.996	1.004
	.015	.074	.014	.198	.843	.003	.014	.014	.993	1.007

a. Dependent Variable: Income of MSME

Source: Processing Results of SPSS version 16.0 (2021)

Based on table 4.4 above, it can be seen that the Variance Inflation Factors (VIF) smaller than 5 include the length of business 1.017 < 5, consumption 1.014 < 5, distribution 1.004 < 5,

capital 1.007 < 5 and the Tolerance value for length of business 0.983 > 0.10, consumption 0.986 > 0.10, distribution 0.996 > 0.10, capital 0.993 > 0.10 so that it is free from multicollinearity

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	4.900	1.103		4.444	.000					
Length of business	.112	.068	.116	1.663	.098	.130	.118	.115	.983	1.017
consumption	.206	.083	.173	2.483	.014	.179	.175	.172	.986	1.014
distribution	-.148	.064	-.160	-2.313	.022	-.149	-.163	-.160	.996	1.004
capital	.015	.074	.014	.198	.843	.003	.014	.014	.993	1.007

a. Dependent Variable: Income of MSME

Table 4.5 Source: Processing Results of SPSS version 16.0 (2020)

Based on table 4.5, it is obtained multiple linear regression as follows :

$$Y = 4,900 + 0,112 X_1 + 0,206 X_2 - 0,148 X_3 + 0,015 X_4 + \epsilon.$$

The interpretation of the multiple linear regression equation is :

If everything in the independent variables is considered constant, then the income value of MSME actors is 4,900. If the length of business increases by 1 unit, then the income of MSME actors will increase by 0.112. If consumption increases by 1 unit, then the income of MSME actors will increase by 0.206. If the distribution increases by 1 unit, it will reduce the income of MSME actors by 0.148. If there is an increase in capital of 1 unit, it will increase the income of MSME actors by 0.015.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the CFA method and Multiple Linear Regression, it can be concluded:

- a. The results of the Confirmatory Factor Analysis (CFA) analysis show that the Variance Explained table shows that the length of business, consumption, distribution and capital factors have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.
- b. The results of the Multiple Linear Regression Analysis show that consumption and business distribution have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.
- c. The results of the Multiple Linear Regression Analysis show that the length of

business and capital have no significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.

- d. Length of business, consumption, distribution and capital simultaneously have a significant positive effect on the income of MSME actors in Medan Selayang District, Medan City.

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CLASSICAL AND KEYNESIAN STATIC MODEL CAPABILITIES IN THE APPLICATION OF MACROPRUDENTIAL POLICY IN EMERGING MARKET COUNTRIES

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ABSTRACT

This study aims to analyze the variables of Foreign Direct Investment, Consumer Price Index, Money Supply, Interest Rates, Statutory Reserves and Non-Performing Loans. This study uses secondary data or time series data for the period 2010-2019. The data analysis model used is the ARDL panel model. The results of the analysis of the VAR state that the past variable contributes to the present variable either on the variable itself or on other variables. There is a reciprocal relationship that can be seen from the estimation results between each variable, namely the Consumer Price Index variable, the Amount of Money Supply, interest rates and Statutory Reserves with the Foreign Direct Investment variable contributing to each other. The results of the ARDL panel data analysis show that the Consumer Price Index and the Money Supply can be the leading indicators of Non-Performing Loans in the Five Emerging Market Countries in the long term viewed from the long run. The results of the analysis of the effectiveness of the classical and Keynesian static models characterized by the goods market and the money market in the short, medium and long term indicate that market equilibrium variables can support macroprudential implementation in the Five Emerging Market Countries.

Key words: consumer price index, foreign direct investment, interest rates, money supply, non performing loans, statutory reserves

INTRODUCTION

Financial system stability is very important in addition to price stability because financial system instability will have an impact on macroeconomic stability, even though the inflation rate is low and maintained (International Monetary Fund, 2013). The Financial Stability Board ordered the central bank to complement macroeconomic policies with other policies, namely macroprudential policies. Macroprudential policy is a countercyclical policy that aims to maintain resilience in the financial sector as a whole in order to be able to overcome systemic risks caused by the failure of financial institutions or financial markets which eventually lead to a crisis (Bank Indonesia, 2012).

According to the Bank of England (2009), macroprudential policy is a policy that aims to

maintain the stability of financial intermediation such as payment services, credit intermediation, and insurance against risks to the economy. However, according to the International Monetary Fund (2011), macroprudential policy is a policy that aims to maintain overall financial system stability by limiting the increase in systemic risk.

Non-Performing Loan Ratio (NPL) is a ratio to see the bank's ability to overcome and prevent bad loans granted by a bank. Non-Performing Loans (NPLs) can be measured through a comparison between non-performing loans and total loans. The higher the level of Non Performing Loans (NPL), the greater the credit risk borne by the bank. The magnitude of the NPL in the Five Emerging Market Countries according to CEIC can be seen in the following table and graph.

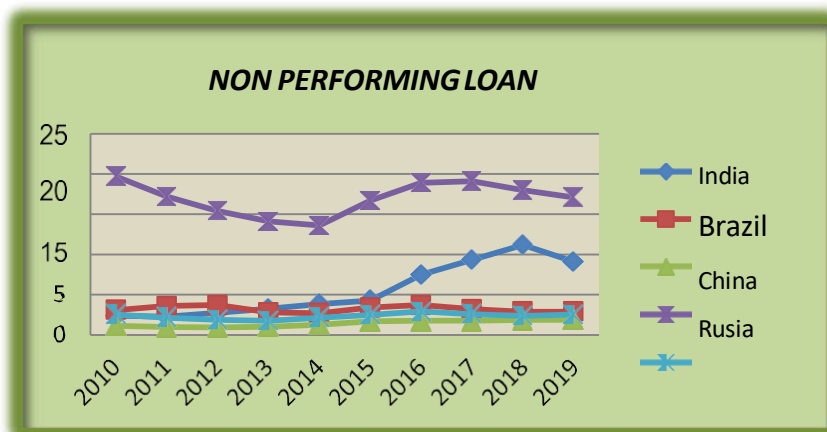


Figure 1.1 Graph of NPL Development in Five Emerging Market Countries 2010 to 2019 (%)
source : worldbank,2021

Based on the graph above, it is known that the rate of Non Performing Loans (NPL) showed various fluctuations from 2010 to 2019 in five emerging market countries, namely India, Brazil, Russia, and Indonesia. Where in India there was an increase in NPLs in 2012 by 2.75%, 2013 by 3.23% and in 2018 by 11.18%. Brazil showed that the NPL rate fluctuated relatively low in 2011 of 3.6% and experienced a moderate decline in 2014 of 2.7%. China shows a low average of below 2%. Russia showed a fluctuating rate of NPL and the highest NPL in 2010 was 19.7%, then decreased in 2014 by 13.6%. Meanwhile, Indonesia shows a stable NPL rate because the NPL rate is below 5%. When viewed from the whole, there was an increase in NPL in the five countries in 2015, India's NPL increased by 4.27% from 3.82% in the previous

year. Brazil rose 3.4% from 2.7% a year earlier. China was up 1.67% from 1.25% a year earlier, Russia was up 16.7% from 13.6% a year earlier, Indonesia was up 2.48% from 2.16% a year earlier. This is due to the large number of non-performing loans. The higher the NPL value, the worse the quality of credit extended by banks. For Indonesia, the maximum size of the NPL ratio is 5%. If the bank has an NPL level exceeding 5%, it can be said that the bank has experienced a product failure. The value of the Non-Performing Loan (NPL) ratio in large numbers will result in bank losses due to not getting back the money or loans that have been given and interest rates that are not received. Research by Sony Kristiyanto, Sugeng Widodo (2020) found that the higher the NPL value in a bank, the more unhealthy the bank will be

Table 1.1 The Development of the Consumer Price Index in five Emerging Market Countries from 2010 to 2019

Year	India	Brazil	China	Russia	Indonesia
2010	100	100	100	100	100
2011	108.85	106.63	105.55	108.44	105.35
2012	118.99	112.39	108.31	113.94	109.86
2013	131.97	119.37	111.1	121.63	116.90
2014	140.36	126.92	113.29	131.15	124.38
2015	148.60	138.38	114.92	151.52	132.30
2016	155.94	150.48	117.22	162.20	136.96
2017	159.82	155.66	119.08	168.17	142.18
2018	167.59	161.37	121.55	173.01	146.72
2019	180.43	167.39	125.08	180.75	151.17

Source : World bank

It can be seen from the table above that the rate of the Stock Price Index above shows that in each of these countries the CPI rate has increased every year. In 2010 in each country the CPI rate was 100%. In India in 2012 it was 118.99% and in 2019 it was 18.43. In 2013 in Brazil it was 119.37% and in 2018 it was 161.37%. In 2014 China was

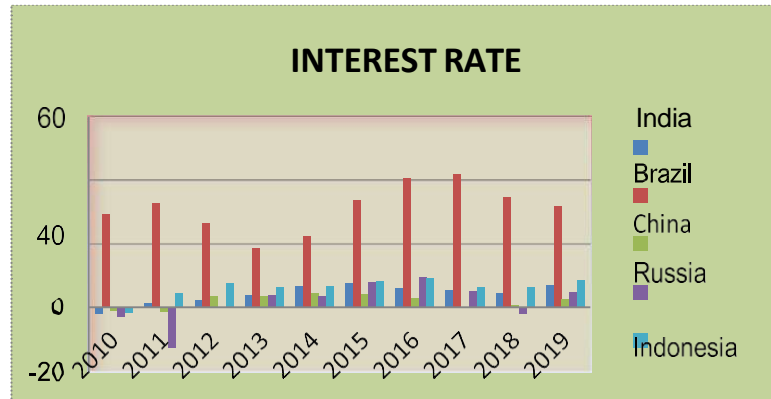
113.29%, in 2016 it was 114.92% and in 2019 it was 125.08%. Russia in 2011 was 108.44, in 2015 it was 151.52% and in 2017 it was 168.17%. Meanwhile, Indonesia in 2012 amounted to 105.35%, amounted to 124.38% in 2014 and in 2019 amounted to 151.17%. Overall, it can be seen through tables and

graphs that every year in each country there is an increase.

Inflation occurs due to price increases in general and continuously it will cause a decrease in people's purchasing power. If this happens often, it

can result in decreased sales and decreased quality of a business. This makes it difficult for customers to repay their loans to the bank so that the Non-Performing Loan (NPL) at the bank will increase.

Graph 1.2 Interest Rate Developments in Five Emerging Market Countries 2010 to 2019



Sumber worldbank

It can be seen from the graph above that interest rate fluctuations vary widely in each country. India experienced a not so high increase, namely in 2015 by 7.55% and decreased in 2017 by 5.52%. In contrast to Brazil, which experiences various and high-value fluctuations every year, namely in 2010 by 29.11%, in 2013 it decreased to 18.49% and in 2017 it increased by 41.76%.

China also experienced various fluctuations in 2011 by -1.00%, in 2014 it increased to 4.52% but decreased in 2017 by 0.11%. Russia in 2010 to 2011 had a negative value, in 2012 it was 0.17%, 2016 increased to 9.48% but decreased and was negative in 2018. While in Indonesia in 2010 it was negative at -1.7%, in 2014 it was -1.7%. 6.79% and increased in 2016 by 9.22%.

Overall, it can be seen that there has been an increase in interest rates in every country except China. High and low interest rates will affect people's desire to borrow money from banks. The lower the interest rate, the more people want to borrow money from the bank. This means that if the interest rate is low, people will be more interested in borrowing money from the bank to meet their needs or to start a business. On the other hand, when interest rates are high, people will prefer to save their money in the bank rather than use it for shopping and business development. Keynesian states that the determinants of interest rates are the action of the supply and demand for money in the money market. What determines the money supply or often referred to as the money supply is the government through the central bank and the amount is fixed for a certain period of time.

Theories

Classical and Keynesian Static Models

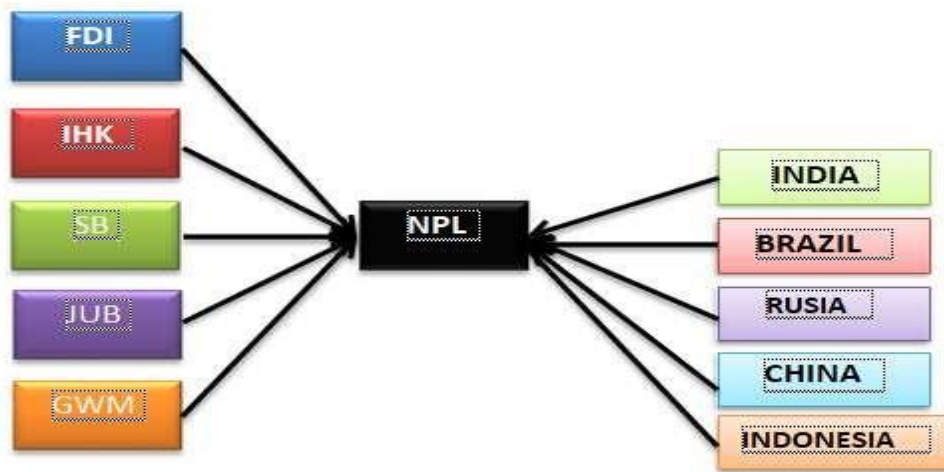
The balance of supply and demand for the money stock explains that aggregate output or income and the general price level are exogenous variables. Exogenous output or aggregate income and the general price level are irrelevant assumptions. In the macroeconomic model, output or aggregate income and the general price level are equilibrium variables determined in the system. Output or aggregate income and the general price level are the two equilibrium variables of aggregate demand [AD] and aggregate supply [AS].

Aggregate demand is the balance of output or aggregate income and the general price level produced by two market balances, namely the goods market balance [IS] and the money market balance [LM]. Aggregate supply is the balance of output or aggregate income and the general price level produced by the equilibrium of the labor market and production.

This section will discuss the goods market equilibrium model [IS], money market equilibrium model [LM], aggregate demand model [AD], classical aggregate supply model [AS], Keynesian aggregate supply model [AD] and maximal equilibrium analysis. A decrease in current usage lowers the IS plan and an increase in the original cash stock increases the LM plan, so that total interest falls and the overall rate of value rises. A decrease in total interest and an increase in the overall level of value will reduce the original and full use of the family. This level indicates that the

investigation of greatest utility is in accordance with the IS and LM examination. The following is the conceptual framework for the Classical and Keynesian Static Model ARDL Panel in

the Application of Macroprudential Policy in Five Emerging Market Countries:



RESEARCH METHODS

This research was conducted on five emerging market countries, namely India, Brazil, China, Russia and Indonesia. To support and encourage a quantitative analysis, a model is used, namely the ARDL Panel, in which the ARDL Panel model is able to explain the two-way relationship in the long-term economic variables used as endogenous variables.

This study uses data collection techniques by means of documentation studies, namely collecting variable data and processing data from previous information related to the problems to be studied. The data used in this study is secondary data obtained from the Worldbank

and CEIC and processed using Eviews 10 from 2010 to 2019.

ARDL Panel

Panel data is using data between time and data between countries. The ARDL panel regression is used to obtain the estimation results of each individual characteristic separately by assuming the existence of cointegration in the long-term lag of each variable. Autoregressive Distributed Lag (ARDL) introduced by Pesaran et al. (2001). This technique examines each lag variable located in I (1) or I (0). On the other hand, the ARDL regression result is a test statistic that can be compared with two asymptotic critical values. Panel Regression Test with the formula:

$$NPL_{it} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e \tag{3.18}$$

The following is the regression panel formula by country:

$$NPL_{INDIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.19}$$

$$NPL_{BRAZIL_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.20}$$

$$NPL_{CHINA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.21}$$

$$NPL_{RUSSIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.22}$$

$$NPL_{INDONESIA_{it}} = \alpha + \beta_1 GWM_{it} + \beta_2 FDI_{it} + \beta_3 IHK_{it} + \beta_4 SB_{it} + \beta_5 JUB_{it} + e_1 \tag{3.23}$$

RESULTS AND DISCUSSION

The results of the ARDL panel data analysis stated:

Table 1 ARDL Panel Output

Dependent Variable: D(NPL, 2)				
Method: ARDL				
Date: 04/18/21 Time: 21:07				
Sample: 2012 2019				
Included observations: 40				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (1 lag, automatic): D(GWM) D(IHK) D(JUB)				
Fixed regressors: C				
Number of models evaluated: 1				
Selected Model: ARDL(1, 1, 1, 1)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
D(GWM)	-0.039189	0.021495	-1.823131	0.0859
D(IHK)	0.194956	0.012442	15.66947	0.0000
D(JUB)	0.082634	0.026116	3.164085	0.0057
Short Run Equation				
COINTEQ01	-0.573173	0.190196	-3.013598	0.0078
D(GWM,2)	-0.035028	0.031015	-1.129400	0.2744
D(IHK,2)	-0.060919	0.064357	-0.946578	0.3571
D(JUB,2)	-0.021015	0.022517	-0.933302	0.3637
C	-0.688592	0.294917	-2.334864	0.0321
Mean dependent var	-0.002925	S.D. dependent var	1.145402	
S.E. of regression	1.140563	Akaike info criterion	1.218368	
Sum squared resid	22.11501	Schwarz criterion	2.342514	
Log likelihood	0.586719	Hannan-Quinn criter.	1.637438	
*Note: p-values and any subsequent tests do not account for model selection.				

Source : *Output Views 2021*

The accepted ARDL Panel Model is a model that has a cointegrated lag where the main assumption is that the coefficient value has a negative slope with a level of 5%. ARDL Panel Model requirements: negative value (-0.52) and significant ($0.00 < 0.05$) then the model will be accepted. Based on the acceptance of the model, data analysis can be carried out on a country-by-country panel.

Based on the results of the research above, that which is significant in the long term affects Non-Performing Loans (NPL) in the Five Emerging Market Countries, namely the Consumer Price Index (CPI). Then in the short term nothing will affect the Non Performing Loan (NPL). The leading indicator of the effectiveness of variables in strengthening Macroprudential Policy in Emerging Markets is the Consumer Price Index and the Money Supply as seen from the long run and short run stability, where the long run variable significantly controls macroprudential policy.

Leading indicator of the effectiveness of the state in controlling macroprudential policies in five emerging market countries, namely India (Consumer Price Index (CPI) and the Money Supply (JUB), Brazil (Required Demand Deposit (GWM), Consumer Price Index (CPI) and the Money Supply

(JUB), China (Required Statutory Reserves (GWM), Consumer Price Index (CPI) and Money Supply (JUB), Russia (Consumer Price Index (CPI) and Total Money Supply (JUB) and Indonesia (Required Statutory Reserves (GWM)), Consumer Price Index (CPI) and Money Supply (JUB).

From the panel, it turned out that the Consumer Price Index (CPI) and the Money Supply (JUB) were also able to become leading indicators for the implementation of macroprudential policies in five emerging market countries (India, Brazil, China, Russia and Indonesia) but their positions were unstable in both long and short runs. run.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the ARDL Panel method, it can be concluded: From the ARDL panel, the Consumer Price Index, the Money Supply and the Statutory Reserves are the leading indicators in the Five Emerging Market Countries (India, Brazil, China, Russia and Indonesia), but their positions are unstable in the short run. The main leading indicators of classical and Keynesian static models in the application of macroprudential policies in five Emerging Market Countries, namely the Consumer Price Index and the Money Supply as seen from the long run, where the variables Consumer Price Index and Money Supply are not significant but in the long run significant in controlling macroprudential policies as proxied by Non Performing Loans (NPL).

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EXCHANGE RATE SYSTEM CONTROL MODEL THROUGH THE IN 8 APEC COUNTRIES OPEN ECONOMIC MODEL

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ABSTRACT

This study aims to analyze the variables of inflation, interest rates, exports, imports, JUB, the effect on exchange rates and GDP in 8 APEC countries namely America, Australia, China, Singapore, Malaysia, Indonesia, Japan and South Korea. This type of research is quantitative analysis using secondary data from 2005 to 2020 (time series) and cross-sectional data obtained from the World Bank, Monetary Authority of Singapore, CEIC and Bank Indonesia. The data analysis technique used is the VAR analysis model. The results of the VAR analysis show that the past variable (t-1, t-2) has a contribution to the current variable, either for the variable itself or for other variables. In the medium and long term there is a change in the influence of each standard deviation of each variable from being positive to negative and vice versa.

Key words : exchange rate, exports, gdp, imports, inflation, interest rates, money supply

INTRODUCTION

Understanding Currency Exchange Rates According to (Mankiw, 2007), the currency exchange rate between two countries is the price of the currency used by residents of these countries to trade with each other. (Fabozzi and Modigliani, 1995) defines currency exchange rate as the amount of one country's currency that can be exchanged per unit of another country's currency, or in other words the price of one currency against another.

The upward adjustment or increase in currency exchange rates made by the central bank is called revaluation. Meanwhile, the downward adjustment or decrease in currency exchange rates made by the central bank is called devaluation. The difference in the exchange rate of a country's currency (exchange rate) is in principle determined by the amount of demand and supply of that currency (Levi, 1996).

Based on the graph above, it can be seen that the movement of the exchange rate of each country against the USD exchange rate has ups and downs. China, which was the first victim of the Covid-19 outbreak, was actually able to strengthen the Yuan Renminbi exchange rate against the USD in December 2020, touching YCN 6.96/USD from the previous YCN 7.03/USD. This is because in the spot foreign exchange market in China, it is allowed to increase or decrease 2% from the middle rate on the trading day. The middle exchange rate of the Yuan against the United States Dollar is based on the weighted average of prices offered by market participants prior to the opening of interbank trading each working day.

(According to Setiawan, 2009) that the depreciation of the rupiah against the USD is very influential on increasing inflation conditions in Indonesia. However, according to (Suriani, 2014) the exchange rate variable has no causal relationship to inflation in Indonesia. The weakening of the rupiah exchange rate makes the price of imported goods increase because more rupiah is needed to obtain these imported goods, as well as goods with imported production raw materials..

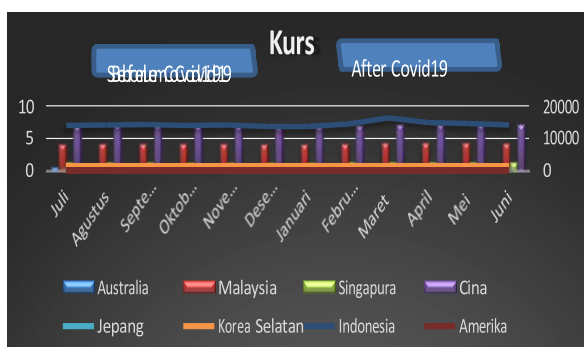


Figure 1: Exchange rate (usd) July 2019 to June 2020

Source : <https://id.tradingeconomics.com>

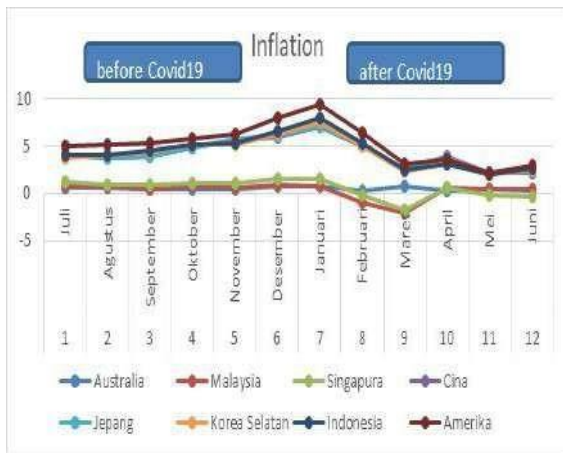


Figure 2 : Inflation (%) July 2019 to June 2020 Based

on the graph above, it can be seen that inflation in each country decreased simultaneously in April 2020. Indonesia previously had an inflation rate of 0.1%, changed to 0.08% in April, South Korea previously had an inflation rate of -0.2%. changed to -0.6% in April, Japan's previous inflation rate of 0% changed to -0.2% in April, America's previous inflation rate of 0.7% turned down to 0.5% in April . Singapore's previous inflation rate of 0.3% changed to -0.1% in April, Australia's previous inflation rate of 0.7% turned down to 0.3% in April, Japan's previous inflation rate of 0.3% turned down to 0% in April.

Inflation is one form of economic disease that often arises and is experienced in almost all countries. The tendency of rising prices in general and occurs continuously (Dwi, 2002). (Rohim, 2011) which states that there is a negative and significant relationship between interest rates and inflation.

Theories

Fixed Exchange Rate System Stability

Economic stability is an economic condition where there are no too large changes or fluctuations in the macro economy. In other words, a stable

economy is an economy whose output growth is steady, does not have high inflation or more than 10%, and does not experience frequent recessions. An economy that often experiences recession or is experiencing high inflation is an unstable economy. Economic stability is also a condition that is reflected in the improvement of an economy. Efforts to maintain macroeconomic stability are carried out through measures to strengthen the resilience of the domestic economy against various shocks that arise, both from within and from abroad.

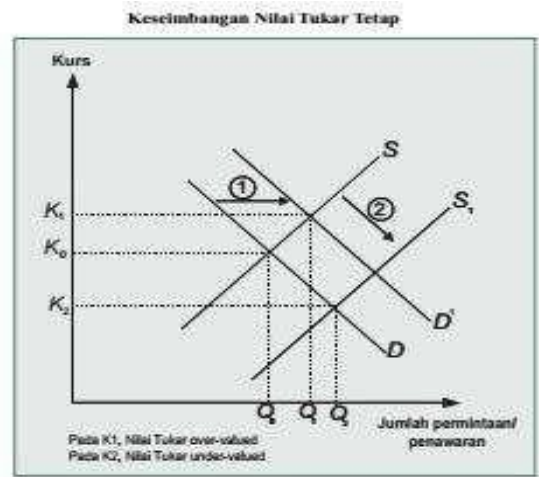


Figure 3: Fixed exchange rate balance

A fixed exchange rate system is a regime in which the monetary authority determines a fixed exchange rate permanently. Fixed exchange rate system means the value of $e_t = e$. The substitution of the value of $e_t = e$ in equations (1.16A) and (1.16B) explains that in a fixed exchange rate system, monetary policy cannot be determined exogenously. Monetary policy is aimed at maintaining the exchange rate at par $e_t = e$. This condition is called the description of the monetary policy of the fixed exchange rate regime. In a fixed exchange rate system, the IS model and the LM model change to:

$$y_t = \beta_0 + \beta_1 [R_t^* - E_t(p_{t+1} - p_t)] + \beta_2 [p_t - e - p_t^*] + v_t \tag{1.29A}$$

$$m_t - p_t = \alpha_0 + \alpha_1 y_t + \alpha_2 R_t^* + \varepsilon_t \tag{1.29B}$$

The effect of shocks [v_t and ε_t] on currency exchange rates and price levels is based on the assumption that p_t^* , R_t^* and m_t are constant in the long run so:

$$B_t = -\beta_1 [E_t(p_{t+1} - p_t)] + \beta_2 [p_t - e] + v_t \tag{1.30A}$$

$$-p_t = C + \varepsilon_t \tag{1.30B}$$

where B and C each are constants for all variables and parameters contained in each variable. The domestic price level is determined by the shock of government consumption, foreign output and money demand, namely:

$$p_t = \theta_{10} + \theta_{11} v_t + \theta_{12} \varepsilon_t \text{ dimana } E_t p_{t+1} = \theta_{10} \quad (1.31A)$$

$$e = \theta_{20} + \theta_{21} v_t + \theta_{22} \varepsilon_t \text{ dimana } E_t e = \theta_{20} \quad (1.31B)$$

Substitution to (1.30A) and (1.30B) will give the following equations between shocks:

$$B_t = -\beta_1[-\theta_{11}v_t - \theta_{12}\varepsilon_t] + \beta_2[\theta_{10} + \beta_2[\theta_{10} + \theta_{11}v_t + \theta_{12}\varepsilon_t - \theta_{20} - \theta_{21}v_t - \theta_{22}\varepsilon_t] + v_t \quad (1.32A)$$

$$-\theta_{10} - \theta_{11}v_t - \theta_{12}\varepsilon_t = C + \varepsilon_t \quad (1.32B)$$

Equations (1.32A) and (1.32B) are met with four parameters or coefficients, namely:

1. $0 = \beta_1[\theta_{11}] + \beta_2[\theta_{11} - \theta_{21}] + 1,$
2. $0 = \beta_1[\theta_{12}] + \beta_2[\theta_{12} - \theta_{22}],$
3. $\theta_{11} = 0,$ dan
4. $-\theta_{12} = 1.$

From these four parameters or coefficients, the solution parameter or coefficient is obtained, each of which is $\theta_{11} = 0,$ $\theta_{12} = -1,$ $\theta_{21} = 1/\beta_2,$ and $\theta_{22} = (\beta_1 + \beta_2)/\beta_2.$ Therefore, the price level and par value of the domestic currency are respectively

$$p_t = \theta_{10} - \varepsilon_t \quad (1.33A)$$

$$e = \theta_{20} + \frac{1}{\beta_2} v_t + \frac{\beta_1 + \beta_2}{\beta_2} \varepsilon_t \quad (1.33B)$$

when $\beta_1, \beta_2 < 0.$ The response of the domestic price level [pt] to a shock to the demand for the money stock [ε_t] is negative or the domestic price level will fall if the demand shock for the money stock is positive. The response of the par value of the domestic currency [e] to the shock of government consumption and foreign output [v_t] is negative and a response to the shock of the domestic money stock [ε_t] is positive. The par value of the domestic currency will appreciate if the shock of government consumption and foreign output is positive, on the contrary, the exchange rate

of the domestic currency will depreciate if the shock of money demand is positive.

Open economy model

An open monetary economic analysis with rational expectations includes determining the floating exchange rate. Trade relations with certain countries adhere to the fiat money system, meaning that paper money sold by the monetary authority is an internal transaction tool. The price of one unit of currency against another is determined by the foreign exchange market, which is called the exchange rate. The use of macroeconomic aggregation model is an analytical tool in determining currency exchange rates.

The inclusion of international trade in the IS Model explains the open economy model, namely:

$$y = c + i + g + x \quad (1.8)$$

when:

y = aggregate real output,

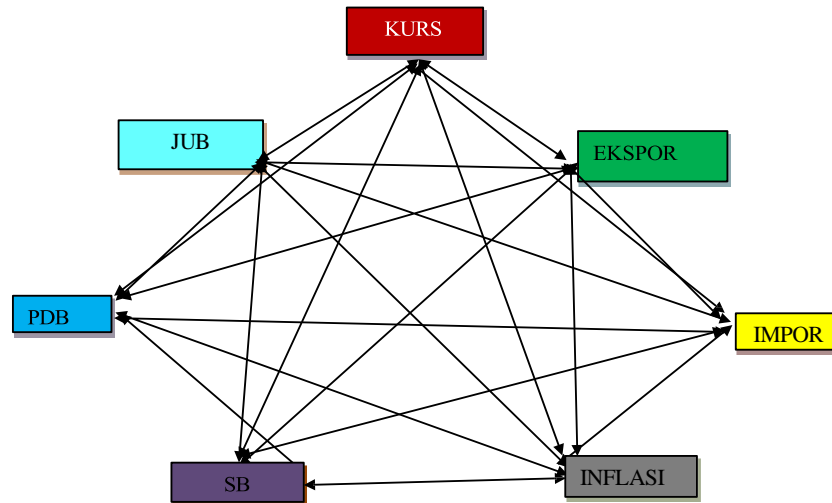
c = household real consumption,

i = the firm's real investment or consumption,

g = real government consumption, and

x = is net real exports.

The conceptual framework in this study with the VAR approach is as follows:



RESEARCH METHODS

This research was conducted on 8 countries with the strongest exchange rates in developed countries in the world (America, Australia, Malaysia, Singapore, South Korea, Japan, China,

and Indonesia). The data that will be used in this research is secondary data from the World Bank. <http://www.worldbank.org>. The data used in this study is secondary data taken and processed from the Worldbank (World Bank) and Bank Indonesia from 2001 – 2019 (18 years).

VAR (Vector Autoregression) Models

$$\begin{aligned}
 KURSt &= \beta_{10}INFt-p + \beta_{11}JUBt-p + \beta_{12}PDBt-p + \beta_{13}EKSt-p + \beta_{14}SBI t-p + \beta_{15}IMPt-p + et1 \\
 INFt &= \beta_{20}JUBt-p + \beta_{22}PDBt-p + \beta_{23}EKSt-p + \beta_{24}SBI t-p + \beta_{25}IMPt-p + \beta_{26}KURSt-p + et2 \\
 JUBt &= \beta_{30}PDBt-p + \beta_{31}EKSt-p + \beta_{32}SBI t-p + \beta_{33}IMPt-p + \beta_{34}KURSt-p + \beta_{35}INFt-p + et3 \\
 PDBt &= \beta_{40}EKSt-p + \beta_{41}SBI t-p + \beta_{42}IMPt-p + \beta_{43}KURSt-p + \beta_{44}INFt-p + \beta_{45}JUBt-p + et4 \\
 EKSt &= \beta_{50}SBI t-p + \beta_{51}IMPt-p + \beta_{52}KURSt-p + \beta_{53}INFt-p + \beta_{54}JUBt-p + \beta_{55}PDBt-p + et5 \\
 SBI t &= \beta_{60}IMPt-p + \beta_{61}KURSt-p + \beta_{62}INFt-p + \beta_{63}JUBt-p + \beta_{64}PDBt-p + \beta_{65} EKSt-p + et6 \\
 IMPt &= \beta_{71}KURSt-p + \beta_{71}INFt-p + \beta_{72}JUBt-p + \beta_{73}PDBt-p + \beta_{74}EKSt-p + \beta_{75}SBI t-p + et7
 \end{aligned}$$

Where :

- Kurs = Exchange Rate (US\$)
- INF = Inflation (%)
- JUB = Money supply M2,(%)
- PDB = Gross Domestic Product (%)
- EX = Export (US \$)
- SBI = Central bank interest (%)
- IMP = Export (US\$)
- et = random disturbance
- p = length of lag Model VAR will be met with Model VAR

RESULTS AND DISCUSSION

VAR Estimation Results

Vector Autoregression Estimates
 Date: 02/25/21 Time: 13:25
 Sample (adjusted): 2 128
 Included observations: 127 after adjustments
 Standard errors in () & t-statistics in []

	EKS	IMP	INF	JUB	KURS	PDB	SB
EKS(-1)	0.934754 (0.05335) [17.5206]	-0.027585 (0.04518) [-0.61057]	-0.553523 (1.05522) [-0.52456]	0.999195 (1.52352) [0.65585]	141.0060 (595.284) [0.23687]	0.742574 (1.00907) [0.73590]	0.099467 (0.95910) [0.10371]

IMP(-1)	-0.007804 (0.06153) [-0.12683]	0.988349 (0.05210) [18.9689]	-1.214118 (1.21695) [-0.99768]	-4.024007 (1.75701) [-2.29026]	-17.59217 (686.517) [-0.02563]	-4.554204 (1.16372) [-3.91349]	0.025833 (1.10609) [0.02335]
INF(-1)	0.013021 (0.00749) [1.73755]	0.011800 (0.00635) [1.85958]	0.417126 (0.14821) [2.81437]	0.398476 (0.21399) [1.86214]	150.2215 (83.6115) [1.79666]	-0.217526 (0.14173) [-1.53478]	0.291560 (0.13471) [2.16432]
JUB(-1)	-0.009920 (0.00309) [-3.21413]	-0.006899 (0.00261) [-2.63935]	0.197585 (0.06105) [3.23660]	0.379311 (0.08814) [4.30355]	-3.947062 (34.4386) [-0.11461]	0.188435 (0.05838) [3.22789]	-0.110195 (0.05549) [-1.98598]
KURS(-1)	-1.01E-05 (5.1E-06) [-2.00306]	-6.54E-06 (4.3E-06) [-1.52431]	8.21E-05 (0.00010) [0.81954]	-8.58E-05 (0.00014) [-0.59336]	0.831949 (0.05651) [14.7214]	8.36E-05 (9.6E-05) [0.87270]	1.72E-05 (9.1E-05) [0.18843]
PDB(-1)	0.011159 (0.00492) [2.26889]	0.006378 (0.00416) [1.53135]	-0.224413 (0.09728) [-2.30698]	0.090307 (0.14045) [0.64301]	-30.17377 (54.8762) [-0.54985]	0.166275 (0.09302) [1.78750]	0.023470 (0.08841) [0.26546]
SB(-1)	0.017790 (0.00819) [2.17237]	0.015020 (0.00693) [2.16593]	0.247450 (0.16197) [1.52774]	0.109063 (0.23385) [0.46637]	151.6232 (91.3733) [1.65938]	-0.247366 (0.15489) [-1.59707]	0.340979 (0.14722) [2.31615]
C	0.387175 (0.28553) [1.35600]	0.187056 (0.24179) [0.77363]	9.546697 (5.64735) [1.69047]	20.40388 (8.15356) [2.50245]	-1103.400 (3185.84) [-0.34634]	23.45547 (5.40035) [4.34332]	1.244895 (5.13292) [0.24253]

Estimation Proc:

=====
LS 1 1 EKS IMP INF JUB KURS PDB SB

VAR Model:

=====
EKS = C(1,1)*EKS(-1) + C(1,2)*IMP(-1) + C(1,3)*INF(-1) + C(1,4)*JUB(-1) + C(1,5)*KURS(-1) + C(1,6)*PDB(-1) + C(1,7)*SB(-1) + C(1,8)

IMP = C(2,1)*EKS(-1) + C(2,2)*IMP(-1) + C(2,3)*INF(-1) + C(2,4)*JUB(-1) + C(2,5)*KURS(-1) + C(2,6)*PDB(-1) + C(2,7)*SB(-1) + C(2,8)

INF = C(3,1)*EKS(-1) + C(3,2)*IMP(-1) + C(3,3)*INF(-1) + C(3,4)*JUB(-1) + C(3,5)*KURS(-1) + C(3,6)*PDB(-1) + C(3,7)*SB(-1) + C(3,8)

JUB = C(4,1)*EKS(-1) + C(4,2)*IMP(-1) + C(4,3)*INF(-1) + C(4,4)*JUB(-1) + C(4,5)*KURS(-1) + C(4,6)*PDB(-1) + C(4,7)*SB(-1) + C(4,8)

KURS = C(5,1)*EKS(-1) + C(5,2)*IMP(-1) + C(5,3)*INF(-1) + C(5,4)*JUB(-1) + C(5,5)*KURS(-1) + C(5,6)*PDB(-1) + C(5,7)*SB(-1) + C(5,8)

PDB = C(6,1)*EKS(-1) + C(6,2)*IMP(-1) + C(6,3)*INF(-1) + C(6,4)*JUB(-1) + C(6,5)*KURS(-1) + C(6,6)*PDB(-1) + C(6,7)*SB(-1) + C(6,8)

SB = C(7,1)*EKS(-1) + C(7,2)*IMP(-1) + C(7,3)*INF(-1) + C(7,4)*JUB(-1) + C(7,5)*KURS(-1) + C(7,6)*PDB(-1) + C(7,7)*SB(-1) + C(7,8)

=====
VAR Model - Substituted Coefficients:
=====

$$\text{EKS} = 0.934754421398*\text{EKS}(-1) - 0.0078037536711*\text{IMP}(-1) + 0.0130205025479*\text{INF}(-1) - 0.00992047792065*\text{JUB}(-1) - 1.01453467926e-05*\text{KURS}(-1) + 0.0111589039809*\text{PDB}(-1) + 0.0177900570784*\text{SB}(-1) + 0.387175012972$$

$$\text{IMP} = - 0.0275852619813*\text{EKS}(-1) + 0.988348632439*\text{IMP}(-1) + 0.0118004097196*\text{INF}(-1) - 0.0068985744779*\text{JUB}(-1) - 6.53789890873e-06*\text{KURS}(-1) + 0.00637786786063*\text{PDB}(-1) + 0.0150203168128*\text{SB}(-1) + 0.187056218952$$

$$\text{INF} = - 0.553522950645*\text{EKS}(-1) - 1.21411797362*\text{IMP}(-1) + 0.417126203849*\text{INF}(-1) + 0.197585295572*\text{JUB}(-1) + 8.20993298173e-05*\text{KURS}(-1) - 0.224412580093*\text{PDB}(-1) + 0.247450186593*\text{SB}(-1) + 9.54669725718$$

$$\text{JUB} = 0.999194655386*\text{EKS}(-1) - 4.02400667796*\text{IMP}(-1) + 0.398476267897*\text{INF}(-1) + 0.379310909126*\text{JUB}(-1) - 8.58206333924e-05*\text{KURS}(-1) + 0.0903071211957*\text{PDB}(-1) + 0.109062636919*\text{SB}(-1) + 20.4038815145$$

$$\text{KURS} = 141.005968906*\text{EKS}(-1) - 17.5921677446*\text{IMP}(-1) + 150.221545821*\text{INF}(-1) - 3.94706236478*\text{JUB}(-1) + 0.831949113319*\text{KURS}(-1) - 30.1737659944*\text{PDB}(-1) + 151.623171548*\text{SB}(-1) - 1103.40000212$$

$$\text{PDB} = 0.74257420053*\text{EKS}(-1) - 4.55420364732*\text{IMP}(-1) - 0.217525530747*\text{INF}(-1) + 0.188435368781*\text{JUB}(-1) + 8.36008398103e-05*\text{KURS}(-1) + 0.166275302077*\text{PDB}(-1) - 0.247366136582*\text{SB}(-1) + 23.4554738551$$

$$\text{SB} = 0.0994673464719*\text{EKS}(-1) + 0.0258326088274*\text{IMP}(-1) + 0.291560075417*\text{INF}(-1) - 0.110194993101*\text{JUB}(-1) + 1.71572885751e-05*\text{KURS}(-1) + 0.0234703796961*\text{PDB}(-1) + 0.340978510568*\text{SB}(-1) + 1.24489544633$$

The conclusion of the contribution of VAR analysis shows the largest contribution of one and two to a variable, which is then analyzed as follows:

VAR analysis of exports

The biggest contribution to exports was the export itself in the previous period and was followed by interest rates in the previous period. The current increase in exports is also influenced by the increase in the amount of inflation in the previous year. The inflation rate will greatly affect the level of exports carried out by the country. If the inflation rate is high, the availability of exporter funds used for production funds will be higher, making export prices more expensive and causing a decrease in the number of exports.

VAR analysis of imports

The biggest contribution to savings was imports from the previous period, followed by interest rates from the previous period. High interest rates will limit public consumption on credit, which in turn will reduce borrowing by importers which will cause the value and volume of imports to decrease.

VAR analysis on inflation

The biggest contribution to inflation is the exchange rate of the previous period and inflation itself. If domestic inflation from the previous year increases while inflation in other countries is

relatively stable, the price of domestic goods will be more expensive than other countries, or in other words, the prices of foreign goods will be cheaper. In this way, the export of domestic goods will decrease and lead to a decrease in demand for the country's currency, which causes the country's exchange rate to weaken against foreign currencies.

VAR analysis of JUB

The biggest contribution to the money supply was exports in the previous year, followed by inflation in the previous period. This can be interpreted when exports increase in the previous year there will be an increase in income in the community so that there is a tendency for someone to spend the money they have. This will cause the money supply to increase.

VAR analysis of exchange rates

The biggest contribution to the exchange rate was the interest rate of the previous year, followed by inflation of the previous period. The weakening of a country's exchange rate causes the price of imported goods to increase because it takes a larger amount of currency value to get these imported goods. Likewise, goods with imported raw materials for production. This will also increase the price of domestic production which can lead to inflation. The depreciation of a country's exchange rate against a foreign currency also results in an increase

in the value of exports. Cheaper prices for domestic goods attract foreign parties to increase the amount of demand for their goods so that prices will slowly rise and cause inflation.

VAR analysis of gdp

The biggest contribution to GDP is the previous year's exchange rate, followed by exports of the previous period. This means that if the exchange rate strengthens (appreciates), the value of exports will also increase, so that if exports increase, GDP will also increase. If the increase in gross domestic product leads to an increase in people's income, the increase in income will increase purchasing power and increase demand.

VAR analysis of interest rates

The biggest contribution to interest rates is the previous year's exchange rate followed by the interest rate itself in the previous period. This means that if there is an increase in interest rates by the central bank, it will reduce the level of public consumption because people will save more (saving in banks), with more people saving in banks, the money supply will decrease which will then decrease inflation.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out, the following conclusions can be drawn:

- 1) The largest variable contribution to exports is exports for the previous year and then followed by interest rates for the previous year.
- 2) The variable that contributed the most to imports was the import itself in the previous period and the second largest contribution was the interest rate for the previous year.
- 3) The biggest contribution to inflation is the previous year's exchange rate. Then the next year's contribution from inflation itself.
- 4) The variables that contributed the most to the money supply were exports for the previous year and then inflation for the previous year.
- 5) The largest contribution to the exchange rate came from the interest rate variable for the previous year, followed by inflation for the previous year.
- 6) The biggest variable contribution to GDP is the exchange rate for the previous year and then exports from the previous year.
- 7) The largest contribution to interest rates is the exchange rate for the previous year and followed by the interest rate itself for the previous year.
- 8) Based on the results of the response of one standard deviation of the variables studied

above, it can be concluded that there is a change in the effect of each standard deviation of each variable from being positive to negative and vice versa the negative being positive in the medium term and in the long term. These results explain that there are different responses from monetary variables and aggregate supply and demand balance variables, both positive and negative responses. This condition shows that all the variables studied are correlated with each other in the medium and long term.

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CHANGES TO THE KEYNESIAN CLASSIC STATIC MODEL AND IS-LM AGGREGATE DEMAND DERIVATION TO POST-COVID-19 AGGREGATE DEMAND

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ABSTRACT

The purpose of this study is to analyze the Classical and Keynesian models in controlling aggregate demand (money supply) after Covid-19 in Brazil, Russia, India, Germany and Indonesia. This research uses ARDL Simultaneous regression analysis method with testing using Eviews 10 . Simultaneous regression analysis results show that INV, KPM have a positive inelastic effect on JUB. KPM, SB, TAX and JUB have a positive elastic effect on GDP.

Key words: aggregate demand control, classical and keynesian models, covid-19, gross domestic product, money supply

INTRODUCTION

Economic stability can actually be measured by the stability of the currency in the economy (Novalina & Russiadi, 2018). Economic growth is an illustration of the impact of government policies implemented, especially in the economic sector. Economic growth is the rate of growth formed from various economic sectors which indirectly describes the level of economic growth that occurs.

In 2019, Indonesia was in the second highest position in terms of economic growth, behind China in the first position with a growth of 6.1%. India, South Korea and the United States followed behind Indonesia in the third to fifth position with a growth of 4.7%; 2.2%; and 2.1%.

According to classical economists (in Sadono Sukirno, 2004: 73) said that the sum of all expenditures in the economy (aggregate expenditure), which includes consumption by households and investment by entrepreneurs, will always be equal to the value of all production created by all corporate sectors. at the level of full employment.

Based on the table and figure above, we can see that there have been fluctuations in GDP in the five countries due to Covid-19. In the second quarter of 2020, all countries experienced a decrease from the previous quarter, namely the first quarter, in Indonesia, during the Covid-19 period, in the second quarter of 2020, 246020101 decreased from the previous quarter. In the second quarter of 2020, Brazil also experienced a significant decline, which was 330216,000 from the previous quarter. In the second quarter of 2020, Russia also experienced a significant decline, which was 327048,629 from the previous quarter. on country Germany amounted to 858540.347, India also experienced a significant decrease of 513302.462 from the previous quarter. However, there is a significant difference, seen from the data, that the country of Indonesia has not experienced too much economic shock after Covid-19. The decline in GDP is bad for the economy because it will lead to a prolonged economic crisis. if national income increases, the demand for money will increase, but because the money supply does not change, there will be an excess demand for money in society (Rahardja and Manurung, 2008:229).

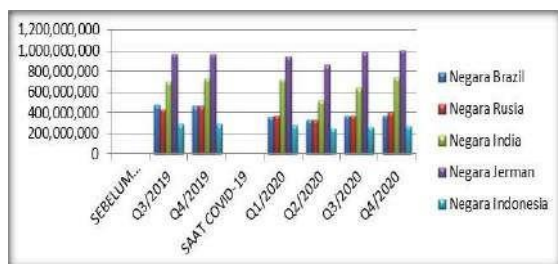


Figure 1: Graph of Quarterly Data Changes in GDP In The Five Largest GDP Countries 2019-2020
Source: Ceicdata

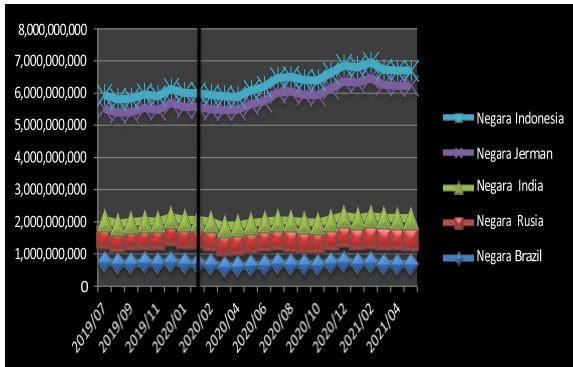


Figure 2: Graph of JUB Data In The Five Largest GDP Countries

Source: Ceicdata

As it is known that Covid-19 appeared in January 2020, this also has an impact on the money supply in the community. From the table and graph above, there are fluctuations in the money supply in the

community in the five countries. Germany, which is the highest GDP contributor to In The Five Largest GDP Countries, experienced an increase in February 2021, the money supply amounted to 4296211,143 USD from the previous month of 4201865,094. The State of Indonesia in February 2021 the amount of money in circulation in the community also decreased by 478632,913 USD from the previous month of 4,0049,522 USD. In the same month, February 2021, Brazil also experienced an increase of 747155,961 USD from the previous month of 715875,436 USD. The Russian state experienced an increase in the money supply in February 2021 by 781573,217 USD from the previous month of 755362,105 USD. Likewise, India in February 2021 during the Covid-19 period experienced a decrease in the money supply in the community by 643319,805 USD from the previous year of 647398,407 USD.

Theories

Classic static model

The company's production functions are:

$$y = f(n,k)$$

The stock of fixed capital is in the production process for a period of time, so the short-run company's production function is:

$$y = f(n)$$

The stock of fixed capital is in the production process for a period of time, so the short-run company's production function is:

$$y = P \times y - W \times n - FC = P f(n) - W \times n - FC$$

$$\frac{\partial(NR)}{\partial n} = P f(n) - W = 0 \text{ atau } f(n) = \frac{W}{P} \quad (16.12)$$

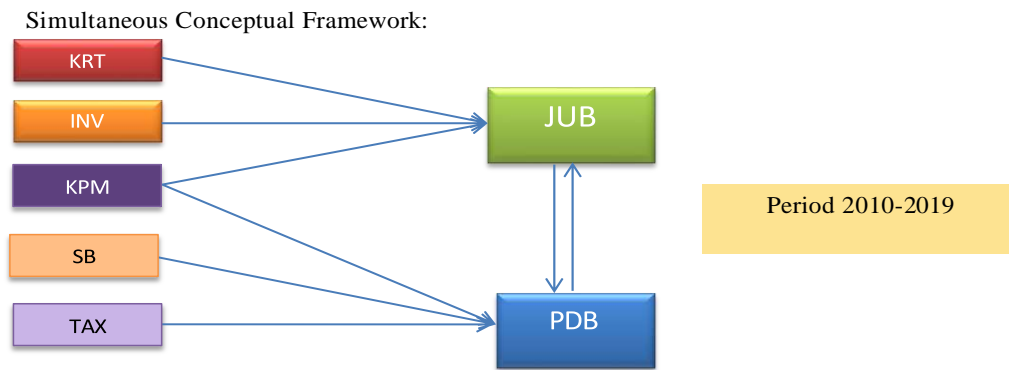
Where FC = firm's fixed costs. Equation (16.12) explains that the optimal use or demand for labor is when the marginal productivity of labor [f'(n)] sama dengan upah riil (W/P). Therefore, an increase in real wages will reduce the use or demand for labor because an increase in the use of labor will result in a smaller marginal productivity of labor. [f'(n) < 0]. This proportion formulates the labor demand model as follows:

$$n = h\left(\frac{W}{P}\right) = h(w), h < 0 \quad (16.13)$$

Keynes's theory of money demand

The Money Market is the intersection of the demand for money (MD) and the supply of money (MS). MD is the community's need for cash to support their economic activities. MS is the amount of money provided by the government and banks, namely all currency and demand deposits in circulation.

The financial theory put forward by Keynes generally explains 3 things, namely: (1) the goals of society to ask for (using money), (2) the factors that determine the interest rate, (3) the effect of changes in the money supply on the country's economic activities.



RESEARCH METHODS

This research model was conducted on five countries or In The Largest GDP Countries, namely Brazil, Russia, India, Germany and Indonesia. The data that will be used in this research is secondary data from the World Bank (World Bank), <http://www.worldbank.org>, Ceicdata.com, and Tradingeconomics from 2010 - 2019 (10 years).

Based on the criteria above, the identified equations in this study are as follows:

$$\begin{aligned} \text{LOG(JUB)} &= C(11) + C(12)*\text{LOG(KRT)} + C(13)*\text{LOG(INV)} + C(14)*\text{LOG(KPM)} + C(15)*\text{LOG(PDB)} + e1 \\ K &= 4, k = 2, m = 4 \\ \text{LOG(PDB)} &= C(21) + C(22)*\text{LOG(KPM)} + C(23)*\text{LOG(SB)} + C(24)*\text{LOG(TAX)} + C(25)*\text{LOG(JUB)} + e2 \\ K &= 4, k = 2, m = 4 \end{aligned}$$

RESULTS AND DISCUSSION

Simultaneous Equation Estimation Results

System: NEWSIMULTAN
 Estimation Method: Two-Stage Least Squares
 Date: 01/17/21 Time: 21:31
 Sample: 1 50
 Included observations: 50
 Total system (balanced) observations 100

	Coefficient	Std. Error	t-Statistic	Prob.
C(10)	-7.474201	2.202859	-3.392954	0.0010
C(11)	-3.832346	2.983768	-1.284398	0.2023
C(12)	0.403700	0.211491	1.908826	0.0595
C(13)	1.084550	0.112501	9.640350	0.0000
C(14)	5.597470	2.825882	1.980787	0.0507
C(20)	3.080384	0.249880	12.32743	0.0000
C(21)	-0.444774	0.070804	-6.281810	0.0000
C(22)	-0.005118	0.001898	-2.696661	0.0084
C(23)	0.086232	0.027931	3.087310	0.0027
C(24)	0.452591	0.116138	3.897023	0.0002

Determinant residual covariance 3.67E-08

Equation: $\text{LOG(JUB)} = C(10) + C(11)*\text{LOG(KRT)} + C(12)*\text{LOG(INV)} + C(13)*\text{LOG(KPM)} + C(14)*\text{LOG(PDB)}$

Instruments: KRT INV KPM SB TAX C

Observations: 50

R-squared 0.833749 Mean dependent var 3.464435

Sumber: Output Eviews10, 2021

Equation 1 .	Adjusted R-squared	0.818972	S.D. dependent var	0.068948	Test Results equation is
The first	S.E. of regression	0.029336	Sum squared resid	0.038726	
	Durbin-Watson stat	0.470296			

the equation

$$\text{Equation: } \text{LOG(PDB)} = \text{C}(20) + \text{C}(21) * \text{LOG(KPM)} + \text{C}(22) * \text{LOG(SB)} + \text{C}(23) * \text{LOG(TAX)} + \text{C}(24) * \text{LOG(JUB)}$$

Instruments: KRT INV KPM SB TAX C

Observations: 50

R-squared	0.575485	Mean dependent var	3.342419
Adjusted R-squared	0.537750	S.D. dependent var	0.016638
S.E. of regression	0.011312	Sum squared resid	0.005758
Durbin-Watson stat	0.518689		

used to

simultaneously determine the Money Supply and Gross Domestic Product with the following equation:

$$\text{LOG(JUB)} = \text{C}(10) + \text{C}(11) * \text{LOG(KRT)} + \text{C}(12) * \text{LOG(INV)} + \text{C}(13) * \text{LOG(KPM)} + \text{C}(14) * \text{LOG(PDB)} + e1$$

Based on these equations, the output results of Eviews10 with the Two-Stage Least Square model are as follows:

$$\text{JUB} = -7.474201 - 3.83 * \text{KRT} + 0.40 * \text{INV} + 1.08 * \text{KPM} + 5.59 * \text{PDB} + e1$$

Based on the estimation results above, it can be shown that $R^2 = 0.833749$ which means that the variables KRT, INV, KPM and PDB are able to explain GDP of 83.37% and the remaining 16.63% JUB is influenced by other variables outside the estimates in the model.

Based on the estimation results obtained by the t-count value, there is 1 variable that affects the JUB variable where the investment prob value is $0.00 < 0.05$ so that the variable is declared to have a significant effect. and variable

KRT, INV, GDP > 0.05 so that these variables are declared influential but not significant.

Equation 2 . Test Results

The second equation is the equation used to simultaneously determine the Money Supply and Gross Domestic Product with the following equation:

$$\text{LOG(PDB)} = \text{C}(20) + \text{C}(21) * \text{LOG(KPM)} + \text{C}(22) * \text{LOG(SB)} + \text{C}(23) * \text{LOG(TAX)} + \text{C}(24) * \text{LOG(JUB)} + e2$$

Based on this equation, the output results of Eviews10 with the Two-Stage Least Square model are as follows:

$$\text{PDB} = 3.080384 - 0.44 * \text{KPM} - 0.005 * \text{SB} + 0.08 * \text{TAX} + 0.45 * \text{JUB} + e2$$

Based on the estimation results above, it can be shown that $R^2 = 0.575485$ which means that the KPM, SB, TAX and JUB variables are able to explain GDP by 57.54% and the remaining 42.46% of GDP is influenced by other variables outside the estimates in the model.

CONCLUSIONS

Based on the results of the analysis and discussion that has been carried out using the Simultaneous method, it can be concluded: Simultaneous effect of classical and keynesian models in The Five Largest GDP Countries that KRT has a negative elastic effect on JUB. INV has a positive inelastic effect on JUB. KPM has a positive inelastic effect on JUB. GDP has a positive elastic effect on JUB. Simultaneous effect of classical and keynesian models in The Five Largest GDP Countries that KPM has a negative inelastic effect on GDP. SB has a negative inelastic effect on GDP. TAX has a positive inelastic effect on GDP. JUB has a positive inelastic effect on JUB.

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ANALYSIS OF LEARNING OUTCOMES INTRODUCTION OF ELECTRONIC COMPONENTS IN INDUSTRIAL ELECTRONICS SUBJECTS BASED ON AUGMENTED REALITY

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ABSTRACT

Electronics is a system that studies weak current power tools operated by controlling the flow of electrons or electrically charged particles in a device such as computers, electronic equipment, thermocouples, semiconductors, and so on. Learning media by utilizing Augmented Reality technology can increase students' learning interest and make it easier to understand electronic components, and know the level of feasibility of electronic component learning media using Augmented Reality technology. So in this research aims to create a learning medium using Augmented Reality technology in basic electronic learning. In testing this application will be tested to junior high school students and will be given a Pre-Test and Post-Test, which later the grades of students will be collected and then will be analyzed using SPSS, the values of the students will be compared and the expected results will be applied to the students.

Key words: augmented reality, educational games, electronic components

INTRODUCTION

Learning is an interactive process between teachers and students to achieve learning goals in various ways, including through observation and understanding of what is learned. Learning media using technology at this time becomes a factor that can support in the success of the learning process, one of which is smartphones. Using a smartphone is not only a communication tool, but also serves as a place to store data, learning media, means of finding entertainment (games) and so on.

Electronics is the science that studies weak current power tools operated by controlling the flow of electrons or electrically charged particles in a device such as computers, electronic equipment, thermocouples, semiconductors, and so on. The science that studies such tools is a branch of the physical sciences, while the design form and form of making electronic circuits are part of electrical engineering, computer engineering, and the science or engineering of electronics and instruments. To understand the science of electronics, students must learn the basics of electronics starting from the introduction of electronic components that include shapes, names, models, types, sizes and so on.

Augmented reality is a technology that combines two-dimensional (2D) or three-dimensional (3D) virtual objects together, and then projects those virtual objects in real time. With Augmented Reality objects that previously could only be viewed in 2D, can be displayed as virtual objects that appear in real environments. Augmented Reality technology can be applied to android-based smartphones. One of the applications of the field is to build an application of introduction of 3D electronic components by using Augmented Reality technology that is very useful in improving the teaching and easy to understand learning

process to support in the delivery of materials as well as an alternative means for students in basic learning of electronics, especially about electronic components, so that it is expected to help teachers in delivering materials and facilitate students in the process of learning. This research aims to create a learning medium.

Augmented reality is a technology that combines two-dimensional and three-dimensional objects into a real environment and then converts them to virtual objects in real time. Augmented reality is divided into two.:

a. *Marker*

The marker is a square black and white image with a thick black border and has a white background color. The system will recognize the position and orientation of markers and be able to create a 3-dimensional virtual world.



Figure 1. Transistor Figure 2. Resistor Variable

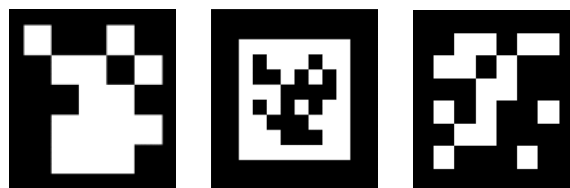


Figure 3. Marker

b. *Markerless*

Markerless to display digital elements. The development of augmented reality without markers can mark tracking, such as:

- **Face Tracking**
Face tracking is markerless, uses an algorithm to developed so system can recognize human faces in general by recognizing the position of the nose, eyes, and mouth.
- **3D Object Tracking**
Which only recognizes human faces in general, 3D object tracking techniques can recognize all forms of objects that are around
- **Motion Tracking**
This is captures the motion, widely used in movie productions that attempt to simulate motion.
- **GPS Based Tracking**
This is takes data from the GPS and the compass and displays it in the desired direction.

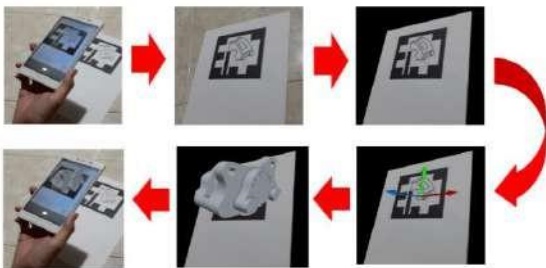


Figure 4. Augmented Reality

RESEARCH METHODS

In this research discusses the design of the system and the stage of analysis that will be applied to the electronic component system. System design and analysis will discuss all the preparations that will be the main point of mind of this research, starting the beginning of the system to be created.

Data collection methods

This is done to find out the data from the smartphone used and the learning features and content that is in the learning. In addition, questionnaires can be used to evaluate applications that have been created, as well as collect information as basic material to compile records to ensure validation of data that has been obtained successfully. The questionnaire consists of Pre-Test and Post-Test, to find out how much the student has improved after using this application.

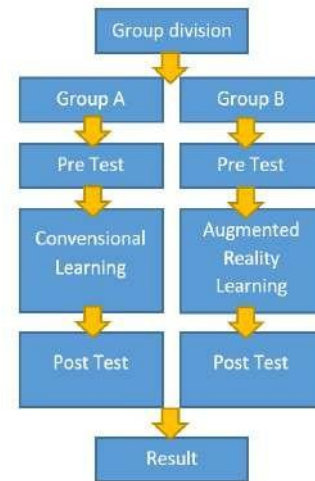


Figure 5. Research Scheme

Flowchart

A flowchart is a diagram with graphical symbols that expresses the flow of an algorithm or process that displays the steps symbolized in the form of a box, along with the sequence by connecting each of these steps using arrows.

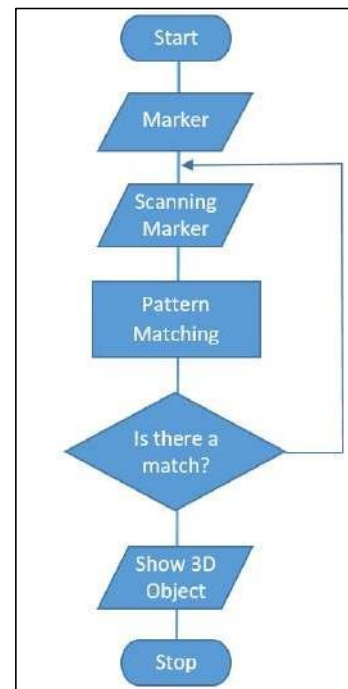


Figure 6. Flowchart

The flow diagram shows the introduction of electronic components there is some processing that the first step begins with the user having to prepare a marker image. Next, the user scans markers using a smartphone. Once the scan is complete, the android device will perform the process of detecting markers using a smartphone camera. If the android device detects the presence of a target it will send a signal to the application to bring up 3D objects of electronic components on the android device screen. When the system does not successfully detect the marker, then the system will not display the shape of the object 3D electronic components and the system re-scans the target. If the user presses the info button then the system will display an explanation of the 3D object of the electronic component.

RESULTS AND DISCUSSION

The product developed in this study is an interactive learning medium with 3D visualization. The following is an overview of learning media with 3D visualization.



Figure 7. AR Interface

In Figure 7 the main menu display in the Elektronik Component Augmented Reality application. There are navigation buttons, namely the start menu button to detect 3D object markers, the basic theory menu for viewing electronic material, the component menu for viewing basic electronic components and symbols, the menu button to organize sound and view information, and the exit menu to leave the application.

Marker implementation

The implementation of markers in the design there are 15 electronic component objects. This object is useful to facilitate user understanding in knowing electronic components in 3D form.



Figure 8. Marker Implementation

System Testing

This system test is a test of the program based on input and output truth criteria, as well as including validation and handling of input errors. System software is often associated with bug searches, program imperfections, errors in programs that cause failures in software system execution. The results of the program trial of the application of the introduction of electronic components can be seen in table 1.

Table 1. Testing Scheme

No	Menu	Trial Scenario	Status
1	Main Menu	View the app's main menu	Succeeded
2	AR Menu	Displays smartphone camera features for marker detection	Succeeded
3	Basic	Displays an explanation of electronic components and symbols	Succeeded
4	Component	Displays an explanation of electronic components and symbols	Succeeded
5	About	View an explanation of application development	Succeeded
6	Sleding Menu	Menampilkan penjelasan sebelum dan sesudah	Succeeded
7	Menu Keluar	Menutup Aplikasi	Berhasil

Respondent satisfaction score testing

In this test is used to find out the value of satisfaction to respondents to the Basic Electronic Introduction Learning Application Using Android-Based Augmented Reality. The test was conducted by asking each respondent to fill out a questionnaire that had been submitted to the respondent and provide a satisfaction score for each element given. On the satisfaction value is given the parameters of points A up to point E. Each point has a value that is point A is worth 100, point B is worth 80, point C is worth 60, point D is worth 40, and point E is worth 0. Each number on the answer points in each element is multiplied by the value of each point and divided by the number of respondents. The average of total assessments is classified according to a table of satisfaction criteria.

After testing by conducting a survey of 20 respondents. Results are obtained with a variant assessment. Here are the results of the survey of respondents can be seen in table 2.

Table 2. Survey Results for Respondents

Satisfaction Element	Satisfaction Score				
	A	B	C	D	E
This app is easy to use	8	15	0	0	0
This application is	4	14	3	0	0

practically used.					
This application is effectively used as an introduction to electronic components.	5	14	6	0	0
This application is very useful in learning the imposition of electronic components in junior high school.	4	13	7	0	0
The interactive design of the application looks interesting and interactive	3	15	3	0	0
This app is easy to understand.	5	11	6	0	0
This application is in accordance with the needs of junior high school students.	3	14	3	0	0

After the survey results in table 3 can be calculated the number of values on each indicator with the values A = 100 to E = 0. From the results of the calculation obtained the number of values as in table 3.

Table 3. Application Test Score Results in Respondents

No	Question	Number of values
1	This app is easy to use	84
2	This application is used	86
3	This application is effectively used as an introduction to electronic components.	81
4	This application is very useful in learning the introduction of electronic components in junior high school.	82
5	The interactive design of the application looks interesting and interactive	84
6	This app is easy to understand.	81
7	This application is in accordance with the needs of junior high school students.	83
Average		83
Kategori		Setuju

Based on table 3 it is seen that the results of respondents' assessment of the application value an average of 81.4. So it can be concluded that the results of the assessment of respondents include the category "Agree".

CONCLUSION

Based on the results of research and testing of AR Elektronika applications that have been done, it was concluded that the AR Elektronika recognition application can run on Android mobile devices. This application is made android-based to be practical and more interesting to learn students, obtained the test results as stated in table 4 with a score of 81% of respondents agreed that the AR Electronica learning application is easy to use, effectively used as an introduction to electronic components, and makes it easier to understand electronic components.

This AR Elektronika application uses markers to display 3D electronic component objects, so it will increase students' interest in not getting bored easily in learning basic electronic components, based on the results of t-tests that have been done obtained a signification value of 0.01 which means smaller than 0.05. Therefore, from the basis of the t test decision, if the value is significantly smaller than 0.05 then H1 is accepted, which means there is a significant difference in students' learning interests between the Non-AR Group and the AR Group.

This android-based AR Elektronika application program requires further development, electronic component objects are displayed only 15 basic electronic component objects, so it is expected that in the future there will be more, so that more and more widely in the knowledge provided by the application, and this application is very influential on lighting when the electronic component marker detection process is carried out.

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IMPLEMENTATION OF ISAK 35 IN EDUCATION FOUNDATIONS IN SIDOARJO

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ABSTRACT

Non-business organizations are commonly referred to as non-profit organizations. Financial reporting of non-profit organizations is regulated in special standards for non-profit organizations in PSAK (Statement of Financial Accounting Standards), namely PSAK 45. However, over time, PSAK 45 is now replaced by ISAK 35 (Interpretation of Financial Accounting Standards 35). ISAK 35 regulates the process of Presentation of Financial Statements of Non-profit Oriented Entities which has been ratified as of April 11, 2019 by IAI. This standard is effective as of January 1, 2020. The purpose of the study was to determine the differences in the results of the application of PSAK 45 with ISAK 35 in the financial statements of educational foundations in Sidoarjo, and to be able to present the financial statements of educational foundations using the new guidelines established, namely ISAK 35. The method used applied to this research is descriptive qualitative method. The data used include primary and secondary data. The primary data used is information obtained from interviews and the foundation's 2019 financial report files. The secondary data used is a literature review related to research topics, including ISAK 35, PSAK 45, as well as previous articles discussing financial reporting for non-profit organizations. Data collection techniques used interviews, case studies, and direct observation. Based on the results of the study, it can be concluded that so far educational foundations have properly implemented PSAK 45 in the presentation of their financial statements. After the implementation of ISAK 35, several differences can be found in the presentation of financial statements, in general, it can be seen in the elements of the financial statements. The financial statements of non-profit organizations presented in PSAK 45 are the statement of financial position, activity report, cash flow statement, and notes to financial statements. Meanwhile, ISAK 35 presented includes a statement of financial position, comprehensive income report, report on changes in net assets, cash flow statement, and notes to financial statements. In addition to the elements of financial statements, there are also differences in the elements of financial statements, including in net assets, there are differences in terms of classification and presentation in financial statements. The suggestion that the author proposes is that the preparation or presentation of financial statements as of 2020 can be guided by ISAK 35, considering that the standard has become effective as of January 1, 2020.

Key words: financial statements, foundation, non-profit, isak 35

INTRODUCTION

Broadly speaking, organizations are divided into two types when viewed from their operational objectives, namely, for-profit or profit-oriented organizations, commonly called business organizations, and non-profit organizations. Non-profit organizations do not have ownership because non-profit organizations are owned by the community.

The responsibility of non-profit organizations is the same as the responsibility of business organizations, namely in the form of financial statements. Non-profit organizations are required to make an accountability report in the form of financial statements because most of the resources obtained for the operations of this non-profit organization come from the community, of

course, the community requires a form of accountability for the organization's activities. The preparation of the financial statements of non-profit organizations also goes through the accounting process, as well as the preparation of the financial statements of business organizations in general. However, there are slight differences in presenting financial statements, because non-profit organizations in each of their activities have their own characteristics and there are various types of non-profit organizations.

The presentation of financial statements based on and in accordance with PSAK will be considered fair, otherwise if it is not in accordance with PSAK it will be considered unreasonable. PSAK which discusses the presentation of financial statements of non-profit organizations is PSAK 45. As of April 11, 2019 this PSAK 45 has been revoked

by IAI and replaced by ISAK 35, namely Presentation of Financial Statements of Non-profit Oriented Entities. ISAK 35 has been ratified as of April 11, 2019 and is effective as of January 1, 2020.

This new thing directly gives orders to non-profit organizations that have been preparing their financial statements based on PSAK 45 to change the guidelines to ISAK 35, because it has started made effective in 2020. The Education Foundation in Sidoarjo is no exception where this research will be conducted. The Education Foundation has prepared annual financial reports based on PSAK 45. With this new regulation, this research aims to determine the differences in financial statements presented with the application of PSAK 45 and the application of ISAK 35, and in order to be able to present financial statements in accordance with the standards. accounting that has been determined by ISAK 35 based on the data that has been obtained. It is hoped that the results of this research can help the Education Foundation in compiling financial statements for 2020 based on ISAK 35.

RESEARCH METHODS

This study used a qualitative method. Where this qualitative research aims to understand social phenomena that come from the participant's perspective. Participants referred to in qualitative research are people or parties who provide information through interviews, observations, data, opinions and thoughts of participants, as well as their perceptions.

The data used include primary data and secondary data. The primary data used is information obtained from interviews and the foundation's 2019 financial report files. The secondary data used is a literature review related to research topics, including ISAK 35, PSAK 45, as well as previous articles discussing financial reporting for non-profit organizations.

After the data is collected then the data will be processed using qualitative data analysis. The analysis was carried out based on the researcher's ability to reason by connecting the data, information, and facts obtained. Therefore, this research is also called naturalistic research, because the research does not use measuring equipment, and the field situation is natural or natural, without any manipulation or as it is.

The data collection technique in this qualitative research is to present the results of the interview, then the analysis is carried out on the problems found, thus a clear picture of the object under study will be obtained, from here a conclusion will be drawn.

RESULTS AND DISCUSSION

The research was conducted at the X Education Foundation which was established in the Sidoarjo area. This educational foundation manages 25 school units ranging from Play Group to Univercities which has 12 study programs. Education Foundation X is a compliant taxpayer, always on time in tax reporting. So far, financial reports have been prepared based on PSAK 45 concerning financial reporting for non-profit organizations. As of April 11, 2019, IAI has ratified ISAK 35 and revoked PSAK 45, therefore here the researcher will implement ISAK 35 for financial statements of educational foundations in 2019, and to find out the difference in presentation between ISAK 35 and PSAK 45.

Financial statements of educational foundations based on psak 45

Education Foundation X in Sidoarjo prepares financial reports based on SAK ETAP (Financial Accounting Standards for Entities Without Public Accountability). Educational foundations choose to apply SAK ETAP, because the requirements for SAK ETAP are seen as simpler when compared to the latest developments of other SAKs. The educational foundation continues to focus on the fair presentation of financial statements and full disclosure of relevant and reliable financial information to users, as required by this standard.

The financial statements of the Education Foundation have so far been prepared in accordance with PSAK 45. In detail, the following is the presentation of the financial statements of the Education Foundation in Sidoarjo based on PSAK 45:

1. Statement of financial position

The statement of financial position or commonly called the balance sheet is one of the elements of the financial statements prepared every year. the end of the accounting period by providing information on financial position including assets, liabilities, and equity of an organization in that period. Statement of financial position or balance sheet Education Foundation in Sidoarjo in 2019 has the following elements:

1) Cash and cash equivalents

Cash and cash equivalents question is a cash balance of cash either cash onhand and cash are in the bank, as well as deposits in the form of bank deposits that earn bank interest based on the interest rate of the bank concerned.

2) Receivables

Receivables are other receivables, namely loans to teachers and employees of the

- Foundation and are settled by paying monthly salary deductions.
- 3) Fixed assets
Fixed assets are stated at cost plus expenses incurred to repair the assets until they are operational. Fixed assets at the Education Foundation in Sidoarjo are divided into 5 groups, namely land, buildings, machinery, vehicles, and inventory.
All repair and maintenance expenses if they do not meet the criteria for recognizing the addition of fixed assets are recognized as operating expenses. If the repair and maintenance expenses can provide value added economic benefits to property and equipment, it must be capitalized to the value of fixed assets.
The value of fixed assets will be derecognized if there is a sale or disposal of other rights, or it is no longer able to provide future economic benefits. The gain or loss from the retirement of fixed assets is calculated from the difference between the total book value and the net proceeds from the sale or disposal of rights and is recognized in the statement of activities for the period concerned.
Depreciation of fixed assets uses the straight-line method based on the percentage according to the foundation's policy, except for land that is not depreciated.
 - 4) Fixed assets under construction

- 5) Short-Term Liabilities
Short-term liabilities are other short-term liabilities obtained from borrowing third party funds with a repayment period of less than one year.
- 6) Net Assets
Net assets are the remaining excess of education funds in assets after deducting any liabilities. The net assets of the foundation include unrestricted net assets, temporarily restricted net assets and permanently restricted net assets.
Unrestricted net assets; is net worth in the form of resources whose use is not limited to a particular purpose.
Temporarily tied up net assets; is net assets in the form of resources whose use is limited for certain purposes for a certain period of time by the foundation or funder.
Permanently tied up net assets; is net assets in the form of resources whose use is permanently restricted for certain purposes by the foundation or funder.

The 2019 X Education Foundation Financial Position Report is presented in Figure 1 below.

LAPORAN POSISI KEUANGAN
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	Cat.	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit	KETERANGAN	Cat.	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ASET				LIABILITAS DAN ASET BERSIH			
Aset Lancar				Liabilitas Jangka Pendek			
Kas dan Setara Kas	2d,3,4	109.010.000	91.790.000	Hutang Lain-lain	8	32.100.000	38.860.000
Piutang Lain-lain	2f,5	31.520.000	8.460.000	Jumlah Liabilitas Jangka Pendek		<u>32.100.000</u>	<u>38.860.000</u>
Jumlah Aset Lancar		<u>140.530.000</u>	<u>100.250.000</u>	Aset Bersih			
ASET TIDAK LANCAR				Aset Bersih Tidak Terikat			
Aset Tetap	2g,6			Aset Bersih Tidak Terikat	2i,3,9	472.330.000	423.160.000
Tanah		66.200.000	57.700.000	Aset Bersih Terikat Temporer	2i,3,10	-	-
Bangunan		253.410.000	248.230.000	Aset Bersih Terikat Permanen	2i,3,11	4.000.000	4.000.000
Mesin		14.620.000	14.620.000	Jumlah Aset Bersih		<u>476.330.000</u>	<u>427.160.000</u>
Kendaraan		6.430.000	6.430.000	TOTAL PASIVA			
Inventaris		79.770.000	82.710.000			<u>508.430.000</u>	<u>466.020.000</u>
Akumulasi Penyusutan		420.430.000	409.690.000				
Aset Tetap Bersih		<u>(162.700.000)</u>	<u>(146.070.000)</u>				
Aset Tetap Lainnya							
Aset tetap dalam penyelesaian	2h,7	110.170.000	102.150.000				
Jumlah Aset Tidak Lancar		<u>367.900.000</u>	<u>365.770.000</u>				
TOTAL ASET		<u>508.430.000</u>	<u>466.020.000</u>				

*Lihat Catatan Atas Laporan Keuangan
Merupakan Bagian Yang Tidak Terpisahkan Dari Laporan Ini*

Figure 1. Financial Position Report of Education X Foundation in 2019

2. Activity Reports

Activity reports are reports that provide information about events or about the causes

of changes in quantity and net worth. Items that affect changes in net assets are income and expenses.

1) Recognition of income

Revenue is recognized when there are economic benefits going to an educational foundation and the income can be measured reliably.

Education service income is all income received from the community in exchange for compensation for educational goods/services provided to the community. Education service income is then broken down by the type of service provided. Revenue is recognized when it is received or the right to collect it arises in connection with the goods/services of education provided, or there is a

commitment between the Foundation and the community.

Grants/donations income is income received from the government, community or other organizations without imposing any obligations on the foundation to provide goods/services. Grants/donations are classified as unrestricted grants/donations and temporary bound grants/donations.

Other income comes from non-operational income from educational foundations, such as interest income from bank checking services.

LAPORAN AKTIVITAS

PER 31 DESEMBER 2019 / 31 DESEMBER 2018

(dalam rupiah)

KETERANGAN	Cat.	31 Des. 2019	31 Des. 2018
		Un Audit	Un Audit
PERUBAHAN ASET BERSIH TIDAK TERIKAT			
Pendapatan tidak terikat :	2j,12		
- Layanan Pendidikan		321.360.000	293.240.000
- Hibah/Sumbangan		37.770.000	33.120.000
- Lainnya		<u>4.320.000</u>	<u>570.000</u>
Jumlah Pendapatan Tidak Terikat		363.450.000	326.930.000
Beban Tidak Terikat :	2j,13		
- Personil		222.590.000	203.230.000
- Barang dan Jasa		31.500.000	38.390.000
- Perjalanan		4.890.000	4.170.000
- Perbaikan dan Pemeliharaan		32.460.000	39.600.000
- Lainnya		<u>22.840.000</u>	<u>22.540.000</u>
Jumlah Beban Tidak Terikat		314.280.000	307.930.000
Kenaikan (Penurunan) Aset Bersih Tidak Terikat		49.170.000	19.000.000
PERUBAHAN ASET BERSIH TERIKAT TEMPORER			
Pendapatan Terikat Temporer	2j,14		
- Layanan Pendidikan		-	-
- Hibah / Sumbangan		-	-
- Lainnya		<u>-</u>	<u>-</u>
Jumlah Pendapatan Terikat Temporer		-	-
Beban Terikat Temporer	2j,15		
- Personil		-	-
- Barang dan Jasa		-	-
- Lainnya		<u>-</u>	<u>-</u>
Jumlah Beban Terikat Temporer		-	-
Kenaikan (Penurunan) Aser Bersih Terikat Temporer		-	-
KENAIKAN (PENURUNAN) ASET BERSIH		49.170.000	19.000.000
Aset Bersih Awal Tahun		427.160.000	408.160.000
Penyesuaian aset bersih tidak terikat	3,9	-	-
Penyesuaian aset bersih terikat temporer	3,10	-	-
		<u>427.160.000</u>	<u>408.160.000</u>
ASET BERSIH AKHIR TAHUN		476.330.000	427.160.000

*Lihat Catatan Atas Laporan Keuangan
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Figure 2. Activity Report of the X Education Foundation in 2019

2) Expense Recognition

Expenses are recognized when assets are disbursed in connection with operational

and non-operational needs of educational foundations. In net assets, expenses are recognized when there is a decrease in an asset or an increase in a liability that arises and can be measured reliably. The burden on educational foundations is divided into unrestricted burden and temporarily bound burden. The elements of the expenses themselves consist of personnel expenses, goods and services expenses, travel expenses, repair and maintenance expenses, and other expenses.

The 2019 X Education Foundation Activity Report is presented in Figure 2.

3. Cash Flow Statement

The cash flow statement is a report that shows cash flows including increases in cash and decreases in cash. Reports are prepared on a cash basis. The cash flow statement preparation method used is the indirect method. Cash flows are grouped into cash flows from operating activities, investing activities, and financing activities. The 2019 X Education Foundation Cash Flow Statement is presented in Figure 3.

LAPORAN ARUS KAS
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ARUS KAS DARI AKTIVITAS OPERASI		
Laba (Rugi) Tahun Berjalan	49.170.000	19.000.000
Penyesuaian :		-
Penyusutan Aktiva Tetap dan Amortisasi	<u>16.630.000</u>	<u>10.690.000</u>
	<u>65.800.000</u>	<u>29.690.000</u>
(Kenaikan) Penurunan Piutang lain-lain	(23.060.000)	(4.970.000)
(Kenaikan) Penurunan Uang Muka Asuransi	-	-
Kenaikan (Penurunan) Hutang Lain-lain	(6.760.000)	19.510.000
Kas dari Aktivitas Operasi (a)	<u>35.980.000</u>	<u>44.230.000</u>
ARUS KAS DARI AKTIVITAS INVESTASI		
(Kenaikan) Penurunan Aktiva Tetap	(10.740.000)	(26.260.000)
(Kenaikan) Penurunan Gedung Dalam Pembangunan	(8.020.000)	(8.350.000)
Kas dari Aktivitas Investasi (b)	<u>(18.760.000)</u>	<u>(34.610.000)</u>
ARUS KAS DARI AKTIVITAS PENDANAAN		
Kenaikan (Penurunan) Hutang Bank	-	-
Kas dari Aktivitas Pendanaan (c)	<u>-</u>	<u>-</u>
Kenaikan (Penurunan)	<u>17.220.000</u>	<u>9.620.000</u>
Penyertaan Modal Kas Awal	91.790.000	82.170.000
Kas dan Setara Kas Akhir	<u>109.010.000</u>	<u>91.790.000</u>

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Figure 3. Cash Flow Statement for Education X Foundation in 2019

The application of isak 35 in the financial statements of the education foundation

The presentation of the financial statements of non-profit organizations is almost the

same as the presentation of business organizations, only the difference lies in the terms. In the financial statements of non-profit organizations for Income Statements the term is replaced with Activity Reports, but in ISAK 35 the term is changed again to Comprehensive Income Statements. In the Financial Statements of business organizations there is a Statement of Changes in Capital, while in the financial standard of non-profit organizations PSAK 45 which previously did not exist now in ISAK 35, it became available with the term Report on Changes in Net Assets. The following is the presentation of the Financial Statements of the Education X Foundation for 2019 if you apply the ISAK 35.

1. **Statement of Financial Position**
The statement of financial position using ISAK 35 is not significantly different from the report using PSAK 45. There is no difference in the presentation of assets, assets are grouped into current assets and non-current assets. The presentation of liabilities is still the same as the classification of short-term and long-term liabilities. There is no difference in the presentation of net assets in full, only the use of different terms, net assets are presented in terms of restrictions from resource providers. The presentation of the 2019 Education X Foundation Financial Position Report based on ISAK 35 is shown in Figure 4.

LAPORAN POSISI KEUANGAN
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019	31 Des. 2018	KETERANGAN	31 Des. 2019	31 Des. 2018
	Un Audit	Un Audit		Un Audit	Un Audit
ASET			LIABILITAS DAN ASET NETO		
Aset Lancar			Liabilitas Jangka Pendek		
Kas dan Setara Kas	109.010.000	91.790.000	Hutang Lain-lain	32.100.000	38.860.000
Piutang Lain-lain	31.520.000	8.460.000	Jumlah Liabilitas Jangka Pendek	32.100.000	38.860.000
Jumlah Aset Lancar	140.530.000	100.250.000			
ASET TIDAK LANCAR			Aset Neto		
Aset Tetap			<i>Tanpa pembatasan dari pemberi sumber daya</i>		
Tanah	66.200.000	57.700.000	Surplus Akumulasian	427.160.000	408.160.000
Bangunan	253.410.000	248.230.000	Penghasilan Komprehensif	49.170.000	19.000.000
Mesin	14.620.000	14.620.000	<i>Dengan pembatasan dari sumber daya</i>	-	-
Kendaraan	6.430.000	6.430.000	Jumlah Aset Neto	476.330.000	427.160.000
Inventaris	79.770.000	82.710.000			
	420.430.000	409.690.000			
Akumulasi Penyusutan	(162.700.000)	(146.070.000)			
Aset Tetap Bersih	257.730.000	263.620.000			
Aset Tetap Lainnya					
Aset tetap dalam penyelesaian	110.170.000	102.150.000			
Jumlah Aset Tidak Lancar	367.900.000	365.770.000			
TOTAL ASET	508.430.000	466.020.000	TOTAL LIABILITAS DAN ASET NETO	508.430.000	466.020.000

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Figure 4. Financial Position Report of Education X Foundation in 2019 by applying ISAK 35

1. **Comprehensive Income Report**
The Comprehensive Income Report presents information in the form of a summary of income and expense reports. This Comprehensive Income Report if in PSAK 45 the term is an Activity Report. In PSAK 45, the Activity Report shows changes in the value of

net assets in an accounting period. While in ISAK 35 changes in net assets are presented separately in the Statement of Changes in Net Assets. The 2019 X Education Foundation Comprehensive Income Report if implementing ISAK 35 can be seen in Figure 5.

**LAPORAN PENGHASILAN KOMPREHENSIF
PER 31 DESEMBER 2019 / 31 DESEMBER 2018**
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
TANPA PEMBATAAN DARI SUMBER DAYA		
Pendapatan tidak terikat :		
- Layanan Pendidikan	321.360.000	293.240.000
- Hibah/Sumbangan	37.770.000	33.120.000
- Lainnya	<u>4.320.000</u>	<u>570.000</u>
Jumlah Pendapatan	363.450.000	326.930.000
Beban Tidak Terikat :		
- Personil	222.590.000	203.230.000
- Barang dan Jasa	31.500.000	38.390.000
- Perjalanan	4.890.000	4.170.000
- Perbaikan dan Pemeliharaan	32.460.000	39.600.000
- Lainnya	<u>22.840.000</u>	<u>22.540.000</u>
Jumlah Beban	314.280.000	307.930.000
Surplus (Defisit)	<u>49.170.000</u>	<u>19.000.000</u>
DENGAN PEMBATAAN DARI PEMBERI SUMBER DAYA		
Pendapatan		
- Layanan Pendidikan	-	-
- Hibah / Sumbangan	-	-
- Lainnya	<u>-</u>	<u>-</u>
Jumlah Pendapatan	-	-
Beban		
- Personil	-	-
- Barang dan Jasa	-	-
- Lainnya	<u>-</u>	<u>-</u>
Jumlah Beban	-	-
Surplus	<u>-</u>	<u>-</u>
TOTAL PENGHASILAN KOMPREHENSIF	<u><u>49.170.000</u></u>	<u><u>19.000.000</u></u>

*Lihat Catatan Atas Laporan Keuangan
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Figure 5. Comprehensive Income Report of Education X Foundation in 2019 by implementing ISAK 35

- Statement of Changes in Net Assets
The statement of changes in net assets shows information about changes in the unrestricted net worth of resource providers and limited

net worth of resource providers. The 2019 X Education Foundation Net Asset Change Report if implementing ISAK 35 can be seen in Figure 6.

LAPORAN PERUBAHAN ASET NETO
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
 (dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
ASET NETO TANPA PEMBatasan DARI PEMBERI SUMBER DAYA		
Saldo awal	4.000.000	4.000.000
<i>Surplus tahun berjalan</i>	-	-
Saldo Akhir	<u>4.000.000</u>	<u>4.000.000</u>
<i>Penghasilan Komprehensif</i>		
Saldo awal	423.160.000	404.160.000
Penghasilan komprehensif tahun berjalan	49.170.000	19.000.000
Saldo Akhir	<u>472.330.000</u>	<u>423.160.000</u>
TOTAL	<u>476.330.000</u>	<u>427.160.000</u>
ASET NETO DENGAN PEMBatasan DARI PEMBERI SUMBER DAYA		
Saldo Awal	-	-
<i>Surplus tahun berjalan</i>	-	-
Saldo Akhir	<u>-</u>	<u>-</u>
TOTAL ASET NETO	<u>476.330.000</u>	<u>427.160.000</u>

*Lihat Catatan Atas Laporan Keuangan
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Figure 6. Report on Changes in Net Assets of Education Foundation X in 2019 if implementing ISAK 35

2. Cash Flow Statement

Cash Flow Statement is a report that presents cash inflows and outflows, the report is prepared using the indirect method, in the

Statement of Cash Flows PSAK 45 with ISAK 35 there is no change. The 2019 X Education Foundation Cash Flow Statement based on ISAK 35 can be seen in Figure 7.

LAPORAN ARUS KAS
PER 31 DESEMBER 2019 / 31 DESEMBER 2018
(dalam rupiah)

KETERANGAN	31 Des. 2019 Un Audit	31 Des. 2018 Un Audit
AKTIVITAS OPERASI		
Surplus	49.170.000	19.000.000
Penyesuaian :		-
Depresiasi Aset Tetap dan Amortisasi	16.630.000	10.690.000
	<u>65.800.000</u>	<u>29.690.000</u>
(Kenaikan) Penurunan Piutang lain-lain	(23.060.000)	(4.970.000)
(Kenaikan) Penurunan Uang Muka Asuransi	-	-
Kenaikan (Penurunan) Hutang Lain-lain	(6.760.000)	19.510.000
	<u>35.980.000</u>	<u>44.230.000</u>
Kas Neto dari Aktivitas Operasi (a)		
AKTIVITAS INVESTASI		
(Kenaikan) Penurunan Aktiva Tetap	(10.740.000)	(26.260.000)
(Kenaikan) Penurunan Gedung Dalam Pembangunan	(8.020.000)	(8.350.000)
	<u>(18.760.000)</u>	<u>(34.610.000)</u>
Kas Neto dari Aktivitas Investasi (b)		
AKTIVITAS PENDANAAN		
Kenaikan (Penurunan) Hutang Bank	-	-
	<u>-</u>	<u>-</u>
Kas dari Aktivitas Pendanaan (c)		
	<u>17.220.000</u>	<u>9.620.000</u>
Kenaikan (Penurunan) Neto Kas dan Setara Kas		
	<u>91.790.000</u>	<u>82.170.000</u>
Kas dan Setara Kas Awal		
Kas dan Setara Kas Akhir	<u>109.010.000</u>	<u>91.790.000</u>

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Figure 7. Cash Flow Statement for Education X Foundation in 2019
if implementing ISAK 35

CONCLUSION

This study aims to determine the differences in financial statements that apply PSAK 45 with ISAK 35 at educational foundations in Sidoarjo, and in order to be able to present financial statements of educational foundations in accordance with ISAK 35 as a substitute for PSAK 45 financial accounting standards.

Based on the results of the analysis of the research conducted, it can be concluded that the Financial Statements of the educational foundation X so far have been guided by PSAK 45. The financial statements of the educational foundation X for 2019 are presented, among others, consisting of a

Statement of Financial Position, Activity Report, Cash Flow Statement, and Notes to Financial Statements. While in ISAK 35 the reports presented consist of Statements of Financial Position, Statements of Comprehensive Income, Statements of Net Assets, Statements of Cash Flows, and Notes to Financial Statements. ISAK 35 has only been effective as of January 1, 2020, so as a start this research can help present the 2019 financial statements based on ISAK 35, so that it can be continued in the future for 2020.

During the process of implementing ISAK 35, several differences can be found in the presentation of financial statements with the previous guidelines.

namely PSAK 45, the differences can be detailed as follows:

1. Statement of Financial Position with the application of ISAK 35 in the presentation of net assets with restrictions and without restrictions, while in PSAK 45 the presentation of assets in terms of temporary and permanent assets.
2. The Statement of Comprehensive Income with the application of ISAK 35 is different from the Activity Report in PSAK 45. In PSAK 45, besides presenting the entity's activities, it also presents changes in net assets.
3. Reports on Changes in Net Assets in accordance with ISAK 35 are presented separately, previously in accordance with PSAK 45 were presented separately in the Activity Report. The Statement of changes in net assets shows information about changes in the unlimited net worth of resource providers and the limited net worth of resource providers, which will later appear in the Statement of Financial Position.
4. Statement of Cash Flows is prepared using the indirect method, for the statement of cash flows and notes to the financial statements there is no change.

SUGGESTIONS

Suggestions that researchers can give so that in 2020 the presentation of financial statements of educational foundations can be guided by ISAK 35. As an initial guide, we can use the 2019 Financial Statements of Educational Foundations which we have processed with presentation according to ISAK 35.

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IMPROVEMENT OF ALUMINUM CABINET PRODUCTION SYSTEM WITH LEAN MANUFACTURING APPROACH

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ABSTRACT

Sonoma All Series is one of the products in PT Aneka Regalindo aluminium unit that has a large volume of requests, but often face the problem of delay in the completion and delivery of the products due to the waste on the production floor. The purpose of this study is to determine the types of waste and provide alternative improvements to reduce waste on the production floor using a approach lean manufacturing. The method used in this research is value stream mapping, to map the information and material flows that occur. The first step is to describe the real condition of the company into the current state value stream map. Identification of waste using the 5W-1H method. The proposed improvement is described in the future state value stream mapping. With the implementation of the proposed improvement, it is expected to reduce the waste that occurs, so as to reduce the lead time production from 186.01 minutes to 135.07 minutes and increase Process Cycle Efficiency from 32.45% to 44.33%.

Key words: lean manufacturing, lead time, reduce, value stream mapping, waste

INTRODUCTION

In the industrial world, both industries engaged in services and manufacturing industries will always experience competition between business actors operating within the same business scope and with players with different business scopes. Loyal customers are one of the determining factors for whether or not an industry will survive.

PT ANEKA REGALINDO Aluminium unit is a company engaged in the production of furniture with the main raw material is Aluminium. The production system at PT ANEKA REGALINDO Aluminium unit is to produce goods according to customer orders (job orders). But in a series of production processes there are several kinds of waste. Use of method Lean Manufacturing is the appropriate method used by companies to identify waste in the production process so that the company is capable of reducing or abolishing the activity - activity that does not add value. Lean can be defined as a systemic and systematic approach to identifying and eliminating waste, or non-value-added activities through continuous improvement by flowing the product (material, work-in- process, output) and information using a pull system from internal and external to pursue excellence and perfection (Gasperz, 2006).

The problem faced by PT VARIOUS REGALINDO unit Aluminium is often fix repair frame chairs because the frame does not correspond

to the mall, the results of wicker chairs are not in accordance with the sample that has been approved by the buyer, often doing a search of the need box in the packaging process, transportation is not smooth in the production area due to the arrangement of goods and supplies outside the specified transportation limit.

Types of waste

Kaufman Consulting Group (1999) in Gasperz (2008) has formulated 10 types of waste in the manufacturing industry, where the 10 types of waste are grouped into four main categories, namely: People, Quantity, Quality and Information. Below is a breakdown of the 10 types of waste and approaches to reducing it.

1. People

This waste is a waste caused by humans. There are 3 types of waste caused by humans, namely:

- a) Waiting. The type of waste that occurs due to waiting time.
- b) Motion. This type of waste occurs because of the large number of movements that workers should not need to do.
- c) Processing. The type of waste that occurs due to a process that does not provide added value in the production process.

2. Quality

Waste by producing products that are not in accordance with predetermined standards due to errors in the manufacturing process.

3. Information

Waste due to the wrong flow of information at the stages of the production process. This waste is divided into 3 categories, namely:

- a) Planning : The ineffectiveness of planning the production process.
- b) Scheduling : Ineffectiveness in scheduling the production process.
- c) Execution : Differences in the implementation of the planning and scheduling of the production process.

4. Quantity

This waste is caused by the number of products along the flow of the production process. This waste is divided into 3 categories, namely:

- a) Moving Things /Transportation : Excessive transportation throughout the production process.
- b) Inventory: Excessive inventory of goods, both raw materials and finished materials.
- c) Making Too Much / Overproduction: Production in excess of the quantity ordered by the buyer.

Value stream mapping

Value Stream Mapping (VMS) is a concept of lean manufacturing that shows a picture of all activities or activities carried out by a company (Wilson, 2010). Value Stream Mapping consists of 2 types, namely:

- 1. The Current State Map is a configuration value stream of the current product, using specific icons and terminology to identify waste and areas for improvement.
- 2. Future State Map is a mapping of the company's condition in the future as a proposed improvement plan from the existing current state map.

One of the metrics lean that need to be measured is Process Cycle Efficiency (George, 2002). Process Cycle Efficiency is a way of measuring to see the efficiency of a factory, because by using this metric it can be seen how the percentage of processing time to the overall production time is carried out by the factory. The formula for calculating the efficiency of the process cycle is:

$$\text{Process Cycle Efficiency} = \frac{\text{Value Added Activity}}{\text{Total Lead Time}} \times 100\%$$

5W-1H

This method is in the form of questions which include What, Why, Who, Where, When and How. These questions are used to get a clearer and complete picture of improvements to a work

manufacturing, What states the type of waste, Where states the source of waste, When states when waste occurs, Why states what causes waste to occur and How states what improvements are proposed to reduce waste.

RESEARCH METHODOLOGY

Describes the stages used in solving research problems that take place systematically, based on the theories described in chapter II.

Data collection and processing

Data collection was carried out at PT ANEKA REGALINDO Aluminium unit in July 2014 – May 2015. The data sources used are:

1. Primary data

Sources The primary data obtained through observation and interviewing the parties concerned with this research. This primary data consists of processing cycle times in each process on the production floor.

2. Secondary data

Secondary data is obtained through secondary data obtained from archives and documents related to the company's production process. Secondary data consists of:

- a. Product Request
- b. Information flow on the production floor
- c. Product specifications

Products with the greatest demand with relatively frequent ordering frequencies become material for research, because large purchases will have an impact on the company if in the production process there are activities that do not provide added value, which is often called waste.

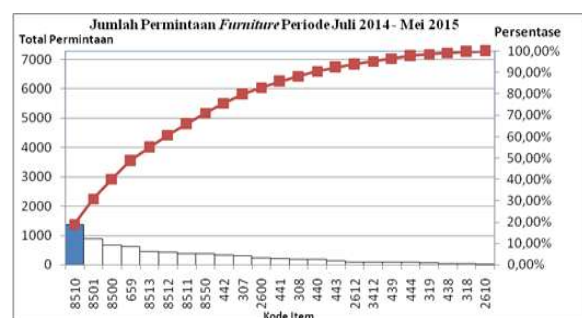


Figure 1. Pareto Chart – Demand Furniture

By looking at the Pareto Chart above, it can be seen

that there are 10 items furniture that account for 80% of demand furniture at PT ANEKA REGALINDO's Aluminium unit. But the most

system. 5W + 1H in application in the field of lean

dominant are only 8 items which are 1 series, namely the **Sonoma All Series** with the largest total demand with a short order frequency each time it is requested.

Current state map

Current State Value Stream Mapping is a map of the initial condition of the production system prior to the proposed improvement. To make it easier to make current state value stream mapping, it is better to group production activities. Group of

activities that provide added value (value added activity (VA), group of activities that do not provide added value but is a necessity to assist value added activities (necessary but non value added activity (NNVA) and groups of activities that do not provide added value (non value added activity) (NVA).

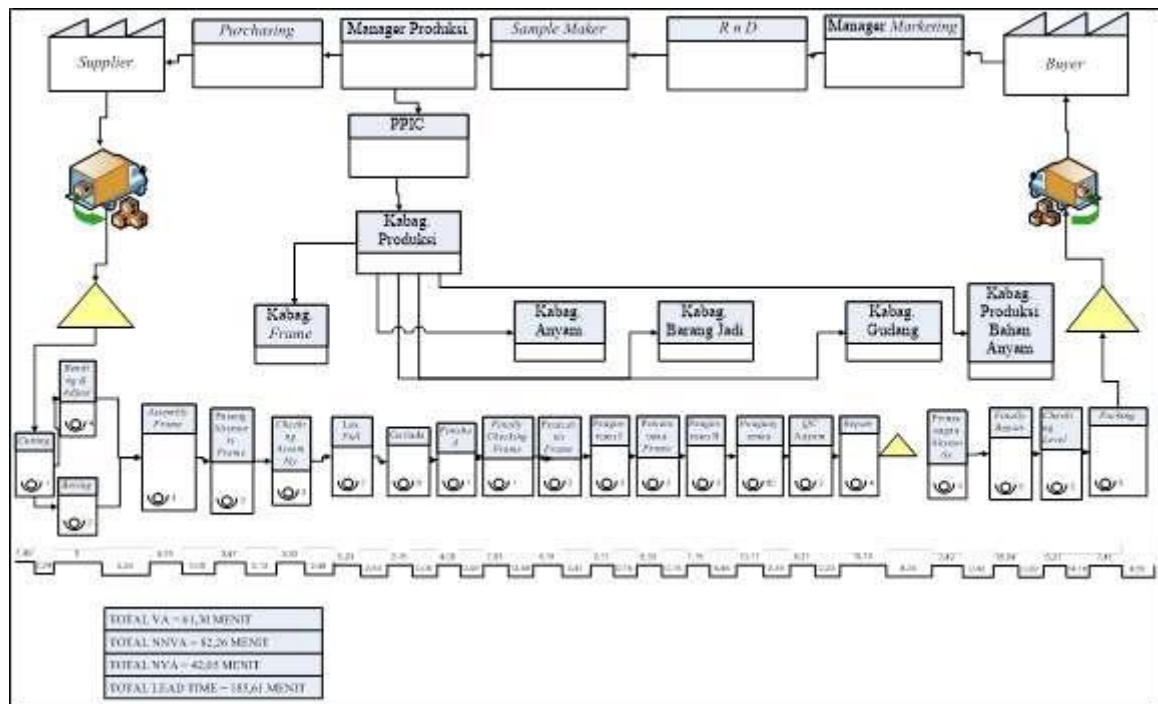


Figure 2. Current State Value Stream Mapping

Table 1. Identification of Waste on the Production Floor with the 5W-1H Method

Type of Waste (What)	Source of Waste (Where)	Executor (Who)	Time It Happened (When)	Cause It Happened (Why)*	Suggestions for Improvement (How)
Defects Frame does not fit mall	Assembly Frame	Welder	Each frame is finished assembly	1.Incorrect component installation.	1.Assembling components into a panel.
				2. Components that do not fit the mall are still being assembled.	2.Replacing the mall from plywood with mall from aluminium
				3.The condition of the mall is not good	3. Checking the mall regularly.
Process Repair Weaving Weaving	Process Weaving	people	every time the goods arrive	1.No sample images in the weaving process weaving	1.Provide detailed pictures on each weaver.

				2. The handicrafts of workers who change from time to time	
Transport. Repairing boxes.	Finished goods production floor. Finished	goods production workers.	Every time they carry out production activities.	1. Ignoring the function of transportation barrier	Implement the use of transportation boundary lines.
Motion The activity of looking for boxes	Packing	Employees producing finished goods	Whenever production is running	1. There is no good and standard inventory management system.	1. Carry out a box storage arrangement system by grouping items alphabetically and labelling

*The cause (why) is obtained from an analysis of the root causes of the problem with 5WHY

Future state mapping

The design of the future state value mapping is carried out by considering the proposed improvements based on the analysis results from the current state value mapping. The first step is to check the mall on a regular basis and replace the mall from plywood with malls from aluminium.

Second, providing detailed drawings of weavers for weavers. Third, the application of the use of transportation boundary lines in the goods production area so, the improvement of the work method with the 5S method (Seiri, Seiton, Seiso, Seiketsu, Shitsuke)

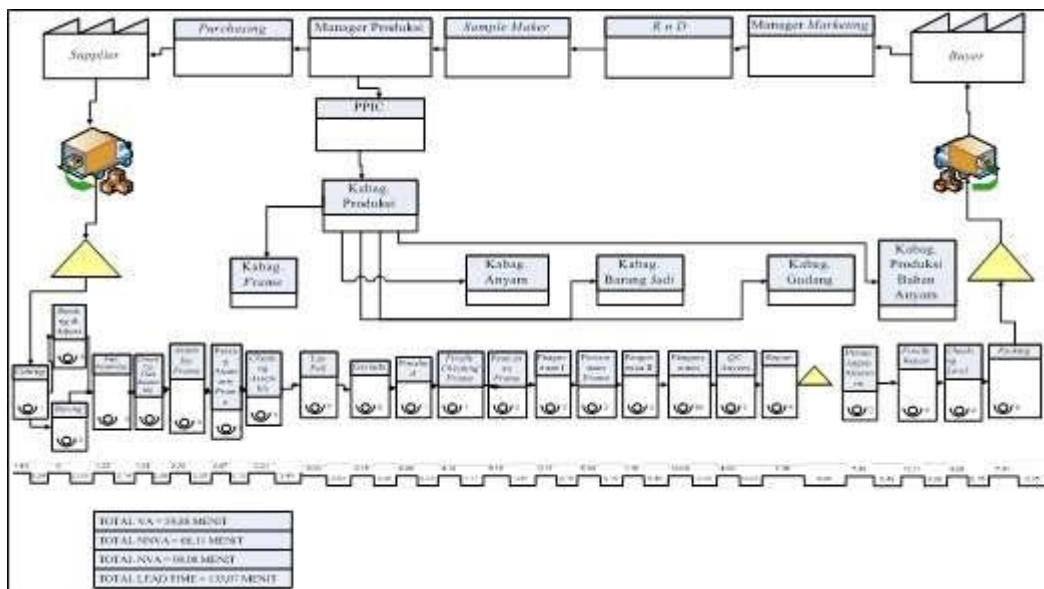


Figure 4. Future State Value Stream Mapping

RESULTS AND DISCUSSION

In this chapter, the results of the analysis and data processing that have been carried out previously using will be explained current state value stream mapping to be used as a basis for developing

recommendations for improvements to systems and production processes using future state value stream mapping.

Table 2. Percentage of Time Use on Current State Value Stream Map

No.	Activity Group	Time (minutes)	Use of Time (%)
1.	Value Added Activity	61.30	33.03 %
2.	Necessary but Non Value Added Activity	82.26	44.32 %
3.	Non Value Added Activity	42.05	22.66 %
TOTAL		185.61	100

From the table above, it can be calculated that the process cycle efficiency is 33.03 %.

Table 3 Percentage of Time Use on Future State Value Stream Map

No.	Activity Group	Time (minutes)	Use of Time (%)
1.	Value Added Activity	59.88	44.33 %
2.	Necessary but Non Value Added Activity	66.11	48.94 %
3.	Non Value Added Activity	09.08	6.72%
TOTAL		135.07	100

From the table above, it can be calculated that the process cycle efficiency is 44.33%.

CONCLUSION

The conclusions obtained from this study include the following:

1. The types of waste in the manufacture of the Sonoma All Series on the production floor are:
 - a) Waste of Defects the frame does not match the mall due to inaccuracy in the installation of components, and the condition of the mall is not good.
 - b) waste Process in the process repair caused by the absence of a image handle sample weaving woven.
 - c) wasted Motion in the process of looking for boxes caused by a poor inventory arrangement system.
 - d) wastage Transportation in the section packing which resulted in some boxes being damaged and had to be repaired due to neglect of the function of the transportation line dividing line.
2. There are four proposed improvements to the future state value stream mapping and the application of the 5S method to reduce the causes of waste, namely:

- a) Panel assembly prior to assembly frame and replacing malls of plywood with malls of aluminium.
- b) Provide details of weaving drawings to weaving workers.
- c) Carry out a storage arrangement system for boxes using an alphabetical and labelling system.
- d) Apply the function of the line dividing the transportation line.

Based on the results of the proposed improvements, it was found that the decreased Lead Time production from 186.01 minutes to 135.07 minutes and the increased Process Cycle Efficiency from 32.45% to 44.33%.

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ANALYSIS OF GOODS CONTROL USING ECONOMIC ORDER QUANTITY METHOD FOR OPTIMIZATION OF GOODS INVENTORY IN HOME SHOPPING COMPANY SIDOARJO

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ABSTRACT

This study has the aim of applying the Economic Order Quantity method in order to analyze inventory control at home shopping companies to optimize inventory. Many companies, especially new companies, still use traditional goods control but have not used effective and efficient methods. Companies must pay attention to inventory so as not to run out of stock or excess, therefore inventory control is needed.

This research uses descriptive qualitative methods, namely research conducted by identifying the problems found, described so that the problems that will be discussed are seen with the help of qualitative analysis. The results showed that inventory control using the EOQ method, the company can precisely determine: safety stock to minimize the occurrence of material shortages, can calculate correctly Lead Time, namely the time lag between ordering the goods to the company, and can determine ROP to avoid delays in ordering and delivery of goods to customers. In the 2019 period, the EOQ was 56 units with a frequency of 38 orders, Safety stock was 300 units, ROP 330 units. The 2020 EOQ period is 57 units, with 39 times of Time, 147 units of Safety stock and 177 units of ROP.

Key words: analysis, control, economic order quantity, lead time, reorderpoint, safety stock

INTRODUCTION

In Indonesia, more and more new companies appear which of course can increase competition between companies, increasingly fierce competition, of course, makes companies have to take into account everything that will be an important point so that companies can compete. In controlling inventory, the company should take into account the most effective and efficient method or method. The company must pay more attention to the inventory of goods so as not to run out of stock or excess inventory. In order for the company to get the maximum profit as expected, of course it is necessary to have inventory control.

Inventory management in running a business in the company, especially companies that sell goods or ready-to-sell products (finished goods). Inventory management is the activity of regulating/managing the right level of inventory so that the amount is not too large and not too small, in accordance with the needs of the further production process, so that inventory costs can be controlled.

In inventory management there are various ways of purchasing materials or goods, namely:

1. One-time purchase
2. Staged purchase
3. Purchase EOQ

In order for the company to optimize inventory, the company can apply the Economic Order Quantity method. The EOQ method seeks to achieve the minimum possible inventory levels, lower costs and better quality. Planning the EOQ method in a company will be able to minimize the occurrence of out of stock so that it does not interfere with processes within the company and is able to save inventory costs incurred by the company because of the efficiency of raw material inventory within the company concerned. (M. Trihudyatmanto, Wonosobo 2017).

This method is used to determine the number of purchases or orders for goods or raw materials that are economical, so they do not make purchases all at once, but gradually by achieving optimal volume and cost as the basis for determining the balance between order costs and storage costs.

In inventory management there are terms Safety Stock, Lead time, and Reorder Point:

1. Safety Stock is the number of goods to anticipate the worst possibility, the worst possibility that can happen is the number of requests that suddenly spikes sharply or the delivery of goods takes too long. So prone to make you run out of product.
2. Lead time is the time lag between ordering until the goods arrive at your hands.
3. Reorder Point (ROP) is the time when the company must place an order for its raw

materials again, so that the receipt of the ordered raw materials can be on time, because ordering raw materials cannot be received on the same day. (Dewi, Herawati, and Wahyuni 2019)

For companies that use traditional methods and have not used the Economic Order Quantity method for their inventory procurement policy, it is very appropriate to apply the Economic Order Quantity method so that it is very likely that the company can optimize operational costs and can minimize order cancellations by customers and can overcome any obstacles that occur. This research focuses on one product that has the highest selling power, namely the product with the item name AZHIKRA.

1. What is the Safety Stock and Reorder Point for AZHIKRA Products for the 2019 and 2020 periods?
2. How is the EOQ method applied in inventory control for AZHIKRA Products?
3. What is the total inventory cost for the 2019 and 2020 periods using the EOQ method?
4. How much is the Safety Stock and Reorder Point for AZHIKRA Products calculating the Economic Order Quantity method?
5. What are the results of the comparison or difference between the company's method and the EOQ method for the 2019 and 2020 periods?

LITERATURE REVIEW

A. Inventory

(Heru 2020) Inventory is all goods or materials that are stored where the inventory is an investment (assets used in the further production process or sold, in a space (warehouse) waiting to run smoothly) which is important in a company.

1. Inventory of Raw Materials (Raw Material Inventory) That is the basic material that is the main component of a product even though there are other elements in the product.
2. Work in Process Inventory, namely raw materials that have been processed to be converted into finished goods but until the end of a certain period the production process has not been completed.
3. Inventory of Finished Goods (Finished Goods Inventory) That is raw materials that have been processed into finished products that are ready to use and ready to be marketed.

B. Inventory management

Krajewsky & Ritzman, (2002) define Operations Management as directing and supervising the processes that transform inputs into goods and services (outputs). The process is the main

activity of the organization that is used to work and achieve common goals. Basically Operations Management is one of the functions within the company, where large companies generally separate each function into separate departments, each function has certain responsibilities according to its duties. Each function in the company is interconnected.

(Franklin & Thomas in Handoko) Production and operations management are efforts to manage resources/factors of production in the process of transforming them into various products or services. (Pontas Pardede) Management of production and operations as the direction and control of various activities that process various types of resources to make certain goods or services. So it can be concluded that operational management is an activity to optimally manage/manage resource management in the process of transforming inputs into outputs. (Rita Indah Mustikowati, SE 2012)

Sofyan Assauri, (2016: 18) states that the purpose of control is: To ensure that the company does not run out of inventory, so that it can result in the cessation of operations.

- a. Keeping the inventory formation by the company is not too large or excess so that the costs incurred from the inventory are not too large.
- b. Keeping purchases in small quantities can be avoided, as this can result in large ordering costs.
- c. Keeping buyers small can be avoided, as this can result in large ordering costs.

C. Cost of Inventory Cost

Handoko (1999: 336-338) states that in making a decision that will affect the amount (amount) of inventory, operational managers must consider the variable costs associated with the procurement of inventory. By knowing the costs involved or related to inventory, managers are expected to be able to make wise decisions about the most economical inventory levels in their company.

1. Economic Order Quantity (EOQ)

Gitosudarmo (2002:101), Economic Order Quantity (EOQ) is the most economical volume or purchase amount to be carried out at each purchase. Likewise the opinion of Hansen and Mowen (2005:473). Economic Order Quantity (EOQ) is an example of an inventory system that aims to determine the order quantity that will minimize total costs. (Economic Order Quantity = economic order quantity) is a method to determine the most economical (optimal) order quantity for one order, which minimizes inventory costs. The

method used to determine the amount of raw material purchases that are economical, so that they do not make purchases all at once, but gradually by achieving optimal volume and cost.

2. EOQ Policies

(M. Trihudiyatmanto, 2017) states that the raw materials or goods available in ensuring the smooth production process and costs incurred by the company in connection with the company are minimal, then the action that needs to be taken is to determine the Economic Order Quantity (EOQ), Safety Stock, Reorder Points (ROP).

A. Determining the economical amount of raw materials (EOQ) Every industrial company, in its effort to carry out the production process, is by making a purchase. In making the purchase of raw materials that must be purchased to meet the needs for a certain period so that the company does not lack raw materials and can also get these materials at a minimum cost. The costs that arise in connection with the purchase and inventory of raw materials (carrying cost and ordering cost) after being calculated, the optimal purchase amount can be determined or called EOQ, namely the quantity of materials that can be obtained with minimal costs or often referred to as the number of purchases required. optimal.

B. Determining safety stock (Safety Inventory) An industrial company needs to have a number of raw materials or goods that are always available in the company to ensure the continuity of its business. Inventory of raw materials is usually called safety stock or safety stock. Safety stock is an inventory that is reserved as a safeguard against the continuity of the company's production process (Ahyari, 2003 1199).

C. The order or purchase of the item cannot arrive on time so it will be delayed. Besides that, those that affect the size of the inventory are:

1. The amount purchased each time an item is ordered.
2. Determination of the standard estimate of the need for goods
3. Determine the reorder point (Reorder Point)

D. ROP (Reorder Point)

Hansen and Mowen (2005:470), Re-Order Point is the point in time at which a new order must be placed (or preparation begins). Reorder point is the time at which the order must be held again so that the arrival of the ordered

material on time when the stock above safety stock is equal to zero. (Riyanto, 2001: 83). The formula for ROP (Re Order Point) is as follows:

$$ROP = () \times (Leadtime)$$
 Reorder Point is calculated based on the multiplication of the lead time with the need for goods within a certain period of time. In general, lead time is calculated based on external factors, namely the length of time for production and delivery of goods by vendors.

Calculating the lead time from the purchase order entering the vendor until the goods are received by the company. In reality, there are other factors that make a major contribution to the overall lead time or lag time, namely the company's internal factors. An example of an internal factor that affects lead time is the time required for the approval process. Due to various reasons, conditions often occur where the authorities are late in providing an approval which results in a material request from the department cannot be immediately processed into a purchase order. The delay in the approval process results in the lead time required for the goods to be used by the department longer. This causes various problems, one of which is the cancellation of an order by the customer (Izza Nabilah Alfiyana, Dyah Ayu Astuti, Angga Kurniawan 2018).

Manahan P. Tampubolon (2013: 99) There are two systems that can be applied to determine when a reorder is held, namely:

1. Quantity Reorder Point System (Q/R System)

What is meant by the Quantity Reorder Point System is that the amount of inventory that is reordered is very dependent on the inventory needs for the conversion process, in fact the use of material inventory is never constant and always varies.

2. Periodic Inventory System This system is a method of ordering at Constant Time Interval (every; Week, Month, or Quarter, etc.), but the number of orders varies depending on how much material is used between the time of the last order and the time of the next order. Therefore, based on a fixed time interval, the reorder point is carried out regardless of the amount of inventory that is still available. (Maulan Irwadi, S.E., M.Si. 2014)

E. Safety Stock

Herjanto (1994:144) Safety Stock is an inventory made to protect or maintain the possibility of a shortage of materials/goods, for example due to the use of materials that are greater than the original estimate or delays in receiving the ordered materials. Safety stock is the amount of goods to anticipate the worst possibility. Bad possibilities that can happen

include the number of requests that suddenly spike sharply or the delivery of goods that take too long. So prone to make you run out of product. (Martina 2020)

Safety stock is a security stock, where if there is an obstacle such as an increase in orders and obstacles in the process of shipping goods. With the Safety Stock, it will be very helpful if there are obstacles as mentioned, the Safety Stock is of course calculated based on the formula, not just storing or hoarding an inventory of goods. The amount of safety stock as disclosed by Slamet (2007:161) is determined by the formula:

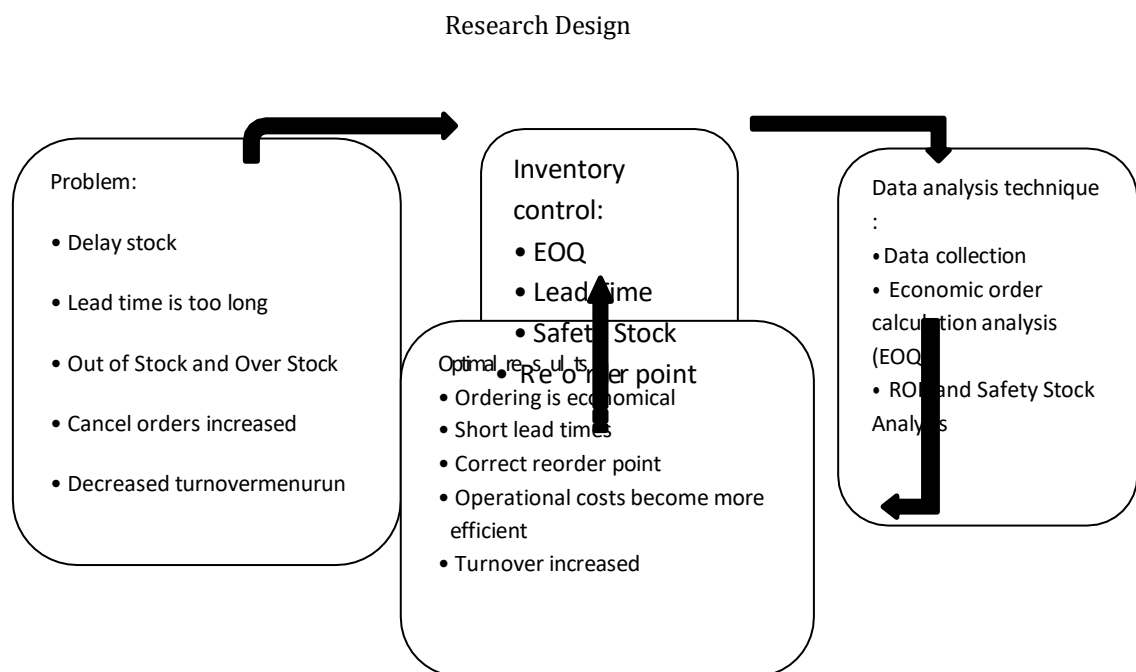
$$\text{Safety stock} = (\text{maximum usage} - \text{average usage}) \times \text{Lead time}$$

F. Lead Time

Lead time is the time lag between ordering until the goods arrive at your hands. While the lead

time demand is the estimated number of requests during that time lag. The length of time can range from several weeks or even months. The length of time depends on the difficulty level of the goods ordered, the amount, and the distance it takes to deliver the goods. (Martina 2020)

Lead Time is the waiting time from the delivery of goods until the goods are in the hands of consumers or customers. Lead Time is very influential on the process of buying and selling an item, where if the lead time is too long it can result in losses such as canceling orders by customers because they feel that the service is not good because they wait too long for the goods ordered. Therefore, it must really take into account the Lead Time so that it can be shortened and not too long.



RESEARCH METHODS

Object of research

The object of this research is the Home Shopping company, namely PT Lejel shopping which is located in Sidoarjo, more precisely in the warehouse section. By obtaining average inventory data, customer order data, and cancel order data from the netshopping system in the office, as well as office operational cost data.

Research methods

The method in this study is a descriptive qualitative method, namely by identifying the problems found by the author, described clearly so

that the core problems will be seen with the help of qualitative analysis.

Suryabrata, (2013:14) states that descriptive research is research that intends to make (descriptive) jokes about situations or events with the aim of making a systematic, factual, and accurate picture of the facts and characteristics of the population of a particular area.

Data collection

1. Literature study: by using relevant literature books and studying from journals and Final Project Reports related to the research being studied. Looking for books that are related to

the research theme in the campus library and also looking for journals on the internet.

2. Interview: conducting interviews directly with parties or sources in the company. Starting from the company manager by conducting interviews about the management system applied in the company and also about the obstacles experienced so far, as well as discussing the EOQ method that will be researched later. Then conduct interviews with accounting about the total cost of inventory and talk about the method that will be used as research, namely the EOQ method. The last one is an interview with the warehouse or logistics staff regarding the warehouse flow and about the inventory control system that has been implemented so far in the company. By conducting direct interviews with resource persons, we will be able to analyze the problems faced by the company and can find out whether we can implement the EOQ method in the company.
3. Observation: observing the process in the field, starting from the demand for goods, controlling inventory, calculating Safety Stock, Reorder Point and arriving at the consumer. The first is to observe how the company obtains stock of goods and how the company distributes or sells goods to the customer. Finding out how and how many reorder points the company does, observing how many reorder points are in a one month period. After that, find out about the

safety stock in the warehouse, whether it is correct or not. After making direct observations in the field, we will be able to find out the flow in the company starting from the demand for goods, reordering, securing stock and reaching the hands of the customer.

Data analysis technique

1. Economic Order Calculation Analysis

In ordering or requesting goods, we must determine in advance how many economical orders are made each time an order is made and the frequency of the order time which can be determined using the Economic Order Quantity (EOQ) method. In the EOQ model, the inventory costs considered are inventory holding costs and inventory ordering costs. In its implementation, it can be formulated as follows, according to (Heru 2020):

EOQ(Q) = Optimum number of items per order (EOQ)

D = Amount of goods needed (unit/year)

S = Ordering cost (every time you order)

h = Cost of storage and warehouse maintenance (%)

P = Price of Goods (Rp/unit)

H (hxP) = Storage cost (Rp/unit/year)

F = Order frequency (every time / year)

L = Lead Time = Distance between orders (days/year)

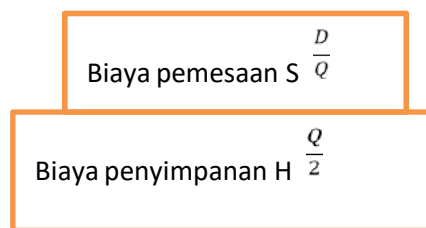
TC = Total Cost of Inventory (Rp/year)

$$EOQ = \sqrt{\frac{2DS}{H}}$$

$$EOQ = \sqrt{\frac{2DS}{hP}}$$

$$F = \frac{D}{Q}$$

Total Ordering Cost = Ordering Cost x Order Frequency



Total Storage Cost = Storage Cost x Average Inventory

TIC = Ordering Fee + Storage Fee

$$TIC = S \frac{D}{Q} + H \frac{Q}{2}$$

ROP and Safety Stock Analysis

Reorder points

Reorder point is the time at which the order must be held again so that the arrival of the ordered

material on time when the stock above safety stock is equal to zero. (Riyanto, 2001: 83).

The formula for ROP (Re Order Point) is as follows:
 $ROP = (rata \ ratapermintaanperhari) \times (Leadtime)$. Reorder Point is calculated based on

the multiplication of the lead time with the need for goods within a certain period of time.

Safety Stock

Safety stock is a security stock, where if there is an obstacle such as an increase in orders and obstacles in the process of shipping goods. With the Safety Stock, it will be very helpful if there are obstacles as mentioned, the Safety Stock is of course calculated based on the formula, not just storing or hoarding an inventory of goods. The amount of safety stock as disclosed by Slamet (2007:161) is determined by the formula:

$$\text{Safety stock} = (\text{maximum usage} - \text{average usage}) \times \text{Leadtime}$$

Comparative Analysis of Company Methods With EOQ Method.

To find out the efficient and effective method in optimizing inventory at PT Lejel Home Shopping

Sidoarjo, it is necessary to do a comparison between the Company's Method and the EOQ Method. So it can be seen which method can be applied to optimize inventory at PT Lejel Home Shopping Sidoarjo.

RESULTS AND DISCUSSION

Average Demand and Inventory

Based on observations that have been made at PT Lejel Home Shopping Sidoarjo, data obtained by focusing on one product of the three best seller products that have the highest selling power, namely the product with the item name AZHIKRA. Is as follows :

Table 1 Order requirements for Azhikra products for the 2019 and 2020 periods.

DATA KEBUTUHAN BARANG PERIODE 2019 PT LEJEL SHOPPING SIDOARJO								
NO	ITEM CODE	ITEM NAME	TOTAL ORDER	TOTAL AMOUNT ORDER	ORDER QUANTITY	AMOUNT ORDER	CANCEL ORDER QUANTITY	AMOUNT CANCEL ORDER
1	100815	[NEW AZHIKRA] TASE	2158	Rp2,978,040,000	1605	Rp2,214,900,000	553	Rp763,140,000

DATA KEBUTUHAN BARANG PERIODE 2020 PT LEJEL SHOPPING SIDOARJO								
NO	ITEM CODE	ITEM NAME	TOTAL ORDER	TOTAL AMOUNT ORDER	ORDER QUANTITY	AMOUNT ORDER	CANCEL ORDER QUANTITY	AMOUNT CANCEL ORDER
1	100815	[NEW AZHIKRA] TASE	2249	Rp3,103,620,000	1658	Rp2,288,040,000	591	Rp815,580,000

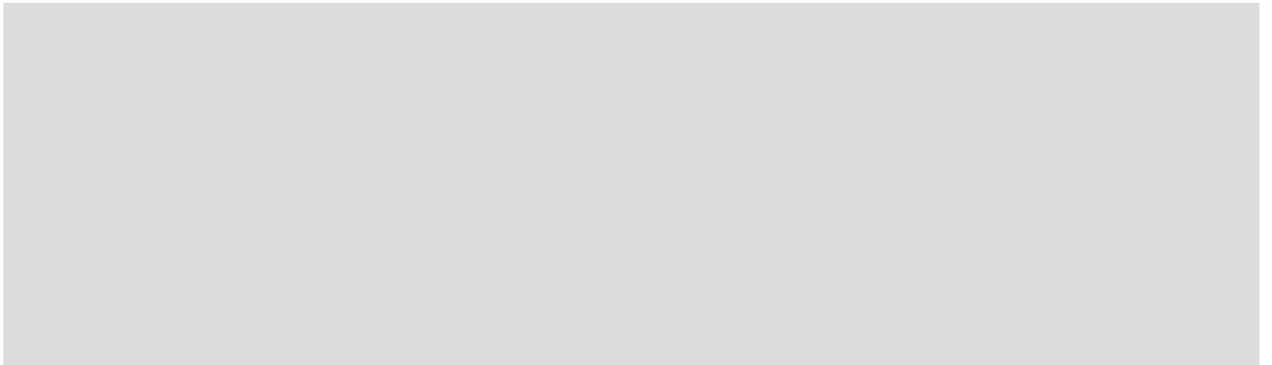
Based on the table above, the data on the need for goods or orders for AZHIKRA products has increased, namely in the 2019 period of 2158 and in 2020 the number of 2249. In the 2019 period the total order for AZHIKRA products was 2158 units, the total order amount was Rp. 2,978,040,000, the order quantity was 1605 with order amount IDR 2,214,900,000, cancel order quantity 553 with

cancel order amount IDR 763,140,000. And in the 2020 period, the total order for AZHIKRA products is 2249 units, the total order amount is Rp. 3,103,620,000, the order quantity is 1658 with the order amount Rp. 2,288.040,000, the cancel order quantity is 591 with the cancel order amount Rp. 815,580,000.

Table 2 Average inventory of Azhikra products for the period 2019 and 2020.

NO	PERIODE	ITEM NAME	STOCK/AWAL BULAN	SHIPPING STOCK																											TOTAL	Frekuensi Pemesanan	Kebutuhan Stock	Safety Stock				
				PERIODE 2019																																		
1	Januari	NEW AZHIKRA	104	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	120	5	192	117	
2	Februari		132				65				15									45							45								120	4	191	61
3	Maret		123									20																							125	4	234	14
4	April		14																																175	4	150	39
5	Mai		39																																155	5	154	40
6	Juni		40																																120	3	166	4
7	Juli		-6																																150	2	100	24
8	Agustus		44																																20	2	50	14
9	September		14	10																															20	2	9	25
10	Oktober		5																																50	1	0	55
11	November		5																																240	4	214	31
12	Desember		31																																110	4	145	4
TOTAL																															40		1805	410				
RATA RATA																															6.153846154		246.920769	63.07692308				

NO	PERIODE	ITEM NAME	STOCK/AWAL BULAN	SHIPPING STOCK																											TOTAL	Frekuensi Pemesanan	Kebutuhan Stock	Safety Stock					
				PERIODE 2020																																			
1	Januari	NEW AZHIKRA	-19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	200	5	179	2		
2	Februari		2																																	100	4	117	-15
3	Maret		-15																																	210	6	176	19
4	April		19																																	220	5	176	63
5	Mai		63																																	150	4	177	36
6	Juni		36																																	250	4	187	99
7	Juli		187	20																																90	4	133	144
8	Agustus		144																																	60	3	134	70
9	September		70																																	140	6	143	67
10	Oktober		67																																	85	4	134	59
11	November		119																																	54	3	109	109
12	Desember		109	7																																62	5	79	92
TOTAL																															53		1668	76					
RATA RATA																															8.153846154		255.0769231	114.6153846					



Based on the table above, it explains the average inventory of AZHIKRA products for the period 2019 and 2020 at PT Lejel Home Shopping Sidoarjo. In the 2019 period for safety stock or the remaining stock per month is very unstable with the emergence of a stock shortage problem in June, namely -6 units, at the beginning of July experiencing a stock shortage of -6 units, and in December also experiencing a stock shortage of -4 units .

In the 2020 period, there were also problems including regarding the initial stock and safety stock or the remaining stock held per month, namely there was a shortage of stock in January at the beginning of the month of -19 units, there was a shortage of stock in February which was -15 units, and a shortage of stock in February. the beginning of March which is -15 units. This is of course because there is no method for determining the right safety stock and reorder point in order to optimize inventory at PT Lejel Home Shopping Sidoarjo.

Booking fee

The booking fee consists of internet, telephone and Expedition.

total storage costs in the period 2019 and 2020 at PT Lejel Home Shopping Sidoarjo. In 2019 the total cost for renting a shophouse was Rp. 95,000,004, PLN + PDAM costs Rp. 10,500,000, and the total cost is Rp. 105,500,004. In 2020 for shophouse rental Rp. 95,000,004, PLN + PDAM costs Rp. 7,500,000, and the total cost is IDR 102,500,000.

1 Economic order calculation

The EOQ method allows companies to make the most economical orders with a constant number of requests and Lead Time, and also to optimize inventory to avoid stockouts.

$$EOQ = (2DS/(h.p))$$

Information:

EOQ = Economical purchase quantity

S = Cost per order

D = Number of needs for one period

h = Storage cost shown as a percentage of the purchase price per unit

p = Purchase price per unit

Optimal Purchase Quantity for the Year 2019

Based on the data previously mentioned, it is known:

D = 2,158 units

S = 100,000

h = 10%

p= 1,380,000

$$EOQ = (2.2158.100000/(10\%.1380000))$$

$$= (431600000/138000) = 3127 = 56$$

Based on calculations using the EOQ method, it can be seen that the company should purchase 56 units per order. The average reorder of AZHIKRA products by the company during 2019 was 30 units per order, while the number of economical orders according to the EOQ calculation was 56 units per order.

Optimal Purchase Quantity for the Year 2020

Based on the data previously mentioned, it is known:

D = 2,249 units

S = 100,000

h = 10%

p= 1,380,000

$$EOQ = (2.2249.100000/(10\%.1380000))$$

$$= (431600000/138000) = 3.259 = 57$$

Based on calculations using the EOQ method, it can be seen that the company should purchase 57 units per order. The average reorder of AZHIKRA products by the company during 2019 was 30 units per order, while the number of economical orders according to the EOQ calculation was 57 units per order.

Determination of Reorder Frequency

To determine the frequency of purchasing the most profitable merchandise, it can be done by dividing the need for merchandise for one period by the optimal purchase of merchandise.

2019 Period

Based on the data previously mentioned, it is known:

D = 2,158 units

EOQ(Q) =56 units

$$F = D/Q = 2158/56 = 38.5 \approx 38 \text{ times}$$

From the calculation of the formula above, the results of the quantity of inventory for each time the order is 56 units and the frequency of ordering is 38 times. So that the total cost of inventory can be calculated using the Economic Order Quantity (EOQ) method as follows:

$$TC = S D/Q + H Q/2$$

$$= 100,000 2158/56 + 138,000 56/2$$

$$= 3,853,571 + 3,864,000 = 7,717,571$$

2020 Period

Based on the data previously mentioned, it is known:

D = 2,249 units

EOQ(Q) =57 units

$$F = D/Q = 2249/57 = 39.4 \approx 39 \text{ times}$$

From the above formula calculation, the results of the inventory quantity for each time the order is 57

units and the order frequency is 39 times. So that the total cost of inventory can be calculated using the Economic Order Quantity (EOQ) method as follows:

$$TC = S D/Q + H Q/2$$

$$= 100,000 \cdot 2249/57 + 138,000 \cdot 57/2$$

$$= 3,945,614 + 3,933,000 = 7,878,614$$

Calculation of Safety Stock

Based on table 4.2 data that has been previously attached, the calculation of Safety Stock on AZHIKRA products is known as follows:

Calculation of safety stock for the period 2019

Known :

Maximum requirement = 234

Average requirement = 134

Safety stock = (maximum demand - average requirement) waiting time

Safety stock = (234 - 134) 3

Safety stock = (234 - 134) 3

Safety stock = 300

Calculation of safety stock for the 2020 period

Known :

Maximum requirement = 187

Average requirement = 138

Safety stock = (maximum demand - average requirement) waiting time

Safety stock = (187 - 138) 3

Safety stock = (187 - 138) 3

Safety stock = 147

Reorder Point Calculation

The reorder point is the time at which the order must be held again so that the ordered goods arrive on time when the safety stock is zero.

Based on the data in table 4.2 which has been previously attached, the calculation of the reorder point for AZHIKRA products is known as follows:

Reorder Point Calculation for the 2019 Period

Known :

d = Average daily requirement

L = Lead time

SS = Safety Stock

ROP = (d x L) + SS

ROP = 2158/365 x 5 + 500

ROP = 530

Based on the above calculations, it can be seen that the reorder point or reorder point for the 2019 period is 530 units, where when the stock shows the number 530 units, a reorder must be made so that the ordered goods come right when the safety stock is zero.

Reorder Point Calculation for 2020 Period

Known :

d = Average daily requirement

L = Lead time

SS = Safety Stock

ROP = (d x L) + SS

ROP = 2249/365 x 5 + 245

ROP = 275

Based on the above calculations, it can be seen that the reorder point or reorder point for the 2020 period is 275 units, where when the stock shows the number 275 units, a reorder must be made so that the ordered goods come right when the safety stock is zero.

CONCLUSION

From the results of calculations that have been carried out using the EOQ method, it shows that the quantity of orders and the frequency of orders can be calculated accurately and can optimize inventory compared to the method used by PT Lejel Home Shopping Sidoarjo.

Based on calculations using the EOQ method, it can be determined the amount of safety stock or safety stock to guard against increased consumer demand or delays in the schedule for AZHIKRA product orders in the 2019 period, the safety stock is 500 units and the 2020 period is 245 units. Then based on the Reorder Point (ROP) in the 2019 period it was 530 units and the 2020 period was 275 units.

In the previous company method, the amount of safety stock was not calculated and the Reorder Point had not been set, causing various problems such as increasing customer cancel orders. Where this can be detrimental to the company where previously the customer wanted to buy some or even many AZHIKRA products, choosing to decide to cancel an order due to delays in the willingness or delivery of goods to the customer. If the company can minimize the occurrence of stock delays, of course the customer will not cancel the order and will repeat orders for AZHIKRA products. By using the EOQ method, of course, the company can minimize stock delays and can optimize inventory.

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ANALYSIS OF PISTON HEAD VARIATIONS TO THE PERFORMANCE OF THE HONDA SUPRA X 125CC MOTORCYCLE

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ABSTRACT

Two-wheeled motor vehicles on the market today, more pursuing efficiency or fuel economy and increasing engine performance. The compression ratio is greater than previous productions, as well as the quality of fuel today is better. It is intended to improve the performance of the engine. The most important factor to increase the performance is to increase the compression ratio so that the combustion is maximized. The goal to be achieved in this study is to find out the effect of changes in torque and power resulting from two concave and flat piston surface shapes on the 2006 Honda Supra 125cc vehicle. This test is performed on a four-stroke motor under standard conditions with a concave piston head that will be varied with a flat piston head. By using a concave piston kepal with the highest torque value with a value of 11.85 N.m, while for the highest power with a value of 9.8hp. In the study using a flat piston kepal the highest torque value with a value of 22.39N.m, while the highest power that can be produced is 14.9hp. So this is what produces the highest power is a flat piston head so that combustion using a flat piston head is more maximal compared to using a concave piston hammer.

Key words: deep combustion, power, sunken and flat piston head, torque, 125cc supra motorcycle

INTRODUCTION

Energy is a natural need for humans, so that without a source of energy, life on earth will not be able to walk. Advances in science and technology and the rapid increase in human numbers resulted in massive exploitation of energy sources. Transportation is one of the many advances in the field of knowledge. Humans need a means of transportation to carry out various things so that vehicles that are an absolute means of transportation are needed. With the increasing number of people, the number of vehicles is increasing and the need for petroleum fuel as an energy source will also increase. Even though the energy source is getting thinner and will one day run out. Therefore, it is necessary to take savings measures, one way is to improve the performance of an engine that will affect the power and fuel consumption needed.

In the process of burning a four-step Honda Supra x 125cc motorcycle, there are several losses. These losses result in no perfect combustion in the combustion chamber, so theoretically the energy that can be utilized from fuel to be converted from mechanical energy to drive the vehicle is only about 30% while the remaining 70% is lost in the form of exhaust heat, cooling losses and mechanical losses. The causes include the lack of perfection of the combustion process of the mixture of fuel and air so

that there will be imperfect combustion in the combustion chamber and result in performance produced by low engines. The combustion improvement on the Honda Supra x 125cc four steps is done by improving the combustion system in the combustion chamber by changing the shape of the piston head with variations of concave and flat piston heads to improve the performance of the engine.

Combustion plays an important role in determining the characteristics of a combustion motor where the low level of efficiency comes from the combustion process that occurs. To measure the characteristics of a fuel motor can be known by looking at the specifications of fuel consumption, motor acceleration, and maximum speed/top speed. Theoretically with a large pressure in the combustion chamber, the combustion process of the mixture of air and fuel will be more perfect and it is needed in improving engine performance which includes fuel consumption, acceleration, and maximum speed/top speed.

This is used 2 variations of piston heads with concave surfaces and flat surfaces, in a deep combustion requires a compression ratio to make combustion more perfect and can produce power in the vehicle more maximally. Pistons (Thoracic) are the engine components that first receive energy from combustion. The energy is then passed on with the thoracic rod. In the piston section has a ring that

usually amounts to 3 rings for a 4-step combustion motor, two rings as a compression retaining ring so as not to leak and one ring as a lubrication ring on the piston. The main function of the piston is to receive the pressure resulting from the combustion of the gas mixture and forward the pressure to rotate the crank shaft through the piston rod/connecting rod.



Figure 1. Piston Head Shape

Compression is when the gas and air in a cylinder are condensed in very small volumes. This occurs in the process of moving the piston upwards before the mixture of air and fuel is burned by spark plugs along with fuel in the combustion chamber. Compression ratio means the ratio between the volume of the cylinder when the piston is at its lowest point with the piston's position at the very top point. The higher the ratio means the more compressed air there is, and the fuel burned can be more and more.

Motor power is one of the parameters in determining the performance of the motor. The understanding of power is the amount of motor

$$P = \frac{2 \cdot \pi \cdot n \cdot T}{60} \text{ Nm/s (watt)}$$

work for a certain period of time as the unit of power is selected wattage. To calculate the magnitude of the power of the motor 4 steps used formula:

and,
P = Power (Watt)

n = Engine laps (rpm)

T = Torque (Nm)

Torque or motor turning moment is force multiplied by arm length, on the motor the force is the power of the motor while the arm length is the length of the thoracic step. If the length of the arm is extended to produce the same moment it takes a smaller force, and vice versa if the distance is the same but the force is enlarged then the resulting moment will be greater as well. This means that the greater the combustion pressure in the cylinder, the greater the moment produced. Maximum torque does not have to be generated at the time of maximum power at the same time. Torque (moment) is very closely related to the volumetric efficiency of the motor, meaning that the moment is very dependent on the amount of fuel that can be sucked into the cylinder and then burned, because the more fuel that can be burned means the higher or greater the force produced to push the thoracic. The torque of the motor will be maximum at the time of maximum efficiency. The magnitude of the rotary moment for the 4-step motor can be calculated by the formula:

$$P = \frac{2 \cdot \pi \cdot n \cdot T}{60} \text{ Nm/s (watt)}$$

And,

T = Torque (Nm)

P = Power (Watt)

n = Engine laps (rpm)

RESEARCH METHODS

Data collection uses the *Dynotest tool*. The motorcycle used is a Honda Supra 125 cc in 2006. Discussion and calculation using the *Dynotest tool*. This analysis process will be described in detail in the following flowchart:

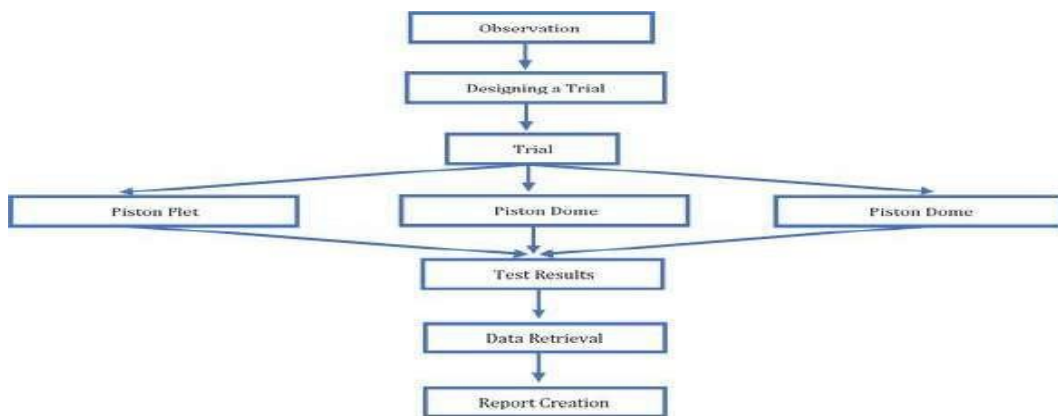


Figure 2. Flowchart of the research process

Observations are conducted to take data directly on research objects both directly and with the help of research support tools. This research uses tools and materials used for research and also as self-protection from accidents at the time of research.

RESULTS AND DISCUSSIONS

Dynotest is used to measure the maximum performance of torque and power on a motorcycle. Torque is the ability of the engine to drive a vehicle Test 1

from stationary to running, this torque is related to vehicle acceleration. While power is interpreted, how fast the vehicle reaches a certain speed. The unit of torque is called (N.m) and the unit of power is called HP. Engine devices that support dyno test performance include rollers, blowers, safety systems, and motor locks so as not to shake when the motor is fully gassed on top of the dynotest engine. The results of the test are then displayed on the computer screen.

1. Testing Using a Concave Piston Head
- 2.



Figure 3. Dynotest Machine Test Results Graph

Seen from this image from the rpm of 4500 graphics for power to rise continuously up to 6377 rpm and that's where the highest power is 9.5HP that can be produced from a motorcycle in the first test stage using a piston head with a concave surface, and after that the power decreases to 9500 rpm the power produced is only 6.4HP. In contrast to the torque graph that only increases at the initial

rpm, namely from rpm4500 to 4747 only, and rpm 4747 that is obtained the highest torque up to 11.58NM. And after in the torque of 11.58NM torque graph data decreased, until at the highest rpm the torque data even decreased drastically to 6.4NM was also at the highest rpm, which is 9500. And the next few Stages until Test Stage 5 are presented in the following Table data;

Table 1. Test Phase Results Using Concave Piston Head

RPM	Test 1		Test 2		Test 3		Test 4		Test 5	
	Power	Torque	Power	Torque	Power	Torque	Power	Torque	Power	Torque
4500	7.4	11.55	7.5	11.64	7.6	11.82	7.5	11.64	7.4	11.60
5000	8.2	11.52	8.3	11.58	8.4	11.73	8.3	11.62	8.4	11.75
5500	8.7	11.11	8.7	11.08	9.0	11.40	8.9	11.36	9.0	11.46
6000	8.9	10.63	9.2	10.78	9.3	10.82	9.3	10.89	9.3	10.84

6500	9.4	10.18	9.4	10.15	9.7	10.50	9.8	10.61	9.7	10.48
7000	8.8	8.86	9.4	9.45	9.7	9.70	9.4	9.39	9.5	9.53
7500	9.0	8.42	9.0	8.45	9.1	8.55	9.3	8.66	9.3	8.70
8000	8.6	7.54	8.6	7.56	8.9	7.80	9.0	7.93	9.0	7.91
8500	8.0	6.60	8.1	6.71	8.3	6.83	8.6	7.14	8.6	7.10
9000	7.2	5.59	7.4	5.75	7.4	5.75	7.8	6.10	7.5	5.85
9500	6.4	4.69	6.4	4.72	6.3	4.63	6.8	5.06	6.6	4.86

3. Testing Using A Flat Piston Head

Test 1

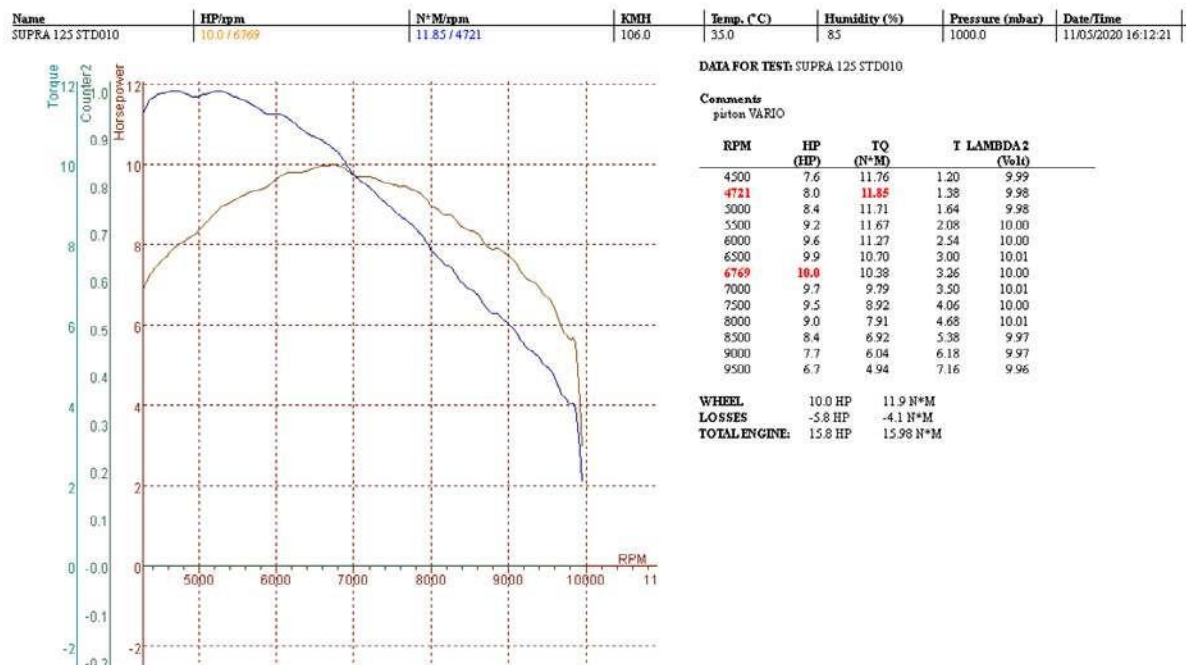


Figure 4. Dynotest Machine Test Results Graph

Seen from this graphic image the comparison after the turn of the piston head from the concave surface instead with a flat surface for its own power the graph rises from 4500 rpm to 6769 rise drastically. The rpm of 4500 power produced is only 7.6HP, while at the rpm point 6769 power up to 10.0HP and

after that the power graph decreases to the highest rpm which is 9500 power that d produce only 6.7HP. For the torque itself the highest point is at rpm 4721 with 11.85NM of torque, and after that torque drops dramatically to 9500 rpm the torque is only 4.94NM.

Table 2. Test Stage Results Using a Flat Piston Head

RPM	Test 1		Test 2		Test 3		Test 4		Test 5	
	Power	Torque	Power	Torque	Power	Torque	Power	Torque	Power	Torque
4500	7.6	11.76	7.4	11.58	7.3	11.30	7.0	10.96	14.9	22.39
5000	8.4	11.71	8.5	11.80	8.3	11.69	8.6	12.00	11.9	16.87

5500	9.2	11.67	9.0	11.53	8.9	11.36	9.3	11.89	9.3	11.89
6000	9.6	11.27	9.7	11.36	9.6	11.21	10.0	11.64	9.8	11.48
6500	9.9	10.70	9.6	10.43	9.8	10.59	10.1	10.88	10.0	10.80
7000	9.7	9.76	10.0	9.98	10.2	10.28	10.6	10.64	10.2	10.17
7500	9.5	8.92	9.6	8.98	9.6	8.98	9.7	9.11	9.4	8.80
8000	9.0	7.91	9.2	8.11	9.2	8.13	9.5	8.33	8.8	7.69
8500	8.4	6.92	8.6	7.12	8.7	7.17	8.9	7.33	8.4	6.95
9000	7.7	6.04	7.7	6.05	7.6	6.06	7.8	6.07	7.6	5.90
9500	6.7	4.94	6.6	4.91	6.9	5.09	6.6	4.91	6.2	4.61

From the data Tabel 3 and 4 obtained the following data on torque tests and power tests on flat piston heads. There are 5 test stages that have the highest power of 14.9hp, for the highest torque of 22.39. Here are the results of the power and torque test comparison of the 2 piston head variations on the Supra 125cc. The maximum data of the 2 variations on torque and power results are as follows:

1. The largest power difference produced in the research experiment using the surface shape of a flat piston head can produce power of 14.9 HP while with a concave surface shape is only able to produce the highest power of 9.8 HP.
2. The largest torque difference produced in the five final test stages, using pistons with a flat surface shape is able to produce torque of 22.39 NM while those using pistons with concave surface shapes are only able to produce torque of 11.82 NM.

So the conclusion for the greater torque test using a flat piston head is 22.39 N.m and, for greater power, using a flat piston head of 14.9 HP.

CONCLUSION

This research can be concluded the effect of flat piston head variations on the torsi produced on supra 125cc motorcycles in 2006 which is best r, namely with a result of 22.39 N.m. It can be concluded the effect of variations in piston use with a flat surface on the power produced on supra motorcycles 125cc in 2006 which is best with a result of 14.9 HP.

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PROOF OF WORK MOTIVATION ON EMPLOYEE PERFORMANCE (STUDY AT WIRASATYA TNI AD HOSPITAL SINGARAJA BALI)

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ABSTRACT

This study aims to obtain evidence of work motivation on employee performance by adopting the theory of Herzberg, Ganesan, Shankar & Weitz (1996) and Richard & Anderson (1994) to develop the concept of work motivation in two dimensions, namely: 1) The intrinsic dimension consists of: job characteristics, improvement of skills, and achievement opportunities; 2) Extrinsic dimensions consisting of: Rewards in accordance with achievements, work environment, and motivating policies. Research objectives include: a. knowing the influence of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital Bali; b. To find out which indicators have the most influence on Employee Performance. Teknik Pengumpulan Data dilakukan melalui: Wawancara, Observasi, Studi dokumenter, dan Kuesioner. The analyzes carried out include: Instrument Validity and Reliability, Multiple linear regression analysis, T-test to determine whether or not each coefficient is significant in the multiple regression equation, and F-Test to determine the effect of all independent variables on the dependent variable. The test results show that all instruments are valid and reliable, the results of multiple regression analysis with the equation $Y = 0,065 + 0,065 X_1 + 0,109 X_2 + 0,502 X_3 + 0,259 X_4 + 0,019 X_5 + 0,024 X_6$. The results of the T test and F test that prove the positive influence of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali. Achievement Opportunity Indicator is the most dominant indicator of influence on Employee Performance.

Key words: work motivation, employee performance

INTRODUCTION

One of the concepts of work motivation was popularized by Ganesan, Shankar & Weitz (1996) and Richard & Anderson (1994) which stems from Herzberg's two-factor theory. This theory examines work motivation in two dimensions, namely the intrinsic and extrinsic dimensions. Intrinsic factors refer to the employees themselves while extrinsic factors refer to various things that come from outside the employees themselves. Intrinsic factors include: fun work, achievement opportunities and increased skills. Extrinsic factors include: rewards that are in line with expectations, a conducive work environment and motivating company policies.

The concept of employee performance put forward by experts on employee performance, namely Agus Dharma (1995: 111) that performance is something that is done or a product/service produced or provided by a person or group of people. Various measures of performance include: quantity of work, quality of work and timeliness of work. Hasibuan (1996:167) says performance is the result achieved by workers compared to the standards set both concerning quantity and quality.

The TNI AD Wirasatya Singaraja Bali Hospital, which is a military institution whose main task is not only

to provide health services to soldiers or the military, TNI-AD civil servants and their families, but also to provide health services to the general public. This hospital always strives to improve the quality of health services in order to provide satisfaction to its patients.

Characteristics The daily work of employees is to serve patients from the ER (Emergency Unit) until patients return to their respective homes after going through the treatment process. The work of serving these patients is divided into 3 (three) shifts, namely shift I: days starting from 08.00 – 16.00; shift II from 16.00 – 24.00; and shift III from 24.00 – 08.00 WITA. Each employee will have the same opportunity for the three shifts without exception by rotating in such a way.

All employees receive training opportunities on procedures for carrying out work in accordance with their respective fields. This training is carried out by the hospital management either by going directly to the job (on the job training) or at certain scheduled times. In addition, every Friday there is physical fitness exercise for employees. At the end of each event the hospital management always provides direction on the development of the quality of work and things that should be improved so that services to patients can be improved from time to time. Directions are focused on the work that has been done and the things that are considered lacking that must be improved.

Hospital management provides opportunities for outstanding employees to improve their performance, especially in their work. For employees who have achievements, there are opportunities to improve their achievements by participating in studies elsewhere in the field of knowledge that are relevant to their work. As has been done, the hospital has sent several managerial employees to the nearest college. Likewise, organic employees are given the opportunity to develop their education. With the knowledge received, the manager assigns duties and responsibilities that are equivalent to the education they have. This shows that the hospital provides opportunities for employees to improve their performance.

Employees receive benefits consisting of a fixed salary, position allowances and bonuses based on the profits earned by the hospital. The amount of salary given is in accordance with education and work experience. Benefits are given to managerial employees as well as organic employees. Employees who occupy structural positions receive structural position allowances, while employees who carry out organic activities receive work professional allowances. This professional allowance is different for each profession, whether it's a doctor, a nurse, a midwife, a pharmacist, etc.

This hospital has a good working environment. This is reflected in the layout of the room, which reflects a place that strongly supports the effectiveness of employees' work. Each room has been equipped with adequate air ventilation. Illumination of each room is obtained from sunlight during the day and electricity at night. This in addition to providing comfort to work can also provide health. Coloring for the hospital adheres to a distinctive color that reflects health, namely white. This in addition to functioning for coolness also gives meaning to health for the hospital. Every room is protected from noise because every room has been equipped with soundproofing facilities except for the 3rd class room which is inhabited by many patients. The work environment is also equipped with good work equipment so that employees avoid fatigue and reflect higher ergonomics.

This hospital in setting company policies always involves employees, even though the management involves many soldiers, but in setting policies the hospital does not use an authoritarian system, but involves employees in every policy making. For example, the policy on treatment rates, here the manager involves medical personnel to calculate the costs incurred as well as the expected profit so that the treatment rates borne are in accordance with the patient's economic condition. Likewise, the policy on bonuses that will be given to employees, in this case the finance department is invited to negotiate on bonuses that will be given based on the achievements of each employee. All other policies have also involved employees so that there are rarely complaints between managers and employees because it is felt that they adhere to the element of openness.

Based on the aspect of employee performance,

it appears that the quality of work of employees is marked by the fulfillment of health for patients who come for treatment. Quantity can be seen from the completion of each job serving the patients who come to the hospital. Service is always on time, there is never a delay in work. Based on this explanation, this research was conducted in the form of Proof of Motivation on Employee Performance (Study at the TNIAD Wirasatya Singaraja Hospital, Bali).

Formulation of the problem

- a. Is there an effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali?
- b. Which indicators have the most influence on Employee Performance?

Research Objectives

- a. To determine the effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali.
- b. To find out which indicators have the most influence on employee performance.

RESEARCH METHODS

The operational definition of the variables studied, namely work motivation is the drive that exists within employees that activates, empowers, and directs behavior in carrying out tasks within the scope of work, which consists of: a) Job characteristics (KP), b) Improve skills (MK), c) Achievement opportunities (KB), d) Rewards according to expectations (IH), e) Work environment (LK), and f) Company policy (KPr). Employee Performance is the best work given by employees as measured by a) quantity of work (Kwl), b) quality of work (Kwt), and c) punctuality (KW). Sampling was done by proportional stratified random sampling. Data was collected by using interviews with leaders and employees, observation, document studies, and questionnaires. The data analysis technique used to analyze the available data is multiple regression analysis, t test, and F test. Validity and reliability analysis is carried out as a prerequisite in the data analysis technique. The indicators that most affect employee performance are done by selecting the highest Beta coefficient value on the results of regression analysis.

RESULTS AND DISCUSSION

Questionnaires that have been distributed to respondents are then tested for prerequisites before answering the research hypothesis. Table 1 is the result of the validity and reliability test in this study.

Table 1. Validity and Reliability Analysis Results

Dimension	Indicator	Validities	Reliabilities
KP	KP1	0,7642	0,8089
	KP2	0,6588	
	KP3	0,5606	
MK	MK1	0,5639	0,7230
	MK2	0,5082	
	MK3	0,5820	
KB	KB1	0,6273	0,8500
	KB2	0,5574	
	KB3	0,4500	
IH	IH1	0,6490	0,6798
	IH2	0,6490	
	IH3	0,4190	
LK	LK1	0,5104	0,6377
	LK2	0,3813	
	LK3	0,4517	
KPr	KPr1	0,5983	0,6842
	KPr2	0,3205	
	KPr3	0,6155	
Kwl	Kwl1	0,5479	0,7249
	Kwl2	0,5900	
	Kwl3	0,5051	
Kwt	Kwt1	0,5479	0,7249
	Kwt2	0,5900	
	Kwt3	0,5051	
KW	KW1	0,3066	0,6469
	KW2	0,5140	

Dimension	Indicator	Validities	Reliabilities
	KW3	0,5667	

Table 1 above shows that the question items on all indicators have a correlation value greater than 0.3, meaning that all indicators are valid. All variable dimensions have an alpha coefficient value greater than 0.6 meaning all dimensions are reliable. This means that it can be used for further testing

Multiple Regression Analysis

To determine the effect of work motivation on employee performance, multiple regression analysis techniques were used. The independent variable is work motivation which has six indicators, namely job characteristics, skills improvement, achievement opportunities, rewards as expected, work environment, and motivating policies. While the bound indicator is the performance of employees who have three indicators, namely: quality of work, quantity of work and timeliness.

The results of multiple regression analysis can be seen in Table 2 below:

Table 2. Effect of work motivation on employee performance

Model	Indicator	Unstandardized Coefficients		t	Sig.
		B	Std. Error		
		1	(Constant)		
1	KP	.065	.196	.332	.741
	MK	.109	.062	1.753	.086
	KB	.502	.210	2.383	.021
1	IH	.259	.126	2.068	.045
	LK	.019	.126	.155	.878
	KPr	.024	.055	.443	.660

Table 1 above shows a positive influence on all indicators consisting of job characteristics (KP), skills improvement (MK), achievement opportunities (KB), expected rewards (IB), work environment (LK), and motivating policies (KM) on employee performance (KK). Thus, the regression line equation can be made as follows:

$$Y = 0,065 + 0,065 X_1 + 0,109 X_2 + 0,502 X_3 + 0,259 X_4 + 0,019 X_5 + 0,024 X_6$$

T-Test Analysis

The results of the T-Test analysis can be seen in table 3 as follows.

Table 3. T-Test Analysis Results

Dimension	T-count	T-Table	Description
KP	0,332	1,645	There is no significant effect
MK	1,753	1,645	There is a significant effect
KB	2,356	1,645	There is a significant effect
IH	2,061	1,645	There is a significant effect
LK	1,155	1,645	There is no significant effect
KPr	0,443	1,645	There is no significant effect

F-Test Analysis

The results of the F-Test analysis show that the calculated F value is 47.0 while the F Table value is 3.65. The value of F Count is greater than the value of F Table means that there is a positive and significant effect of work motivation on employee performance at the TNI AD Wirasatya Singaraja Hospital, Bali.

Most influential indicators

The results of the Work Motivation Impact Test on Employee Performance prove that the Achievement Opportunity Indicator is the most dominant indicator of influence on Employee Performance. This is evident from the beta coefficient of 0.502 which is the highest beta coefficient compared to other indicators.

Discussion

Every company is always trying to improve the performance of its employees. This is done by increasing the motivation of the employees.

Likewise, the TNI AD Wirasatya Singaraja Hospital Bali, from the results of interviews with the management, it can be said that the issue of work motivation has been carried out as optimally as

The author has determined six dimensions of work motivation which include: Job characteristics, Improve skills, Opportunities for achievement, Rewards as expected, work environment, and motivating policies. While the dependent variable is employee performance which has three dimensions, namely:

work quality, work quantity and timeliness.

The 6 (six) dimensions that have been determined are only 3 (three) that really motivate employees, namely: Improving skills, Opportunities for achievement and Rewards as expected. The results of interviews with employees obtained information that employees really crave an increase in skills related to their respective professions. Likewise regarding the opportunity for achievement, from the interview results obtained information that the opportunity for achievement really encourages employees to work harder. This is because employees are very aware that as people who work in the health sector, there is a great opportunity to show achievement. This achievement opportunity really encourages employees to work hard. Another thing is the expected Rewards. The employees who were interviewed stated that the benefits they received were very meaningful for the

employees to fulfill their daily family obligations. Thus, possible, especially improving the benefits for employees in line with the rising prices of goods today. The employees really appreciate the gift from the TNI AD Wirasatya Singaraja Bali Hospital by working harder.

Meanwhile, the other 3 (three) dimensions do not encourage employees to work hard, including: Job characteristics, work environment and motivating policies. Based on the results of interviews with employees who were successfully contacted stated: Job characteristics are not a motivating thing because it has become the duties and responsibilities of employees. Frequent transfers (rotations) cause employees not to be too panicked about certain job characteristics but whatever the duties and responsibilities must be done properly. The work environment in hospitals is not something that motivates because around the hospital there are often deaths terrible events, for example, people are seriously ill due to accidents. In addition, the smell of drugs and other chemicals sometimes causes people to not feel at home in the hospital environment. Hospital policy is not something that motivates because the policies made are more in the field of paying for hospitalization for official patients (for the army) and general patients (for the general public) not policies in the field of personnel.

Various policies concerning personnel are usually outlined from managerial officials. For example, regarding the personnel salary policy, until

now there has been no improvement. In fact, the increase in oil prices causes the prices of basic necessities to increase. The increase in the price of basic necessities that occurred caused the weakening of the purchasing power of the personnel of the TNI AD Wirasatya

Singaraja Hospital in Bali. The hospital should think about an increase in salary for its personnel. This is why the personnel have not felt the existence of a motivating policy.

The results of the analysis prove that opportunity to achieve is the most dominant indicator affecting employee performance. The results of interviews with employees leveled achievements to be a boost to improve achievement and bonus.

CONCLUSION

Based on the results of the analysis, conclusions can be drawn, namely: partially from the 6 (six) indicators used to measure the work motivation of the employees of the Army Hospital in Singaraja, it turns out that all of them have a positive effect on employee performance. However, judging from the level of significance, it turns out that there are only 3 (three) indicators that have a positive and significant effect. These indicators are improving skills, opportunities for achievement and rewards as expected. The remaining 3 (three) indicators have a positive but not significant effect. The three indicators are: job characteristics, work environment and motivating policies. This is proven through the results of the t test with a significant level of 5%. Simultaneously, of the 6 (six) indicators used to measure employee motivation at the Army Hospital in Singaraja, all of them have a positive effect on employee performance. This is proven through the results of the F test with a significant level of 5%. Of the six indicators used to measure employee motivation at the Army Hospital in Singaraja, it turns out that the opportunity for achievement is the most influential indicator on employee performance.

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LINGUISTIC FORENSIC ANALYSIS ON CAR RENTAL AGREEMENT AT PRIVATECAR RENTAL AGENCY

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ABSTRACT

Linguistic forensics can be seen as an applied linguistic science because forensic linguistics uses the application of language analysis that can include phonetics, phonology, lexicogramatika, semantic discourse and other linguistic elements for the benefit of legal processes. In its increasingly dynamic development, language analysis in forensic linguistics has a unique dimension that requires special study. This research aims to discuss aspects in the dimension of language analysis used for forensic linguistics with the main variety of writing. The discussion of the variety is associated with the language used in the lease agreement as well as the context implied in it. The discussion is also enriched with references to several studies to display the potential that can be explored more deeply. The method used in this study is qualitative descriptive method because this research focuses on the dimensions of language analysis that is typical in forensic linguistics i.e. comparative dimension, differentiator and gauge. It is expected that this article can contribute insight to the development of forensic linguistics researches next.

Key words: forensic linguistics, language analysis, lease agreements, variety of writings

INTRODUCTION

The need for four-wheeled vehicles is now increasing, especially in big cities. Besides as a livelihood for drivers or drivers online, cars are also needed when wanting to vacation with family or attend meetings. This thing that makes car rental business become one of the opportunities that many businesses die by. According to CNN Indonesia (2020) the new order of life or new normal in the minds of the corona virus (Covid-19) pandemic that the government has started to run has become a blessing for the car rental business. Vehicle rentals are now starting to rise, although they are not 100 percent recovered as before. However, when running a car rental business, there are some things that are currently notice, one of them terms of term that applied in the lease rent a car. This is required a letter of agreement to rent a car (<http://libera.id>). Therefore that the business run can have a strong and clear bond between customers and car rental owners.

With car rental agreement, both parties can feel comfortable and trust each other which then this can increase the development of the car rental business itself. According to Halim Firman Muhammad (2018), in terms of renting a four-wheeled vehicle namely car, there is a need for a rental agreement that has been agreed between the two parties, namely the renter and the party renting out there is a compulsion from the other party, but voluntarily by the parties. Thus this car rental agreement is very necessary because it can show the rights and obligations between each

party, namely customers and car providers.

With car rental agreement is necessary because at this time there are many defaults or unwanted events such as accidents or embezzlement of rented cars. The police often handle cases of embezzlement preceded by rental efforts against car rental entrepreneurs (liputan6.com, 2021). Car rental agreements will make all parties bound and related to each other in case of unwanted things can be prosecuted legally both criminally and civilly.

One way to avoid is by analyzing car rental agreements using linguistic forensics. With linguistic forensic content in a rental agreement that in this case is devoted to the car rental agreement can be analyzed whether harming one party or not. The language in the agreement can potentially be ambiguous or not, or potentially involve violations of the law or not. According to Hugo (2017) linguistic forensics can position language, crime and law through an interdisciplinary perspective as an important part of the human being faced throughout his life. Therefore that linguistic forensics is an absolute certainty for everyone based on logic and observation obtained from the value of taste and logicity.

Forensic linguistics can be defined as the application of linguistics in the field of law (Coulthard & Johnson, 2010; Gibbon & Turel, 2008; Olson, 2004). Therefore it can be understood that forensic linguistics is the application of linguistic science can include theory, methods and analysis of language for legal purposes, for example criminal

law, civil law, state at law, customary law, environmental law and others. The development of forensic linguistics is very dynamic so it is necessary development to analyze the language from legal documents to the analysis of the language itself that can be used as evidence of a crime. Thus, this article focuses on analyzing the documents of car rental agreement using forensic linguistics in order to know the agreement content the harm one party or not.

RESEARCH METHODS

The method used in this study is the analysis of language structure and descriptive qualitative research. According to Sendari Ayu Anugerah (2019) Qualitative Descriptive Research is a research method that utilizes qualitative data and described descriptively, the type of qualitative descriptive research is often used to analyze, phenomenon, or social circumstances. Type qualitative descriptive research is a combination of descriptive and qualitative research. Type of qualitative descriptive research displays the results of data as it is without manipulation process or other treatments. This research focuses on the dimensions of language analysis in forensic linguistics. Written variety is the type of data that is used as an object. The type of data for this research is secondary data obtained from articles and mini-research. The technique of collecting data from this research is through literature study which is used as a way to collect data related to dimensions analysis of language in forensic linguistics. Then, the data obtained were analyzed through a qualitative approach. A qualitative approach has been carried out by describing and explaining the data. The subject of this research is CV. Atsa Jaya Makmur Rent a Car Suko Sidoarjo.

RESULTS AND DISCUSSION

Language structure analysis is concerned with studying the linguistic structure which includes linguistic structural units such as morphological, syntactic and semantic analysis of linguistic studies forensics. General characteristics of forensic linguistics that allow it to be aligned into linguistic practices and other ethical analysis as follows: (1) having forensic parameters (legal and criminal) on linguistics, (2) is a surgical tool used in hacking language, legal and criminal relationships, (3) also referred to as language studies against legal texts, (4) dismantling the pragmatism of the language of law, (5) uncovering language crimes, and (6) become the pillar of reconstruction between the disputing parties.

Area of forensic linguistic research. McMenamin (2002) suggests that the areas of forensic linguistic research in the realm of language and law can be described as follows: (1) Auditory Phonetics. Auditory Phonetics in forensic linguistics research includes: speaker identification by victims and witnesses, sometimes called "ear-witnesses", earwitness line-ups, also called-ups or voice parades, voice perception and discrimination, voice imitation or disguise, effect of listener's first language on speaker identification, identification of social or regional accent or dialect, listener perception of speaker's age, reverse speech, telephone speaker recognition, and speaker identification by morphology and syntax. (2) Acoustic Phonetics. Acoustic Phonetics in forensic linguistics research includes: speaker identification by phonetic analysis, speaker identification by voice quality, speaker identification by phonological variation in diphthongs, speaker identification by speaking speed, physical characteristic of speaker: height-weight, formant frequencies, speaker profiling related to regional and social group, effect to intoxication on speech, phonetic manifestations of speaker's affective state, foreign accent in voice discrimination, accent disguise or imitation, voice disguise, voice characteristics of identical twins, comparability of speech samples, inference of voice loudness from measurement of pitch, disambiguating speech from background sounds, enhancement of audio record of disputed utterances. (3) Semantics: Meaning of Interpretation. Semantics as the study of meaning in forensic linguistic research includes, interpretation of words, phrases, and sentences, interpretation of text: contracts, insurance policies, communications, restraining order, statutes, and legal texts, ambiguity in text and laws, interpretation of spoken discourses in reading of rights, interpretation of jury instructions. (4) Pragmatics and Discourse, discourse and pragmatics as the study of implied meaning in forensic linguistic research includes, forensic discourse analysis, pragmatic analysis of linguistic and extralinguistic contexts of utterances, pragmatic analysis of a will, perceived vs intended meaning, discourse of specific context, analysis of dictation, transcript of recorded conversations, language of immigration, language of defendants, language of the courtroom, discourse of lawyers and clients, discourse of trial lawyers, discourse of courtroom questions, language of jury instruction, language of specific speech acts, threats discourse, promising, warning, offer and acceptance, defamation, denial, perjury, sexual harassment, sexual assault, and car sales. (5) Writing style and freedom of inquiry. Writing style and freedom of inquiry as study applications in forensic linguistic research include, descriptive methods of authorship identification, dialect evidenced in

written language, question time and occasion of writing, stylometry and statistical methods in questioned authorship: forensic and literary, corpus linguistics in forensic analysis, corpus linguistics, computer programs related to questioned authorship, cumulative sum chart for author identification. 6) Legal language. Legal language as part of forensic linguistic research includes revealing that legal texts must be interpreted based on a logical proposition model, namely as a statement that can be judged true or false (in a certain sense) according to the rules of reasoning (bd. McMenamin, 2002:79; Leyh, 2011:41). 7) Language of the Courtroom. Language studies in courtrooms include language of witnesses, witness examination, sexual assault victims, language of lawyer, language of judges.

8) Interpretation and Translation. Interpretation or interpreter is a complex skill and any condition, including in a forensic context includes, pre-trial interpreting, courtroom interpretation, interpretation with cultural and dialect differences, questioning in interpretation testimony, absence of interpretation, courtroom role of the interpreter, interpreter education, translation.

Basic principles of forensic linguistics. Forensic linguistics has a basic principle that can be used to avoid confusion in the analysis of legal texts (Gibbons, 2003), i.e., forensic linguistics is an interdisciplinary branch of science that bridges the world of language and law. This principle is seen in the area of forensic linguistic studies that become strong evidence in decisions that have legal impact.

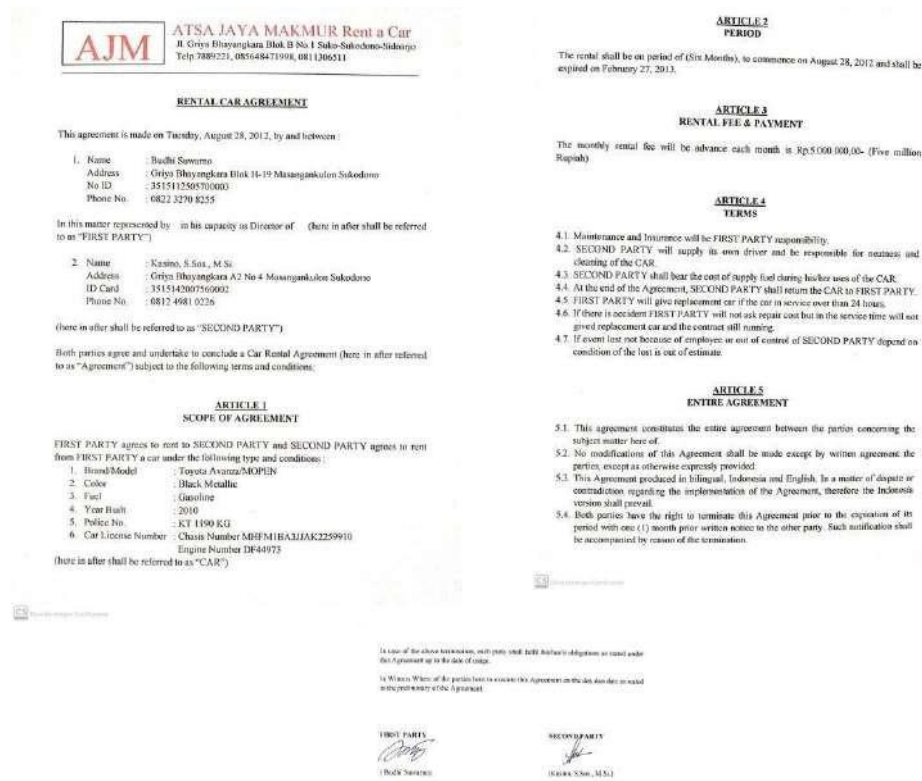
Identify crimes with consideration of linguistic features. Proving the suitability of linguistic and legal features. Language (linguistics) helps parse crime types. Text and context strongly support forensic linguistic actions. The sequence of crime events becomes one of the important elements in forensic linguistic identification. Interaction between two or more parties in crimes is very important in helping to uncover language crimes, and locutionary, illumination, and locale actions are very supportive in linguistic forensic identification.

Forensic linguistic mechanism of action. The devices dissected by forensic linguistics include analyzing linguistic documents of parliamentary products (law makers), personal will, judgments and subpoenas, laws, and other legal products (unions or ministries). Other things are proving trademark and intellectual property disputes, meaning disputes and the use of anonymous text

author identification (threatening letters, cell phone texts, emails), identification of plagiarism cases, tracing the history of asylum seekers, reconstructing mobile phone texts and a number of other issues (Ollson, 2008). Application of linguistic methods to dissect the problem (language) of law is only one side where forensic linguistics is an application of science, in different linguistic theory can be applied to the analysis of language samples in the investigation. Thus, forensic linguistics experts can record the results of observations on research conducted in fields as diverse as language and memory studies, conversation analysis, discourse analysis, grammar theory, cognitive linguistics and others. Reasons for dependence on a broad spectrum of linguistic fields are understood: the data linguists receive for analysis likely requires something to be said about how the average person remembers the language, how the conversation is constructed, the type of speaker move or author makes in the process of a conversation or written text, or they may need to explain to the court some aspect of the structure of the phrase or sentence. In short, forensic linguistics experts apply linguistic knowledge and linguistic techniques in reviewing legal cases or legal processes or personal disputes between other parties that may be in legal action consisting of several types of actions taken.

In relation to language in legal products, this language structure analysis examines the structure of language in legal products to dissect the use of language in legal products, whether it is in accordance with linguistic rules so that in addition, the analysis of the structure of language in the study of legal products can also arrive at recommendations for simplification of complex sentences in the court process legal products so that they are easier to understand (Subyantoro, 2019).

Lease or lease agreement is regulated in article 1548 to article 1600 of the Civil Code. The provisions governing the lease agreement are contained in article 1548 of the Civil Code which states that a lease is an agreement by which one party binds himself to give the other party the enjoyment of an item, for a certain period of time and by paying a price, which the party agrees to payment (<https://sinta.unud.ac.id>). One of research subject that have been analyzed using linguistics forensic is a car rental agreement on CV Atsa Jaya Makmur Rent a Car.



A rental agreement for customers and entrepreneurs is an agreement that binds both of them in a relationship bond. The customer can only accept what which has been presented by the CV Atsa Jaya Makmur Rent a Car. In the agreement the customer is not included in the making of the agreement that will be mutually agreed upon. The term "take it or leave it" made by CV Atsa Jaya Makmur Rent a Car, the language used is easy for customers to understand. Therefore that car rental agreements can run smoothly, many even end up becoming regular CV Atsa Jaya Makmur Rent a Car. The language used is not complicated, easy to understand, simple and to the point. Also the contents of the agreement are not too many and long so that customers do not need much time to read or write learn it. The words used are general and not special words that are rarely used in communication. Adverbs of time, conjunctions and types of sentence can be detected and understood easily. Anatomy of the letter of agreement already consists of title, opening, comprehension, basis of consideration, content of the agreement, closing and signature (Widjaja, 2004). Also in the content of the agreement has contained the rights and obligations of each party where according to article 1550 of the Civil Code, the renter has an obligation to handover the rented goods to the tenant, keep the rented goods so that the goods can be used in accordance with the intended purpose and ensure

that the renter can use the rented goods without interruption during the rental period. While the obligations of the tenant among others have also been established in the agreement, namely, using the rented goods as best as possible and in accordance with the agreed purpose and pay the rental price in accordance with the agreed time. In the agreement has also listed rental procedures, clear tenant data, rental price determination, pick-up and return agreement, usage time or return deadline, force majeure, the existence of security deposits or late fines for the tenant and other special provisions. Which is all an analysis of language rather than forensic linguistics.

The result of this description are then used to analyze that this written lease agreement document can be used as a written statement of the bond between the two parties in the lease agreement a car.

CONCLUSION

As a part of applied linguistics, forensic linguistics is a new comer in the world of law which is "on the rise", at least for various cases in the country that have attracted the attention of the public as a new beacon of the state for us, forensic linguistics is able to explore the language area of legal documents. Therefore the presence of

forensic linguistics can be a lantern in the world of solving various matters related to law. We need a concrete role and the presence of experts linguist to pursue this field.

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QUALITY ANALYSIS OF CANE SUGAR JUICE FROM DOUBLE EFFECT VACUUM EVAPORATOR PROCESS IN THE MAKING OF CANE SUGAR

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ABSTRACT

Evaporator is a device that functions to produce concentrated solutions. Several types of cane sugar manufacturing methods have been carried out, for example with traditional methods, evaporator methods, vacuum evaporator methods, and others. Process optimization is the key to increasing efficiency that can produce better products. This is because sugar cane is also a commodity that plays an important role in maintaining national economic stability. This research will discuss the effect of using a vacuum evaporator with two double effects on the process of making sugar cane. This type of evaporator can utilize evaporated steam from effect 1 and reuse it for evaporation in effect 2. In addition, it is conditioned under a vacuum to reduce its boiling point so as to reduce energy requirements. The purpose of this study was to determine the results of the quality of sugar cane juice processed using a double effect evaporator. For example water content, viscosity, degree brix, reducing sugars, and other supporting parameters. Evaporation is carried out at 65°C under vacuum (-60 CmHg). The duration of the evaporation process is ± 5 hours at a time with 50 liters of starting material. The test results show that the double effect evaporator can reduce the average initial water content of materials up to 70.8%, can increase carbohydrate content up to 39.1%, viscosity up to 54.2%, and °Brix up to 48.6%. In addition, it was found that ash content was in accordance with SNI (Indonesian national standards), which was 0.63% (under 2%).

Key words : cane sugar, double effect vacuum evaporation, evaporator

INTRODUCTION

Evaporator is a device that functions to produce concentrated solutions. In the industrial world the benefits of this tool are for the initial thickening of liquids before further processing, reduction in liquid volume and to reduce water activity. For example the use of evaporators in the sugar industry. Several methods are used in the sugar manufacturing industry, both small and large scale. Sugar making is usually done on a small scale is the manufacture of brown sugar from sugar cane juice, because it can be done by traditional methods with only the need for simple equipment. Sugar cane is also called sugar which has biological functions on human health, including cytoprotective, anticariogenic, anti-carcinogenic, and antioxidant effects (Jaffe, 2012).

Several types of cane sugar methods have been carried out, for example with traditional methods. The weakness of this method is that there is still no temperature control that can cause the results of a darker color process, and use high temperatures that can increase the loss of important substances,

such as sucrose (Lesthari, 2006). In addition, the evaporator method is also used. However, it still requires a relatively high temperature in the evaporation process (Gbabo et al., 2004). The next development is the vacuum evaporator method, this method can reduce the boiling point of the material being processed because it is processed under atmospheric pressure. This process makes it possible to better maintain the quality of processed sugar cane (Supriatna, 2008).

Process optimization is the key to increasing efficiency that can produce better products. This is because sugar cane is also a commodity that plays an important role in maintaining national economic stability. So that the improvement of the production process or method in producing cane sugar is important to be studied.

This research will discuss the effect of using a vacuum evaporator with two double effects (double effect) on the process of making sugar cane. This evaporator will utilize two process rooms (effects) in conducting sap evaporation simultaneously. In effect room 1, roomie will be heated using a stove up to a certain volume. The

effect 1 evaporation process will produce water vapor which will be reused in the next process in effect 2. On the inside of effect 2 is equipped with a heat exchanger, which will be filled with steam from effect 1. So that the juice that has been processed from effect 1 will be flowed on effect 2 and evaporate again with the heat source of water vapor produced effect 1.

The process is expected to improve energy efficiency because it can utilize water vapor from effect 1. In addition, the evaporation process is conditioned under a vacuum to reduce the boiling point of the juice being processed. This research will observe several parameters of the quality of sugar cane juice processed using a double effect evaporator. For example water content, viscosity, degree brix, reducing sugars, and other parameters that can be used as a reference to determine the success of the process.

RESEARCH METHODS

1. Tools and materials

The tools used to support research include a set of double effect vacuum evaporator machines, hand refractometer (TI-13NI342), analytical scales, ovens, desiccators, stoves, gealas beaker, manomater, pipette, meter, ruler, sugar cane grinder, filter, steorfoam box. While the materials used in this study include sugarcane juice, water, 12 kg LPG (Liquid Petroleum Gas), ice cubes, sodium benzoate, lime.

2. Research methods

The evaporation process is carried out using 50 liters of sugar cane juice in one process. Evaporation is carried out at 65°C under vacuum (-60 CmHg). The duration of the evaporation process is ± 5 hours at a time.

To find out the performance and influence of the double effect evaporator engine, several items were tested. Water content testing, carried out by the method of drying in the oven. Testing of oBrix, and the sugar content in the sap material before after the process of using an evaporator machine including, the results of the process effect 1, and the results of the second effect process (the final result). This measurement is done using a hand refractometer. Testing the thickness of the sap from the starting material, material resulting from effect 1, and the second process effect material using a viscometer, and several other tests such as some proximate test items.

There are 7 samples tested including:

1. Sample A = Initial sample
2. Samples 1.1 = Sample from effects 1 repeat 1
3. Sample 2.1 = Sample from effect 2 repeat 1
4. Sample 1.2 = Sample from effects 1 repeat 2

5. Sample 2.2 = Sample from effects 2 repeat 2
6. Sample 1.3 = Sample from effects 1 repeat 3
7. Sample 2.3 = Sample from effects 2 repeat 3

3. Double effect vacuum evaporator scheme

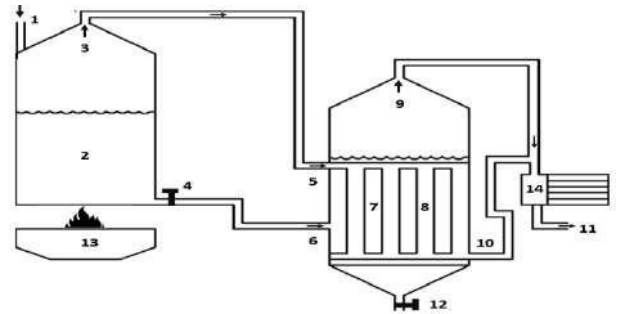


Fig 1. Schematic design of the double effect evaporator

Information :

1. Input channel
2. Material space process (effect 1)
3. Steam the results from evaporation effect 1.
4. Product output channels-1
5. Steam effect 1 enter to heat exchanger
6. Material entered in effect 2
7. Material space-2 (effect 2)
8. HE (Heat Exchanger)
9. Steam-2
10. Condensate-1
11. Condensate-2
12. Products-2 (final product)
13. Heater
14. Vacuum pump

RESULT AND DISCUSSION

1. Preparation of Sugarcane juice/sap material

The material used is roomie from the results of sugar cane milling. Material was obtained in the area of Pagak, Malang, East Java. The sap material needed for each testing process is 50 liters, and will be repeated 3 times so that the sap needed is 150 liters. Based on preliminary research, the results of the sap obtained from grinding 5 kg of sugar cane is as much as 2 liters, so that it takes approximately 5 quintals or 500 kg of sugar cane to obtain 150 liters of sugar juice.

Sugarcane material that has been obtained is cleaned by using water to separate it from dirt (glugut) that is on the sugar cane stems. After cleaning and sorting, a sugar mass of 520.7 kg was obtained with an initial mass of 550 kg. The next step is grinding using a sugar cane grinding machine. Based on the results of grinding, the average yield of milled data is 37%, so that from 520.7 kg mass of sugarcane, the volume of sugar cane is obtained as much as 193 liters. Then add 3

ml of sodium metabisulfite or sodium benzoate for preservation every 1.5 liters of sugar cane juice. The testing process lasted for 2 days, so the samples were stored in a sterofom with the addition of ice cubes and table salt to maintain RH during the process of storing the sap in the sterofom.

2. Product testing result

Testing of evaporation material is carried out to determine differences in material content before and after evaporation process using a double effect evaporator. The tests include proximate tests including carbohydrate, protein, fat, water, ash content, and viscosity tests, as well as the total dissolved solids or degrees of brix from each sample.

Carbohydrate (reducing sugar)

The carbohydrate content of the ingredients before and after evaporation in effect 1 and effect 2 can be seen in Fig 2.

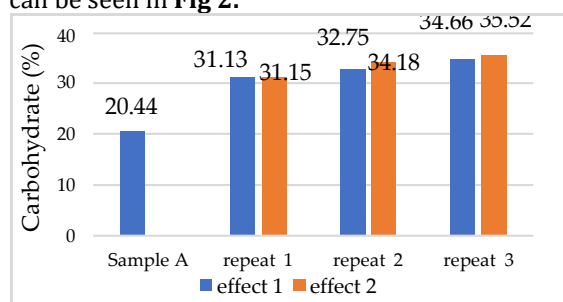


Fig 2. Carbohydrate content of starting material and evaporation results

Based on the results of tests on carbohydrate content of Sugar Cane (GMT) it can be seen that there is a significant increase in the percentage of carbohydrate values of the ingredients before and after the process, an average of 39.1%. In each replication the carbohydrate content of effect 2 output material is relatively greater than the effect output 1 material. The amount of carbohydrate indicates the amount of sugar or solids in brown sugar cane. Heryani (2016), explains the source of carbohydrates contained in roomie consists of sucrose, glucose, fructose and water. Increased carbohydrate content indicates an increase in sugar content in the material after the evaporation process.

Moisture content

The moisture content of an in product shows the percentage of water content contained in the material expressed in percent. The water content

data can be seen in Fig. 3.

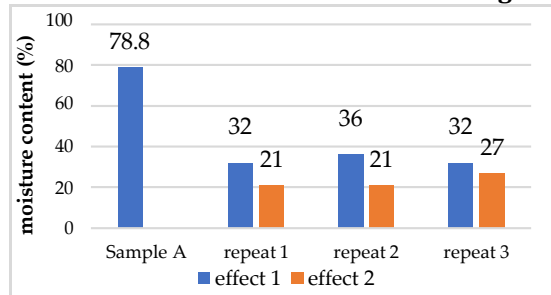


Fig. 3. Graph of water content in starting material and evaporation results

From the data that has been obtained, it can be seen if the water content of the material decreases significantly after the evaporation process is carried out. The magnitude of reduction in the average water content from the initial material to the final product was 70.8%. From initial volume is 50 liters, to final process is average about 21,5 liters. As for each repetition of water content the product tends to decrease from effect 1 to effect 2. The decrease in water content that occurs in effect 1 is greater than the decrease in water content that occurs in effect 2. This is likely due to the heat source in effect 1 using a stove directly, whereas in effect 2 using steam heat from the evaporation process effect 1. So that the possibility of heat received by the material in effect 2 is still less when compared to effect 2. In addition, the volume of the processed material will affect the release of water from the material. The less water content of an product, the release of water bonds from the material will be heavier.

A decrease in water content that is not too large can represent the efficiency of the evaporation process that occurs in small-value evaporators. Based on SNI 01-6237-2000 (Indonesian national standards) data, the requirement for brown sugar water content is max 10% for quality II and 8% for quality I. From the results of the evaporation of sugar cane juice with a double effect evaporator, the moisture content of the material is still not in accordance with SNI quality requirements. This can occur because the water evaporated in effect 1 and effect 2 is still less than SNI. The lack of evaporated water can be caused by the heat received by the material to convert the liquid phase into gas is still not large enough. In addition, another possibility is that the processing time is not optimal. Maharani (2014) explained that making cane brown sugar requires a condition where the stopping of the evaporation process must be precise and the water content in the material is only small. This is because improper conditions will cause the process of printing sugar cane to fail.

Viscosity

Viscosity is a measure of the thickness of a fluid. The viscosity data of the initial sugar cane and sugar cane juice after the evaporation process can be seen in Fig. 4.

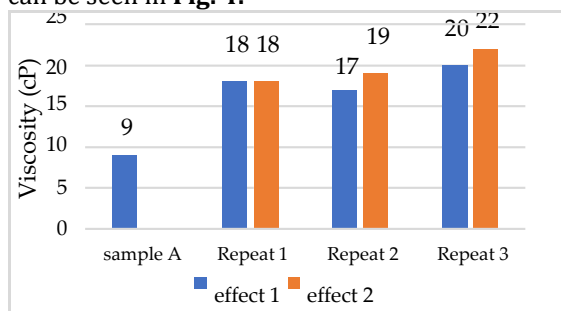


Fig. 4. Viscosity of starting material and evaporation results

Viscosity data from the product in each repetition of the evaporation process tends to increase. The increase can reach 54.2% from the viscosity of the starting material to the final result after being processed with an evaporator. The increase in the value of viscosity in effect 1 is greater than in effect 2. It is likely that the evaporation of water in effect 2 is more severe due to the decrease in water content entering effect 2. The amount of heat received in effect 1 is greater than that received effect 2. In addition, the processing time also affects the amount of viscosity. According to Diniyah (2012), with a long times the evaporation will be able to cause an increase in material viscosity. This is because the more evaporated water and the total dissolved solids in the material increases, the viscosity will also increase.

°Brix degree

The degree brix is a unit that states the amount of dissolved solids or the amount of solids dissolved in every 100 grams of solution. The Brix data of the initial sugar cane and sugar cane juice after the evaporation process can be seen in Fig. 4.

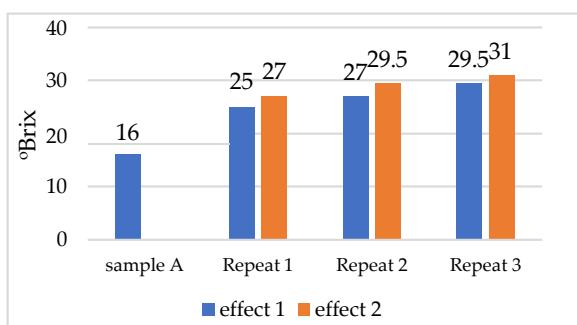


Fig. 5. Degree of brix in starting material and evaporation results

Based on the data above there was a significant increase in the initial material and after the evaporation process. The average °Brix increase

is around 48.6%, which is an increase from 15 ° brix - 31 ° brix. It is known that the sugar cane sap brix after evaporation is 25 - 31 ° brix. This value is still below the quality requirement of cane brown sugar from SNI 01-6237-2000 which is a minimum of 65% for quality I. This shows that the evaporation process is still not running efficiently. Especially in the process of changing the liquid phase into steam. So the percentage of solids in the material is still high.

The quality of the initial ingredients before processing also influences. According to Sukardi (2010), sugarcane is a product that is easily damaged so that the time gap between logging and grinding is not too long. In theory, efforts should be made to ensure that the maximum grace period between milling and cutting is no more than 36 hours. A grace period that is too long will cause damage to sugar cane.

Ash Content

Ash content associated with minerals a material in the form of organic and inorganic salts. Ash content is also related to the cleanliness of a processing process. Ash content from samples before and after evaporation in effect 1 and effect 2 can be seen in Fig. 6.

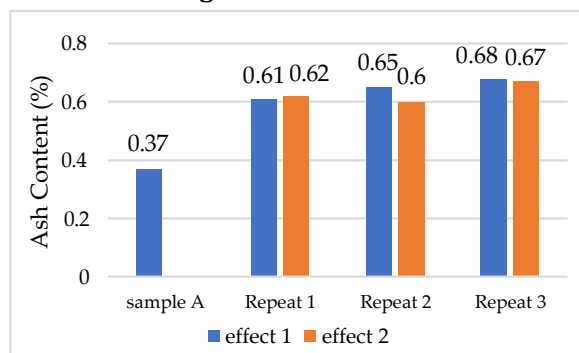


Fig. 6. Ash content in starting material and evaporation results

Based on the data it can be seen if the ash content of the material increases after the evaporation process is carried out. The initial ash content of the material was 0.37%, while the ash content of the evaporation material ranged from 0.61 to 0.68%. Increased ash content can occur due to the addition of sodium metabisulfite (sodium benzoate) in the process of preserving sugar cane juice. According to Maharani literature (2012) the calculated ash content in brown sugar is the content of sodium metabisulfite and other minerals such as lime for sugar cane juice purification. Ash content according to SNI standard for ant sugar maximum of 2%. From the results of the whole process it can be seen that the levels of the sap of the results of the double effect vacuum evaporator have fulfilled SNI standards.

CONCLUSION

Conclusion

The results showed that the yield of sugarcane juice from the process of harvesting to grinding was 37% on average. Sample testing shows the results after the evaporation process on the material will increase the carbohydrate content of the material (39.1%), reduce the moisture content of the material (70.8%), increase the viscosity of the ingredients (54.2%), increase the degree of brix (48,6%) and ash content was in accordance with SNI (Indonesian national standards), which was 0.63% (under 2%).

Suggestion

Research results using a double effect evaporator still found some results that are still below standard. So that further research can be done to optimize these results, for example by evaluating machine performance, improving research methods, and testing methods.

Acknowledgment

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ANTIOXIDANT ACTIVITY OF ETHYL ACETATE EXTRACT FROM PURPLE AND YELLOW PASSION FRUIT PEEL

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ABSTRACT

Antioxidants are compounds that can counteract the free radicals in the body. Free radicals are compounds that do not have an electron pair in their outer orbital and can damage cells and tissues in the body. Antioxidant compounds are also obtained from purple passion fruit (*Passiflora edulis* f. *edulis* Sims) and yellow passion fruit (*Passiflora edulis* Sims f. *flavicarpa* Deg) peel. This study aimed to determine the value of the antioxidant activity of ethyl acetate extract from the purple and yellow passion fruit peel, which was expressed by the IC₅₀ (Inhibitor Concentration₅₀) value. The purple and yellow passion fruit peel powder were macerated using ethyl acetate. The research method used was DPPH (2,2-diphenyl-1-picrylhydrazyl). The results showed that the IC₅₀ values of ethyl acetate extract from the purple and yellow passion fruit peel were 24.701 and 65.358 mg/L, respectively. Therefore, it can be concluded that the antioxidant activity of ethyl acetate extract from the purple passion fruit peel is stronger than the yellow passionfruit peel.

Key words: antioxidant, dph, IC₅₀, purple and yellow passion fruit peel, value

INTRODUCTION

Passion fruit (*Passiflora edulis*) is one type of fruit that contains antioxidants and benefits to increase immunity. The fruit part of *Passiflora edulis* was often used as beverage products (passion fruit juice). However, the fruit processing produces waste of passion fruit peel that is still not processed correctly, damaging the environment. In Indonesia, there are two types of *Passiflora edulis*, purple and yellow passion fruit, with different content. The purple passion fruit contains 1.16% carotenoids, 1.06% flavonoids, 0.012% alkaloids, and 88 mg/100g of ascorbic acid. In comparison, yellow passion fruit contains 0.058% carotenoids, 1% flavonoids, 0.7% alkaloids, and 75.09 mg/100g of vitamin C. Therefore, it allows for differences in antioxidant capacity (Munda & Dwiatmaka, 2012).

Free radicals are molecules that do not have electron pairs, so they are labile and reactive (Kusumah et al., 2021). Free radicals can come from within the body, i.e. normal cell metabolism, outside, such as pollution, cigarette smoke, radiation, and drugs. Cells or molecules oxidized by free radicals will then be damaged in the body (Lushchak, 2014), (Paliwal et al., 2017). Therefore, antioxidants are needed that can play a role in warding off free radicals in the body by bonding with free radicals to form non-reactive free radicals (Hunyadi, 2019). Antioxidants can be synthetic and natural. However,

artificial antioxidants are very dangerous (Hidayati et al., 2017). Therefore, many reports about research on natural antioxidants. Natural antioxidants are found in fruits, one of which is in passion fruit (Kusumahet al., 2021)

In this study, the technique used to find out antioxidants in the peel of passion fruit by extraction of maceration method using ethyl acetate solvent (semi-polar). Ethyl acetate is a semi-polar solvent that can attract polar and non-polar compounds (Angkasa & Namira, 2021). Other researchers also use ethyl acetate as a solvent for the maceration process on different fruit peels, such as *Evodia lunu-ankenda* (Gaertn) Merr. Good results of 16.55 ± 0.89 ppm belong to the category of potent antioxidants (Venkatachalam et al., 2009). The maceration process is carried out by several stirring times at room temperature. The advantages of the maceration method are easy and do not need high heating so that the thermostable chemical compounds can be protected (Susanty & Bachmid, 2016).

The antioxidant activity test is performed using the DPPH method (2,2-diphenyl-1-picrylhydrazil). According to some researchers, such as Charissa et al., 2016, the DPPH method is straightforward, simple, fast, requires a small sample, and is sensitive. Uji antioxidant activity can be seen from the value of IC₅₀. IC₅₀ is an extract concentration (ppm) that can inhibit free radicals by 50%. Therefore, the smaller the IC₅₀ value means,

the stronger the antioxidant activity (Charissa *et al.*, 2016).

RESEARCH METHODS

Tools and materials

The tools used in this study are *rotary evaporator vacuum*, UV-Vis spectrophotometer, and vortex. The materials needed in this study include purple passion fruit peel (*Passiflora edulis f. edulis* Sims), yellow passion fruit peel (*Passiflora edulis flavicarpa* Deg), aqubiadest, ethyl acetate, ascorbic acid, and DPPH.

Sample preparation

The purple and yellow passion fruit peel were weighed and washed with clean water. Then, passion fruit peel was cut into small pieces and dried by

aerated. Next, the samples were blended and sieved until the powder was formed with a size of 60 mesh (Ngibad & Lestari, 2020).

Fabrication of ethyl acetate extract from purple and yellow passion fruit peel

A total of 100 g of each purple and yellow passion fruit peel powder was macerated using ethyl acetate solvent as much as 400 mL at room temperature. The maceration process was carried out for 24 hours and filtered until obtained filtrate and dregs. Then, the filtrate was put in the container while the dregs were re-macerated using a new ethyl acetate solvent of 400 mL. The maceration process was carried out as many as four repetitions. Then, the filtrates were collected to be concentrated with a *rotary evaporator* until the concentrated extract was obtained. The yield of each extract was calculated using the following formula:

$$\% \text{ Yield} = \frac{\text{Extract weight (g)}}{\text{Sample weight (g)}} \times 100\%$$

Preparation of standard and samples solution

Standard solution of ascorbic acid and sample was made with concentrations (5, 20, 40, 60, and 80) mg/L by making the stock solution of 1000 mg/L, then diluted using a measuring volumetric flask into a standard solution of 100 ppm. The standard solution will be made some dilution to make a standard series solution of ascorbic acid and samples that are concentrations (5, 20, 40, 60, and 80) mg/L.

Antioxidant assay

$$\text{Antioxidant activity (\%IC)} = \frac{\text{Control absorbance} - \text{Sample absorbance}}{\text{Control absorbance}} \times 100\%$$

After that, the calibration curve was created to state the relationship between the concentration of the assay solution and the %IC. Then, the sample concentration is placed on the x-axis, and the inhibition per cent is placed on the y-axis. Finally, IC₅₀ values are calculated based on the regression equation formula of the calibration curve.

RESULT AND DISCUSSION

Antioxidant activity assay from ethyl acetate extract of purple and yellow passion fruit peel was carried out using the DPPH method. The basic principle in the antioxidant assay using the DPPH method is the presence of a chemical reaction between antioxidant compounds and DPPH free radicals through the reaction mechanism of giving hydrogen atoms by antioxidant compounds to DPPH

Each solution of samples and standard antioxidants was picked as much as 1 mL and mixed with a solution of 6×10^{-5} M DPPH as much as 3 mL in the test tube. Then, the solution was homogenized with vortex for 1 minute. After the incubation process for 30 minutes at room temperature, the sample solution absorbance and control were measured at a wavelength of 515 nm using a UV-Vis spectrophotometer. The experiment was done with three repetitions. The following formula calculated the antioxidant activity:

free radicals that result in a change in the colour of

the solution from purple to yellow or from deep purple to faded purple. This discolouration causes a decrease in the absorbance value of the sample.

In this antioxidant activity assay, we used a 1:3 ratio. 1 mL of sample solution (ethyl acetate extract of purple or yellow passion fruit peel and ascorbic acid) was mixed with 3 mL of DPPH solution for each concentration variation of the assay solution. The perfection of the reaction between the DPPH solution and the solution of the assay solution was maximized by the vortex treatment for 1 minute. The percentage of inhibition can be determined by the difference in absorption between the sample and the control absorbance measured using the UV-Vis spectrophotometer at wavelength 515 nm. The results of the antioxidant activity assay using DPPH methods of vitamin C and ethyl acetate extract of purple and yellow passion fruit skin are shown in (Table 1)

Table 1. Results of antioxidant activity assay of ascorbic acid and ethyl acetate extract from purple and yellow passion fruit peel

Concentration (mg/L)	Percentage of inhibition against DPPH radicals (%)		
	Ascorbic acid	Ethyl acetate extract of purple passion fruit peel	Ethyl acetate extract of yellow passion fruit peel
5	48.8	45.9	43.3
20	60.6	49	45.7
40	70	53.3	46.6
60	77.9	57.3	50.1
80	85.8	61	51.3

The greater the concentration of the assay solution, the greater the inhibition of DPPH radicals. Thus, the concentration of the assay solution and the %IC against radical DPPH has a comparable relationship. The concentration of ethyl acetate extract of purple passion fruit peel is greater than ethyl acetate extract of yellow passion fruit peel.

IC50 is the solution concentration from the assay sample needed to inhibit 50% of DPPH free radicals. IC50 values can be determined by graphing the relationship between sample concentration (x-axis) and per cent inhibition (y-axis). IC50 values are calculated based on the formula of the linear regression equation. Based on the graph of the

relationship between the concentration of ethyl acetate extract from purple and yellow passion fruit peel with % antioxidant power in figures 1 and 2, obtained linear regression line equations $y = 0.2025x + 44.998$ and $y = 0.106x + 43.072$, respectively. Determination of IC50 value was done by entering the number 50 into variable y so that the value of x will be known. The x value is the IC50 value. In addition, according to other researchers, ethyl acetate extract with other research objects also has high antioxidant activity, namely ethyl acetate extract of nutmeg stems of 64.14ppm and mycelium extract of Ganoderma sp. of 581.80 ppm. This indicates that the ethyl acetate extract has high antioxidant activity.

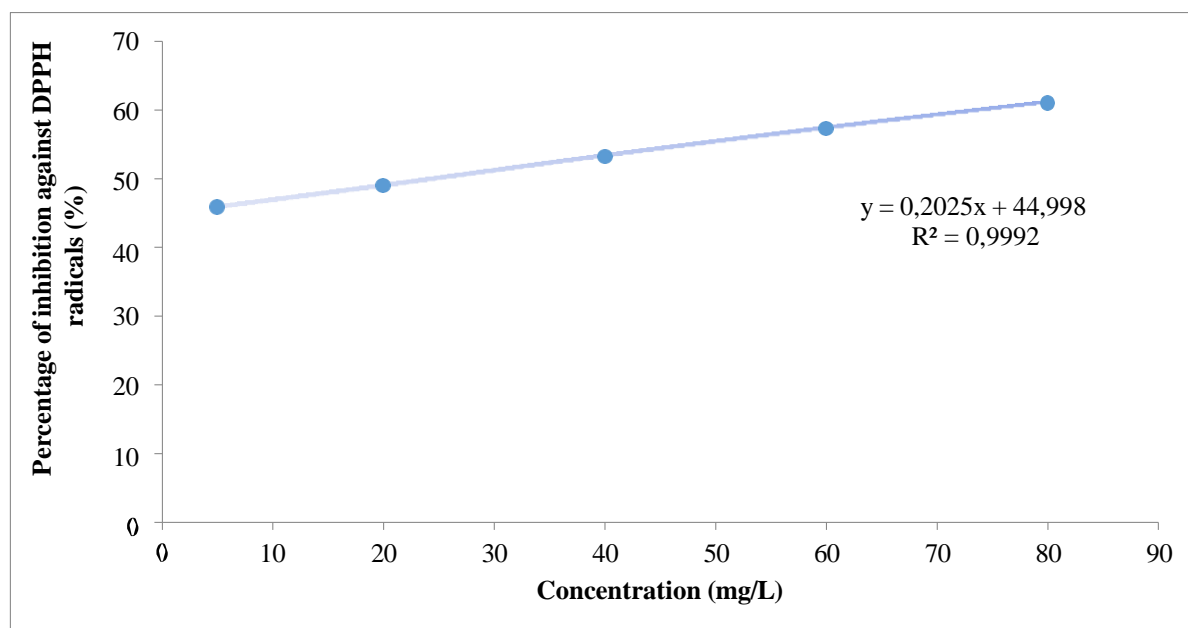


Figure 1. Graph of relationship between the concentration of ethyl acetate extract of purple passion fruit peel with the percentage of inhibition against DPPH radicals

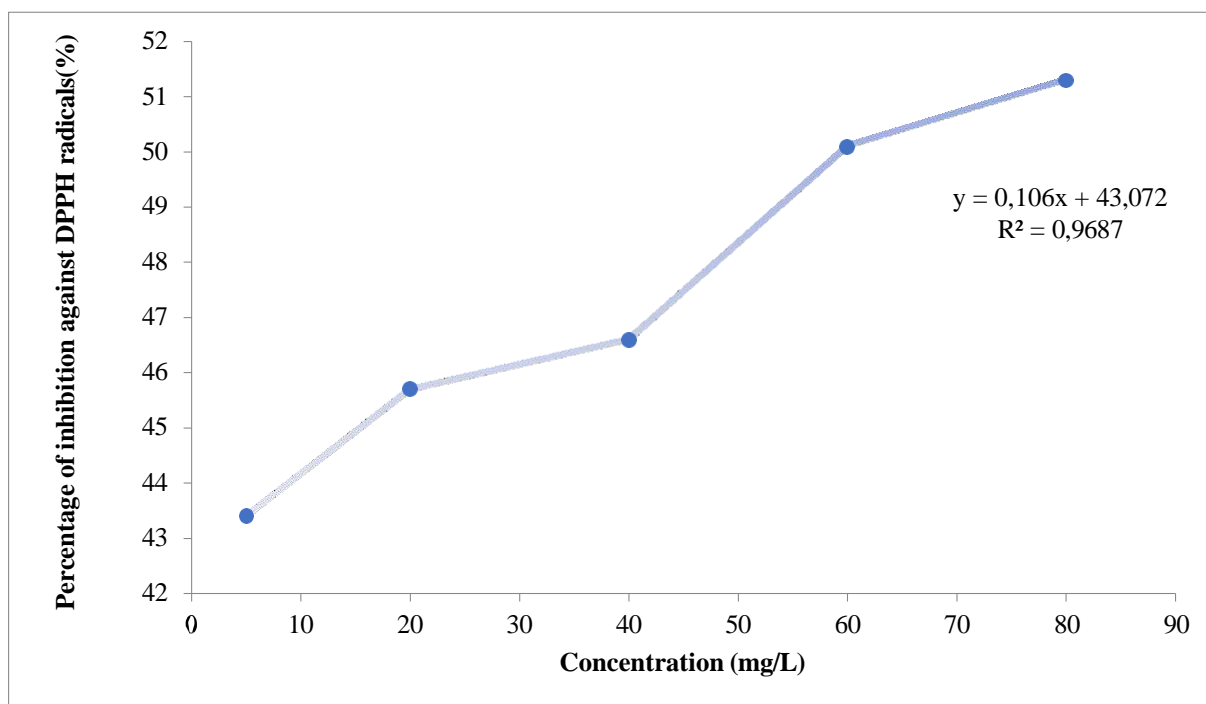


Figure 2. Graph of relationship between the concentration of ethyl acetate extract of yellow passion fruit peel with the percentage of inhibition against DPPH radicals

The smaller the IC₅₀ value indicates that the antioxidant activity of the extract is getting stronger. The results of the antioxidant assay of the ethyl acetate extract from purple passion fruit peel have a smaller IC₅₀ value than yellow passion fruit peel. The smaller the IC₅₀ value of extract suggests that the extract is potentially potent as an antioxidant. Ethyl acetate extract of purple passion fruit peel belongs to the category of very strong, while ethyl acetate extract of yellow passion fruit peel belongs to the category that is strong at IC₅₀ value. It also indicates that the purple and yellow passion fruit peel has secondary metabolite compounds that can become antioxidant compounds.

CONCLUSION

Based on the results of this study, it can be concluded that the antioxidant activity (IC₅₀ value) of ethyl acetate extract of purple passion fruit peel (24.701 mg/L) is more potent than yellow passion fruit peel (65.358 mg/L).

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SERVICE QUALITY EVALUATION OF PACKAGE DELIVERY (CASE STUDY: J&T EXPRESS KRIAN)

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ABSTRACT

During the expedition business competition, J&T express Krian needs to improve the quality of the services provided. Therefore, it is necessary to know how customers evaluate the services that have been provided so far. The service quality (servqual) method is used in this study by measuring five dimensions of service quality, namely the dimensions of reliability, tangible, assurance, responsiveness, and empathy. Stages of analysis are then carried out to determine the gap between customer perceptions and customer expectations of the services provided to customers. From the results of the study, the largest gap came from the tangible dimension of -0.38, reliability of -0.29, and assurance of -0.09 while the dimensions of empathy and responsiveness had met customer expectations. So, it is necessary to prioritize service improvements related to the three dimensions that have these negative values.

Keywords: Expedition Service, Service Quality, Servqual

INTRODUCTION

Service companies in carrying out the service process, are required to be able to meet and understand what customers want from the services offered. In the service industry, providing satisfaction for customers is one of the main factors in the process of developing the company. According to Tjiptono quoted by (Ardhyani & Singgih, 2017), superior services provided to customers can increase customer satisfaction and have an impact on increasing sales of products and services and even on the income earned by the company.

J&T Express is one of the few shipping companies in Indonesia and was established in 2015. Now "J&T Express" has grown and has approximately 1,200 branch offices in Indonesia and one of its auxiliary branch offices is in Krian, Sidoarjo. Related to service problems, so far the J&T Express Krian doesn't know how customers assess the services provided by J&T Express, because on the field couriers only ask for receipts only and never ask about feedback from customers. Therefore, there is a need for the identification of the quality of services aimed at improving the quality of service. One method to measure service quality is servqual (service quality). According to Wijaya Parasuraman quoted by (Belo, Armandina Maria, Joko Susetyo, 2016), the servqual method is used to be known for the quality of service by looking at the value or value gap (gap) between the perception or expectations of the customer before using the service and the reality that the customer receives or feels after receiving or using the service.

In the servqual according to Parasuraman quoted by Wijaya in (Belo, Armandina Maria, Joko Susetyo, 2016), the dimensions of service quality are tangible or physical evidence, assurance, responsiveness, reliability, and the last is empathy. According to (Ekasaridkk, 2017),

in the servqual method will be identified factors that affect the quality of service J&T Express Krian by determining the attributes and five dimensions of servqual and knowing the level of quality and improvement of J&T Express service Krian based on the calculation of gap servqual.

RESEARCH METHODS

The method of measuring service quality that is often used by many studies is servqual (service quality) which means the quality of service. According to (Situmorang & Nasari, 2019), a servqual is a measuring tool where customers can assess the services received by identifying several connected factors. Servqual results can be known by comparing the perception or expectations of customers before using the service and the reality that customers receive or feel after receiving or using the service.

The servqual method was developed by Zeithaml (Paramitasari, 2016), user-based approach is used to measure the quality of services qualitatively in the form of questionnaires using the five dimensions of service quality, namely tangible, reliability, responsiveness, assurance, and empathy.

Questionnaire Creation

In this study, questionnaires were used to obtain information from the customer. The creation of questionnaires used on a Likert scale is closed. Closed questionnaires are questionnaires whose answers have been provided. Respondents provide appropriate answers in the fields provided. The use of closed questionnaires makes it easier for respondents to fill out answers. The questionnaire is three parts, for the first part, namely the identity of the respondent. The second and third parts consist of research attributes displayed in

the form of statements for the scale of assessment of reality and expectations. Attributes or statement items are derived from *theservqual* instrument. The study used five dimensions with 15 attributes or research items, the measurement scale using a 5-point Likert scale. strongly disagree with (STS). Disagree, (TS). Less Disagree, (KS). Agree, (S) and strongly agree with (SS). Here is table 1 describing the attributes or items used for each question as follows:

Table 1. research items

Dimension	Indicator / Item	Reference
Tangible	P1	The place at J&T Express Krian is comfortable and clean (Paramitasa ri,2016)
	P2	The location of J&T Express Krian is easy to reach or strategic (Paramitasa ri,2016)
	P3	Employees of J&T Express Krian look clean and tidy (Paramitasa ri,2016)
	P4	The equipment used by J&T Express Krian was modern and up to date (Syahrullah et al., 2018)
	P5	J&T Express Krian provides secure parking (Syahrullah et al., 2018)
Reliability	P6	Delivery at J&T Express Krian is never late and accurate from the estimated time that has been promised by employees to customers. (Wilujeng et al., 2019)

	P7	J&T Express Krian always provides discounted shipping on the marketplace (such as shoope, bukalapak, Tokopedia, etc.) (Wilujeng et al., 2019)
Assurance	P8	The delivery price of J&T Express Krian is written on the receipt, according to what the customer pays when receiving the goods (Wilujeng et al., 2019)
	P9	Employees of J&T Express Krian provide good service (Situmorang & Nasari, 2019)
	P10	System transaction in J&T Express Krian is going well (Ray dkk, 2020)
	P11	Hospitality and courtesy of employees J&T Express Krian was good (Ray dkk, 2020)
Empathy	P12	The employees of J&T Express Krian always prioritize customer interests (Ray dkk, 2020)
	P13	The employees of J&T Express Krian always try to understand (Sahita et al., 2021)

		customer needs	
Responsiveness	P14	The employees of J&T Express Krian are very responsive when performing administrative services to customers	(Sahita et al., 2021)
	P15	The employees of J&T Express Krian are very responsive when getting a request to pick up a package at the customer location	(Sahita et al., 2021)

From table.1 the research items describe the attributes and conditions that exist in the J&T Express Krian.

Population

According to Sugiyono in (M.Kurniawan, 2017), the population is the area of the object that is observed to be studied and drawn conclusions. Determining the population is a very important stage in research that requires information from respondents. The population in this study is the customers at J&T Express Krian scattered in the villages of Junwangi, Terungkulon, Barengkrajan, Katerungan, Sedenganmijen, Sidomojo, Ponokawan and Kemasan.

Sampling

Sampling the number of samples is very important, to determine the number of samples that are sufficient to represent the population in a study. Based on Bernoulli's formula, the adequacy test of sample or respondent data can be seen as below:

$$N \geq \frac{(Z_{\alpha})^2 pq}{e^2}$$

$$N \geq \frac{196^2 \times 0,97 \times 0,03}{0,05^2}$$

$$N \geq \frac{3,8416 \times ,0291}{0,0025}$$

N ≥ 44,716224 or rounded up to 45 respondents.

Spread of Questionnaires

Questionnaires were randomly distributed to customers at J&T Express Krian. The deployment time on

January 2021 until May 2021. The number of questionnaires that will be distributed is 45 questionnaires and the number of questionnaires returned and appropriate by 100%.

RESULTS AND DISCUSSIONS

The table below shows the recapitulation of 45 respondents taken based on the gender and intensity of respondents who were then sampled in the study.

Table 2. Gender and Intensity of Respondents

	Quantity of Respondent	Percentage
Gender		
Male	34	75,56%
Female	11	24,44%
Total	45	100%
Intensity of Respondent		
Frequently	41	91,11%
Rarely	4	8,89%
Total	45	100%

Based on table 2, most respondents are male (34 respondents or about 75.56%) then the total female respondents amounted to 11 people or about 24.44%. Then for the intensity of respondents who often use expedition services in their needs, about 41 people or 91.11% while the intensity of respondents who have only ever or rarely used expedition services in meeting their needs as many as 4 people or 8.89%.

Questionnaire Validity Test

Validity testing is necessary to be known valid or not questionnaire. In this study, the validity test was obtained by using *the correlation of Pearson Bivariate (Pearson Moment Product)* and *Corrected Item Total Correlation*, using a confidence level of 95% with a level of accuracy of 5% and N = 45 using the formula $df = n - 2$ then $df = 45 - 2$ and the result is 43. After doing the calculation, the table was obtained with the amount of 0.248. To find out the questionnaire that is valid or invalid, then the next step is to compare the r table with the calculated r.

Example of decision making: 1. If the calculated r has a value greater than the table r means the questionnaire is valid. 2. If the count has a smaller value than the table r means the questionnaire is invalid.

Table 3. Recapitulation Test validity of J&T Express Krian Expectation Assessment

Harapan				
Dimensi	Item N = 45	Pearson Correlation	r Tabel df = (N-2) = 0,248	Status
Tangible	P1	0.639	0.248	Valid
	P2	0.422	0.248	Valid
	P3	0.673	0.248	Valid
	P4	0.584	0.248	Valid
	P5	0.443	0.248	Valid
Reliability	P6	0.574	0.248	Valid
	P7	0.321	0.248	Valid
Assurance	P8	0.622	0.248	Valid
	P9	0.485	0.248	Valid
	P10	0.520	0.248	Valid
Emphaty	P11	0.510	0.248	Valid
	P12	0.630	0.248	Valid
	P13	0.399	0.248	Valid
responsiveness	P14	0.540	0.248	Valid
	P15	0.623	0.248	Valid

Table 4. Recapitulation test validity of J&t Express Krian reality assessment

Kenyataan				
Dimensi	Item N = 45	Pearson Correlation	r Tabel df = (N-2) = 0,248	Status
Tangible	P1	0.661	0.248	Valid
	P2	0.495	0.248	Valid
	P3	0.616	0.248	Valid
	P4	0.575	0.248	Valid
	P5	0.607	0.248	Valid
Reliability	P6	0.351	0.248	Valid
	P7	0.570	0.248	Valid
Assurance	P8	0.504	0.248	Valid
	P9	0.622	0.248	Valid
	P10	0.688	0.248	Valid
Emphaty	P11	0.465	0.248	Valid
	P12	0.298	0.248	Valid
	P13	0.725	0.248	Valid
responsiveness	P14	0.717	0.248	Valid
	P15	0.628	0.248	Valid

Based on tables 3 and 4 it can be known that each item of question rcalculates has avalue greater than r tableand the result is positive. Then thequestion item is valid. Valid questions are then continued to conduct reliability tests.

Questionnaire Reliability Test

Reliability testing is needed to know the consistency that is a measuring tool used whether it can be used as a mainstay and still be consistent if the measurement is repeated. Reliability testing in this study was conducted using Cronbach's Alpha method. Indicators are expressed as reliable when Crombach's Alpha value is greater than the table r. Here are the results of reliability questionnaires that have been distributed to respondents.

Table 5. Cronbach's Alpha for J&T Express Krian expectations assessment

Reliability Statistics	
<i>Cronbach's Alpha</i>	<i>N of Item</i>
0.805	15

Based on the results of table 5 produces a Cronbach's Alpha value of 0.805. This value is further compared to the table r value with N = 45, and is sought in the significant table value r distribution of 5%, and obtained the table value of 0.248. Cronbach's Alpha=0.805 r table is 0.248 which means the items in the expectation assessment arealreadyreliable. The correlation position is at a verystrong level.

Table 6. Cronbach's Alpha for J&T Express Krian Reality assessment

Reliability Statistics	
<i>Cronbach's Alpha</i>	<i>N of Item</i>
0.847	15

Based on the results of table 6, Cronbach's Alpha value of 0.847. This value is further compared to the table r value with N = 45, and is searched in the table value distribution of a significant 5% and obtained the value of the table r as much as 0.248. Cronbach's Alpha=0.847 r table 0.248 means the items in the real assessment are already reliable. The correlation position is at a very strong level.

Calculation of SERVQUAL Values

Gap values per item are obtained based on the value of reality and the value of expectations. Gap values that get a positive value indicate that the service has performed services that are under customer expectations. Meanwhile, if the gap value gets a negative value, it means that reality is lower than the customer's expectations. The table below shows the results of the servqqual calculation as follows:

Table 7. Recapitulation of servqual value recapitulation

Dimension	Item	Reality Score	Expectation Score	Skor Servqual
Tangible	P1	3.69	3.18	0.51
	P2	3.11	3.24	-0.13
	P3	3.73	3.16	0.58
	P4	3.02	3.40	-0.38
	P5	2.93	3.31	-0.38
Reliability	P6	3.00	3.29	-0.29
	P7	3.84	3.24	0.60
Assurance	P8	3.11	3.20	-0.09
	P9	3.84	3.16	0.69
	P10	3.69	3.20	0.49
Empathy	P11	3.82	3.31	0.51
	P12	3.27	3.09	0.18
	P13	3.64	3.02	0.62
Responsiveness	P14	3.73	3.29	0.44
	P15	3.78	3.09	0.69
Average		3.48	3.21	0.27
Total		52.22	48.18	

Based on table 7. It is known that the satisfaction of J&T Express Krian looks from the five dimensions of Servqual has a reality of 3.48 while on the assessment of expectations of 3.21 and resulted in a gap value of 0.27. Of the 5 dimensions, there are two in the empathy and responsiveness dimensions that are positive because they meet customer expectations, while there are still three negative gaps. The smallest negative gap ranks first in the assurance dimension in P8 with a gap value - 0.09, the second rank in the reliability dimension in P6 with a gap value - 0.29, and the third increase in the tangible dimension in P4 and P5. With a gap value of equally -0.38, the negative gap occurs because there is no expectation of the support for the quality of services provided by J&T Express Krian, it still does not meet customer expectations.

CONCLUSION

Calculation of servqual score and servicequality level for each dimension, pair of expectations and reality for each question on J&T Express Krian respondent is Tangible dimension, there are 5 items, out of 5 items there are 2 items that are negative value or the quality level is still poor. The items with the highest negative values are P4 and P5, from the P4 indicator containing about (The equipment that used by J&T Express Krian was modern and up to date) of -0.38 the data shows many customers who feel that the equipment and equipment used by J&T Express Krian are not yet modern, suggestions of improvement from the P4 indicator that uses

modern and up to date equipment. And from the P5 indicator containing about (J&T Express Krian provides safe parking space) of -0.38 of the data also shows many customers who feel that their vehicle is in a parking lot that is not safe because there is no parking attendant standing guard, for that it is given remedial advice so that the parking location is given a parking attendant who is on guard so that customers feel safe with their vehicles. While the *reliability* dimension, there are 2 items, of the 2 items there is 1 item that is a negative value or the level of quality is still bad, the item with the highest negative value is P6 contains about (delivery at J&T Express Krian is never late and accurate from the estimated time that has been promised by employees to customers) of -0.29. The data showed that many customers who felt that shipments at J&T express Krian were never late and accurate were still low. Delivery time is the period of the customer to order the product until the product arrives in the customer and also the product ordered right at what the customer wants. Therefore, it is necessary to make improvements in managing the time so that the timing is not late with what the customer expects. While the Assurance dimension, there are 3 items, out of the 3 items there is 1 item that is a negative value or the quality level is still bad. The item with the highest negative value is the P8 which contains about (The delivery price of J&T Express Krian written on the receipt, according to what the customer pays when receiving the goods) amounted to -0.09. The data showed that customers who felt the delivery price of J&T Express Krian written on the receipt, under what the customer paid when receiving the goods was not appropriate. The delivery price is not appropriate for the customer because customers sometimes pay more than what is written on the receipt. For that, it is given suggestions to improve the money paid more by the customer to be included donations according to customer approval. Empathy Dimension there are 3 items, of the 3 items are all positive because they meet customer expectations. Dimension *responsiveness*, there are 2 items, out of 2 items that are all positive value, because it has met customer expectations.

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AUTOMATIC WATER TANK CONTROLLER USING ANDROID-BASED ULTRASONIC AND ARDUINO SENSORS

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ABSTRACT

In everyday life, filling water reservoirs is still done manually. The problem arises when the water level in the pool is unknown, and the reservoir may be overflowing or empty due to a lack of control over the reservoir. Moreover, we often meet people who forget to turn off the water pump when the water reservoir is full. This causes a waste of water and electricity, resulting in wasted water. The design and manufacture of Automatic Water Tank Control using Arduino is expected to facilitate humans in daily life. In this automatic water reservoir control device, using an ultrasonic sensor HC-SR04, the detection of maximum water level Of and minimum On provides data instructions to Arduino WeMos so that the initialization of the signal sent provides clarity of commands to the relay so that NO (Normally Open) and NC (Normally Closed) are generated.) which functions to turn on and turn on the water pump. From several results of hardware and software testing carried out using an experimental circuit and through Arduino WeMos D1 ESP8266, the following conclusions can be drawn: The water level is detected by the Ultrasonic Sensor, the display of water level information on the LCD appears to change according to the water level. In the reservoir, the time taken to reach a maximum water level of 6 liters is 2 minutes 41 seconds, can control and monitor water reservoirs anywhere using the Internet.

Key words: arduino, automatic water reservoir, controller, iot

INTRODUCTION

Water is an absolute necessity for human life. Humans use water for various purposes, both for their consumption and to help with daily work. The intended use of water for consumption is for drinking and to help with daily work, such as bathing, washing, and irrigating crops.

As technology develops, water use in everyday life is usually accommodated in a water reservoir. In supplying water from the source to the reservoir, a water pump is needed to fill it so that the existence of the water pump is an inseparable part of the pool's existence. This is done to anticipate whether the water

RESEARCH METHODS

The design of this system consists of Hardware and Software. The hardware consists of the Arduino WeMos D1 ESP8266 board and the HC-SR04 Ultrasonic Sensor. Monitoring data is displayed on applications designed for desktop and Android in graphical form. The application is created using the C++ programming language for Desktop and AIDE Applications development on Android devices.

Specifications of tools and materials

The tools and materials in this study are as follows:

- supply dies due to clean water disturbances during the dry season.
- In everyday life, filling water reservoirs is still done manually. The problem arises when the water level in the pool is unknown, and the reservoir may be overflowing or empty due to a lack of control over the reservoir. Moreover, we often meet people who forget to turn off the water pump when the water reservoir is full. This causes a waste of water and electricity, resulting in wasted water.
- Android
- Arduino WeMos D1 ESP8266
- Relay Module 5V
- LCD 16x2
- ESP8266 wifi module
- Ultrasonic Sensor
- Male-Male, Male-Female, Female-Female Jumper Cables
- Mini Water Pump 6V
- 12V Arduino Arduino Adapter
- PCB, Water Pump Hose, water bottle, Solder.
-
-

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The cost that needs to be provided to make an automatic pump circuit for the thesis task is less than 300 thousand. These tools and materials can only be used to operate one water pump system. This system is quite powerful because it can control applications by adding a Bluetooth or wifi module integrated with mobile phones with the Android operating system.

Arduino wemos d1 esp8266

Wemos D1 R2 is a development board specifically designed for IoT purposes and compatible with Arduino.

Arduino is an electronic board that contains the ATmega328 microprocessor in one of its products, namely Arduino UNO. This device can produce electronic products at simple to complex levels. LED control, robot control, remote monitoring via the Internet, and controlling electronic devices at home are examples of using Arduino.



Figure 1. Arduino WeMos D1 ESP8266

Ultrasonic sensor hc-sr04

The HC-SR04 Ultrasonic Sensor is an ultrasonic sensor that can measure the distance between the barrier and the sensor. HC-SR04 has two components, namely ultrasonic transmitter, and ultrasonic receiver. Ultrasonic transmitters emit ultrasonic waves with a frequency of 40 kHz, and then ultrasonic receivers capture the results of ultrasonic wave reflections that hit objects. The travel time of ultrasonic waves from the transmitter to the receiver is proportional to 2 times the distance between the sensor and the reflecting field.

Supposedly, there is no need to wait for the water until it is filled in modern times. Because there are already tools that can turn off or turn on the water pump automatically if the water starts to run out or is almost full, it is an Ultrasonic Sensor that can detect water volume, water height, as well as water quality in tanks, rivers, lakes, and the like accurately and easily.



Figure 2. Ultrasonic Sensors

Relay Module 5V 1 Channel Relay is an electrically operated Switch and is an Electromechanical component consisting of 2 main parts, namely Electromagnet (Coil) and Mechanical (set of Switch Contacts). Relay uses the Electromagnetic Principle to drive the Switch Contact so that a small electric current (low power) can conduct higher voltage electricity. For example, a Relay that uses 5V and 50 mA electromagnets can move the Armature Relay (which serves as its switch) to conduct 220V 2A of electricity.

This relay module can be used as a switch to run various electronic equipment. For example, electric lights, electric motors, and other electronic equipment. Control of the ON/OFF switch (relay) is fully determined by the output value of the sensor, which after processing, the microcontroller will generate a command to the relay to perform the ON/OFF function.



Figure 3. Relay Module 5V 1 Channel

LCD 16x2 (blue backlight)

LCD (Liquid Crystal Display) is a widely used viewer module because of its attractive appearance. The LCD widely used today is the M1162 refurbished LCD because the price is quite cheap (Wardhana, 2006). LCD M1162 is an LCD module with a 2x16 display (2 rows x 16 columns) with low power consumption. The module is equipped with Arduino WeMos specifically designed to control the LCD.



Figure 4. LCD 16 x 2

Wifi module esp8266

ESP8266 is a wifi module that functions as an additional microcontroller such as Arduino to connect directly to wifi and make TCP/IP connections.

This module requires around 3.3V of power and has three wifi modes, namely Station, Access Point, and Both. This module is also equipped with a processor, memory, and GPIO where the number of pins depends on the type of ESP8266 that we use. This module can stand alone without using any microcontroller because it already has equipment like a microcontroller.



Figure 5. Wifi Module ESP8266

Tool work design

The design and manufacture of Automatic Water Tank Control using Arduino is expected to facilitate humans in daily life.

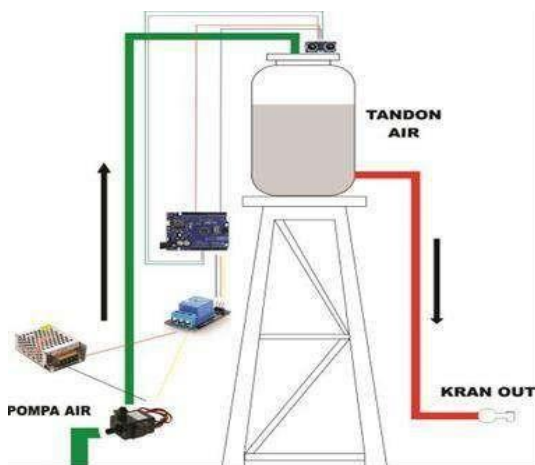


Figure 6. Tool Work Design

Flow chart

The flowchart shown in the Figure below shows the working principle of the automatic pump operating system with Arduino. In the initial condition, the pump is "off," The sensor will measure the water level in the reservoir and send it to Arduino every 3 seconds.

Arduino WeMos D1 ESP8266 processes the data and compares it with the commands read in the program. If the water has reached the set upper limit, the pump remains in the "off" position. Arduino will

instruct the relay to turn on the pump if the water has reached the set lower limit. Arduino will process the data, and then it will be displayed on the LCD in the form of water level information. The LCD will display information data according to the water level using a transistor as an amplifier. The transistor will receive data from the connected cable from the Ultrasonic Sensor that controls the water; if the transistor receives data, then the transistor will amplify the voltage of 0.2 volts to 12 volts to the Arduino by giving logic 1 and 0, if the sensor detects the water level there will be a change from logic 1 to logic 0.

The pump operating system automatically using Arduino in this study is summarized in a section shown in the Figure below. While the working principle of the automated system is described using a flowchart.

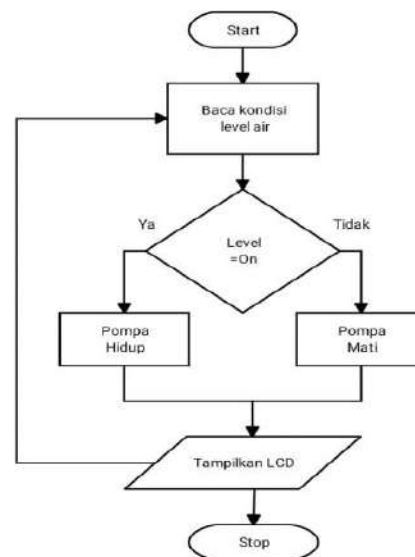


Figure 7. Automatic Water Tank Flowchart

RESULTS AND DISCUSSION

After designing the water level control system is complete, the next stage is testing the hardware and software. The testing phase consists of hardware testing, software testing, and testing and analysis of the overall tool.

Hardware Testing

Hardware testing the prototype system for controlling the water level uses a digital multimeter. Testing is done by measuring each circuit block's input and output voltage. Each input and output of each circuit block is tested one by one.

This program is made in the basic compiler programming language in hardware testing. In the schedule below, there are no more errors or errors in

writing or program logic, and this means that the program can be entered into the IC to be compiled into a microcontroller/Arduino kit to be downloaded via a downloader cable that has been determined through the help of computer media, and then run into a system that has been made following the data or applications made. The test of this section uses the press of a computer, sending data that is caused or written in the basic compiled language of Bascom AVR. The computer is the core of the system because the computer is the main medium in sending data that is just a program to get the desired system design.

This test is a direct test where all parts are connected to one desired system. The system device in this final project consists of a power supply circuit, ultrasonic sensor, LCD, and Arduino, which are interconnected into one. When designing this tool, starting from a power supply connected to a 220 Volt AC source voltage, it is converted by a power supply circuit into a 5 Volt input voltage for both LCD and Arduino. This circuit measures current, voltage, and power in a load. The overall rotation can be seen in Figure 8.



Figure 8. Tool Work Design

In this study, the test will be carried out by placing a load on the water reservoir, which has been adjusted to the water level. The LCD will provide information if the ultrasonic sensor detects the water level.

Then the water increases until it reaches a height of 20 cm. Arduino will process the data to display to the LCD that the water in the reservoir is at the height of 20 cm. This 20 cm height indicates that the pool is full so that Arduino will turn off the relay for the water pump. The water pump will turn off if the measurement has reached the specified upper limit.

And if the water in the reservoir is close to the lower limit of the predetermined water level of 5 cm, then the water pump will automatically turn on.



Figure 9. Overall Physical Form of the Tool

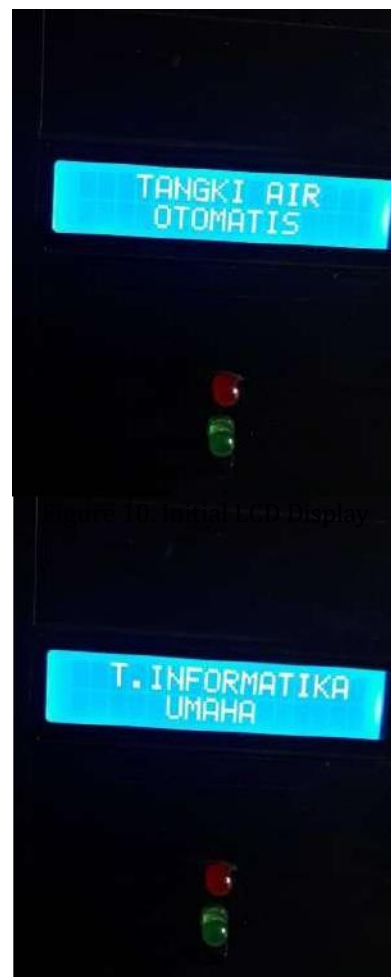


Figure 11. Second Display of LCD



Figure 12. Display of Water Level Information



Figure 13. Initial Appearance of the Splash Screen

Software testing

Interface design is the process of describing how a system display is formed. The IoT Water Controller application is designed with a user- friendly appearance, so it is hoped that it will make it easier for customers to use this application.

Testing this automatic water reservoir controller is accessed via Android by activating the wifi module that already exists in the automatic water reservoir circuit by connecting to data or the Internet and must also be given a name (Water Tank) with a password (12345678). In this application, there are several layouts or forms, among others.

Splash screen

Splash Screen is a form displayed at the beginning when the application/program is run. The IoT Water Controller application uses a splash screen that appears a fraction of a second when you first open the IoT Water Controller application. Here, the splash screen is intended as an aesthetic to show the application's identity only, without other functions. The design of the splash screen layout for the IoT Water Controller application is presented in Figure 13.

Main menu

The main menu contains CONNECT or DISCONNECT menus at the top. And there is the monitoring of the status of water reservoirs. At the bottom, there is a menu OFF, AUTO, ON.

In this main menu, all we have to do is select the CONNECT menu to connect to the wifi module contained in the automatic water reservoir circuit. Then we can see or monitor the state of the water in the water reservoir by looking at the application. And also, we can control the water reservoir at any time with the OFF and ON menu options. Then press the DISCONNECT menu to exit the IoT Water Controller application. If we have finished maintaining the water reservoir, press the AUTO menu. The control will automatically return to the water reservoir and not depend on the remote IoT Water Controller application.



Figure 14. IoT Water Controller Main Menu Application

Here we can see a graph of the water going up in filling the water reservoir for 3 seconds. The data is taken from the data sent by the ultrasonic sensor.

And also we can check the condition of the water pump if there is a problem. In this way, when the user starts the application, the water level will be restricted as a benchmark. After being stored as a benchmark for the next 20 seconds, it will detect whether the volume of water is increasing or not. The status of the water pump is declared dead.

Sensor A and sensor B are used to see the condition of the sensor if there is a problem and as a backup alternative if sensor A or B is damaged. Here we can see from the sensor's color applied to the remote. If the sensor is green, it means that the sensor is on. If white means the sensor is dead or damaged.

Parameterize is used to set the upper limit for the height of the reservoir, which is a maximum limit of 100 cm on Android or remote.

Overall Tool Testing And Analysis

Table 1. Overall test results

Water level limit(cm)	Time (second)	Volume (liter)	Status
1 - 5	36	1	ON
6 - 8	25	2	ON
9 - 11	25	3	ON
12 - 14	25	4	ON
15 - 17	25	5	ON
18 - 20	25	6	ON
Total 2 minutes 41 seconds full water			

The test results show that the automatic water reservoir control system using Arduino has been successful in design and implementation and proven by testing.

CONCLUSION

Conclusion From several results of hardware and software testing carried out using an experimental circuit, and through Arduino WeMos D1ESP8266, the following findings can be obtained:

Can control and monitor water reservoirs anywhere using the Internet. An ultrasonic sensor detects the water level. The water level information displayed on the LCD appears to change according to

the water level in the reservoir. The time taken to reach a maximum water level of 6 liters is 2 minutes 41 seconds.

Suggestions In this study, there are still things that can be developed in the future and become material for further research. In terms of remote control, the response is still not reactive. Therefore, the development that can be done is to replace the network with a better one to be used efficiently and quickly.

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ANALYSIS OF POTENTIAL OPERATIONAL HAZARDS REACH STACKER USING FAILURE MODE EFFECT ANALYSIS (FMEA) AND FAULT TREE ANALYSIS (FTA) IN CONTAINER COMPANIES

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ABSTRACT

Container service companies operate 24 hours serving all loading and unloading activities. Reach stacker (RS) is a supporting means in loading and unloading. The Failure Mode Effect Analysis (FMEA) and Fault Tree Analysis (FTA) are methods that can be used to analyze failures in RS components and protect risk priority number (RPN) values. Pareto diagram is determine critical components in RS. The failure mode of the pareto is used as a top event in the FTA analysis to determine the basic event and the minimum cutset. Analysis with FTA conducted from FMEA results, FTA obtained four top events that are overheating on the main engine there are eight basic cause spreader twist-lock jammed there are seven basic causes, damaged batteries there are five basic causes, alternators are damaged/burned there are four basic causes.

Key words: fmea, fta, pareto

INTRODUCTION

Container companies are companies engaged in port services that provide container loading and unloading facilities for domestic and international markets and containers companies into terminals. The biggest 2nd in INDONESIA is located in Surabaya, East Java. The company's motto is *a reliable terminal with service excellence*. The company's Operations Continue For 24 Hours So That Loading and Unloading Activities can Cause Potential Failure in work tools. According to (Rasyid, 2012), *Reach Stacker* is a special *mobile crane* for lifting containers used in container terminals. Reach stacker plays an important role in the smooth loading and unloading process in container companies so that failures can occur at any time then, it is necessary to identify hazards in each component. *Reach stacker* aims to know every risk that exists in each component of *the reach stacker*.

Failure Mode Effect Analysis (FMEA) can identify and know each *failure* and effect that arises in each component contained in *the reach stacker*. According to (Gaspersz, 2002) in (Haryanto Pandapotan Pasaribu, 2013), FMEA is a circular risk analysis technique used to identify how equipment, Facilities/systems can fail and the consequences caused.

Pareto diagrams are used to classify data from left to right by ranking highest to lowest to find the most important problems for you. Immediate

remedial action is taken until the problem becomes low or can be controlled.

According to (Thomas Pyzdek, 2002) in (Haryanto Pandapotan Pasaribu, 2013), *Fault Tree Analysis* (FTA) is some combination of errors (*faults*) formed Using Diagram Models Made in Parallel and Parallel. Sequence to find the initial cause of failure of *the failure event*. FTA can be used to find the root cause of an unwanted event, and also, the losses incurred do not come from a single point of failure (Tara Ferdiana, 2015).

the purpose of the identifiers on the reach stacker is expected by the container company to know what are the Potential failures that can occur and proper control efforts in minimizing the occurrence of that failure.

RESEARCH METHODS

The analysis method is done to find situations or events that are the cause of the occurrence of accidents and or losses that may occur at work.

Failure Mode Effect Analysis (FMEA)

FMEA aims to identify the system failure mode and the potential effects of each failure mode. The steps of FMEA preparation are:

1. Reviewer of the process or product, the FMEA team must review the product or system process.
2. *Brainstorm* potential *failure mode*, discuss possible failures that can affect the process, and focus on the

elements one by one to get a more thorough list of failure modes.

3. Creating a list of *the potential effects* of each failure mode, the failure mode is written on the FMEA worksheet to find out the risk rating for each failure.
4. Determining *the severity* of each effect that occurs, team members estimate the severity based on the knowledge and expertise of team members (*expert judgment*).

Table 1. Impact/severity(S) criteria

Score	Severity	Information
1	Unclear	Hardly any traces
2	Minor	The former is felt by the customer but does not interfere with the operation of the tool
3	Moderate	Component failure that causes the tool to become damaged/ must be replaced
4	Major	Component failure that caused the tool to be inoperable
5	Catastrophic	Dangerous without warning

5. Determining *the occurrence* rating for each failure mode, the team estimated how often failure modes could occur and performed *expert judgment*.

Table 2. Event Frequency Level Criteria(O)

Rating	Score	Description
Almost certainly	5	Very high risk of being exposed several times a year
Very Likely	4	A risk that may occur more than 12 times in 12 months
Maybe	3	It is not impossible that risks occur and may occur sometime in 2-5 years.
Almost Impossible	2	The risk may happen again at some point, but it is almost impossible.
Infrequently	1	The odds are almost impossible; one happens in 10 years.

6. Determining the detection rating for each mode of failure and effect, the FMEA team in this step identifies current controls that can detect failures or effects from failure.

Table 3. Detection Rate Criteria(D)

Ranking	Detection	Description
1	Certainly	It can be directly detected
2	Easy	It can be detected after it occurs
3	Quite Difficult	It can be known after the whole process ends
4	Difficult	Check the unit's management.
5	Very Difficult	Detection results are not accurately interpreted

7. Calculate the Risk Priority Number (RPN) value for each failure.

The priority value of risk (RPN) is a multiplication of:

$$RPN = \text{Severity} \times \text{Occurrence} \times \text{Detection} \quad (1)$$

The total RPN value is derived from the calculation of each failure that may occur in each tool component. The highest priority level is obtained for the type of failure in each component.

8. Making the failure mode priority of the RPN value can then be improved. The failure mode can be prioritized sequentially, from the highest to lowest risk priority numbers. The percentage value is obtained from the division between the RPN value of each component divided by the total value of RPN multiplied by one hundred percent. Then the cumulative percentage value of RPN is the sum of the initial percentage value of the component added the value of the following component percentage until the next up to 100%.
9. Elimination and failure reduction that occurs with failure mode must be eliminated.
10. Calculating the RPN result of the reduced or eliminated failure mode, the failure mode performed by the action should be a significant reduction in the RPN.

Fault Tree Analysis (FTA)

FTA is done to evaluate large complex dynamics systems to understand and prevent problems. The first step of the FTA is to determine the "Top event" of the accident event or the condition of the specific system desired, which is reduced to several structured parts. Based on the rules and logic of the FTA.

The FTA symbol consists of 4 categories: *Basic events, gate events, conditional events, and transfer events*. Here are the steps in the creation of FTA based on *Hazard Analysis Techniques for system safety* by Clifton A. Ericson:

1. Set a system. Understand system design and operation.
2. Set an unwanted event at the top. Describe the problem that has been established and arrange the desired event appropriately for the creation of the analysis,
3. Arrange limits. Set rules on Analysis and Boundaries, reach out to problems and record all rules.
4. FTA, follows the construction process, regulations, and logic to build an FTA model on a system.
5. FTA evaluation. Check if any FTA models are incorrect, complete, and accurately describe the system design.
6. Validation of FTA. Modification of FTA as foundation requirements during validation or system design changes
7. I am documenting the analysis. Create documents across the entire analysis with supporting data. Set

it as a customer product or as a reference in the future.

Expert Judgement

Expert judgment assessment is to ask experts in the field concerned to help determine what may occur in the operation of the reach stacker. The selection of expert judgment should not be made carelessly; therefore, researchers have several criteria in determining expert judgment. These criteria include:

1. Have participated in risk assessment on reach stacker
2. Have experience in the process of operating reach stacker
3. Willing to spend time during business hours to be asked for information related to reaching stacker
4. Have much knowledge about the dangers that exist in the operation of the reach stacker
5. Have a good reputation in the company.
6. Neutral, honest, and confident.

The most crucial requirement for experts on hazard identification is that all participants have information relevant to the sub-system to be identified and valued. Some examples of expert judgment are the operator, supervisor, and someone directly related to the plate or scenario evaluated.

Hiraki Control

Concerning three risks, risk control is done by reducing the likelihood or severity with the control hierarchy, among others:

1. Elimination: control by eliminating the source of the danger directly. This method is very effective because the source of the danger is eliminated so that the potential risk of danger becomes lost.
2. Substitution: control by replacing dangerous tools, materials, systems, or procedures in a safer direction or a lower potential risk of harm.
3. Engineering control: control by making improvements to the design of equipment, addition of equipment, and installing safety to the equipment.
4. *Administrative* control: control by providing recommendations to improve the recruitment system of workers with high capability, experience, and certification and create procedures.
5. Personal protective equipment (APD): control by providing appropriate protective equipment for workers, operators, and *maintenance* parties.

RESULTS AND DISCUSSIONS

In this study, researchers conducted 15 equipment components in the *reach stacker*. All of these components will be entered into the FMEA worksheet to analyze the failure mode and the effects and causes of the failure.

Failure Mode Effect Analysis (FMEA)

The FMEA analyzed component is the first component of the reach stacker. These components are interrupted failure mode failure, which can happen to the component. The failure mode has an impact. Each impact will be assessed to identify the potential failure based on the existing effect and determine the magnitude of risk priority number (RPN) obtained from severity, occurrence, and detection values.

RPN values were reevaluated by providing recommendations on existing failure modes to avoid such failures. The recommendation is aimed at lowering the previous RPN value to be lower. FMEA analysis results on the reach stacker are four failure methods from 4 different components. The highest RPN value of 40 is the engine component with overheating failure mode on the engine. This overheating can cause the reach stacker to not operate for a while, hamper the container loading and unloading process, and cause enormous losses. The value of the effect is five because it can cause damage to components in the engine reach stacker. If it has suffered damage to the internal components of the engine, then you have to make repairs that require no small cost.

The cause of this overheating failure is the lack of oil in the engine. The cause of the test is rated with a value of 4 because it often occurs to detect the lack of oil is to look at the level of oil indicators. It is effortless to detect by 2, but it can cause fatal damage if not treated quickly. From these recommendations, the person in charge is a mechanic with the most extended target work as early as 6 hours with a record of ready replacement components. If not Ready, the work can take as long as three weeks. With the prevention and recommendation, the value of RPN can be lowered with severity value 4, occurrence three, and detection 2.

Diagram Pareto

Diagram Pareto in this research shows critical components of the *reach stacker* equipment whose results from the diagram will be analyzed using the *fault tree analysis* (FTA) method to be known. The fundamental cause of component irregularity. From the analysis results, it is known that there are 28 failure modes and RPN values in each component of the *reach stacker* with a value of 20%.

There are four components and failure modes included in the critical component. Components included in critical components include *failures preader* with *twist-lock* failure mode-locking or opening the container, *overheating* on the *main engine*, battery with low failure mode *voltage*, alternator with alternator failure mode is damaged. These components will be analyzed again with the FTA method to obtain the fundamental cause of damage/failure of the component.

Fault Tree Analysis (FTA)

FTA analysis is to get the primary event and the minimum *cut set*. At the same time, the minimum cut set is a collection of *primary events* that can cause *top events*

to occur. The data from the manufacture of FTA comes from critical components found in pareto diagrams to further identify the cause of the component failure. Failure mode will be *the top event* on the FTA chart and will be searched for the primary cause of the failure mode. This FTA analysis will be assisted by interviews with the supervisor reach stacker as an expert in his field. The fundamental causes of *overheating* events on the *main engine* are as follows:

1. Hydraulic oil pump leaks
2. Leaking Oil Hose
3. Wear oil container engine seal
4. Install cables break and short circuit
5. *The cooling fan* is broken.
6. *Sensor level coolant error*
7. Radiator leak
8. Leaking radiator hose

From the calculation of probability above, it can be known that *the primary cause* in the form of a leaky oil hose and a wear oil storage seal gets values of 0.999 and 0.918, which means that the value is very high because it is close to 1. There is the possibility of overheating on the main engine as much as five times/year.

FTA *twist-lock spreader reach stacker is damaged*. To avoid to events it is necessary to eliminate the *actual event* in the minimal *cut set* or cut the series of items at least the *cut set*. The *twist-lock* failure crashed include:

1. Leaking hydraulic hose
2. Wear container machine seal
3. Saggy sensor bolts
4. Dirty engine oil
5. There are grams in the holding cylinder
6. *Lifetime* cable
7. *Lifetime* sensor

The probability value of 0.98 means that the value is very high because it is close to the number 1, and the probability of a *twist lock* jammed as much as three times/year.

FTA battery is damaged, the fundamental cause of the *Accu soak* / damaged event is as follows:

1. Saggy battery locking bolts
2. *Accu* cable breaks
3. *Lifetime* battery
4. Leaks in the battery
5. Damaged alternator

Probability values of 0.77 and 0.87 mean that the value is close to the number 1 and the probability of *Accu* being damaged/soaked as much as three times/year.

FTA alternator damaged/burned, the primary cause of the event of the alternator damaged/burned is as follows:

1. Lack of care on alternators
2. Short circuit
3. Dusty coils
4. *Lifetime* component

The probability value of 0.87 means close to the number 1 and the probability of the alternator being damaged/burned as much as 2.5 times/year.

Recommendations

Recommendations on risks posed by failure require control measures to minimize risks. The assessment of recommendations for assessing risk is carried out based on *the hierarchy of control*.

Table 4. Recommendations on overheating on the main engine.

No	Basic Cause	Recommendations
1	Leaking oil hose	- Oil hose change - The oil hose tightening system uses a strong seal
2	Hydraulic oil pump damaged	- Hydraulic oil pump change after engine hour meter reaches 20,000 EHRM - Regular hydraulic oil changes
2	Oil shelter engine seal	- Replacement of seal material suitable before 20,000 EHRM - Routine inspection of shelter seals
4	Broken/shorted cable	- Replace the appropriate material - Routine maintenance and prohibited <i>bypass</i> installation cables
5	Lack of care	- Replacement of suitable materials - Routine care
6	Leaking Radiator	- Replacement of leaky radiators - A routine check of radiator water conditions
7	Leaking radiator hose	Replacement of the appropriate radiator hose before/near the <i>engine hour meter</i> limit of 10,000 EHRM
8	Sensor level coolant error	Replacement of appropriate sensors before/near the <i>engine hour limit</i> of 10,000 EHRM

Table 5. Recommendations on Spreader Twistlock Reach Stacker

No	Basic Cause	Recommendations
1	Leaking hydraulic hose	- Replacement of hoses that correspond to the type of oil - Routine care
2	There are gram cylinders in the oil.	- Replace hydraulic oil once every six months
3	Saggy sensor bolts	- Replace the appropriate material - Routine care
4	Broken pump seal	- Replacement of seal material accordingly - Routine inspection of shelter seals
5	Dirty Oil	- Replace hydraulic oil every six months - Use of hydraulic oil by the type and type of oil
6	<i>Lifetime</i> cable	- Replacement of suitable material cables

7	Lifetime sensor	- Replacement of appropriate sensors
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alternators are damaged/burned there are 4 *basic causes*.

Table 6. Recommendations on Accubroken/soak

No	Basic Cause	Recommendations
1	Saggy battery lock	- Proper use of battery locks - Examination before surgery
2	There is a leak in accu	- Replace the appropriate material - Examination before surgery
3	Battery cable disconnected	- Replacement of cables under existing currents - Examination before surgery
4	Lifetime tools	Replace the appropriate material
5	Damaged alternator	Replacement of the new alternator

Furthermore, each *basic cause* is used in determining recommendations for potential hazard control. The recommendations aim to reduce the risk of damage during the operation of the reach stacker and preventive measures that interfere with the hierarchy of control consisting of elimination, substitution, technical control, system, administrative control, and PPE to minimize the probability of failure in a system.

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Table 7. Recommendations on Damaged/Burned Alternators

No	Basic Cause	Rekomendasi
1	Dusty coils	- Replacement of coils if they are found to be damaged - Routine check-ups - Dust cleaning by air spraying
2	Short circuit	- Replace the appropriate material - Routine check-ups - Prohibited by fitting on electrical installations
3	Lifetime component	- Replacement of suitable materials
4	Lack of care	- Replace the appropriate materials - Weekly check cleaning

CONCLUSION

FMEA is obtained that the failure of reach stacker components, among others, *overheating in the main engine, spreader twist-lock reach stacker jammed*. Unable to lock or open containers, batteries are damaged, alternators are damaged, *dirty water cooling filters*, brake pads wear out. From the results of the determination of critical components in the *Pareto* diagram, it can be concluded that there are four components and failure modes included in the critical component. Components included in critical components include *engine with main engine overheating failure method, twist-lock spreader with stuck twist-lock failure cannot lock or open container, battery with battery mode is damaged, alternator with damaged alternator failure mode that causes the battery not to charge*. Analysis with FTA conducted from FMEA results, FTA obtained four *top events* that are *overheating on the main engine* there are 8 *basic cause spreader twist-lock jammed* there are 7 *basic causes*, damaged batteries there are 5 *basic causes*,

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OPTIMIZING THE NUMBER OF EMPLOYEES USING THE WORKLOAD ANALYSIS APPROACH IN MAINTENANCE PT. AMG

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ABSTRACT

According to the Great Dictionary of Indonesian (Depdikbud: 1995: 628) optimization comes from the word optimal which means best, while optimizing the number of employees is maximizing the number of employees to do work that has added value and benefits the company. *It is important to avoid overwork, which is a waste of energy and money.* This research uses the Worksheet Analysis method by dividing work into three groups, namely NV (Non value Added is a job that does not have added value in the organization, unprofitable for the company and must be reduced), V (Value Added / added value, existing value-added work that must be improved) and normative. The steps taken are to define, measure, analyze, improve, and control and be applied in a particular way. Eliminate, Combine, Rearrange, and Simplify. Eliminate non-value-added jobs, integrate neutral jobs, and combine multiple jobs into one job. The result was 108% in December 2014 and 111% in December 2015, compared to the target. The number of employees with the number of employee reductions in December 2013 was 27% and 39% in December 2015.

This research aims for the success of this program to help the company's overall financial performance. In addition, the manufacturing industry can implement this unhindered with corporate and union relations.

Key words: eliminate, non-value added, optimization, simplify, value added, work sheet analysis

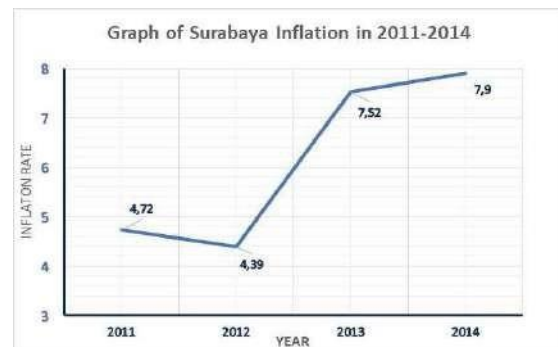
INTRODUCTION

Workload is the number of task activities that must be completed by a member or even by a group of people over a period of time under normal circumstances (Haryanto, 2010). Workload analysis is a commonly used method of determining the amount or quantity of labor required. The amount of manpower required to complete a position can be determined first of all by determining the actual amount of time required to complete the office (Moekijat, 2008.)

In today's competitive industry, innovation is needed in order for companies to survive and make good profitable. Only a manufacturing industry that will produce products of high quality and high yield results with the smallest possible losses can survive in stiff competition.

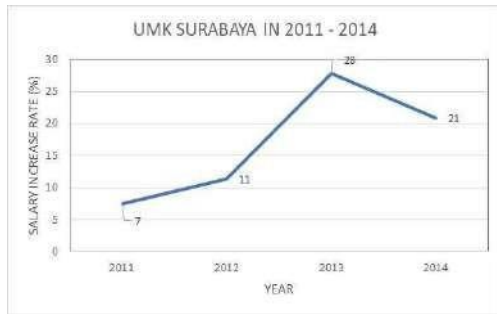
In today's competitive industry, innovation is needed for companies to survive and make profitable. Only a manufacturing industry that will produce high-quality, high-yield products with the smallest possible losses can survive stiff competition. To realize the above requires reliable human resources.

Companies will be increasingly difficult because of the cost burden due to the increase in labor costs of about 8~12% per year which is the dominant factor of national inflation, especially inflation in Surabaya around 4.3% to 7.9% in 2011-2014. Like the graph below



Picture 1 Graph of inflation rate in Surabaya 2011-2014 :
Sumber Badan Pusat Statistik Kota Surabaya

In addition, the Minimum Wage of Regencies / Cities (UMK) which rises up every year and jumped about 28% in 2013 and will remain high in the coming year, this can be seen the trend from 2011-2014. The same will also burden the cost of labor costs where there is a change in the status of contract workers to permanent workers until the end of August 2014. The UMK Surabaya as seen in the graph below



Gambar 2 Graph of UMK Surabaya 2011-2014 : Sumber Peraturan Gubernur Jatim 2011-2014

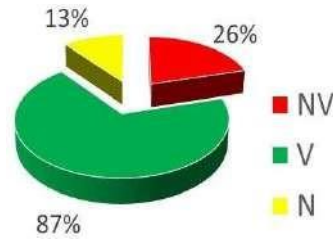


Figure 3 Categories of jobs in Department electrical, Day time

Looking at the two charts above, there will certainly be an increase in costs due to labor cost factors. Companies must seriously maintain real and consistent improvements in the quality of human resources, one of which is paying attention to the number of employees needed compared to existing workloads. If the workload can be optimal, effective, and efficient then the number of employees will be in line with existing standards. So that the reduction in costs sacrificed to work can be achieved.

It is also important to improve the competence of employees who will do more work than routine work.

When employees are unable to manage machinery and production it will negatively impact the working performance capabilities of machinery and production which ultimately greatly affects the company's profits as productivity decreases.

In this study using worksheet analysis methods whose purpose is to produce an efficient, comfortable, safe, healthy and efficient work system. By dividing work into three groups, namely NV (non value added) means work that does not have added value, can be categorized as waste / loss, V (added value) means work that has added value that must be leveled and normal. The following data as below

From Figure 3 The job category in Electrical Department of day time, it Job scope of work consists of 26% Non Value added, 87% Value added and 13% normal, Of the three categories of work maintenance division decided that optimization began in 2013. The starting point of the project is the introduction to all the staff and employees involved. We have a target of 25% reduction in employee numbers in December 2014 and 35% in December 2015. As can be seen in Table 3. Maintenance Man Power Arrangement data below

Table 3 Maintenance Man Power Arrangement

Man Power Arrangement	Jun-13				Dec 14				Dec 15			
	AMG	BP	Unit Price	Total	AMG	BP	Unit Price	Total	AMG	BP	Unit Price	Total
TOTAL MAINTENANCE (M+E)	104			104	98			98	85			85
TOTAL MAINTENANCE Staff	31			31	31			31	29			29
TOTAL MAINTENANCE Walker	73	20		93	67			67	56			56
ELECTRICAL	56			56	47			47	44			44
ELECTRICAL STAFF	15			15	15			15	15			15
ELECTRICAL WOLKER	41			41	32			32	29			29
MECHANICAL	48			48	51			51	41			41
MECHANICAL STAFF	16			16	16			16	14			14
MECHANICAL WOLKER	32	20		52	35			35	27			27

Table 1 Types of Day Time Jobs in Electrical Departments ,

KIND OF JOB LOAD	HOUR/MONTH	
TBM, KY (safety)	112	5
Tool Preparation	167	8
Equipment Patrol	291	14
Regular Mint (RM)	214	10
Countermeasure/Repair (PM)	525	25
Corrective Maint (CM)	81	4
Truble Shoouting (BM)	0	0
Fabrication Work	187	9
Meeting & Training	5	0
5S/ Cleaning	110	5
Non Value	440	21
TOTAL	2132	100

Table 2 Categories of Day time jobs in Department electrical,

NV	440	26%
V	1465	87%
N	227	13%
TOTAL	1692	100%

Note :

Red Colour = Non Valued Added

Greed = Valued added

Yellow = Normatic

Researchers will only focus on the **Non Value Added category**, to find the root of the problem and how to achieve the target.

From the table above, where the number of employees decreased from 38 people to 32 people in 2014 and to 29 people in 2015. The mechanical department also declined from 52 to 32 in 2014 and 27 in 2015. The steps to achieve the target of reducing the number of employees are enhanced by: eliminating, combining, reorganizing and simplifying. In addition, it also increases motivation and understanding to all employees and prevents possible effects caused by this project. .

The purpose of the study was to come up with concepts and identify ineffective jobs so that it could be applied how to reduce the number of workers without any effect due to the reduction in the number of employees. Job performance remains normal. The details of the purpose of this study are as follows::

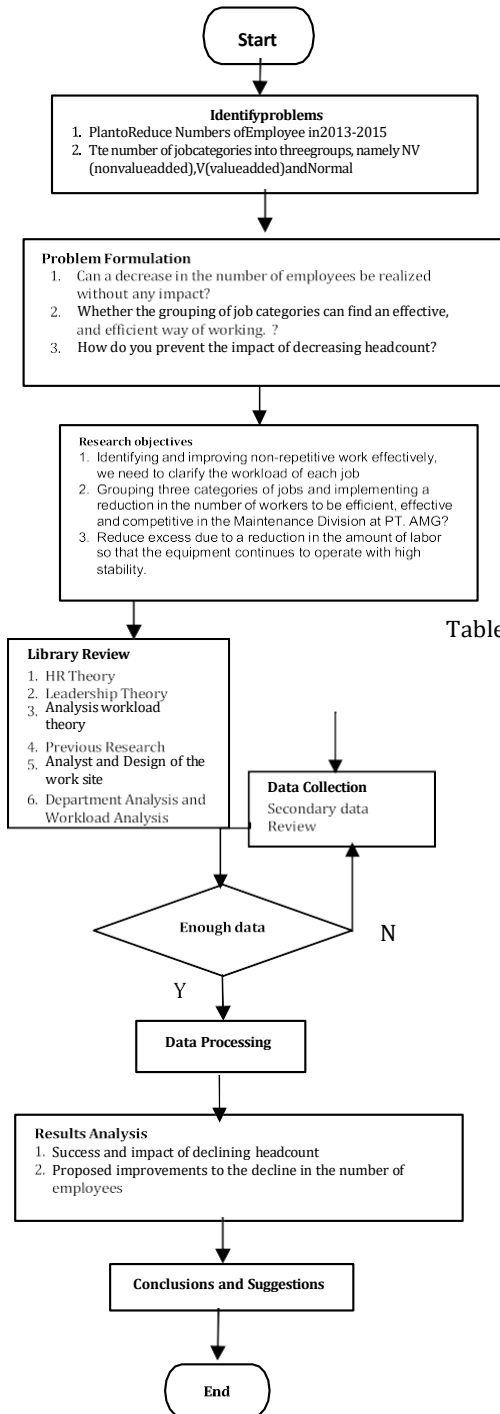
1. To effectively identify and improve non-repetitive work, we need to clarify the workload of each job.
2. Group three categories of work and implement a reduction in the number of workers to be efficient, effective and competitive in Division Maintenance at PT.
3. Reduce excess due to a reduction in the amount of labor

so that equipment remains
operational with high stability.

RESEARCH METHODS

Research activities start from discussions of advanced data retrieval and identification of parallel problem study literature and analysis of problem solving results, so that it can run well and there are no differences in direction and objectives.

To solve the problem needs to be formulated solution steps so that problem solving becomes structured and systematic. As in the flow chart below:



Gambar 1 Flowchart research

RESULTS AND DISCUSSIONS

The data collection was conducted in the Maintenance Division of PT AMG. Where in the maintenance division consists of 3 departments each led by a department manager. Mechanic Department, Department of Electricity and Engineering department. Only in the Electricity department there are shift jobs and daytime jobs. The other two department day time, although sometimes mechanic departments there is shift work, so the data grouped shiftwork and day time work.

Data taken from 2013 to December 2015, continued until December 2019 as an evaluation, this data is a collection of problems (damage) during the period, as can be seen in table 3 Maintenance Man Power Arrangement

Table 4 Kind of Job Day Time in Electrical Department

D OF JOB LOAD	UR/DAY	
, KY (safety)	3,73	5
l Preparation	5,57	8
ipment Patrol	9,70	14
ular Mint (RM)	7,13	10
intermeasure/Repair (PM)	17,50	25
rective Maint (CM)	2,70	4
ole Shoouting (BM)	0,00	0
rication Work	6,23	9
eting & Training	0,17	0
Cleaning	3,67	5
Value	14,67	21
AL	1,07	100

Table 5 Job Day Time Summary in Electrical Department

KOJ	UR AY	%
NV	14,67	21%
V	48,83	69%
N	7,57	11%
TOTAL	71,07	100%

Based on table. The above 5 it appears that non-value added work is a job that does not have added value in the organization of 14.67 hours which is detrimental to the company and must be reduced, if working for 8 hours per day it can be reduced by 2 people.

Table 6 Summary of Job Shifts in the Electrical Department

ORY	IN HOUR							IN PERCENTAGE						
			4	W-5	W-6	TAL				-6	-7	ERAGE		
alue	1		1	1,8	1,8	7,8	%	20%		%	%	36%		
e			3	4,7	4,7	1,8	%	64%		%	%	44%		
al			8	0,7	0,7	0,5	%	16%		%	%	21%		
TOTAL	7,2	7,2	7,2	7,2	7,2	7,2	50,2	100%	100%	100%	100%	100%		

Based on Tabel. 6 Summary of Job Shift in Electrical Department above it is seen that the work in shifts

that are Non value Added by 17.8, if working for 7 hours per day can be reduced by 2 people, because shifts there are 3 groups, then reduced NOE to 6 people

Table 7 Summary job day time in Mechanical Department

CATEGORY OF JOB	MECHANICAL IN HOUR						MECHANICAL IN PERCENTAGE							
	COOL	RM	UTILITY	FURNACE	M/3-LEHR	CVD	TOTAL	COOL	RM	UTILITY	FURNACE	M/3-LEHR	CVD	AVERAGE
Non Value	2,42	2,18	1,83	1,63	3,03	7,19	18	30,2%	27,3%	22,9%	20,4%	37,8%	89,9%	38%
Value	4,83	4,82	5,75	5,63	4,25	0,59	26	60,4%	60,2%	71,9%	70,4%	53,8%	7,4%	54%
Normal	0,75	1,00	0,42	0,73	0,72	0,22	4	9,4%	12,5%	5,2%	9,2%	9,0%	2,7%	8%
TOTAL	8	8	8	8	8	8	48	100%	100%	100%	100%	100%	100%	100%

Based on Table 7 Summary job day time in Mechanical Department above it is seen that non-value added work of 18 hours means that it can be reduced, if working for 8 hours per day it can be reduced by 2 people.

Table 8 Summary job day time in Mechanical Department CVD Unit

ACTIVITY	Existing
TBM, KY (Safety)	5,0
Tool Preparation	5,0
Equipment patrol	10,6
Rutin Maint (RM)	-
Countermeasure / Repair (PM)	27,1
Do special job (CM)	9,2
Trouble shooting (BM)	-
Fabrication / Improvement Work	-
Meeting & Training	-
S.S / Cleaning	13,5
Non Value	629,0
TOTAL Hour/Mont --> 3 person	699,4
TOTAL Hour/day --> 1 person	7,8

Based on Table 8 Summary Job Day time in Mechanical Department CVD unit above it is seen that non-value added work of 7.8 hours can be reduced, if working for 7 hours per day it can be reduced by 1 person, because of special shifts with 3 groups, it is reduced to 3 people.

Table 9 Job Inventory Electrical/ Mechanical Department Summary

	ELE-1		ELE-2		MEC-1		MEC-2		TOTAL		TOTAL A REDUCE	
	N	30	N	30	N	30	N	30	N	30	N	60
TBM	N	30	N	30	N	30	N	30	N	120	N	60
Cleaning	N	25	N	25	N	25	N	25	N	100	N	50
Receiving Part	N	30	N	45	N	30	N	45	N	150	N	150
Serviceing	V	149	V	65	V	149	V	65	V	428	V	428
Manual Record	V	93	V	165	V	93	V	165	V	516	V	0
Comp Record	V	108	V	119	V	108	V	119	V	454	V	340
Sholat	N	20	N	15	N	20	N	15	N	70	N	70
Irtirahat	N	60	N	60	N	60	N	60	N	240	N	240
MUDA	NV	25	NV	16	NV	25	NV	16	NV	82	NV	822
TOTAL		540		540		540		540		2160		2160
TOTAL MH/D		9		9		9		9		36		9
NV IN MINUTE	0,4	5%	0,3	3%	0,4	5%	0,3	3%	1,37	4%	14	38%
V IN MINUTE	5,8	65%	5,8	65%	5,8	65%	5,8	65%	23,3	65%	13	36%
N IN MINUTE	2,8	31%	2,9	32%	2,8	31%	2,9	32%	11,3	31%	9,5	26%

Based on Table 9 Summary of Job Inventory Electrical / Mechanical Department above it appears that non-value added 14 hours can be reduced, working for 8 hours per

day can be reduced by 2 people with 2 hours of overtime. Of all the data mentioned above, one table is like the following table.

Table 9 Summary Job in Maintenance Division

CATEGORY OF JOB	MAN HOR/DAY					IN PERCENTAGE				
	ELECTRICAL		MECHANICAL		M/E	ELECTRICAL		MECHANICAL		M/E
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory
NV IN HOUR/DAY	14,7	17,8	18,3	7,0	13,7	20,6%	35,5%	38,1%	89,9%	38,1%
V IN HOUR/DAY	48,8	21,8	25,9	0,6	12,8	68,7%	43,5%	53,9%	7,4%	35,6%
N IN HOUR/DAY	7,6	10,5	3,8	0,2	9,5	10,6%	20,9%	8,0%	2,7%	25,4%
TOTAL	71,1	50,2	48,0	7,8	36,0	100,0%	100,0%	100,0%	100,0%	100,0%
MAN POWER	1,8	2,5	2,3	1,0	2,0					
AL MAN POWER (per)	15									

From Table 9 Summary Job in Maintenance Division, seen the results of a reduction in the number of workers by 15 people, The impact of the reduction is the increasing number of working with value added categories where jobs have added value for the company, while the normal category is still the same, as seen in table 10 and Table 11 below.

Table 10. Comparison before and optimization of the number of workers in maintenance division

CATEGORY OF JOB	BEFORE					AFTER				
	ELECTRICAL		MECHANICAL		M/E	ELECTRICAL		MECHANICAL		M/E
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory
NV IN HOUR/DAY	14,7	17,8	18,3	7,0	13,7	0	0	0	0	0
V IN HOUR/DAY	48,8	21,8	25,9	0,6	12,8	64	40	44	8	27
N IN HOUR/DAY	7,6	10,5	3,8	0,2	9,5	7,6	10,5	3,8	0,2	9,5
TOTAL	71,1	50,2	48,0	7,8	36,0	71,1	50,2	48,0	7,8	36,0

Table 11. Comparison of Performance Before and After Optimization of The Number of Workers in Maintenance Division

CATEGORY OF JOB	BEFORE					AFTER				
	ELECTRICAL		MECHANICAL		M/E	ELECTRICAL		MECHANICAL		M/E
	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory	Day Time	3 Shift	Day Time	CVD SHIFT	Inventory
NV IN HOUR/DAY	20,6%	35,5%	38,1%	89,9%	38,1%	44,5%	0,0%	0,0%	0,0%	0,0%
V IN HOUR/DAY	68,7%	43,5%	53,9%	7,4%	35,6%	41,8%	88,4%	79,1%	92,0%	97,3%
N IN HOUR/DAY	10,6%	20,9%	8,0%	2,7%	26,4%	13,7%	10,6%	20,9%	8,0%	2,7%
TOTAL	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

From Table 11. Comparison of Performance Before and After Optimization The number of workers in the Maintenance Division, there was an increase in the Valued Added job category up by 44% from 42% to 86.3%, as seen in this graphic.

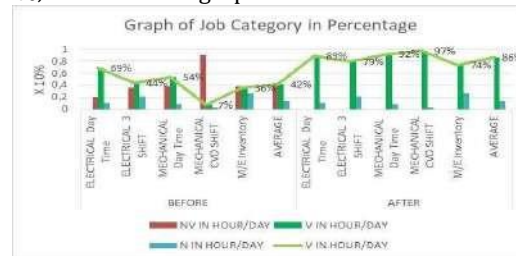


Figure 4 Graph Of Job Categories in Maintenance Division

As seen in figure 4 graph of job categories in Maintenance Division as a whole up 21 % to 90% with an average increase of 44 %, the way of delivery and reducing excesses to employee reduction, as follows.

The problem-solving step to achieve the target is divided into 3 categories"

1. Solve it with only activities without any investment only slightly change the organization so that it can increase efficiency to optimize the work.
 - a) Combine Coating and Hot maintenance Section (Person) CVD SHIFT (Person)--> Morning/Afternoon/Night
 - b) Reduce quantity of maintenance for B and C Class
 - c) Combine Regular Maintenance work Hot-Cold
2. Using physical and a small amount of investment:
 - a) All forklift handle by rental (factorial) All forklif use rental, so no need man power for maintenance
 - b) Building maintenance fully handle by Business Partner
 - c) Bench marking and comparation with similar companies
 - d) REDUCED By Simplify of ADMINISTRATION and SERVICING WORK time
3. **With investment :**
 - a) Rearrangement of Electrical & Mechanical spare part at one warehouse
 - b) Additional Remote Monitor/ Operation Water treatment A1/A2 at Power station

Discussion

From the results of research that has been done and has been analyzed, in general it can be concluded that there is a significant change in performance - production performance before the optimization of the number of employees in the maintenance division.

1. Dari management perspective
 - a) Accidents still happen even we take a lot of countermeasures, so less NOE (Number of Heads) is better
 - b) Increase labor costs significantly
 - c) It's important labor as ckp
 - d) It is appropriate to reduce NOE (GA project), and large pensions for SDA by increasing productivity through the scientific method, garuda project
 - e) Based on our opinion, we never cut permanent employees
 - f) We will gather employee opinions to get the same perception, focus on effectiveness and comfort.
 - g) Employee benefits
 - i) Pension workers (SDA's big pension)

iii) Project Garuda (GA Project)

Within 3 years of the optimal number of employee, performance – performance of human resources and performance of production equipment becomes better.

-
Thus this study can answer the original goal is to reduce costs by implementing Optimizing the number of employees and increasing employee capabilities.

CONCLUSION

THE WORKLOAD ANALYSIS has been successfully implemented to reduce number of employee by 44% to average 21% from 90% previously. This has successfully reduced 15 person its expenditure labor cost saving provide savings and benefits about US\$ 12.519 per month.

The corrective action is taken to eliminate the causes of an existing non valued added job to address the problems identified. After trying combine, eliminating, simplifying and rearrangement job. In the efforts of improvement it is install remote monitor for water treatment equipment to power station for near operator which is considered under nearly. And also rearrangement of Electrical & Mechanical spare part at one warehouse

This researcher recommends to companies should start seriously to take care of the improvement of human resource quality in a real way and consistent with appropriate training, considering that employees are unable to negatively affect the ability to work the production machine and in the meantime greatly affect the company's profit due to the stopped of equipment.

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ANALYSIS OF ERGONOMIC APPLICATION IN INDUSTRIAL SYSTEMS

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ABSTRACT

Industrial systems should be ergonomically designed in all areas of the company or industry. Has it been done? This paper provides an analysis of the exposure by ergonomic experts. It is a literature study from the results of research and scientific literature. Then, it is analyzed and discussed descriptively. Conclusion: that the application of ergonomics for industrial systems is human-centered, building work systems with users, and improving work systems. Thus it will be achieved optimization of production, efficiency (productivity), health, safety, security, and comfort at work. Then in working is to be able to adapt quickly to industrial organizations, production processes, machine tools, other equipment and facilities.

Key words: application of ergonomics, companies, industrial ergonomics, industrial systems

INTRODUCTION

All businesses in the industrial sector require adequate profits. This is in the hope of being able to finance the production process. In addition, it can afford the cost of procurement of raw materials, labor, administration, and organization as well as marketing. Of course this will happen if production and marketing run smoothly. The arrangement with an ergonomic approach can increase productivity optimally. Therefore, industrial systems should be designed ergonomically in all areas of the company or industry.

The industry does not escape the need for manpower. As Hari Purnomo (2013) said that "an effort which can be made to reduce the rate of work accidents is by designing an ergonomic work system".

In relation to ergonomics uses a virtual environment approach. Erlinda Muslim and her colleagues (2011) in their research results show that "working condition in the garment industry still have enough risk that can cause musculoskeletal disorders (skeletal muscles) in workers". According to Wododo and his colleagues (2009), that "An ergonomic work system will have a good impact on workers, benefit the environment and provide good financial benefits to company owners". Therefore, it is increasingly clear that an ergonomic approach will benefit both the workforce and the owner of the company.

In this paper, we provide a basic analysis for industrial systems. Companies or industries must be designed or redesigned as a whole ergonomically. Thus, the production process can run smoothly, the environment is healthy, all humans in the industry are healthy, and it's financially fulfilled both workers industry owners.

RESEARCH METHODS

In this paper, the exposure of ergonomic experts as stated in their opinions in the literature. It is a literature study both from research results and scientific literature. Then, it is analyzed and discussed descriptively to get scientific conclusions.

RESULTS AND DISCUSSIONS

1. Industrial ergonomics

The term ergonomics (ergonomics) according to David J. Osborne (1982) "*the word ergonomics was coined from the Greek: Ergon – work; nomos – natural laws*". IEA provides a definition of ergonomics as follows "*the study of the anatomical, physiological and psychological aspects of human in working environment. It is concerned with optimizing the efficiency, health, safety and comfort of the people at work, at home and at play. This generally requires the study of system in which human, machines and the environment interact, with the aim of fitting the task to the humans*". By Eko Nurmianto (1998) the term ergonomics is defined as the study of human aspects in the work environment which are reviewed in terms of anatomy, physiology, psychology, engineering, management and design. By Sritomo Wignjosoebroto (1995) the term ergonomics is defined as a scientific discipline that studies humans in relation to their work. According to Iftikar Z. Sitalaksana (1979) ergonomics is defined as a systematic branch of science to utilize information about the nature, abilities and limitations of humans to design a system so that people can live and work on the system well, namely achieving the desired goals through work effectively, safely and

conveniently. According to Adnyana Manuaba (2000) the term ergonomics is defined as an effort in the form of science, technology and art to harmonize equipment, machines, work, systems, organizations and the environment with the capabilities of human expertise and limitations so as to achieve a healthy, safe, comfortable, efficient, productive condition and environment through optimal and maximum functional utilization of the human body.

Then, the term ergonomics by Wilson (1995) quoted by John R. (1998) is defined as *"the involvement of people in planning and controlling a significant amount of their own work activities, with sufficient knowledge and power to influence both processes and outcome in order to achieve desirable goals"*. By Sutarman (1987) the term ergonomics is defined in two aspects, namely: 1) *the adjustment of man to his work and work environment*; 2) *the technical and organizational and justification of the work and work environment to the human needs, capabilities and limitations*.

From the various opinions above, ergonomics is still inseparable from its basic meaning, namely *ergon* is work and *nomos* is natural laws. The narrow definition of work is an activity that earns wages. However, the broad understanding of work is that all human movements are work, even if they do not get paid. *Ergo* (motion/work) that is *nomos* (*natural*) is a movement that is effective, efficient, comfortable save, does not cause fatigue and accidents according to the body's ability, but gets more optimal work results. Therefore, the ergonomics approach requires a balance between the ability of the body and work tasks.

Usually, if you want to improve the ability of the human body, then several things around the human natural environment, for example, equipment, physical environment, position of motion (work) need to be revised or modified or redesigned according to the capabilities of the human body. With the ability of the body to increase optimally, the work tasks carried out will also increase, and vice versa, if the natural environment around humans is not in accordance with the natural abilities of the human body, it will cause work results that are not optimal.

The conclusion of the analysis and discussion above, based on some of the opinions above, there are three things that are important in studying ergonomics applied in industry, including:

1. Ergonomics focuses on humans (human-centered). It applies to humans and the focus of ergonomics on humans is primarily not on machines or equipment. Ergonomics is only suitable for those who want to develop a work system.
2. Ergonomics requires building user-related work systems. This means that machines and equipment

are work facilities that are adapted to human performance.

3. Ergonomics focuses on improving work systems. A process improvement must be adapted to the differences in the capabilities and weaknesses of each individual, this must be formulated in a way that is measured both qualitatively and quantitatively in a certain time.

2. Ergonomics in industry is purposeful and important

The purpose of ergonomics is to increase labor productivity in an institution or organization. This can be achieved if there is a match between the worker and his job. There are a lot of conclusions that the workforce should be motivated and their needs met. This will reduce the number of employees who are absent from work (absenteeism). The ergonomics approach tries to achieve the good for both workers and institutional leaders. Tarwaka and his colleagues (2004) argue that the purpose of ergonomics is "to improve physical and mental well-being by preventing work-related injuries and illnesses, reducing physical and mental workloads, and seeking promotion and job satisfaction". In line with that, Sritomo Wignjosobroto (1995) previously said that the purpose of ergonomics is "to be used through an effective, efficient, safe and comfortable work".

Thus, the goals of ergonomics in industry can be achieved by paying attention to the four main goals of ergonomics, including (1) maximizing employees (2) improving occupational health and safety (3) advocating for safe, comfortable, and enthusiastic work. (4) maximize the convincing performance. The importance of ergonomics, Tarwaka and his colleagues (2004) explains "the application of art and technology can harmonize all the facilities used both in activities and also resting the basic limits of ability as well as human limitations both physically and mentally so that the overall quality of life becomes better". The importance of ergonomics can be explained as follows. In a social society, a person can adapt in various changing situations, this can be a consideration for someone who is intelligent to achieve success. Adaptation is one of the characteristics possessed by humans. They are in adapting to industrial organizations, the production process of machine tools, and can even adapt to equipment and facilities that are not good. For example, factory workers, working in open spaces with equipment below minus (non-standard), they work, not demanding, no ventilation, hot, pressured and working climate environment below standard. They are machine operators and are in charge of controlling the control devices that must be heard located outside the building. They must be able to listen to the alarm if it sounds, even though the environment is noisy.

The consequences of such a work situation are that the body condition becomes less than optimal, inefficient, of low quality, and a person can experience health problems such as low back pain, skeletal muscle disorders, and decreased hearing. Therefore, ergonomics is important, because the ergonomics approach is to create a good harmony (standard) between humans and machines and the environment.

CONCLUSION

Application of ergonomics to industrial systems: human-centered, building work systems with users, and improving work systems. Thus, production optimization, efficiency (productivity), health, safety and security will be achieved, comfortable at work. Then in working to be able to quickly adapt to industrial organizations, production processes, machine tools, other equipment and facilities.

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ANALYSIS OF THE INFLUENCE OF ORGANIZATION AND JOINT RESPONSIBILITY SYSTEM ON MEMBER BEHAVIOR WHICH IMPACTS BUSINESS SECURITY CASE STUDY OF SETIA BUDI WANITA MULTIPURPOSE COOPERATIVE, EAST JAVA, MALANG CITY

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ABSTRACT

This study aims to determine the effect of motivation on employee performance at the Setia Budi Wanita Multipurpose Cooperative (to examine, analyze, and determine the influence of the organization and the Joint Responsibility System on member behavior that has an impact on business security at the Setia Budi Wanita Cooperative (SBW) East Java in Malang. Researchers see the conditions and are interested in researching because there is a uniqueness that needs to be reviewed to know the actual conditions that occur in cooperatives, viewed from the perspective of organizational culture, Joint Responsibility System, member behavior, and business security so that researchers consider it necessary to research to find out the influence of organizational culture and joint responsibility system on the behavior of members that have an impact on business security in the Malang SBW Cooperative. Quantitative research methods. The type of data used is the type of quantitative data that comes from qualitative data from 127 respondents who are quantified. Primary data was obtained directly from the field, sourced from the respondents of members of the Malang SBW Cooperative, in the form of statements about the Joint Responsibility System variable on the behavior of members. Observations were made by observing office operational processes and member services, as well as visits to several group meetings. Researchers also conducted data mining, interviews with parties related to this research. Secondary data are documentation, reference books, and information related to this research. The independent variables are organizational culture and joint responsibility system. The dependent variable is member behavior and business security. The data analysis technique is descriptively using the Mean and Mode statistical tools to explain respondents' perceptions. Data analysis using Structural Equation Modeling (SEM). Hypothesis testing using path analysis. The results of the study there is a significant influence between organizational culture and the Joint Responsibility System on the behavior of members and there is a significant influence between member behavior and business security.

Key words: business security, honesty, mutual cooperation culture, transparency

INTRODUCTION

The world of business and economics today is very closely related to what is called organizational culture, which incidentally is a system of spreading beliefs and values that develops within an organization and directs the behavior of its members. According to Sutrisno Edy (2019), strategies for implementing organizational culture values, communication, empowerment, culture and quality systems, innovation and creativity, organizational effectiveness, performance, productivity, self-confidence, values, human capital, change management, the role of intellectual intelligence, emotional, and spiritual in leading change, organizational commitment, and employment. Mangkunegara (2005), organizational culture is a set of assumptions or belief systems, values, and norms developed in cooperative organizations that are used as guidelines for the

behavior of its members to overcome internal and external adaptation problems. Culture must be in line with organizational actions, such as planning, organizing, leadership, and controlling (Revai, 2011). Organizational culture is closely related to organizational commitment, where the organization/company has shared values that are shared by members in the organization that are distinctively different from other organizations. Organizational culture becomes a personality that influences the way members to act in the organization. In reality, there are weak organizations and there is a strong organizational culture.

Joint Liability in accounts payable is a term that has the meaning of responsibility. The Joint Responsibility System in the cooperative is a cooperative arrangement in which the members of a group are jointly responsible for all their obligations to the Setia Budi Wanita Cooperative based on

openness and mutual trust to create a forum for dialogical human interaction towards quality and moral people. The joint responsibility system in cooperatives runs through membership organized into groups consisting of a minimum of 15 members. This system functions as a system of values and systems in SBW cooperatives, especially those that operate in savings and loans. As a value system, the Joint Responsibility System is manifested in mutual trust between members, openness, togetherness, deliberation, and responsibility. The system encourages the achievement of cooperative goals as a whole and collectively.

Human activities, human behavior, if observed directly or indirectly can be observed by outsiders (Notoatmodjo, 2003). Behavior can be formed as a dynamic process in life or the surrounding environment. Social life inhomogeneous groups can form behavior that shows the identity of the group and its members.

Cooperatives can be managed and developed with professional management based on cooperative values (Sutrisno, 2019). To assess the success as well as the security of a cooperative business, including indicators of capital aspect, Earning Asset Quality, Efficiency, Liquidity, Management, Independence as well as Growth, Cooperative Identity which consists of definitions, values, and principles of cooperatives, (Ibnoe Soedjono 1997).

Cooperatives in East Java that have successfully implemented the Joint Responsibility System. One of them is the Setia Budi Wanita East Java Multi-Business Cooperative in Malang (SBW Cooperative), which has been economically organized and has been able to carry out economic, social, and cultural fields in cooperative life. The East Java SBW Cooperative has developed and has an organizational culture, namely the culture of *Gotong Royong*. This culture is implemented in the Joint Responsibility System. In this Joint Responsibility System, members are divided into groups that are arranged in such a way as to create a strong group life into a separate management level in groups or cooperatives, each group consists of a minimum of 15 members, where each member receives a lot of learning about values. Cooperative values, cooperation values, cooperative principles, and the values and principles of the Joint Responsibility System.

From the description above, the researcher sees that there is something unique and interesting about the East Java SBW Cooperative in Malang in terms of organizational culture, member behavior, Joint Responsibility System, and business security. For this reason, the researcher wants to dig deeper to find out the influence of organizational culture and the joint responsibility system on the behavior

of members that have an impact on business security in this SBW Cooperative.

The research wants to know about organizational culture, joint responsibility system, member behavior, and business security, in more depth, the extent of the influence between organizational culture and the joint responsibility system on member behavior, and to know a description of member behavior and the impact on business security in SBW Cooperatives.

LITERATURE REVIEW

Definition of cooperative

The term cooperative comes from the original language Cooperation (Latin), which is based on the principle of togetherness and a system of cooperation as well as kinship. Cooperatives were born with an economic purpose, as the identity of a group of people working together, a working system, management rules, and organizational format that are quite clear. The principle of cooperatives is (1), cooperatives have a goal to meet the needs of their members. In achieving the goals of the cooperative, it still has an economic orientation, also benefits, but remains in its main goal. (2) Cooperatives carry out social functions and prioritize the interests of the poor. Between cooperatives are required to always help and support each other (3). Third, Cooperatives are independent partnerships not born under pressure or coercion. Membership recruitment in cooperatives does not contain an element of coercion and members are allowed to freely choose. Cooperative is a form of business that is run based on the principle of kinship and Cooperation.

The International Cooperative Alliance (ICA) in Manchester, England, September 23, 1995, has formulated a Cooperative Identity known as ICIS (ICA Cooperative Identity Statements). It contains three inseparable units, namely Definition, Values, and Principles of Cooperatives which in Indonesia are socialized with the term Cooperative Identity (Soedjono, 1997). The definition of a cooperative is an autonomous association of persons united voluntarily to fulfill their common economic, social, and cultural needs and aspirations through a cooperative which they have in common and which they democratically control. Cooperative values are based on the values of self-help, democracy, equality, personal responsibility, justice, and solidarity.

Following the traditions of its founders, the members of the cooperative believe in the ethical values of honesty, openness, social responsibility, and concern for others. The principles of cooperatives consist of voluntary and open membership, democratic control by members, economic participation of members, autonomy and freedom, education, training and information,

cooperation among cooperatives, and concern for the community. (ICA. 1995).

The function of members in a cooperative is as owner, user, and participant. Member as owner means the function of the member as the owner of the Cooperative's shares in the form of principal savings and mandatory savings who have the obligation to and control the life of the Cooperative democratically following the rules stipulated in the Articles of Association, Bylaws, and other applicable regulations. The definition of a member's function as a user is a member as a beneficiary of the existence of the Cooperative. Membership ownership has implications for voting rights ownership in the Members' Meeting. The ownership of one vote for one member is not affected by the amount of capital invested or the age of the membership. Members are the real primary market for all cooperative products. The main priority for users of cooperative products is all of its members. After members receive the benefits of the cooperative, they serve the surrounding community with the hope that the community can also become members and enjoy it. While the function of members as actors implies that members are participants who bring the progress or decline of the cooperative. The level of activeness of

members to participate in their cooperative will1. determine the progress or decline of the2. cooperative.

The development of cooperatives among women is one of the programs in development,

where cooperatives are a suitable forum and are3. very acceptable to women past and present. Munkner (1997) explains that based on the concept

of a realistic vision of the role of cooperatives in4. society, the cooperative movement can continue its role in development (Hans H Munkner, 1997).

Organizational culture

One of the organizational cultures is the5. culture of *Gotong Royong* which is the core of the values of Pancasila. The five precepts of Pancasila,

extracted from Bung Karno's speech on June 1, 19456,. can be compressed into three principles, namely socrationalism, socio-democracy, and divinity. According to Pandi (2018), the function of organizational culture is a system of spreading beliefs and values that develop within an organization's members and lead to behavior. Organizational culture will be the hallmark of an organization so that it can distinguish itself from other organizations. Of the three it can be squeezed again into one, namely cooperation. As social solidarity, *Gotong Royong* occurs in people's lives, especially those who form communities, because

Royong means lifting together or doing something together. *Gotong Royong* is a characteristic of the Indonesian nation, which forms real social behavior that shapes the values of social life. *Gotong Royong* can also be understood as a form of active participation of each individual to be involved in giving a positive value to each object, problem, or need of the people around him. The existence of these values causes *Gotong Royong* to always be fostered in community life as a cultural heritage that should be preserved.

Gotong Royong adheres to the principle of balance between obligations and rights. the balance between obligations and rights is felt like a human thing. In *Gotong Royong* there are no words of selfinterest, the principle of kinship is applied (Sosrodihardjo, 2001). The process of spontaneous participation is one form of *Gotong Royong* (Bintarto, 1980). Furthermore, there are also values of community service and mutual assistance in gotongroyong activities, of course, because voluntary work and mutual help are part of gotongroyong which can be done to ease work or activities (Gurniwan, 1987).

Gotong Royong holds various positive values, including:

Union

The togetherness that exists in cooperation and at the same time gives birth to unity among community members so that they become stronger and able to deal with problems that arise.

Togetherness, *Gotong Royong* makes people want to work together to help others or to build facilities that can be used together.

Willing to sacrifice, These sacrifices can sacrifice time, energy, thought, and money. All of these sacrifices were made for the common good, willing to put aside their personal needs to meet common needs.

Socialization, *Gotong Royong* makes people know each other so that the socialization process can be maintained and continues to this day.

Please help, People help each other, work together communities like this will be seen clearly. The term *Gotong Royong* comes from the Javanese language.

Gotong means to carry or lift, while *Royong* means together. So if interpreted literally, *Gotong*

to help each other. No matter how small a person's contribution in cooperation, they can always provide help and benefit to others.

Joint responsibility system

In cooperative life, the application of the *Gotong Royong* culture can be found in the application of the joint responsibility system. The Joint Responsibility System is a shared responsibility among members for their obligations to the cooperative to create a forum for dialogical interaction towards quality human beings (Untari, Sri & Dewanto, Deddy Satya. 2008). (Nuryana Ida) Joint Responsibility encourages the birth of a system that ensures the cooperative's goals can be achieved.

Achieved collectively (kopkuninstitute.org/portfolio, 2016). The implementation of the joint responsibility system in cooperatives always tries to balance business outcomes in the form of securing assets and changing human behavior with consequences in the form of developing cooperative human resources. In implementing the joint responsibility system, the management must realize that cooperatives are a network that can be developed so that the management as cooperative controllers must understand the concept and application of the joint responsibility system which is the implementation of cooperative identity (Indriyo, 2006).

Nuryana (2021) The Joint Responsibility System divides responsibilities evenly and applies the concept of collectivity. The joint responsibility system has a close relationship with the *Gotong Royong* culture as stated by Dewanto & Sonhaji, "With *Gotong Royong* core culture, SBW Malang Cooperative managed to run its business using the joint responsibility system. (Dewanto, Sonhaji, 2018).

Behavior

The form of behavior that can be observed, through attitudes and actions, can also be potential, namely in the form of knowledge, motivation, and perception. Human behavior is all human activities or activities, both those that are directly observed and those that cannot be observed by outsiders (Notoatmodjo, 2003). Individual behavior is also a process of cooperation between a group of people to achieve the goals that have been set, (Wursanto, 2003). The form of behavior seen from the point of view of the response to the stimulus, then the behavior can be divided into two, namely closed behavior, where the response or reaction to this stimulus is still limited to attention, perception, knowledge/awareness, and attitudes that occur cannot be observed by others. Next is open behavior, where the response to the stimulus is clear in the form of action or practice. The process of forming behavior is influenced by several factors that come from within the individual itself, these factors include perception, motivation, emotion, and learning. While learning is a change in behavior resulting from previous behavior.

Human behavior occurs through a sequential process. Before a person adopts a new behavior, within that person, a sequential process occurs including awareness, interest, consideration, experimentation, and adoption in which the person has behaved in a new way according to his knowledge, awareness, and attitude towards the stimulus. Based on this description of behavior, members in cooperatives as individuals also have their behavior that can be influenced by the conditions of the surrounding environment.

Business security

The business condition of an organization can be seen from the trend of asset, debt, and capital development for at least the last 3 to 5 years. To be able to find out this is very accurate when you look at the trend of financial ratio analysis. Financial ratio analysis is very important to know how the development of a business.

RESEARCH METHODS

Research design

The location, as well as the object of this research, is the SBW Cooperative located in Malang at Raden Intan Kav. 108 Arjosari, Blimbing, Malang City, East Java 65126. This research uses quantitative research methods. The type of data used in this research is quantitative data that comes from qualitative data in the form of questionnaires to respondents which are quantified so that they can be processed using statistics. In this research, 127 questionnaires have been distributed and received as a whole so that the statistical analysis process can be carried out.

Population and sample

Primary data obtained directly from the field sourced from respondents who are members as well as Group Persons in Charge of the Setia Budi Wanita Cooperative, East Java in Malang, in the form of statements about the system of joint responsibility variables on the behavior of members. Respondents to fill out the questionnaire in this study were members who were in charge of the group. This respondent was chosen because as the person in charge of the age group, their membership in the SBW Cooperative in Malang is confirmed to have been more than 3 years so they already have sufficient experience, knowledge, and understanding to carefully digest the questionnaires proposed in this study. Each person in charge of the group is responsible for group members totaling a minimum of 15 people and a maximum of 55 people. Based on the calculation results of the Slovin method, it was determined the number of samples to fill out the questionnaire was 127 people representing 9,645 members.

Observations were made by observing the operational processes of the office and member services, as well as visits to several group meetings, namely in groups of 231, 275, 175, 225. From the observations of group visits, an overview could be drawn regarding organizational culture, the Joint Responsibility System, and cooperative business operations in a life group. In addition, the researcher also conducted data mining in the form of interviews with parties related to this research including Management, Supervisors, Business Coordinators,

heads of Learning Centers, Field Assistance Guidance, Secretariat, Treasurer. Secondary data were obtained from documentation, reference books, and information from members and administrators related to this research. Researchers conducted a study of the Management Accountability Report that was approved at the Membership Meeting from 2014 to 2018, the completeness of the membership documents, training modules, and related books so that a complete picture of the SBW Cooperative in Malang City can be obtained.

Data analysis technique

Structural equation modeling (sem) Statistical processing in this study using SEM. The stages of SEM analysis them self must go through at least five stages (Latan, 2013: 42-69), namely:

1. Model specifications
The activity in this step is to develop a model based on theoretical studies to support research on the problem being studied. Next, define the model conceptually the construct to be studied and determine its dimensionality. The direction of the hypothesized relationship must also be clear and have a theoretical basis.
2. Model identification
This stage is important in SEM because the model cannot be identified, it will not be able to be estimated or calculated. Researchers need to do this step to find out whether the model has a unique value or not. This identification is done by calculating the degrees of freedom, and the value of the degrees of freedom must be positive. Ideally, after the specification and identification of the model, the next step is to determine the number of samples.
3. Model estimation
After the data is collected, the model is estimated, having previously determined the estimation method. Generally, the estimation method used is the Maximum Likelihood (ML).
4. Model evaluation
Activities in this step are evaluating and interpreting the results of the analysis. This stage aims to evaluate the model as a whole. This process begins with the normality test of the data, then continues by testing the measurement model by analyzing the confirmation factor to test the validity and reliability of the latent variables, then by testing the structural model, and finally assessing the overall fit of the model concerning the Goodness of Fit (GoF).
5. Modify the model
This activity deals with the results of the evaluation and interpretation of the model. If the GoF value of the model does not or does not fit, it is necessary to modify or re-specify the model.

RESEARCH RESULTS AND DISCUSSION

Structural equation model test results

The results of the structural equation model test are as follows: *Rm² model*

$$\begin{aligned}
 &= 1 - (\sqrt{1 - R^2} \times \sqrt{1 - R^2}) \\
 &= 1 - (\sqrt{1 - 0,48} \times \sqrt{1 - 0,47}) \\
 &= 1 - (\sqrt{0,62} \times \sqrt{0,63}) \\
 &= 1 - (0,78 \times 0,79) \\
 &= 1 - 0,622 \\
 &= 0,37
 \end{aligned}$$

The total coefficient of determination of 0.37 indicates the diversity of data or information that can be explained by the model is 37.0%. While 63.0% can be explained by other variables that are not included in the model or errors. This explanation means that the model in this study is accepted as a tested analytical tool and can make the hypotheses made.

Path analysis

Based on statistical data processing, the path analysis calculation is obtained as shown in the following table:

Table 1
Summary of path analysis results

Variabel	Pengaruh Langsung	Pengaruh Tidak Langsung	Pengaruh Total
Budaya Organisasi → Perilaku Anggota	0,48		0,48
Sistem tanggung renteng → Perilaku Anggota	0,41		0,41
Perilaku Anggota → Keamanan Usaha	0,69		0,69
Budaya Organisasi → Perilaku Anggota → Keamanan Usaha		0,48 X 0,69 = 0,33	0,33
Sistem tanggung renteng → Perilaku Anggota → Keamanan Usaha		0,41 X 0,69 = 0,28	0,28

Significant α 5%

Hypothesis test hypothesis test 1: see table 2

Table 2
Influence of organizational culture and joint responsibility system on member behavior

Variabel	Koefisien regresi	Nilai t	Nilai p
Budaya Organisasi → Perilaku Anggota	0,48	7,49	0,050
Sistem Tanggung → Perilaku Anggota	0,41	6,41	0,000
R = 0,70			
R Square (R ²) = 0,48			

Source: Primary data processed

In table 2, the organizational culture beta coefficient value is 0.48 and the t value is 7.49 and the p-value is 0.000 which is smaller than p = 0.05 (α = 5%), The coefficient value of the joint responsibility system is 0, 41, and the t value of 6.41 and the p-value of 0.000 which is smaller than p = 0.05 (α = 5%). The culture of cooperation (X1) which is manifested in the application of the joint

responsibility system (X2) influences the behavior of members (Y1) or $X1+X2=Y1$. In conclusion, the first hypothesis which states that there is a significant influence between organizational culture and the joint responsibility system on the behavior of members of the Malang SBW Cooperative is tested.

Hypothesis test 2: see table 3

Table 3
Influence of member behavior on business security

Variabel	Koefisien regresi	Nilai t	Nilai p
Perilaku Anggota → Keamanan Usaha	0.69	10,72	0.000
R = 0.69			
R Square (R ²) = 0.47			

Source: Primary data processed

In table 3, the organizational culture beta coefficient value is 0.69 and the t-value is 10.72 and the p-value is 0.000 which is smaller than $p = 0.05$ ($\alpha = 5\%$), which means that the behavior of members (Y1) has a significant effect on business security (Y2). In conclusion, the second hypothesis which states that there is a significant influence between member behavior on business security in the Malang SBW Cooperative is tested.

The researcher found that member behavior affects business security, which means that the positive behavior of members has the power to increase business security. Then the behavior of members who are well developed has an impact on business security. The SBW cooperative in the city of Malang determined that the main element of the joint responsibility system was the existence of groups in addition to obligations and regulations. The purpose of the Joint Responsibility System is to change the behavior of members to be more positive, to form human character through good interactions between humans, to instill rights and obligations as members and citizens, and as a means of educating women. All the goals, values, and principles of the Joint Responsibility System are embedded in group meetings on a regular, consistent basis, and all members realize that group meetings are the most effective forum for member education to shape member behavior. Good member behavior is the key to business security, where members hold ethical values of honesty and openness. All issues are discussed honestly and transparently. Likewise, the business and financial development of the Cooperative is disseminated to all members honestly and transparently. All this openness leads to a positive cooperative life, taking care of each other, and belonging to each other as one big family.

In this study, the researchers found that organizational culture and the Joint Responsibility System influence the behavior of members. This

means that the stronger the organizational culture with the correct and consistent implementation of the Joint Responsibility System through group meetings can increase the positive behavior of members. Life in the group becomes the main means of implanting organizational culture, namely *Gotong Royong*, implementing the Joint Responsibility System, and forming member behavior.

This cooperation culture dominantly influences the behavior of members in the Joint Responsibility System. In this system, members are divided into groups of members that are arranged in such a way as to create a strong group life into a separate management level in the cooperative. Efforts to shape the behavior of members to be following the culture of cooperation are carried out continuously through the application of the Joint Responsibility System in member groups. The application of the Joint Responsibility System in group meetings is the center of education, transactions, control, personality formation, cadre processes, and direct member development. In this group life, members receive a lot of learning about cooperative values, cooperative principles, *Gotong Royong* values, and the values and principles of the Joint Responsibility System. The purpose of the Responsibility System in the SBW Cooperative in Malang is to improve human behavior to become more positive.

CONCLUSION

The conclusion of this research and its discussion are as follows:

1. Organizational culture and the joint responsibility system have a significant effect on the behavior of members, which means that the correct and consistent implementation of the joint responsibility system can increase the positive behavior of members the stronger the organizational culture is.
2. The behavior of members affects business security, which means that the behavior of members has the power to increase business security.

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IMPLEMENTATION OF COMMUNITY BASED TOTAL SANITATION PROGRAM (STBM) IN SUNGAI DAMA VILLAGE, SAMARINDA ILIR DISTRICT SAMARINDA CITY

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ABSTRACT

Community-Based Total Sanitation (STBM) or Community Lead Total Sanitation (CLTS) is a government program in strengthening behavior to build clean and healthy living, preventing environmental-based disease transmission, increasing community capacity, and implementing government policies committed to increasing sustainable access to drinking water and sanitation. basic sanitation in achieving the Millennium Development Goals (MDGs). This study uses a quantitative method with a descriptive survey design which aims to describe the implementation of the STBM Program in Sungai Dama Village, Samarinda Ilir District. The population is 12,187 household heads in Sidodadi Village, and 76 of them are as samples. Data collection is done by using primary data and secondary data. The results showed that of 76 respondents, 68.432% had stopped defecating and 31.58% of them were still open defecation, 53.95% had washed their hands with soap properly and 46.05% of them washed their hands without soap, 63, 16% of them treat their drinking water and food well, 67.11% of them have household sewerage, and 55.26% of them have poor waste management in Sungai Dama Village, Samarinda Ilir District, Samarinda City. The researcher recommends that the community in Sungai Dama Village participates both in the STBM Program so that clean and healthy living behavior can change and become sustainable in Sidodadi Village.

Key words: drinking water, sanitation, waste

INTRODUCTION

The community-based total sanitation program (STBM) is carried out to change hygiene and sanitation behavior through community empowerment by triggering in its implementation there are 5 pillars, namely stopping open defecation, washing hands with soap, processing drinking water and household food, securing household waste, and safeguarding household liquid waste (KK RI, 2016).

The STBM program uses an approach that aims to change hygiene and sanitation behavior through community empowerment with the triggering method. This is expected to change the behavior of community groups in an effort to improve the state of environmental sanitation. The achievement of Open Defecation Free (ODF) in a community is said to be successful if 100% of the population has access to defecation in the latrine.

The Central Statistics Agency (BPS) as of November 2017 reported that the national average percentage of households with access to proper sanitation in 2017 was 67.89%, out of a total of 67,173.4 thousand households, while the national average percentage of households with access to

proper sanitation was decent drinking water in 2017 was only 72.04%. The government has implemented several national sanitation developments including a sectoral approach through the provision of hardware subsidies, but the results are not significant enough for community access to sanitation facilities.

Sanitation coverage in Indonesia monitored through the system monitoring and evaluation of STBM under the Directorate of Environmental Health - Ministry of Health of the Republic of Indonesia at the time the data was taken showed numbers 73.9%. This figure is the national average, where the highest sanitation coverage in Indonesia is DI Yogyakarta Province which has reached 100%, while East Kalimantan has only reached 72%. Sungai Dama Village is one of the villages in Samarinda City whose community STBM achievement is still low, so it is necessary to study and describe STBM activities in the Village.

RESEARCH METHODS

This research is a quantitative research with descriptive survey research type to find out the

description of the implementation of the STBM program in Sungai Dama Village, Samarinda Ilir Subdistrict in 2021. The population of this study was all heads of families in Sungai Dama Village, Samarinda Ilir Subdistrict as many as 12187 families and the method of sampling was random (random sampling) and the number of samples taken using the Slovin formula with the number of samples is 76 families. Data analysis was carried out by means of univariate analysis. Univariate analysis was carried out to obtain a description of each variable studied. By looking at the frequency distribution, it can be seen the description of each variable in the study.

RESULTS AND DISCUSSION

1. STBM description based on defecation stop activities in Sungai Dama Village

Stop BABS	Amount	%
Succeed	52	68.42
Not successful	24	31.58
Total	76	100

Based on the table above, it shows that of the 76 respondents, 52 families (68.42%) succeeded in stopping defecation and 24 families (31.58%). According to STBM guidelines, the achievement indicator of stopping open defecation is 100%, while Sungai Dama Village has only reached 68.42%. Stop defecating indiscriminately or Open Defecation Free (ODF) is the 1st pillar of STBM. Currently, the achievement in Sungai Dama Village has not been maximized but there has been an increase in behavior change to stop open defecation.

There are obstacles in the process of achieving this due to low public awareness, it can be seen that there are still people who drain feces into the river because they do not have a septic tank.

2. Description of STBM based on hand washing with soap in Sungai Dama Village

Wash your hands with soap	Amount	%
Well	41	53.95
Not good	35	46.05
Total	76	100

Based on the table above, the respondent's behavior towards washing hands with soap shows that 53.95% of respondents have done well. Washing hands with soap is the 2nd pillar of STBM. The practice of washing hands using soap is very good to do to avoid infection in the Trikora study (2015) hand washing is strongly related to the incidence of diarrhea. Peltzer's research (2014) shows that hand hygiene is a

factor in preventing health risks in adolescent students. The achievement of hand washing cultivation using soap in Sungai Dama Village is difficult to measure because this practice is in everyday life, but there is already a commitment from the community to cultivate this CTPS behavior.

3. Description of STBM based on drinking water and food supply activities in Sungai Dama Village

PAM	Amount	%
Well	48	63.16
Not good	28	36.84
Total	76	100

Based on the table above, the respondents' activities in providing drinking water and food respondents showed that 63.16% of respondents had done well.

Safe management of household food and beverages is pillar 3 of STBM. The achievement of STBM pillar 3 in Sungai Dama Village is quite good, the indicators are seen from the people who have cultivated the behavior of washing food ingredients before cooking. Use clean water for daily drinking and boil if it will be used for drinking water

4. Description of STBM based on waste management activities in Sungai Dama Village

Waste management	Amount	%
Well	42	55.26
Not good	34	44.74
Total	76	100

Based on the table above, the community waste management activities in Sungai Dama Village have shown that 55.26% is good. Safeguarding household waste is the 4th pillar of STBM. The problem of waste has become the culture of the people in this village. Respondents chose the yard or vacant land to be used as a garbage dump and then burned.

5. STBM description based on liquid waste management activities in Sungai Dama Kelurahan Village

Liquid waste	Amount	%
Well	51	67.11
Not good	25	32.89
Total	76	100

Based on the table above, it shows that the liquid waste management activities in Sungai Dama Village show 67.11% are good. Safeguarding household liquid waste is the 5th

pillar of STBM. There are several things that hinder the achievement of this pillar where only a small number of people have liquid waste infiltration tanks. The rest of the community drains their liquid waste into a sewer to the river. Territorially, the river in this village is the estuary for the disposal of liquid waste from households. This requires coordination between the district and city governments of Samarinda.

The strategy of community empowerment by raising public awareness of the importance of wastewater infiltration tanks is an achievement point in pillar 5 of this. People do not understand the impact if draining waste into the river will cause river pollution.

CONCLUSION

1. Of the 76 respondents who succeeded in stopping open defecation, 52 families (68.42%) and 24 families (31.58%).
2. Washing hands with soap shows that 53.95% of respondents have done it well.
3. The management of drinking water and food shows that 63.16% of respondents have done well
4. Securing household waste shows that 55.26% is good
5. Household liquid waste security shows that 67.11% is good

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NURSE THERAPEUTIC COMMUNICATION WITH PARENTS' ANXIETY IN TREATMENT OF INTENSIVE PHASE CHILD TB

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ABSTRACT

Anxiety causes parents not to be able to take care of their children properly and it will even cause children to become more anxious. Parental anxiety related to the treatment of children's TB in the intensive phase makes parents stressed and uneasy. Conditions like this should not occur because treatment for children's TB must be done. It will cause complications if it is not done. To overcome parental anxiety is by using therapeutic communication. The purpose of this study is to determine the relationship between nurses' therapeutic communication and parental anxiety in the treatment of children's TB in the intensive phase. The method used is a quantitative study using an analytic observational design with a cross sectional design of 30 respondents from parents of children with consecutive sampling techniques. Data analysis method uses chi-square test. The results of the characteristics of respondents aged between 20-30 years are 17 (56.6%), gender are some 18 (60%), education level are 13 people (43.3%). Therapeutic communication nurses showed good communication as many as 23 (76.7%) while the level of anxiety of parents of children showed a moderate level of anxiety 17 people (56.6%). Statistical test results obtained p value = 0.08 ($p < 0.05$). The conclusion is that there is no relationship between nurse therapeutic communication and parental anxiety in treating children with TB in the intensive phase.

Key words: nurse therapeutic communication, parents of children, tb treatment in the intensive phase.

INTRODUCTION

Therapeutic communication is communication made by nurses when performing nursing interventions and providing therapy to the client's healing process (Nurhasanah, 2010). Nurses who have therapeutic communication skills will easily establish relationships, trust with clients, and prevent legal problems, and provide professional satisfaction in nursing services and hospital image. Circumstances that indicate that therapeutic communication occurs, namely if in communicating with clients, nurses get clear conditions about the condition of the client being treated, regarding the signs and symptoms that are displayed and complaints that are felt, so that they can determine nursing problems and nursing actions to be taken (mubarak, 2011). Therapeutic communication aims to develop everything that is in the patient's mind and self in a more positive direction which will later be able to reduce the burden on the patient's feelings in dealing with and taking action about his health. Nurses are an important component in the nursing process who are required to be able to communicate well. Communication in a nursing process, communication is a tool for nurses to be able to influence the behavior of patients in the

implementation of nursing care. In providing nursing care, therapeutic communication can play an important role in solving patient problems. Therapeutic communication is communication that is well established and aims to heal or at least relieve and can make the patient feel comfortable and ultimately get satisfaction (Yubiliana, 2017).

The delay in the process of providing nursing care can cause an anxiety reaction because it is related to threats to health and well-being. Feelings of anxiety can be caused by fear, frustration, conflict or as a general response to pressure and ignorance. Anxiety is a feeling of fear or anxiety that is uncomfortable and the source of the feeling can be known or not (Sheldon, 2010).

Anxiety can also arise in parents who have children who are hospitalized or who receive treatment for their child's TB in the intensive phase because parents will experience feelings of fear, guilt, sadness, and often face conflict. Children are part of parents' lives so that if there are experiences that interfere with children's lives, parents will feel stressed or anxious (Supartini, 2012). Stressors that can cause parents to worry are caused by bad information about their child's medical diagnosis, and unplanned treatment, it could also be that parents feel anxious about their child's treatment for a long

time by taking TB medication regularly (Apriany, 2013).

Feelings of parents experiencing anxiety result in parents not being able to take care of their children properly and will even cause children to become increasingly anxious (Supartini, 2012). Changes in the behavior of parents who accompany their children will affect the child's psychology. Children will be stressed and affect the healing process because in stressful conditions there is suppression of the immune system so that those who experience mental shock due to a decrease in the immune system will be susceptible to disease so that treatment cannot run well (Apriany, 2013).

In communication with children, nurses will include the role of parents in helping the communication process with children so that correct and accurate information is obtained (Nurhasanah, 2010). Disruption of the cooperation of nurses with children and parents in the process of treating TB in children will be an obstacle in the healing process of pediatric patients, this is one of the impacts that arise due to anxiety in parents with children being treated in hospital. Nurses need to provide therapy to parents in order to minimize feelings of anxiety caused by treatment of children's TB in the intensive period. Treatment of TB in the intensive period causes several side effects that make parents anxious, side effects that can appear include nausea and vomiting, weakness, body itching, joint pain, and dizziness. Based on the observations of researchers at the Putat Jaya Public Health Center, there were several mothers who said that parents could not bear to see their child receiving treatment and a reaction occurred so that the medication was not taken because of vomiting. His son became immune because according to them the medicine was poison for his body.

Treatment of TB in children is carried out with a high commitment, because children must regularly take medication and must not forget, must have regular controls if treatment is not carried out properly, children become resistant to OAT so that treatment can be repeated and this creates trauma for children. Parents as PMO will certainly experience boredom and anxiety in accompanying their children in taking medication, especially if the side effects of the OAT appear, the nurse's role is something that can change the behavior of parents to be able to complete this treatment correctly. With a communicative approach, it will certainly provide a sense of calm for parents in accompanying their children to take TB drugs. Treatment of TB requires cooperation between nurses and parents as well as patience

and sincerity to still be able to embrace the child in completing treatment, with attention and motivation and convincing the child that the child will be able to go through the intensive phase where TB treatment often fails in children.

Based on the problems above, the researchers are interested in knowing the extent of the therapeutic communication between nurses and parents' anxiety in treating children with TB in the intensive phase.

RESEARCH METHODS

This study uses a quantitative study with an analytical observational design at the Putat Jaya Health Center using a cross sectional approach (cross-sectional) which was carried out from 30 August 2018 to 18 September 2018. The population in this study was the parents (father or mother) of pediatric patients. who received treatment for pulmonary TB in the Intensive Phase. Sampling was carried out using a non-probability sampling technique (non-random sample), namely the selection of samples was not done randomly using a consecutive sampling technique. The sample taken in this study was based on the inclusion and exclusion criteria made by the researcher totaling 30 respondents. The instruments used in this study were informed consent, the Zung Self-Rating Anxiety Scale (SAS/SRAS) questionnaire, and the nurse's therapeutic communication questionnaire.

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RESULTS AND DISCUSSION

TABLE 1: CHARACTERISTICS OF RESPONDENTS' PARENTS

AT PUTAT JAYA PKM		
Characteristics	N	%
USIA		
20-30 Tahun	17	56,6%
31-40 Tahun	8	26,6%
41-50 Tahun	5	16,65
GENDER		
Man	12	40%
Woman	18	60%
PENDIDIKAN		
Primary school	6	20%
Junior High School	9	30%
Senior High School	13	43,3%
University	2	6,6%
Total	30	100%

Source: Processed Primary Data 2018

Based on the analysis in table 1, it is found that most of the parents of child patients are 20-30 years old in the early adult category as many as 17 respondents with a percentage of 56.6%, and most of the parents of child patients are female as many as 18 respondents with percentage of 60%, when viewed from the level of education as many as 13 respondents with a percentage of 43.3% high school education.

Table 2: Distribution of the Application of Therapeutic Communication for Nurse Putat Jaya PKM, Surabaya.

CHARACTERISTICS	N	%
Good	23	76,7%
Bad	7	23,3 %
Total	30	100%

Source: Processed Primary Data 2018

Based on the analysis of data in table 2 of 30 respondents showed therapeutic communication of nurses at the Putat Jaya Public Health Center was in the good category of 23 people (76.7%).

Table 3: Distribution of Anxiety Levels of Parents of Child Patients at Putat Jaya PKM

Karakteristik	N	%
Normal	5	16,6%
Medium	17	56,6%
Light	8	26,6%
Total	30	100%

Based on the analysis of data in table 3 of 30 respondents on the level of parental anxiety, parents of child patients experienced moderate anxiety as many as 17 respondents with a percentage of 56.6% and mild anxiety as many as 8 respondents with a percentage of 26.6%.

Table 4 Cross-tabulation of Therapeutic Communication of Nurses with Parental Anxiety in the treatment of TB in children in the Intensive Phase at Putat Jaya Surabaya PKM

Characteristic s	Anxiety			Total	P
	Normal	Ligh t	Medium		
therapeutic communicatio n					
Good	5	4	14	23	0,08
Bad	0	4	3	7	
Total	5	8	17	30	

Sumber : Processed ChiSquare (2018)

Based on the analysis of the data in table 4, it shows that the therapeutic communication of nurses in the good category is as many as 23 respondents with a percentage of 76.7%, and the poor category is as many as 7 respondents with a percentage of 23.3%. The anxiety level of the parents of the child patient showed anormal level of anxiety asmany as 5 respondentswith a percentage of 16.5%, a mild level of anxiety as many as 8 respondents with a percentage of 26.6%, and a moderate level of anxiety as many as 17 respondents with a percentage of 56, 6%. The results of statistical tests of the relationship between nurses' therapeutic communication on the anxiety level of parents of pediatric patients have a value of = 0.08, so it can be concluded that there isno relationship between nurses' therapeutic communication with parents' anxiety levels in TB treatment of pediatric patients in the intensive phase.

DISCUSION

Characteristics of Parents Respondents at Putat Jaya PKM, Surabaya.

Based on the characteristics of the parents' age, it shows that most of the parents' ages of children 20-30 years are 17 people (56.6%) with moderate anxiety as many as 17 people. According to Stuart and Sundeen in Sugihartiningsih (2016), people who have a younger age will more easily experience anxiety than older people. According to Puri, Laking, & Treasaden (2011) anxiety disorders usually occur starting in early adulthood, namely the age of 15 and 25 years, but will continue to increase after the age of 35 years. After the age of 35 years, individuals tend to experience depressive disorders. Seeing between facts and theory there are similarities, age is also related to a person's experience in dealing with stressors caused. The older a person gets, the easier it is to adapt to the stressors caused.

Based on the characteristics of the gender of the parents showed the sex of the parents is mostly female, namely 18% (60%) with moderate levels of anxiety

According to Puri, Laking, & Treasaden (2011), that someone who is female is more likely to experience anxiety disorders than men with a ratio of 2:1. This is due to factors that can cause anxiety. The results of this study are in line with Audina's research (2017) which shows that the parents of child patients are female, totaling 38 respondents with a percentage of 86.4%, while the sex of the parents is at least male, amounting to 6 respondents with a percentage of 13.6%. Women are significantly more likely to experience anxiety than men. According to Stuart and Sundeen in Sugihartiningih (2016) if their child is sick, women will be more prone to anxiety than men because women's emotional levels are higher than men.

Based on the educational characteristics of the respondent's parents, the highest education level is SMA as many as 13 people with moderate levels of anxiety. The results of this study are in line with the research of Sugihartiningih (2016) which shows that based on the last education level of the parents of child patients, it shows the distribution of respondents, most of the respondents whose last education level was high school, as many as 17 respondents experienced moderate to severe anxiety. According to Vellyana (2017), which states that the level of education can cause a person to easily experience anxiety. The level of individual education affects the ability to think. The higher the level of individual education, the easier it is to capture new information and think rationally, so the higher a person's education, the higher one's knowledge. Looking at the facts and theory, there are similarities that this level of education greatly affects the way a person understands, understands and thinks in capturing the information provided.

Distribution of Nurse Therapeutic Communication Characteristics at PKM Putat Jaya PKM, Surabaya.

This study shows that the therapeutic communication applied by the nurses of the Putat Jaya Public Health Center Surabaya is mostly in the good category of 23 people with a percentage of 76.7%. The application of therapeutic communication shows that good application is obtained by parents of child patients, namely when the nurse introduces herself at the beginning of the interaction, when the nurse explains about treatment, treatment methods, drug side effects, control discipline and the conditions that must be needed to take action, when the nurse explains what is allowed and what cannot be done, and when the nurse explains the plan, when and where the action will be taken for the next meeting.

These results are in line with Febriani's research (2015) which shows that the description of therapeutic communication shows good results with a percentage of 83.3%, with a total of 30 nurse respondents, and shows a good level of patient satisfaction with a percentage of 81.4% with a total of 43 patient respondents.

Therapeutic communication is communication made by nurses when performing nursing interventions and providing therapy in the client's healing process (Nurhasanah, 2010). Therapeutic communication is communication that nurses do consciously, goals and activities are focused on healing clients by helping explain to clients to reduce the burden of feelings and thoughts and reduce doubts (Afnuhazi, 2015). Therapeutic communication does not only carry out nursing actions but in communication carried out by nurses also has medicinal value (Stuart and Sundeen, in Akbar 2016). Looking at the facts and theory, there are similarities that therapeutic communication is carried out by nurses well, because in applying communication nurses can position nurses not in a busy condition, the place or space used to communicate is very calm so that what is informed by the nurse can be understood by parents. child. Communication made by this nurse can also affect the level of anxiety of parents of child patients due to frequent interactions between nurses and parents of children during children getting TB especially during the intensive period.

Distribution of respondent characteristics Anxiety level in Putat Jaya PKM

This study shows that the anxiety level of parents of child patients experienced moderate level of anxiety as many as 17 people (56.6%). According to Supartini (2012), anxiety can arise in parents who have children who receive hospital treatment. Anxiety can be felt by parents while waiting for information about the diagnosis of their child's illness, feeling unfamiliar with the hospital environment, and previous experiences of parents.

Anxiety is subjective, everyone will feel different anxiety in each parent of child patients. Nurses need to apply good therapeutic communication techniques in order to reduce the anxiety level of parents of child patients by using therapeutic communication techniques, parents will feel that nurses also pay attention to parents of child patients by providing solutions and suggestions for problems faced by parents in decision making.

Cross tabulation of therapeutic communication with parental anxiety in the treatment of TB in children in the Intensive phase at Putat Jaya PKM

This study shows that the therapeutic communication applied by nurses at PKM Putat Jaya Surabaya is mostly in the good category with a percentage of 76.7%. The application of therapeutic communication shows the results of the level of anxiety in normal anxiety levels 5 people, mild anxiety 4 people and moderate anxiety 14 people, with statistical tests using Chi-Square showing results > 0.08 which means

there is no relationship between nurses' therapeutic communication with anxiety levels parents in the treatment of children's TB in the intensive phase.

Based on the results of the study, it shows that parents who experience moderate anxiety, nurses need to improve therapeutic communication, especially when nurses build a trusting relationship while introducing themselves, explaining the purpose of the action to be taken, using verbal and non-verbal communication, and asking the child's feelings about the actions that have been taken. done and explain where the action for the next meeting.

Based on the results of anxiety research that poor communication is applied to parents who experience mild to moderate anxiety on the signs and symptoms of parents of child patients, namely when they feel anxious than usual, feel nervous, panic easily, feel worried, feel arms and legs shaking, often dizzy. head, and when you feel like fainting. According to Supartini (2012), the feelings of anxiety of parents of child patients arise, among others, due to the previous experience of parents who are felt to cause trauma. Traumatic previous experiences can be experienced due to the occurrence of previous unfavorable things such as a relative who died from TB disease and bad interactions with health workers.

Therapeutic communication can help clients to reduce the burden of thoughts and feelings, and can take action or decisions, by encouraging parents to talk, focusing the conversation of the patient's parents, listening, reassurance, formulating joint problems, and providing clues about possible things that will happen. (Nurhasanah, 2010).

CONCLUSION

Based on the results and research analysis, in general it can be concluded that:

1. Characteristics of the Age of Parents of Child Patients Are 20-30 years old as much as 56.6% Most of the parents of child patients are female (60%), and the level of education (43.3%) has high school education.
2. The Application of Therapeutic Communication Applied by Nurses and Parents of Child Patients Mostly in Good Category (76.7%).
3. Anxiety Levels of Parents Children Patients Experience Moderate Anxiety Levels (56.6%)
4. There is no relationship between therapeutic communication between nurses and parents' anxiety in TB treatment in the intensive phase with a value ($p = 0.08$).

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