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Higher Order Thinking Skills (HOTS)-Oriented Teaching for Enhancing Student's Science Process Skills in Madrasah Tsanawiyah

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Abstract. This study aimed at improving the student's science process skills through Higher Order Thinking Skills (HOTS)-Oriented Teaching in MTs Al-Khairiyah Tegallingsah. The benefit of this research is being able to provide experience in using thinking skills to improve students' science process skills so that concepts are truly mastered. This study was a Classroom Action Research which was conducted in two cycles, in each cycle including in a planning, an action, an observation or evaluation, and reflection. The subjects of this study were 30 students of class VIIIA of MTs Al-Khairiyah Tegallingsah in academic year 2018/2019. The objects of this study were higher order thinking skills (HOTS)-oriented teaching and student's science process skills science. Students' science process skills data were obtained through the test and observation. Data were analyzed descriptively. The result of the study showed that higher order thinking skills (HOTS)-oriented teaching approach improved student's science process skills of class VIIIA MTs Al-Khairiyah Tegallingsah 2018/2019 school year with an average value of 70.7 in the good category with classical completeness of 76.0% in the first cycle and the average value of 81.0 was in the good category with classical completeness of 86.0% in the second cycle.

Keywords: HOTS, science learning, student's science process skills

1. Introduction

The 21st century education is oriented toward the development of character, competence, and literacy (Yousef, 2016). Students are expected to be able to face the problems of the real world that involve higher order thinking skill (HOTS), creativity, innovation, communication, collaboration, and problem solving in the process of learning. Students as critical thinkers need information organizing skills and dispositions that will occur discussed afterwards (Hamied, 2020). However, many educators worry about the fact that students don't seem to have the critical thinking skills needed to face the challenges of the world today (Asraf, 2018). Sadia, Suastra, & Tika (2003) argues that thinking skills can be differentiated into two categories, i.e., lower order and higher order thinking skills. Both of them are parts of the cognitive domain. The aim of the 21st century education is to prepare students to master the skills that are needed to meet the challenges in their lives.

The 2013 Curriculum is an improvement of the previous curriculum. The government did it with the hope that it has a positive effect on the quality of education in Indonesia. One of the steps that can be taken to improve the higher order skills is by implementing the 2013 Curriculum (Widiawati, Joyoatmojo, Sudiyanto, 2018); (Retnawati, Djidu, Kartianom, Apino, & Anazifa, 2018). Furthermore, the 2013 Curriculum stresses the importance of integration in

science teaching. Teachers can enhance HOTS in the students through the science teaching and learning process (Tajularipin, Vickneswary, Diwiyah, Raidah, & Suzieleez, 2017). HOTS makes the students able to see concepts holistically and have an effective thinker's attitude (Shukla & Dungsungnoen, 2016). The students with HOTS can learn, enhance their performance, and reduce their weaknesses (Suyanta, Endang, Eli, Anggi, & Sri, 2017). A person with HOTS not only has the ability to analyze, evaluate and create, but also has control of the plan selected, and can adapt himself or herself to various contexts (Widiawati, Joyoatmojo, & Sudiyanto, 2018); (Ahmad, Prahmana, Kenedi, Helsa, Arianil, & Zainil, 2017).

The reality shows that the condition of education in Indonesia nowadays is very bad. Education in Indonesia has a low competitiveness and is less relevant to the progress and development in science and technology. The low quality of Indonesian education has been indicated by some researches and assessments. The research done Sadia, Suastra, & Tika (2003) showed that 95% of the specific teaching objectives written by the physics teachers in the regency of Buleleng are oriented toward the mastery of science products and only 5% toward science process skill. The methods used by the science teachers are lecturing (70%), discussion (10%), demonstration (10%), and experiment (10%). This condition makes the students passive in learning. The teaching process starts with the orientation and presentation of information related to the topic, the giving of problems and the administrating of tests (the conventional model). In addition, laboratory activities such as formulating problems, formulating hypotheses, doing experiments, collecting data, and making conclusions are rarely done.

The low quality of education in Indonesia is reflected from International study results. The results of the studies done by Program for International Student Assessment (PISA) from 2000 to 2015, showed that Indonesia always got a score below average. In 2000, Indonesia had the 38th ranking of 41 countries with the mean score of 393. In 2003, Indonesia had the 38th ranking of 40 countries with the mean score of 395. The increasingly serious thing occurred in 2009 and 2012. In 2009, Indonesia had the 62nd ranking of 64 countries with the mean score of 382. In 2012, Indonesia had the 64th ranking of 65 countries with the score of 382. Then, in 2015 Indonesia had the 66th ranking of 72 countries with the score of 403 (OECD, 2016).

The still felt problem up to the moment is the low quality of education. This is caused by the problem faced by many students in understanding the contents of the curriculum that tend not to be contextual. Learning success is not only influenced by the ability of teachers and students but the environment also has an important role in this (Weda, 2018). In addition, the teaching and learning activities done at the school are those of the conventional teaching method. The teaching process used gives more stress on the mastery of materials through lecturing method that needs less role and participation from the students. The role of the teacher as mediator is very limited. Science teaching according to the students is still regarded as products, i.e., as a set of concepts that have to be memorized and this results in the low ability of the students in the cognitive aspect. The cognitive aspect consists of six aspects, i.e., remembering, understanding, applying, analyzing, evaluating, and creating. However, in reality, the higher levels such as understanding problems, designing an investigation or an experiment autonomously, analyzing a problem, and creating have not yet been able to be given in the form of practices to the students. The students still find it difficult to apply the knowledge that they have in their daily lives. The students also have not yet been able to solve a problem that is preceded by an investigating activity. If the principle of this problem solving is implemented in the teaching, the students then can be trained to make it their habit to use HOTS

autonomously so that this can enhance their science process. Process skill is the method of science that consists of formulating a problem, formulating hypotheses, designing an experiment, or an investigation, collecting data, analyzing data of the experiment, and drawing a conclusion (Retnawati, Djidu, Kartianom, Apino, & Anazifa, 2018).

Roughly, the cause of the students' low process skill is caused by the students themselves, the teachers, and learning environment (Haryati, Manurung, & Gultom, 2017). The learning ability of the students is very crucial in the learning process. In the learning process, there are some factors that affect it, such as good school climate, achievement motivation, attitude, interest, learning habit, and self-concept have their effects on the student's science process skill (Surayanah & Karma, 2018).

Based on the gap that has been described above, then there is a need to improve the teaching activities through improving learning resources, classroom atmosphere, infrastructure and facilities, and teacher's basic teaching abilities. A good teaching process is influenced by the teacher's ability to manage the teaching. One of the efforts to develop skill process can be done by following the teaching process that contains activities that are oriented toward the use of HOTS.

Some problems above were faced at MTs. Al-Khairiyah Tegallingsah. They could be addressed by implementing a teaching that was oriented toward HOTS. One of the science teaching activities was experiment or practicum. The practicum or experiment process is a HOTS process, in this case, in analyzing, synthesizing and evaluating. The questions in the experiment involve the development of various hypotheses about the physical or psychological phenomenon, doing various experiments, and analyzing the results. An investigation is similar to an experiment question but involves various past events, current events, and future events. Unlike the experiment question that has particular regulations for proving based on statistical analysis, investigation needs various logical arguments. In an experiment question, the students observe and directly record data on the phenomenon. In investigating, information is not directly obtained. Information comes from researchers and various opinions of other people through writing, conversation, and other activities. In learning students are expected to communicate well (Estaji, 2020). Gradually, through the experience, the students become wise problem solvers, decision makers and life-long learners since the higher level cognitive abilities help them to become autonomous learners.

Based on the explanation above, then this study was intended to study HOTS-oriented science teaching as an effort to solve problems faced in class VIIIA MTs Al-Khairiyah in the school year 2018/2019. The title of this study is Implementing HOTS-Oriented Science Teaching to Enhance Science Process Skill of the Students of Class VIIIA at Madrasah Tsanawiyah (MTs) Al-Khairiyah Tegallingsah in the School Year 2018/2019.

2. Methods

This study was to the Classroom Action Research that aimed at enhancing the science process skill of the Class VIIIA MTs Al-Khairiyah Tegallingsah in the school year 2018/2019. The study was done in two cycles. Every cycle consisted of four phases: planning, action, observation/evaluation, and reflection.

The subjects of this action research were the class VIIIA MTs Al-Khairiyah Tegallingsah in the school year 2018/2019, totaling 30 students, consisting of 14 males and 16 females. The objects of this research were HOTS-oriented science teaching and science process skill.

The HOTS process skill data were collected with a test, consisting of a) formulating problems, b) formulating hypotheses, c) deciding on the instruments and material d) determining work steps, e) analyzing data from the result of the experiment and f) drawing a conclusion. The science process skill was measured with a process skill observation sheet that covers: a) use of instrument and material, b) collect data and c) communicating the result. The data were analyzed descriptively.

The criterion of success for this study was the mean score of the students' science process skill was at least 85%.

3. Result and Discussion

The teaching steps in the first cycle were as follows. At the beginning of the lesson, the teacher greeted that students which was continued with the checking of the students' attendance, informing the basic competencies and learning indicators, and checking the readiness of the students to learn. The next activity was directed to the steps of implementing the HOTS oriented teaching. Before concluding the lesson, the teacher informed the students about the sub-topics of the following meeting and gave the students motivation to learn more diligently and the teacher concluded the lesson by a greeting. Students are encouraged to pursue mastery goals and adopt deep learning strategies (Obura, Kinai, & Ndambuki, 2019).

Table 1. Description of the Results of Students' Science Process in Cycle I

Mean	68.33
Standard Deviation	6.6
Highest Score	75
Lowest Score	53
Frequency < Min. Passing Grade	21
Frequency > Min. Passing Grade	9
Class Passing Grade	70%

Table 1 shows that the science process skill in this first cycle was not successful, since the class passing grade was 70%, below the determined standard.

At the beginning of the teaching in the second cycle, the teacher gave an emphasis again on the steps of the learning process. The teacher said the opening greeting, followed by checking the students' attendance, informing the basic competencies and learning indicators, and checking the students' readiness to learn. The following activities were directed to the steps of implementing HOTS-oriented teaching. Before concluding the lesson, the teacher informed the students about the sub-topic to be learned at the following meeting and gave the students motivation to learn more diligently and the teacher concluded the lesson with a greeting.

Table 2. Description of Results of Students' Science Process Skill in the second Cycle

Mean	76
Standard Deviation	6.4
Highest Score	89
Lowest Score	67
Frequency > Min. Passing Grade	26
Frequency < Min. Passing Grade	4
Class Passing Grade	87%

Table 2 shows that the science process skill in the second cycle was successful, since the class passing grade was 87%, exceeding the determined class passing grade.

Based on the analysis of the scores of process skill obtained by the class VIIIA students at MTs Al-Khairiyah Tegallingsah in the first cycle (68.33 (Min. Pass. Grade =70.0); Standard Deviation = 6.6; Class Passing Grade = 70%. The results obtained by the students in the first cycle can be said to be unsuccessful, since the Class Passing Grade for the students' science process skill was still below the determined standard. The failure to obtain the Class Passing Grade in the first cycle was caused by : 1) the students were not yet familiar with a HOTS-oriented teaching that demands the students to be active, for example, in the discussion activities their knowledge was found to be low; 2) the students had not been familiar with formulating the problem and making hypotheses, 3) the students were not familiar with the activity of preparing tools for use in an experiment, using tools, instruments and material, observing and recording data, and drawing a conclusion of the result of the experiment. 4) in every meeting the researcher gave less time for presenting the experiment result, however, the students had got the courage to express their opinions at the time of the discussion. The revisions done for example:1) by giving a direction and guidance to the students intensively at the discussion time, the discussion was related to the students' prior knowledge, 2) by giving problems related to daily life, and 3) Student worksheets would be more useful if they are given some days before the teaching process in the class was done, in order that short time of 3 hours of lesson can be used maximally to investigate, to prepare solutions and to evaluate, and 4) by giving motivation to the students in order they can be more enthusiastic to express ideas when participating in a classroom discussion or presentation.

Based on the revisions that had been done, in the second cycle there was an increase in mean score in science process skill (76) while Class Passing Grade = 70.0); Standard of Deviation = 6.4; Class Passing Grade obtained = 87%. If compared to the results of action in cycle I, the students' science process skill in the second cycle undergone an increase. This shows that the HOTS oriented teaching process can improve the students' science process skill.

This occurred because the implementation of the HOTS oriented teaching gave more opportunities to the students to develop skills and thinking patterns in developing science process skill. Every step in the HOTS oriented teaching gives the chance to the students to develop their activities optimally. The development of students' activities can be done when the students are discussing in a group, presenting the discussion results, asking questions during the classroom discussion, and answering questions during the evaluation phase, so that the implementation of HOTS oriented teaching was related closely on the students in the learning process. Learning in groups causes students to be actively involved, students feel they have something in common, so they support and motivate each other (Abidin, Masitoh, & Bachri,

2019). Achieving shared goals, students are carried out in a solid and mutually supportive collaboration which indirectly increases student motivation. This conforms to Hassan, Mustapha, Yusuff, & Mansor (2017) and Yousef (2016) that the teacher gave examples of high-level questions, the teacher masters high-level thinking skills, the teacher believes in the right strategies and methods used in the learning process, and there are a set of guidelines in the learning process. Besides that, Harlen (1992) and Sund & Trowbridge (1973) states that process skill is a scientific activity or a practice activity that starts with observation, hypothesis, and investigation of the surrounding world and developing understanding. The classroom teaching was fully centered on the students, and the students had the highest probability to interact with other students, through cooperation in groups and understanding a concept in solving problems in a heterogeneous group will give the great opportunity to the students to attain an optimum science process skill. Collaborative learning strategies in accordance with the understanding of social constructivism, in learning students are involved in the construction of active knowledge in discussion, meaningful learning and no element of competition (Bii, 2019); (Zetriuslita & Ariawan, 2017).

Based on the results obtained, in general this classroom action research can answer the problems that have been formulated and reached the expected objectives. The implementation of the HOTS oriented teaching can enhance the students' science process skill.

Based on the results of reflection that has been done, the implementation of the HOTS oriented teaching gives a positive effect on the implementation of teaching as follows.

1. In attempting to enhance science process skill schools, especially teachers colleges should change the paradigm of teaching from teacher centered paradigm to student centered paradigm. The role of the teacher as the one who directs should not lecture the students too much, but directs them to an experiment at the time of solving problems in order not to deviate from the learning objectives. The teacher as facilitator should facilitate the students with facilities in the learning activities. This shift of paradigm will give opportunities to the students to be more active in constructing their own knowledge.
2. The result of the study shows that the HOTS oriented teaching is effective in enhancing science process skill. This is caused by the characteristics of the HOTS oriented teaching that put more emphasis on the problems that have to be investigated and need requires that the students have prior knowledge on the problems. As the consequence, the teaching process at school should be based on the students' experiences.
3. Conditioning the students in learning in groups in which they interact with the teacher and friends so that the attainment of the students' passing grade will meet the expectation.
4. Training the students' social skill so that they want to share knowledge and accept their own weaknesses and their friends' weaknesses.
5. The students' sense of responsibility is developed since the students learn in groups and all the students are responsible for their success of the group.

The implementation of the HOTS oriented teaching also has constraints during the teaching process as follows.

- 1) The students were not yet used to formulating problems and making hypotheses.
- 2) The students were not yet used to preparing tools and instruments used in the experiment, using the tools and instruments, material, observing and recording the data, and drawing a conclusion about the result of the experiment.

- 3) In every meeting, the researcher gave less time in presenting the results of the experiment, but the students were brave in expressing ideas at the time when the discussion took place.

4. Conclusion and Suggestion

Based on the results of the study and discussion that have been explained, then it can be concluded that the implementation of the HOTS oriented science teaching could enhance the process skill of the science students of class VIIIA at MTs Al-khairiyah Tegallingsah in the school year 2018/2019. In the first cycle, the mean score of the aspect of science process skill in the first cycle was 68.33 (Class Passing Grade =70.0); the standard deviation = 6.6; Class Passing Grade achieved = 70%, while in the second cycle, there was an increase in the mean score of the science process skill of 76% (Class Passing Grade =70%). While, in the second cycle, there was an increase in the science process skill of 76 (Class Passing Grade = 70.0); the Standard Deviation = 6.4; the classical passing grade = 87%.

Schools are expected to be more intensive in socializing the HOTS oriented teaching to the teachers in order the students can be more accustomed to investigating problems in a variety of sciences. Besides, schools have to optimize laboratory facilities, in order that the laboratory can support the teaching process with experimental activities optimally.

Teacher can implement the HOTS oriented teaching as a model alternative for the constructivist-based teaching during the classroom teaching. This aims to enhance the students' learning achievement especially their science process skill. The HOTS oriented teaching is suitable to be implemented in the topics that are more procedural. The implementation of the HOTS oriented teaching can be done in other lessons that have the topics with that characteristic.

The science process skill test and observation used in this study are based on nine indicators. The results of the study showed that the lowest mastery was found in the indicator of formulating hypotheses in the teaching process it is hoped that the teacher gives more emphasis on the aspect of formulating hypotheses by using the students' prior knowledge in order they are able to accommodate the knowledge that they have and the knowledge that they will acquire after the learning process. Student's Worksheets should be distributed some days before the teaching process is implemented in the classroom in order the limited time (3 periods) can be used maximally to investigate, find solutions and evaluate.

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Diving Deeper into Zonation System in Indonesian School Admission System

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Abstract. Zonation or zoning system was a new school admission system that has been implemented twice in Indonesia. This system has different procedures and regulations from previous systems in how children are accepted in public schools. This procedure has been a debatable issue within the society that affects its' perspectives toward education system. The present study aimed at describing the zoning system on school admission, teacher's and parent's perception toward the system as well as describing the problems faced by school management system in implementing this new system. Data used in this study were collected through questionnaires distributed online to junior high school teachers and parents. The results of questionnaires showed that teachers and parents have different perspective on the system though they understand this system and why this is implemented. Teachers perceive that the system is good enough to be implemented to reach the education equity. But in its implementation, school management faces some problems. They are (1) parents who are not able to utilize the internet since the system requires them to use the internet in the admission process, (2) sudden change of students' domicile in the family card because the school admission is based on the domicile listed on the family card, and (3) regions that only have 1 school became overcapacity. On the other hand, parents perceive that the system is not effective and it needs to be reviewed by the government.

Keywords: zoning system, school admission, teacher's perception, parent's perception

1 INTRODUCTION

School admission system in Indonesia is entering a new stage. Formerly, the school admission system in Indonesia was problematic since there was a lot of "selling and buying chair" practice (1). "Selling and buying chair" practice was a common phenomenon in the school admission system. Parents could easily buy a chair for their son or daughter in a reputable school, while children who were from low household welfare family would not be able to afford the school. Some schools may do entrance exam as a part of admission process. But according to the research done by Yildirim (2010), the entrance exam brings some negative effects on students' performance in the first year classes which indicates that the entrance exams are not proper to be implemented in the admission process. Those were considered a

serious problem in the Indonesian Educational System. Concerning on solving the problems existing in the school admission system, in 2018, the Indonesian Ministry of Education and Culture through regulation number 51 the year 2017 implemented a new school admission system that is called zonation system.

The regulation of the Indonesian Ministry of Education and Culture number 51 the year 2018 which was revised into the regulation of the Indonesian Ministry of Education and Culture in Indonesia number 20 the year 2019 arranges all the details of the zonation system that should be implemented by schools in Indonesia started from the primary schools to the senior high schools. It is stated that all schools that are run by the Indonesian government have to implement this kind of system. According to the regulation, the zonation system intends to improve the quality of education in Indonesia in which all children in Indonesia can afford the best quality of education.

However, the implementation of zonation system still brings some dilemmas since the concept of zonation in the school admission system is puzzling for some parties, especially parents. The issues regarding to the zonation system are well recorded by some mass media in Indonesia. Kumparan (June 24, 2019) noted that there were some undergraduate students did a demonstration in front of the office of Education Office in Surabaya. They believed that zoning system would create a new gap between high and low household welfare families. In other words, zoning system would create a new group of families whether it is a group of rich people or a group of low-income families. Another chaotic state also happened in Denpasar Bali. Bali Tribunnews (June 29, 2019) recorded that there were teens of parents protested the system since they found some errors in the registration process.

The gap between what is expected by the Indonesian government and the real situations of the implementation of zoning system got to be the reason why this research was conducted. Even though zoning system implemented in the second year was found more effective than the first year, but it was found not effective based on the society's effectiveness indicators (Purwanti, Irawati, & Adiwisastro, 2018). The clear information about zoning system implemented currently in Indonesia needs to be described in order to give a brief yet clear insight for students, teachers and parents. Besides, this research also intended to dig out the teachers and parents' perception toward the implementation of zoning system. Furthermore, the problems faced by schools and parents in the implementation of zoning system were also found out through this research.

2 LITERATURE AND EMPIRICAL REVIEW

Zoning system has been defined as a geographical based students' recruitment (McCulloch, 1991). The students' admission system is based on students' domicile. The students who are accepted in a certain school are those who are living near that school. Meanwhile, students who are living out of the school's zone are not accepted. This school admission system has attracted people's interests. This issue is still debatable and it has been seen from many different perspectives. Some believe that the zoning system neglects the rights of parents and students to choose the school that they want (McCulloch, 1991). But, some say that this system is beneficial to be implemented.

Dewi & Septiana (2018) believe zoning system affects positively as well as negatively to the growth of students and school itself. There are several advantages and disadvantages of

zoning system. Zoning system creates equals distribution of students. There is no more certain and special cluster of schools. The smart students are not gathered in one certain but, they are distributed equally in all schools in a certain area. It helps the schools to create heterogeneous learning atmosphere. The smart students in a school can motivate slow learners to get better. Besides, zoning system helps the schools that are not required to fulfil the minimum quota of students. It means that it helps them to develop and improve their quality. Then all schools are considered as good quality school and provides good quality of education. The system also brings positive effects to the parents. It reduces the costs that the parents should spend for their kids' education. It also affects the cost for transportation, because by the shorter distances reduces the cost of transportation. It also helps the parents to monitor and supervise their kids during their school time.

In the other hand, the implementation of zoning system also brings some disadvantages that can be considerations in the implementation. The implementation of zoning system may reduce students' motivation in learning since they are not allowed to register to the school they want. They have to enroll in the nearest school although they do not want to be there. Some students learn very hard in order to be able to enroll in the "high quality" school. Yet, the implementation of zoning system makes them could not afford the school they are dreaming of. It also affects students in posing the goals or targets in learning. Before it was implemented, they dreamed to enroll in a desired school which puts high standards and they would learn hard to get there. The implementation of zoning system may bring difficulty for the lower achiever students if the school that is in their area is considered as a high quality school in which it puts very high standards.

Regardless to the advantages and disadvantages of the zoning system, the implementation of this system in organizing the new students' admission are expected to achieve some objectives (4). The objectives of the implementation of zoning system are as follows:

1. The implementation of zoning system provides the best access to education for all students. This system ensures that all people can afford the best education.
2. The implementation of zoning system tries to bring the school environment closer to the family environment by arranging the closest school for the students based on their domicile.
3. The implementation of zoning system eliminates discrimination and exclusivity in education which means there are no more popular schools. All schools have the same chance of getting students.

According to Safarah & Wibowo (2018), a great challenge is still found during the implementation of the zoning system That is difference in term of quality of education in Indonesia. There is a great gap of educational quality among areas in Indonesia. Take an example, the quality of education or school in the capital city is different from the quality of education of schools in rural areas. Indonesian government needs to find out the way to solve this to make the zoning system runs more effective.

A research has been done by Safarah & Wibowo (2018) to find out the effectiveness of zoning system in achieving equity in the Indonesian education system. The research focused on the implementation of zoning system in elementary education in Indonesia. It was found that the implementation of zoning system in the elementary education in Indonesia is an effective way to achieve equity in education. Based on the research, all students have similar

chance to access the best education. The implementation of the system is also considered as motivation for all schools to improve their quality.

3 METHOD

The present study is a qualitative study. Focus of the research are 1). Implementation zonation system in Bali, 2) teachers' perspective and 3) parents' perspective. The techniques of data collection are observation, questionnaires, and interviewing. The data were also supported by the library research. The collected data were analyzed qualitatively by describing the data in detail. The stages of the research were the adapted (Fraenkel, Wallen, & Hyun, 2012) included identification of the phenomenon to be studied, identification of the participants in the study, data collection, data analysis, and drawing conclusion.

4 FINDINGS

The results of data analysis lead to the 3 main problems carried out in this research which are about the implementation of zonation system in Indonesian school admission process, teachers and parents' perception on the zonation system as well as the problems faced by schools in implementing this system. This part of the article describes the results of data analysis.

4.1 The implementation of zonation system in Indonesian school admission process

The first research problem is the implementation of zonation system in Indonesian school admission process. This describes how this system should be implemented according to the official regulation released by the Indonesian Ministry of Education and Culture. Furthermore, this also digs out the reasons why this system should be implemented in all schools in Indonesia. Schools mentioned in the regulation are covering kindergarten, primary school, junior high school, senior high school, and vocational high school. Here are the essential points that should be kept in mind in implementing zonation system.

4.1.1 The admission process should not be discriminative, objective, transparent, and accountable

The admission process that were objective, transparent, accountable, and not discriminative meant that the admission process should not depend on any certain races, religions, economic status, kinship and relationship, and else. All Indonesian children should be able to afford education.

4.1.2 The admission process should be done online

The admission process should be done online to make it easier for both parents and schools to do the registration process. The parents might enroll their children in a certain school anywhere and anytime. In case of certain areas or remote areas which were not equipped their schools with internet connection, the schools would do the admission process manually. The schools were flexible to do the admission process considering on the facilities they had to support the process.

4.1.3 There are 3 ways of admission process

There were 3 ways or systems that could be used in the admission process in each school. It was based on zonation, the children's achievement, and the transfer of their parents' works. The zonation system took 80% of the overall students in an academic year, while there were 15% for the children's achievement, and only 5% for those who follow their parents' transfer due to their works [permendikbud 20]. 80% of school's quota in accepting students was based on students' house distance to school. The closer the student's house, the bigger the chance of being accepted in that school. Measuring the distance between the school and the house was done using Maps application and examined by the admission committee or school. Moreover, students' willingness in joining a certain school was appreciated by providing chance in competing using their achievement. 15% of school quota was allocated for students with outstanding academic and non-academic achievement. Students whose parents were assigned in another district by government had opportunity to join school that close to their house. Schools were allowed to accept 5% of its quota for the children who lived close to the school even though they were not legally registered as the community in that area. The three ways in accepting new students for public schools which using zonation were school admission system implemented in Indonesia.

4.1.4 Zonation system in one of them

Zonation system was one of the methods of school admission which took the biggest percentage among other ways. 80% of students that accepted should be based on the zonation system. The distance of student's house and school was the measurement and used as consideration in examining whether the student was accepted in that school. Based on the regulation, schools were instructed to prioritize the students whose closer to school. The data of the distance between students' houses and school was measured using Google Maps application became a requirement for data to be submitted when they registered. Once the data collected, the examination was conducted to select the students' whose houses were closer and accepted to complete 80% of quota. The implementation of zonation system aimed to provide reachable school for children and building educational equality.

4.1.5 The zonation system is based on student's domicile

Students' domiciles were marked by family card which was published a year before the admission process. The family cards which were published less than a year before the admission process was considered not valid in the admission process. In case a student's family did not possess any family card, they might prove their domicile by attaching a letter written by the chief of a village showing that the family including the students had been living there for at least a year. The students whose domicile in one area or village with the school should be in the priority list.

4.1.6 The coverage areas of zonation system are determined by the government

The coverage areas in the zonation system was determined by the local government by involving a group of principles in order to ensure that all areas in a certain regency were covered in the zonation system. The coverage areas were to make sure that students get accessed into the nearest school. As the acceptance was based on the distance between house

and school, students who registered will be examined based on the distance from house to school. The clear division of the areas to the available public schools was compulsory to make sure all children and parents know which school is available for them. Thus, coverage areas of zonation were determined by the government as an official institution that had the complete informative data to release the regulation.

4.2 Teachers and parents' perception on the implementation of zonation system

To answer the second research problem regarding the teachers and parents' perception on the implementation of zonation system, the researchers distributed online questionnaires to 16 junior high school teachers and 6 parents who's their children enrolled in junior high schools. The results of the analysis were described below:

4.2.1 Teachers' Perception

The first item in the questionnaire asked whether the teachers understand the concept of zonation system. There were 31.3% teachers were strongly understood the concept of zoning system and 37.5% understood the concept of a zoning system. Meanwhile, 12.5% neither agreed or disagree on their well understanding of zoning system, 6.3% did not understand and 12.5% were strongly did not understand the concept of zonation system. In understanding the requirements and regulations of the implementation, 25% of teachers were strongly agreed that they had a good understanding on it, 18.8% agree, 25% neither agree nor disagree, 18.8% disagree, and 12.5% strongly disagreed. But most of them (75%) stated that they were strongly agreed that this system was completely different from previous systems applied in school admission.

Another point asked in the questionnaires was the effectiveness of the zonation system. There were 31.3% of teachers stated that they were strongly disagreed that this system was good and effective to be implemented. Meanwhile, 25% of them agreed, 18.8% were strongly disagreed, and 18.8% neither agree nor disagree. Since they thought it was not effective in the admission process, teachers also perceived that this system contributed a challenging school work. There were 25% of teachers were strongly agree that the system had contributed challenging schoolwork, 12.5% agreed, 25% neither agree nor disagree, 25% disagreed, and 12.5% strongly disagreed. They also mentioned that there were some problems raised during its implementation. 62.5% of teachers were strongly agreed that problems arise during the implementation, 12.5% agree and 25% neither agree nor disagree, and none of the teachers disagreed or strongly disagreed. But they believed that this system brings positive impacts of the equity of education. 31.3% were strongly agree that this system gave equality for all children of the same change to enroll the desired school, 12.5% agree, 25% neither agree nor disagree, 6.3% disagree, and 25% were strongly disagreed.

There were thoughts expressed by the teachers regarding the positive things of the zonation system for junior high school admission system. The teachers believed that this system could build an even spread of education, students were spread evenly without any distinct difference between students' achievement and social background among school that could lead to tokenism or discrimination. Another positive value was the students number among schools were not in big gap since schools were only allowed to accept students in coverage area or given quota. The terms of 'favorite school' and 'low quality school' were slowly vanishing and

began to make the society believe that all schools were qualified in educating children. Another positive value was it makes students reach school without travelling far from home. However, there were negative sides of the system during the implementation from the teachers' perspective. This system believed to limit the social development as they joined the school in their community or within their neighborhood. There was no 'favorite school' which required students compete to be accepted and join the school made students felt demotivated in learning.

4.2.2 Parents' Perception

Parents who had children who enrolled in junior high school in 2019 were samples of the study. Parents' perception of the zoning system was gained through an online questionnaire. Six parents volunteered to participate.

There were 50% of parents were strongly agreed that they helped their children in school admission. Since the admission process applied a zonation system, the parents were asked whether they understood the system or not. There were 33.3% of parents strongly agreed that they had known about the system, 33.3% agreed, 16.7% disagree, and 16.7% strongly disagreed. Knowing the admission system was not the only indication of success in the implementation. Understanding the procedures was practically compulsory. Parents were asked about their understanding of the procedure. It was found that parents understood the procedure of the system in which there were 33.3% of parents strongly agreed that they understood the procedure of the system, 16.7% agreed, and 16.7% undecided. Moreover, parents' positive perception toward the system was asked. 55% of the parents strongly perceived that this system was good to be implemented, while there were 16.7% agreed and 33.3 % of them undecided. 50% of them agreed that this system had made both parents and students easier in school admission, 33.3% strongly agreed, and none of the parents disagreed. 50% of the parents believed and 50% strongly believed that this system had contributed equity for all children in enrolling in public schools.

Digging deeper to know parents' perception of the zonation system, open-ended questions were given asking the advantage and disadvantage of the system. Parents stated some advantages of the system. The advantages were their children travelled easier to school, it provided equality for children, students with differ achievement to be spread evenly, and it showed technology as the development of school admission. These are mentioned previously that the zoning system brings equity in the educational system (McCulloch, 1991). However, there were several disadvantages found by parents throughout the process. They were sudden domicile requests, struggle in online registration by some parents, and errors on the online system.

The last point of the questionnaire was asking about parents' suggestions on the system. As they found difficulties in the process, it was suggested that reviewing the system was compulsory to better the system. Making sure the system could be run successfully for the online registration was needed, thus the software needed to be analyzed and maintained.

4.3 Problems faced by schools in implementing zonation system

The teachers involved in this research also mentioned the goodness of the system. They believed that all students had a similar chance of getting a high quality of education and

students did not need to go far to reach their school which could decrease the possibility of getting an accident.

Furthermore, the questionnaires also asked the teachers the problems that their schools faced during the implementation of zonation system. The issues raised during the implementation of zonation system are (1) the only school in a certain area was experienced overcapacity, while the students who were not accepted should enroll themselves in the private schools, (2) parents did not understand completely the zonation system leading to the misunderstanding, (3) there were some parents who got trouble in registration process since they did not understand how to do it online, (4) there were a lot of students living near a certain school who were not accepted in that school because they did not have family card showing they live there for at least a year, (5) some schools were overcapacity since the huge gap in term of quality among the schools, and (6) the schools and government have not equipped the process with the suitable tools and system which made the process got trouble.

5 CONCLUSION

The implementation of the zoning system in Indonesia should be followed some principle to ensure all students in Indonesia can access the best education for their future. But teachers and parents still see and perceives the zoning system in some different perspectives. Some believe that this zoning system is useful which make their children easier in registering themselves in schools. Meanwhile, some of them perceive that the system is worse than the previous one since they do not have any freedom in choosing schools for their children. In the implementation of the system, problems were still found which need to be fixed soon to make the system gets better.

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Error Analysis in Using the Simple Past Tense in Writing Recount Text at ITEKES Bali

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Abstract. The purpose of this research was to identify the common types of errors in simple past tense found in recount text written by students of bachelor of nursing and the causes of errors. In this study, the researcher used descriptive qualitative research. The participants were the first-grade nursing students of bachelor at ITEKES Bali. The data were gathered from the students' writing and interview. The finding showed that there were four types of errors in the students' writing namely (1) error of omission, (2) error of addition, (3) error of selection, and (4) error of ordering. Error of selection was the most error produced by students. The researcher also found out that some errors done by the students were found in the using of regular past and irregular past. From the study, it can be concluded that one of causes of errors was that the students still influenced by their mother tongue (Bahasa Indonesia) and they still had carelessness in writing. Thus, students can practice more in writing recount text and learn more about the rule of simple past tense. Hence, the English lecturers also help the students by improving the understanding of the language system in target language.

Keywords: error, simple past tense, writing

1 INTRODUCTION

Learning English is important to be learned in Indonesia since it has become an international language. It helps people to get better job or they can apply higher education in native English country. In this globalization era, the importance of English cannot be ignored since English is the most common language spoken by the people around the world. By the help of technology development, English has been playing an important role in many sectors including medicine, engineering, education and health. The first reason why English is very important for Indonesian students is helping the students to find a higher quality jobs in the future. In addition, especially for high-quality jobs that need good understanding ability and speaking in English. Mahu (2012) stated that when someone follows a study abroad program, learning English will help him/her to develop English language skills inside or outside the class. In education, people are familiar with four language skills, namely listening, reading, speaking and writing. Listening and reading are categorized as receptive skills, and writing and speaking are categorized as productive skills.

Writing is a way to express ideas, arguments, and opinion in the form of words in sentences. It is used to communicate from one to another by writing. Writing is difficult process for students and it takes time and effort to become skillful in writing. Bayat (2014) mentioned that writing expression is a difficult skill for the students. Westwood (2008) stated that writing is the most difficult because the development of writing requires the effective coordination

which is cognitive, linguistic synthesis, and psycho-motor processes. According to Corder (1967), learners' errors are important in and of themselves. Stenson (1974) states three main reasons for errors, namely, (1) incomplete acquisition of the target grammar, (2) exigencies of the learning/teaching situation, and (3) errors due to normal problems of language performance. For learners themselves, errors are indispensable, since the making of errors can be regarded as a device the learner uses in order to learn.

Error analysis is one of the most significant part of second language acquisition. It examines errors made by L2 learners. Error happens when the learner has lack of information or knowledge about target language. Brown (2010) stated that error analysis is a technique to analyze a learner's errors; they can be observed, analyzed, and classified which reveal something that comes from a system operating within the learner. Error analysis is very important for the lecturer in order to analyze and reveal how far the students understand the target language in learning process. Thus, error plays an important and positive element in learning the target language. Error analysis is needed in order to figure out the student's capability in understanding the knowledge and get information about difficulties in learning the target language. One of the reason why the student makes error in their writing is that they do not understand and mastered the target language yet.

According to Knapp and Watkins (2005) in Natanael, recount text is defined as telling experience of series event. It describes sequences of events which is written by the writer to show what and when it occurred in the past. The aim of recount text is to inform about an event or to entertain people. Researchers focus on the writing skill, because writing is considered the most difficult and complex skill. A student will think repeatedly before expressing their ideas, thoughts or opinions in written form. They must pay attention to words, sentences and paragraphs at the same time to produce a good writing. The importance of understanding the writing skills for students is not only intended in the process of working on a thesis. By writing, student will more active in reading a variety of literature in order to enrich word or vocabulary. According to Kawano Madoka (2013) The need for English to be taught in an ESP approach, to prepare students for future careers, such as caregivers and decision-makers who can counsel patients in English, be leaders and managers in international corporate environments, and researchers and according to Godfrey Chad (2013) students' interest increased because the lesson content was relevant to their professional goals.

ITEKES Bali expects all students and graduates to be able to speak English. The cooperation between ITEKES Bali and partner universities from overseas make the students have to master English. The student and faculty Exchange Program at ITEKES Bali also encourage the student to learn English and they are expected to be able to master four language skill. At the end of the program, the students of ITEKES Bali are required to write a thesis. Abstract is an element that must attach in all types of academic writings, such as scientific articles, thesis, and dissertations. Grammatically, tense that is used in writing abstract is in the form of simple past tense. In writing abstract students are expected to be able to summarize and translate their research. However, students still make a lot of mistakes in writing the abstract, especially in the use of simple past tense. Therefore, the writer wants to analyze and classify errors especially in the use of simple past tense by students of Institute of Technology and health Bali. The purpose of the writer to choose the first-grade student of ITEKES Bali, because "General English" courses are only taught at the first-grade students. It also aims to

detect writing errors earlier, especially in the use of simple past tense in the writing of recount text so that the errors can be corrected.

2 METHOD

This research was in the form of qualitative research. It involves describing, analyzing and interpreting of conditions that exist. In this research, the main data were detailed descriptions of error written by student of ITEKES Bali.

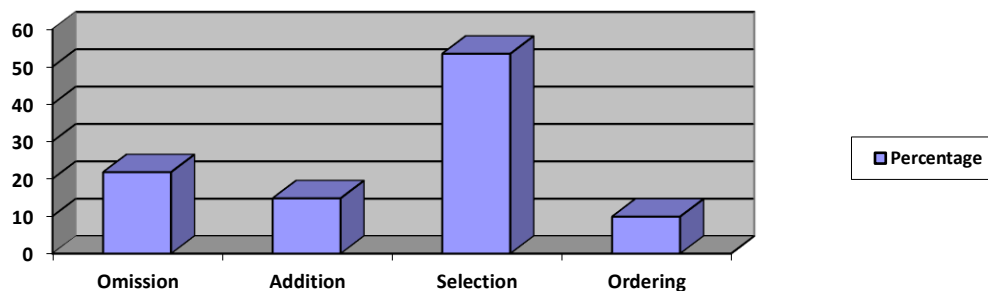
The other data sources were transcripts of interview with the students in order to find out the sources of error. Since this study is a qualitative study, the researcher was the main instrument. The data in this research were collected through two ways, writing test and interview. In this research, semi structured interview was used by the researcher for five students at first grade of ITEKES Bali. It was done to get deep information about the sources of error in writing. The subject of this research were 100 students of ITEKES Bali especially the students at first grade.

The writer conducted a case study. Case studies are detailed examinations of one single subject, document, or certain event. Data analysis from this research is in the form of descriptive statistics. Descriptive statistics provide an overview of the phenomena and situations that exist at the time of the study. To determine the ability of students in writing, researchers collected writing tests on a blank paper given to nursing students. Writing tests made by students indicate the ability of each student in using simple past tense on the recount text. Before giving a writing test, researchers provide an explanation of what they should do on the writing test.

The data collected is in the form of recount text. In this study, researchers used writing tests and interviews with students. Topic of the test is "What Did You Do on Last Weekend". Students must write a recount text about the topic based on 10 questions in the blank paper given. There are 7 questions are used as guidelines to interview with students in order to find out the obstacles that they face in learning simple past tense. It also used to obtain more complete information about the ability of students to understand simple past tense and the mistake made by the students in using simple past tense on recount text.

3 RESULTS AND DISCUSSION

Researcher found many errors in student's writing in using simple past tense, especially in the recount text writing test. The researcher classified students' errors in grammatical aspects. The study only focusses on the types of error. Corder mentions types of error namely Error of Omission, Error of Addition, Error of Selection and Error of Ordering. After collecting the data, the researchers classified the errors using the table and count the number of errors made by students in writing recount text. Furthermore, researchers calculate the error made by student in the form of percentage. Then, the authors graph the writing errors based on calculations.



From the collected data, there were 100 nursing students who had written recount texts. From the analysis of the students' writing, the researcher found 609 errors in the students writing. The first category was omission. There were 21.8% error of omission found in students writing. The second category was addition. There were 14.8% error of addition found. The third category was 53.5% error of selection found. And the last one was ordering. There were 9.9% error of ordering found in the students' writing.

1. Error Omission

After identifying the data, the researchers analyze the errors and classify them according to Taxonomic Categories to find out whether these errors involve omissions, additions, selections or ordering. Many students make error in forming the right words. This is caused by grammatical morphemes which are more complex, for example in using tenses, students must be aware of adding verb suffixes (-ed, -ing, -s) correctly. Example:

We walk until 12.30 am. While he supposed to write, we walked until 12.30 a.m.

I arrive to the place at 09.00 a.m. While she supposed to write, I arrived to the place at 09.00 a.m.

2. Error of addition

In this type, students add several items that should not appear. Students know about the use of past participle but they add unnecessary words in the sentence.

Example: "**we are prayed**" rather than "**we prayed**"

3. Errors of selection

Error of selection are the most common error made by students. Example in using "go", "take", and "is / am" in their writing, instead of "went", "took", and "was". Example:

Before we **went**, we had breakfast. Supposed to, before we went, we had breakfast.

I **take** a bath, instead of, I **took** a bath.

I **broke** in the home, supposedly, I **took a break** in the house

4. Error of ordering

Errors of order are the least error made by students. For example, the student wrote *we late to arrived home* instead of "*we arrived home late*".

4 CONCLUSIONS

Based on the explanation and description in the previous chapter, the researchers conclude that the types of errors committed by first grade students of ITEKES Bali in their English writing from the highest percentage to the lowest are Error of Selection, Error of Omission, Error of Addition and Error of Ordering.

Data also shows that Interlingua transfers are the main source of errors. This error is caused by a mother tongue disorder. Students often translate what they want to convey in their writing from their native language into a new language. In simple past tense, for example, they incorrectly used between the simple present and the simple past tense in writing recount text. All the errors they make occur when they try to tell their experience in English based on their understanding and vocabulary they have in their mind.

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The Use of English Language Functions for Midwifery Education

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Abstract. In the process of learning English, there is a difference of the English learning topics among the lecturers, it caused by the absence of standard in learning English, moreover, the learning material used in the learning process still consists of general English. This study was conducted to (1) identify the use of English language functions for midwifery, (2) describe the course materials in the midwifery curriculum of ITEKES Bali, and (3) realize the use of English language functions for midwifery students of ITEKES Bali. This study was designed a descriptive qualitative method with data analysis promote by of Miles and Huberman (1987). The result showed that there were 34 functions found that could be categorized into 12 major topics regarding midwifery and there were 14 topics that combine some general topics of English language and some specific topic of English language that focuses in 4 skill of English acquisition from curriculum, and there were 35 language functions that describe 35 specific topics of English for Midwifery. The use of Language Function consisting of several topics that meet the needs of midwifery students. Then it was validated by expert in English education and an expert in midwifery science and considered as a good learning topic.

Keywords: Language Function, English for Midwifery, Midwifery

1 INTRODUCTION

Language is a mean of communication that is unique and at the same time universal. The international language used as a mean of communication between nations and countries that always used in state issues. Language learning is essentially an effort to acquire language skills verbally with an emphasis on acquiring speaking skills and habituation in using language to communicate, by the use of good language, speakers can express themselves and learn to follow social and cultural rules that apply (Kayi, 2006).

Foreign language learning, especially English, generally aims to develop four language skills, namely listening and reading as receptive skills, namely the ability to receive, and speaking and writing as productive skills. In every skill, there are some sub-skill that have variety of difficulties, such as in reading, there were some sub-skills that categorized difficult, those are vocabulary, followed by stated detail, inference, main idea and unstated detail (Elfiondri, et. al, 2020, p. 53). English is the most dominant language among the world's languages and as a vital communication tool for entrepreneurs, academics, tourists, and world citizens who want to communicate easily (Harmer, 1983). Therefore, English mastery can improve your self-value which will be taken into consideration in the world of work both locally and internationally. In Indonesia, English is a foreign language, so various supporters of learning English that can stimulate students' motivation are very necessary for learning English. Learning English, in this case, cannot be separated from the students' motivation in learning English so that it can be used well as a means of expressing themselves in the language.

One of the biggest factors that influence language learning is supporting material that is not only able to be integrated with aspects of learning but is able to provide sufficient space for the creativity and variety of language learning variations (Hutchinson and Waters, 1987). In the implementation of midwifery care, knowledge of English in general has not been able to meet the needs of midwives in providing midwifery care, so it requires special English knowledge (English for Specific Purposes) about midwifery care in providing midwifery care.

The function of language becomes an important point in the application of language so that it is able to achieve the intentions which are the goals or objectives of the language spoken by speaking and writing and reading and listening (Halliday and Hasan, 1985, p. 17). This is supported by Brown (2007) who explains that language functions are basically goals achieved with language (p.245), i.e. stating, asking, responding, greeting, saying goodbye, encouraging, promoting, and so on. In this case if it is associated with midwifery care there are various language functions that commonly used such as greeting for Stating Number (mentioning numbers), Asking and Showing direction, and others, as well as more language functions specifically such as Explaining Symptoms, explaining health problems using English. In each language function, there are several language expressions contained in a communicative speech in midwifery in English.

The function of language is the use of language by speaking, reading, listening to achieve the goals and objectives of communication (Halliday, 1973). This is supported by the concept of implementation of language functions in teaching, Estaji and Esfandyari (2020, p. 88) stated that the familiarity with the principles of teaching and the cognizance of learners' standing, needs, and process-related concerns are as important as the value EFL teachers in the present study attached to macro-linguistic (such as genre and discourse) as well as micro-linguistic features (like vocabulary and grammar). There are several functions of language including Instrumental functions (language is the cause of an event), Regulatory (regulating and controlling various events), Representational (making statements, conveying facts, knowledge, explaining or describing actual reality), Interactional (language is useful to perpetuate communication or relations between others, i.e. accent, language, jargon, jokes, folklore, customs and others.), Heuristics (Language is a tool to gain knowledge), Personal (language is a tool to express himself, expressing something about himself and at the same time about other things), Imaginative (language functions as a tool for imagination). The function of language is the core goal of every communication activity. This analysis of language functions and periphrastic utterances is very necessary to be carried out to support the midwife's practical knowledge in the use of English directly in providing midwifery care.

In the implementation of health care, midwives who have a very large role starting from the acceptance of patients, caring for patients both in carrying out general obstetric care and specialized midwifery care. English remains a very difficult thing for prospective midwives and midwives themselves, so that many experience difficulties in their use but this also affects the quality of midwifery services. Therefore, the midwives need a clear language functions related to midwifery to facilitate prospective midwives in mastering English used in clinics, health centres and hospitals. Therefore, research to analyse language functions and communicative utterances in English that is used by midwives in providing midwifery care.

1.1 Purpose of the study

The purpose of this study is arranged in the form of general objectives and special objectives. As for general purpose, some objectives were formulated, such as to give an overview of the learning process of the English language functions used by midwifery students in carrying out midwifery care at health schools in Bali, to provide an overview of English learning topics used in the curriculum by ITEKES Bali midwifery students and to offer solutions for various problems that occur in learning that use theories combined with interesting language learning media. However, some special objectives also formulated, such as to identify the application of English functions in midwifery care, to identify English learning topics used in the curriculum by ITEKES Bali midwifery students and to develop the effectiveness of midwives in the realization of language functions in the field of midwifery care.

2 METHOD

This study uses a qualitative method, where the data obtained are described, analysed and interpreted according to the conditions obtained from the questionnaire and interview. The qualitative method is used to obtain information from all respondents (midwife students, midwife lecturers, and midwives). Other data sources are interview transcripts with English lecturers and midwives to confirm the function of the related language given in class.

2.1 Setting and Data Sources

The research to be carried out is located in ITEKES Bali, specifically the ITEKES Bali midwifery study program plus interviews with several midwives. The data in this study were collected in two ways, namely questionnaires and interviews. In collecting data, researchers will provide questionnaires related to topics that have been given in class to midwife students, lecturers, and several midwives. All data will be gathered related to the topics and this research will be recorded using a recorder. The second, the data collected through interviews. Semi-structured interviews will be used in this study. This interview aims to obtain more complete and accurate information about the use of certain teaching topics and also to get information about the use of these related topics in ITEKES Bali midwifery classes.

2.2 Instruments

The main instrument in this study is the researcher himself who is assisted by other instruments such as interview sheets, validation sheets, and language function questionnaires. The following is a list of instruments used in each stage of the study. At the Problem Determination stage, the instrument used is a recorder, a semi-structured interview sheet containing an observation sheet and a list of questions aimed at midwives to find out the learning needs and language functions used in midwifery care. At the Design stage, the instrument used was an observation sheet containing the researchers' notes about synchronizing English language needs at the clinic and the health center with syllabus and teaching materials in health schools and a validation sheet which became the basis for consideration in developing instructional media. In the next stage, the instruments used were recording devices, questionnaires for midwifery students and lecturers and the learning media assessment rubric to determine the effectiveness of the learning media applied and identify the factors that influence the effectiveness of learning. The questionnaire distributed was in the form of a

closed questionnaire and an opened questionnaire. The closed questionnaire consists of questions with a number of alternative answers to facilitate respondents in answering, while an opened questionnaire consists of questions without choice of answers so that respondents can provide the answer freely. This is used to find out the factors that can support and hinder the learning of English that specializes in midwifery.

2.3 Data Analysis Methods and Techniques

Data analysis aims to simplify all data collected, present it systematically, process, interpret, and interpret the data (Moleong, 1989, p. 104). The data obtained will be analyzed qualitatively through an interactive data analysis model (Miles and Huberman, 1984). This analysis model is divided into three stages, namely data reduction, data display and conclusion/verification.

2.3.1 Data Reduction

Data obtained from the results of the questionnaire using questionnaire sheets that have been provided. From questionnaire results, the researchers made a list of language functions related to the topics needed for midwives. Qualitative data from semi-structured interviews will also be recorded and transcribed to support the findings.

2.3.2 Data Display

Data will be analysed descriptively based on language function theory, in this study the researchers used the theory of language functions from Halliday (1973).

2.3.3 Conclusion/ Verification

At this stage, the researcher will draw conclusions based on the results of the analysis data. If the researchers feel that the data obtained is not enough to draw a conclusion, the data collection process will continue to be carried out to obtain more accurate data. The data will be re-examined by passing Data reduction and Data display.

3 RESULTS AND DISCUSSION

Research data and discussion are described based on research problems which include: language functions in nursing care, the subject of midwifery topics seen from the RPS of midwifery English education and the realization of the use of midwifery English functions.

3.1 Results

Based on the results of the questionnaire with 15 midwife students, 2 midwife lecturers, 2 English lecturers for Midwifery and 5 Midwives. Moreover, as integrated with the results of a semi-structured interview with midwifery lecturers and midwives, the researchers describe a number of research findings in the order of the research problem formulation as follows:

3.1.1 Language Functions of Midwifery English

The study begins by analysing the functions of the language used in midwifery care, so to get the appropriate results, a questionnaire is given to 15 midwifery students, 2 midwifery

lecturers, 2 midwifery English students, and 5 midwives. The points listed in the questionnaire include several things that researchers have collected from several online sources to be able to summarize some of the language functions used in midwifery from several perspectives. The language function content that has been collected is as follows, (1) Establishing A Relationship (Starting communication with patients) i.e. Introducing yourself to patients, conversations with patients, and interviews with patients, (2) Asking and Showing Rooms in Hospital, (3) Knowing Human Body, (4) Explaining about Schedule, (5) Explaining Sexual Reproduction, (6) Explaining Pregnancy problem, (7) Explaining Preparation for Labor, (8) Ensuring a safe Labor to Patients, (9) Giving order about patients positioning, (10) Showing empathy to patients, (11) Giving suggestions and prohibition, (12) Explaining Normal Labor Process, (13) Explaining about Placenta, (14) Giving Information about Emergency Delivery, (15) Explaining Caesarean Surgery, (16) Explaining Post-Partum (Explaining Post-delivery), (17) Explaining about Babies' Development (Explaining Development Infants), (18) Giving Information about the Babies' Hygiene (Providing information related to baby hygiene), (19) Giving Instruction about Physical Examination, (20) Giving Instruction about Abdomen Examination, (21) Understanding Medical Equipment for Delivery (Understanding medical equipment for childbirth), (22) Explaining about Medication for Pregnant Women (Explaining about drugs for pregnant women), (23) Checking Vital Sign (Checking vital signs), (24) Asking and Telling about Measurement (25) Giving Injection (26) Applying Infusion, (27) Giving Therapeutic Communication, (28) Giving Instruction on Physical Exercise for Pregnant Women, (29) Giving Information about Nutritious Food information about nutritious food), (30) Giving Information about Lactation, (31) Explaining about Parents' Roles (Explaining the role of parents), (32) Giving Information about Immunization, (33) Giving Information about Babies' diseases (Giving information about infant diseases), and (34) Giving Information about Health Consultation. The results of the questionnaire were summarized, it was found that from 34 points of summarized language functions, which were given to midwife students, midwife lecturers, midwifery English lecturers, and midwives, several results were found. From midwifery students,

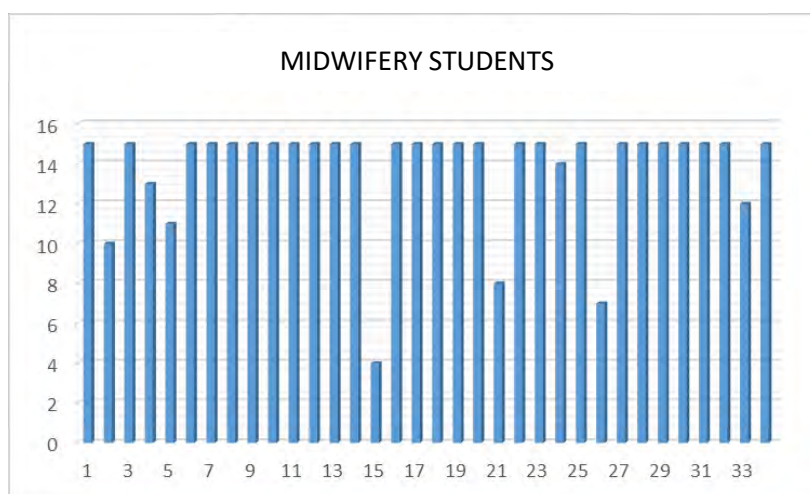


Fig. 1. The Result of Questionnaires from Midwifery Students

From the results of the figure above, it can be seen that 34 points of language function are presented, there are 26 items of language functions that are considered necessary to be studied by midwifery students, and each item of language functions such as Establishing A Relationship, Knowing Human Body, Explaining Pregnancy Problem , Explaining Preparation for Labor, Ensuring a safe Labor to Patients, Giving orders about patient positioning, Showing empathy to patients, Giving suggestions and prohibitions, Explaining Normal Labor Process, Explaining about Placenta, Giving Information about Emergency Delivery, Explaining Post-Partum, Explaining about Babies 'Development, Giving Information about the Babies' Hygiene, Giving Instruction about Physical Examination, Giving Instruction about Abdomen Examination, Explaining about Medication for Pregnant Women, Checking Vital Sign, Giving Injection, Giving Therapeutic Communication, Giving Instruction on Physical Exercise for Pregnant Women, Giving Information about Nutritious Food, Giving Information about Lactation, Explaining about Parents' Roles, Giving Information about Immunization, and Giving Information about Health Consultation.

As for the midwifery, lecturer believes that all items of language function that considered are necessary to be studied by midwifery students. The same thing was explained by a midwifery English lecturer, who showed the same results, where all the points of language function were considered necessary for midwives, where all the points of language function were considered necessary for midwives as can be seen in the table below,

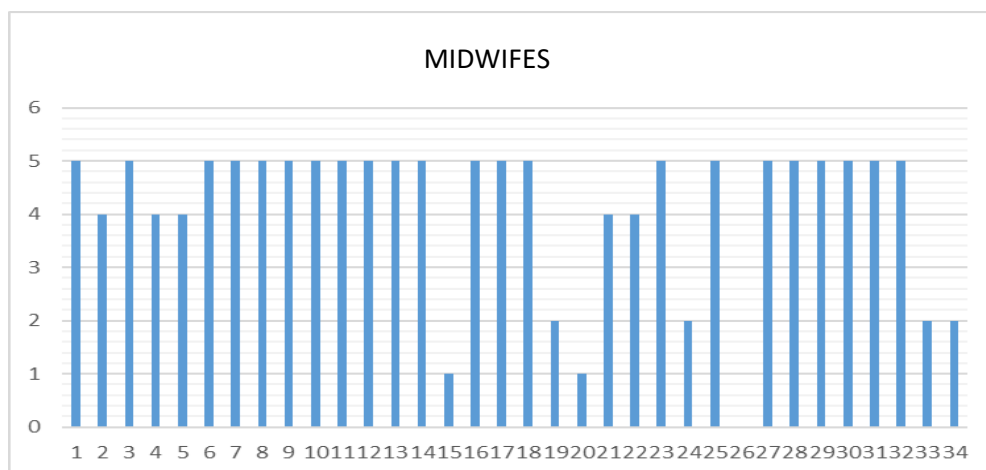


Fig. 2. The Result of Questionnaires from Midwifery

From the results of the graph above, it can be seen that 34 points of language function are presented, there are 22 points of language functions that are considered necessary to be studied by midwifery students, and each item of language functions such as Establishing A Relationship, Knowing Human Body, Explaining Pregnancy Problem, Explaining Preparation for Labor, Ensuring a safe Labor to Patients, Giving orders about patient positioning, Showing empathy to patients, Giving suggestions and prohibitions, Explaining Normal Labor Process, Explaining about Placenta, Giving Information about Emergency Delivery, Explaining Post-Partum, Explaining about Babies' Development, Giving Information about the Babies' Hygiene, Checking Vital Sign, Giving Injection, Giving Therapeutic Communication, Giving Instruction on Physical Exercise for Pregnant Women, Giving Information about Nutritious Food, Giving Information about Lactation, Explaining about Parents' Roles, and Giving

Information about Immunization. From the overall results of the questionnaire, it was found that the language function in items 1, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 23, 25, 27, 28, 29, 30, 31, and 32 are considered necessary to be applied to midwifery, but to adjust the use of language functions in midwifery applications, especially in English communication, it is necessary to take further action in the form of semi-structured interviews, this is necessary to get the language functions that are applicable to midwifery.

Semi-structured interviews with lecturers and midwives were carried out to obtain results that matched the researchers displayed data related to English language functions applied in midwifery to 2 midwifery lecturers and 5 midwives. There was 5 point of questions asked to the respondents. In point 1, all respondents gave almost the same answer, namely how to greet patients who are still poorly understood, plus how to explain health problems related to pregnancy, and not infrequently explain ways related to childbirth and how to handle birth, especially in the payment system. One midwife also stated that the situation often encountered while explaining organs related to reproduction both to the mother and to the father. In point 2, the lecturers state that the instructions given to pregnant women are mostly during the implementation of pregnancy exercises that require special attention in implementing instructions. The midwives also support this statement, plus the instructions that must be disclosed at the time of the examination of the baby's development which requires explaining from the psychological side, as well as from the physical as well as explaining the instructions during the birth process. In point 3, all respondents stated that the handling of pregnant women depends on the problems faced by the mother at the time of the examination, so that the handling depends on the condition of the pregnant women at the time, but at the routine inspection of pregnant women, various complaints will be submitted as well as various solutions related will be given. In point 4, midwives state that there are some special situations that require handling in English, especially in operating situations, whether they are caesarean or normal, and some complaints that depend on health problems experienced by pregnant women. In point 5, of all the respondents, mostly have been included in the questionnaire list, and in addition to the situations listed on the questionnaire sheet, certain situations while describing the method of payment, and when faced with special situations related to certain diseases, such as malaria fever, allergies, and various special problems that require a particular situation in dealing with it. The lecturers added that there should be a number of issues that should be emphasized, such as hygiene that must be maintained by midwives and pregnant women.

3.1.2 The topics included in the midwifery English RPS at ITEKES Bali

In this section, researchers present data related to the topics used by the English lecturer at STIKES Bali to teach D3 Midwifery students in the 2018-2019 school year. As for the topics discussed in the midwifery RPS namely 1) Knowing the concept of establishing a relationship with patient, 2) Know the parts of the body in English (Human Body), 3) Knowing about Fertilization, response to complaints and collecting history of pregnancy, 4) Mastering Passive Voice, 5) Mastering the Simple present used in (Preparation for Labor, Labor position, Pain at Labor), 6) Apply English used in labor/ delivery (normal labor, oxytocin-induced labor, and Caesarean section birth), 7) Mastering post-partum & babies, and emergency delivery, 8) Knowing Hygiene Needs Part I and II (Speaking & Listening), 9) Know the physical

examination I (speaking & Listening), 10) Physical Examination II and III (speaking & Listening), 11) Grammar review, 12) Speaking Test, 13) Writing Test and lastly 14) Performance Test. Out of the 14 topics listed in the RPS that are used by D3 midwifery lecturers, in addition to several topics with language functions being taught, there are also several discussion points that are specific to linguistic topics such as passive voice, simple present tense, grammar review, speaking test, writing test and performance test. Moreover, when viewed from midwifery points, the RPS found that students must master several midwifery topics, such as Establishing a relationship; Human Body; Fertilization response to complaints and collecting history of pregnancy; Preparation for labor, during labor and post-labor; normal labor, oxytocin-induced labor, and caesarean section birth; post-partum & babies, and emergency delivery; hygiene need; and physical examination. From these topics, the topic of promoting hygiene needs to be emphasized as a necessary topic. Therefore, from the points that must be mastered by midwives when it is seen from the indicators of achievement of the implementation of learning by midwifery students, it can be seen that students must achieve some competencies that are considered necessary. Performance indicators that ITEKES Bali midwifery students must fulfil are adjusted to each material that must be fulfilled by midwife students.

3.1.3 Realization of the Use of English Functions for Midwifery Students at ITEKES Bali

Three stages of data analysis were carried out from Miles and Hubberman (1984). The data reduction showed that there were 35 topics collected from the results of questionnaires, interviews, and results from studying RPS for midwifery English. As for topics that describe specific language functions, as shown in table below:

Table 1. Topics in Midwifery English

No	Topics
1	Establishing A Relationship
2	Asking and Showing Rooms in Hospital
3	Knowing Human Body
4	Explaining about Schedule
5	Explaining Sexual Reproduction
6	Explaining Pregnancy problem
7	Explaining Preparation for Labor
8	Ensuring a safe Labor to Patients
9	Giving order about patients positioning
10	Showing empathy to patients
11	Giving suggestions and prohibition
12	Explaining Normal Labor Process
13	Explaining about Placenta
14	Giving Information about Emergency Delivery
15	Explaining Post-Partum
16	Explaining about Babies' Development
17	Giving Information about the Babies' Hygiene
18	Giving Instruction about Physical Examination
19	Giving Instruction about Abdomen Examination
20	Understanding Medical Equipment for Delivery

No	Topics
21	Explaining about Medication for Pregnant Women
22	Checking Vital Sign
23	Asking and Telling about Measurement
24	Giving Injection
25	Giving Therapeutic Communication
26	Giving Instruction on Physical Exercise for Pregnant Women
27	Giving Information about Nutritious Food
28	Giving Information about Lactation
29	Explaining about Parents' Roles
30	Giving Information about Immunization
31	Giving Information about Babies' diseases
32	Giving Information about Health Consultation
33	Promoting hygiene to pregnant mother
34	Insurance and payment method
35	Additional treatment for baby

From these results, the data display stage is then carried out to find out the topics that have been collected. Furthermore, the topic is categorized with Halliday's theory related to language function. The function of language outlines which describes the purpose of the use of the language itself. According to Halliday (1973), the function of language is the use of language by speaking and writing and reading and listening to achieve the goals and objectives of communication. There are several functions of language including Instrumental functions (language is the cause of an event), Regulatory (regulating and controlling various events), Representational (making statements, conveying facts, knowledge, explaining or describing actual reality), Interactional (language is useful to perpetuate communication or relations between others, i.e. accent, language, jargon, jokes, folklore, customs and others.), Heuristics (Language is a tool to gain knowledge), Personal (language is a tool to express himself, expressing something about himself and at the same time about other things), Imaginative (language functions as a tool for imagination). The language function is the core goal of every communication activity. This analysis of language functions and periphrastic utterances is very necessary to be carried out to support the midwife's practical knowledge in the use of English directly in providing midwifery care. For the majority of language functions related to the 35 midwifery topics obtained are Instrumental functions (the language is the cause of an event), Regulatory (regulating and controlling various events) and Representational (making statements, conveying facts). To be used in lectures, each language function is categorized so that it can be included in topics that can be used. So that it can be grouped into, *establishing a Relationship, Asking and Showing Rooms and Direction, Human Body, Schedule, Sexual Reproduction, Health Consultation, Labor, Babies, showing empathy and Giving suggestion and prohibition, Vital sign and Injection, Physical examination and exercise, and Nutritious Food and Lactation.*

3.2 Discussion

The results of the questionnaire produced some constructive input because it was obtained from several sources of midwifery care such as midwifery students, midwifery lecturers,

midwifery English lecturers, and midwives who served in several clinics to get some clear picture of the tasks and situations that would be experienced by students in carrying out midwifery care. From a total of 34 topics listed on the questionnaire, 2 topics were below 50% of the counts that were considered less needed by respondents, so 2 topics namely explaining caesarean surgery (37.5%) and applying infusion (45.8) were removed from the list of topics, so there were 32 topics obtained from the questionnaire, for some topics that are above 50% are still considered necessary. Continuing with interviews with midwives, there were 2 interesting topics that needed to be included, namely about the Insurance and Payment method, plus the results of the RPS analysis found that information on cleanliness poured on the topic of promoting hygiene was also needed. Thus, if summarized, 35 topics were gathered, which were then categorized based on the categorization of language functions by Halliday, which has suggested that language could be categorized into 7 language functions, but from the analysis results, there were only 3 topics of language functions, the majority of which were used by midwives in midwifery care, namely 8 topics (22.9%) were categorized as Instrumental functions, 9 topics (25.7%) were categorized as Regulatory functions, 15 topics (42.9%) were categorized as Representational functions, and each 1 topic is on Heuristic and Personal language functions. 1 other topic (2.9%) did not fall into 7 categories from Halliday, which was a finding that requires further analysis. Furthermore, after each topic was analysed, it was grouped into 12 topics with several related sub-topics. As well as the end of this study with validation from experts in the field of midwifery and midwifery English conducted by ITEKES Bali lecturers.

4 CONCLUSION

From this study, it can be concluded that the results of the questionnaire from several sources of midwifery care such as midwifery students, midwifery lecturers, midwifery English lecturers, and midwives who served in several clinics to get some clear picture of the tasks and situations in carrying out midwifery care. 35 topics are summarized, which are further categorized based on the categorization of language functions by Halliday, which has stated that language can be categorized into 7 language functions. But, from the analysis results, there are only 3 topics of language functions, the majority of which are used by midwives in midwifery care, namely 8 topic items (22.9%) are categorized as instrumental functions, 9 topic items (25.7%) are categorized regulatory functions, 15 topic items (42.9%) are categorized as Representational functions and 1 topic each on Heuristic and Personal language functions. Furthermore, after each topic is analysed then it is grouped into 12 topics with several related sub-topics. In the end of this study by the validation of experts in the field of midwifery and midwifery English conducted by lecturers.

This research is conducted with limited subjects, so it is recommended for further research to be carried out with new language functions that can be found in a variety of ways and add respondents in relation to topics and language functions that can be used in teaching. Especially with the findings in this study related to language function. The next researcher is to be able to make further research by developing something that can help midwives to master English in a fun and easy way, as well as applicable.

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The Need of General English in Nursing Student

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Abstract. Every level of educational institutions from basic to higher education obligates English to be in the curriculum including nursing students at ITEKES Bali. This study aimed to identify the student's mastery in English generally, the language skills mastery and the learning materials that are needed in English. This study employed descriptive design using qualitative approach. There were 56 nursing students as the participants. The data were collected using open-ended questionnaire, interview, observation and analyzed qualitatively. The finding of this study showed that (1) the most difficult language skills to be learned were listening and grammar, while the easiest language skills were reading and vocabulary. (2) The majority of students needed teaching material for listening in the form of daily conversations with audio, reading text to find the meaning of unfamiliar words and special terminology, speaking material using presentation in class and argumentation, and free writing text material. (3) Most of the students stated that the learning materials which were given in the class were appropriate with their needs; however, there were many of them stated having low mastery in English and need more intensive learning and practice on it.

Keywords: need analysis, English, nursing student

1 INTRODUCTION

Language is a communication tool used by the community both orally and written. Language is a meaningful and articulated sound symbol system (produced by utterance) that is arbitrary and conventional, which is used as a means of communication by a group of people to deliver feelings and thoughts (Wibowo, 2001).

In this globalization era, it is very important to master a variety of foreign languages because it can become an added value and advantage for someone who is able to master many foreign languages both oral and written. One of the most important foreign languages to learn and master is English. English is an international language used by various countries in international communication and ASEAN countries such as Indonesia, it became EFL (English as Foreign Language). The importance of mastering English in this globalization era is to strengthen the ability to communicate in order to compete in various fields in the progress of the current era such as in the fields of education, social culture, health, and various other types of occupations..

The importance of mastering English, the educational institution added English into the curriculum from kindergarten to higher education. In learning English there are four language skills that must be mastered by someone, namely listening, speaking, reading, and writing. All of these language skills are related to one another. Others language skills that are very needed

to be mastered are vocabulary and grammar mastery. So it is very important to master those language skills to be able to compete in this globalization era in finding and making jobs later. English is a compulsory subject in the curriculum of educational institutions which must be followed by all students. This is necessary because a university or educational institution has an obligation to produce graduates or prospective workers who are able to face work competition and one's career development (Arianti, 2017). In line with this, Hendra (2018) stated that English has a position as EFL in Indonesia as not all people can speak English. Thus, the need for mastering English for students is a challenge. Needs analysis is a process of gathering and analyzing information from students with the aim of setting a goal in the language curriculum content based on student needs (Kayl, 2008). Malana (2018) stated that the established set of measure proficiency of learners to communicate using the four language skills is founded from adequate or substantial knowledge of the language area.

Considering that English as foreign language, it is certain that students encounter problems when learning especially in constructing and mastering language skills and English material. During this time, general English is taught in universities. However, ITEKES Bali has never been conducting an analysis of the general English language needs of students. The analysis related to what is needed by students in English language lessons is considered very important because the lecturer can provide materials that are appropriate and needed by the students themselves.

In this study an analysis of the needs for language skills and materials needed by students in preparation to compete in the global era. Based on the above phenomenon, researchers are interested in making a qualitative study entitled "The Need of General English in Nursing Students at ITEKES Bali". In line with the problem formulation above, the purpose of this study is to find out what are needed by the students in learning general English.

2 METHOD

This study employed a descriptive design using a qualitative approach, so that, the data were in the form of words and sentences in accordance with the conditions obtained from the results of the open-ended questionnaire, interview, and observation. There were 56 nursing students in the academic year 2018/2019 who were taught General English as the participants in this study. The instruments used in this study were the researchers themselves, the open-ended questionnaire, and a list of semi-structured interviews given to students. Data were collected using an open-ended questionnaire and observations made in class. In addition, semi-structured interviews were also conducted by interviewing several participants to analyze the problems faced by students.

Then, the data obtained analyzed descriptively and qualitatively through interactive analysis models (Miles & Huberman, 1984). This analysis model is divided into 4 stages. There are (1) Data collection, the data obtained from the results of the open-ended questionnaire, interviews, and observations are recorded in the field notes consisting of two parts, namely descriptive and reflective. Descriptive notes are natural notes (records of what the researcher sees, hears, witnesses and experiences without the opinions and interpretations of the researcher regarding the phenomenon experienced. While the reflective notes are notes that contain the impressions, comments, opinions, and interpretations of researchers about the findings which is found, and is a material for data collection plan for the next stage. (2) Data

reduction, after the data has been collected, data reduction is then made, in order to select relevant and meaningful data, focus on data that leads to problem solving, discovery, meaning or to answer research questions. Then simplify and arrange systematically and describe important things about the findings and their meaning in the table. (3) Data presentation, the presentation of data in the form of writing or words. The purpose of the data presentation is to combine information so that it can describe the situation that occurs. (4) Conclusions, the research process take place as well as the process of data reduction, after the data collected is quite adequate then a temporary concluded, and after the data is complete the final conclusions are made.

3 RESULTS AND DISCUSSION

In this study there were four categories related to the needs analysis of general English in nursing students, those categories were problems, priorities, abilities, and attitudes.

Problem is the first category that analyzed in which the students were asked to identify problems faced by them in learning English in the class. First, students stated the most difficult language skills to learn. Second, students conveyed the language skills that were easiest to be learnt by them. Third, students determined the other language mastery such as vocabulary or grammar mastery which was easiest to learn. The finding showed that the most difficult language skills to be learned was listening (50%), speaking (30.3%), writing (14.3%), and reading (5.4%). Based on the findings, it could be seen that reading is the easiest language skills to be learnt. The other language mastery, the finding showed that vocabulary mastery is the easiest to be learnt (83.9%), and grammar (16.1%). Thus, grammar was the most difficult. Based on the interview result, most of the students stated that reading and vocabulary mastery become the easiest one to be learnt because they can open the dictionary to find out the meanings of the words that can help them to understand the text and enrich their vocabulary. On the other hand, in grammar mastery they have to understand and memorize many kinds of tenses and the time to use the correct tenses in the sentence or communication. In the listening, they felt very difficult to catch what the speakers were talking about because they rarely listen to English communication in their daily life.

The second one is priority, in this category, the learners were asked to convey their priorities in learning material of general English in class. Students were asked to choose which learning materials they want to learn in the classroom. The findings showed that the majority of students needed teaching material for each language skill such as listening in the form of daily conversations with audio (44.6 %). Reading text to find the meaning of unfamiliar words and special terminology (53.6%). Speaking material using presentation in class and argumentation (25%), the last free writing text material (26.8%). In addition, the majority of the students stated that they were more often using the language skills in the form of reading (51.8%), listening (26.7%), speaking (16.1%), and writing (5.4%) in their daily life.

The next category is ability, in this part the participants were asked to answer questions related to their ability in general English and the language skills they want to improve. The findings showed that the majority of the students stated having low mastery in English and need more intensive learning and practice on it (48.2%). The next findings showed the language skill that easiest to be mastered by the students reading (55.4%), listening (26.8%), speaking (10.7%), and writing (7.1%). Next, the students wanted to improve their language skills in the

form of speaking (76.8%), listening (12.5%), writing (8.9%), reading (1.8%). Most of them want to improve speaking skill because they considered in globalization era, it is needed to be able to communicate in English as an international language.

Attitude is the last category; in this part the students were asked to determine their attitudes towards learning English. The majority of the students stated that the learning materials which were given in the class were appropriate with their needs (51.8%). It was found that the majority of participants answered that they learn listening more frequently with daily conversation material with audio recordings (37.5%). In speaking, the majority of participants answered they often practice speaking with the topic of presentations in class or argumentation (32.1%). Next, the majority of participants answered that in the reading skill, they mostly learnt text in understanding difficult words and special terminology (42.9%). In writing, the majority of participants answered more often writing in the form of writing free text (33.9%). Based on those findings, it could be seen that the learning material in ITEKES Bali is appropriate with the students' needs. Even though the students think that their English mastery is still low. The students want to improve more about their mastery in the four language skills, as well as vocabulary and grammar mastery to be better.

4 CONCLUSION

Based on the explanation of the findings, it could be concluded that the materials of general English that were taught is depending on students' need. Besides, the students still need more intensive learning and practice based on their material needs. In addition, the students aware on their language skills mastery and they want to improve the language skills by practicing English more and more.

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The Need of General English for Nursing Students

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Abstract. Every level of educational institutions from basic to higher education obligates English to be in the curriculum including nursing students at ITEKES Bali. This study aimed to identify the student's mastery in English generally, the language skills mastery and the learning materials that are needed in English. This study employed descriptive design using qualitative approach. There were 56 nursing students as the participants. The data were collected using open-ended questionnaire, interview, observation and analyzed qualitatively. The finding of this study showed that (1) the most difficult language skills to be learned were listening and grammar, while the easiest language skills were reading and vocabulary. (2) The majority of students needed teaching material for listening in the form of daily conversations with audio, reading text to find the meaning of unfamiliar words and special terminology, speaking material using presentation in class and argumentation, and free writing text material. (3) Most of the students stated that the learning materials which were given in the class were appropriate with their needs; however, there were many of them stated having low mastery in English and need more intensive learning and practice on it.

Keywords: need analysis, English, nursing student

1 INTRODUCTION

Language is a communication tool used by the community both orally and written. Language is a meaningful and articulated sound symbol system (produced by utterance) that is arbitrary and conventional, which is used as a means of communication by a group of people to deliver feelings and thoughts (Wibowo, 2001).

In this globalization era, it is very important to master a variety of foreign languages because it can become an added value and advantage for someone who is able to master many foreign languages both oral and written. One of the most important foreign languages to learn and master is English. English is an international language used by various countries in international communication and ASEAN countries such as Indonesia, it became EFL (English as Foreign Language). The importance of mastering English in this globalization era is to strengthen the ability to communicate in order to compete in various fields in the progress of the current era such as in the fields of education, social culture, health, and various other types of occupations..

The importance of mastering English, the educational institution added English into the curriculum from kindergarten to higher education. In learning English there are four language skills that must be mastered by someone, namely listening, speaking, reading, and writing. All of these language skills are related to one another. Others language skills that are very needed to be mastered are vocabulary and grammar mastery. So it is very important to master those

language skills to be able to compete in this globalization era in finding and making jobs later. English is a compulsory subject in the curriculum of educational institutions which must be followed by all students. This is necessary because a university or educational institution has an obligation to produce graduates or prospective workers who are able to face work competition and one's career development (Arianti, 2017). In line with this, Hendra (2018) stated that English has a position as EFL in Indonesia as not all people can speak English. Thus, the need for mastering English for students is a challenge. Needs analysis is a process of gathering and analyzing information from students with the aim of setting a goal in the language curriculum content based on student needs (Kayl, 2008). Malana (2018) stated that the established set of measure proficiency of learners to communicate using the four language skills is founded from adequate or substantial knowledge of the language area.

Considering that English as foreign language, it is certain that students encounter problems when learning especially in constructing and mastering language skills and English material. During this time, general English is taught in universities. However, ITEKES Bali has never been conducting an analysis of the general English language needs of students. The analysis related to what is needed by students in English language lessons is considered very important because the lecturer can provide materials that are appropriate and needed by the students themselves.

In this study an analysis of the needs for language skills and materials needed by students in preparation to compete in the global era. Based on the above phenomenon, researchers are interested in making a qualitative study entitled "The Need of General English in Nursing Students at ITEKES Bali". In line with the problem formulation above, the purpose of this study is to find out what are needed by the students in learning general English.

2 METHOD

This study employed a descriptive design using a qualitative approach, so that, the data were in the form of words and sentences in accordance with the conditions obtained from the results of the open-ended questionnaire, interview, and observation. There were 56 nursing students in the academic year 2018/2019 who were taught General English as the participants in this study. The instruments used in this study were the researchers themselves, the open-ended questionnaire, and a list of semi-structured interviews given to students. Data were collected using an open-ended questionnaire and observations made in class. In addition, semi-structured interviews were also conducted by interviewing several participants to analyze the problems faced by students.

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Development of Moodle-Based E-Learning on Dasar Desain Subjects in Fashion Study Program

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Abstract. One characteristic of 21st century learning is the use of technology as a medium in learning. There are many ways that can be done to improve student learning outcomes in the learning process. So that, students can full-fill the minimum completeness criteria for learning outcomes according to school provisions. The use of learning media in the form of e-learning based on Moodle is one of the tools that can be used to facilitate a more varied and interactive learning process. The Moodle-based e-learning media developed in this study aims to be able to increase learning interest and improve student learning outcomes in Dasar Desain subjects at the Vocational High School in Fashion Study Program. The research design used is Research & Development. The results of the study based on expert validation for the learning media category obtained an average of 0.92 including very good categories. For the validation of subject matter experts, the average score of 0.97 is included in the very high category. Overall, student learning outcomes after the implementation of the Moodle-based e-learning learning model have increased with an average of 0.79 including the high category in the Dasar Desain subjects.

1. Introduction

Education in the era of globalization has experienced very significant growth. Advanced technology has an effect on various aspects of human life and also has its own role in the learning process. In an effort to meet the needs of the business world and the industrial world in the global era, the 21st century education system requires students to have learning and innovation skills, life and career skills, and technology and information media skills (Wijaya, Sudjimat, & Nyoto, 2016). These skills are the current learning objectives for all levels of education including the level of education at the vocational high school. Vocational high school as part of the national education system is a formal education that prioritizes the development of the student's ability to carry out certain types of work, adapt to the work environment, see the job opportunities, and develop a career in the future (Peraturan Pemerintah Republik Indonesia Nomor 29 Tahun 1990, n.d.). Thus, vocational high school students are expected to have the skills to compete in the world of work. In addition, vocational high schools are also expected to be able to produce workforce that is reliable, professional, and highly competitive at regional, national and international levels and they are expected to create new jobs.

In an effort to support the 21st century education system, students are required to have critical thinking skills and problem solving, creativity and innovation, collaboration and communication. In addition they also must have the ability of technology, information and

communication literacy (Redhana, 2019). It also aims to support distance learning. So that, students not only learn in school but also can learn outside of school, whenever and wherever. At present, students are accustomed to using digital media for daily activities such as playing games, studying, and other relevant activities. Media such as Android-based mobile phones that are connected to the internet can be used for learning activities. Students can explore their knowledge with the support of the ability to find additional information outside of school activities through digital media. Even the use of the web and interactive multimedia has been used intensively in several learning processes.

The use of interactive learning media is also very necessary in vocational high schools. One of them is in the field of fashion expertise. In the curriculum structure of the fashion design expertise in vocational high schools there are Dasar Desain subjects that contain basic knowledge and skills before moving on to the next subject package. This subject is not only on the mastery and understanding of the concept of art but also on improving high-level skills, namely the skill of creating a product. Therefore more intensive learning is needed. However, due to limited time at school, the learning process is less than optimal. In addition, in implementing learning, teachers also only use conventional methods with whiteboard media and modules in the form of books so that learning activities are still one-way or teacher-centered because innovative learning processes have not yet been created. The conventional method also causes students to be passive because they are afraid to ask or answer questions from the teacher.

Readiness and the ability of teachers to understand teaching materials play a very important role in the learning success of students. One of the communication tools in the learning process is learning media. By using ICT-based learning media can influence students' learning motivation (Suarman, Mahdum, & Suryati, 2011). In education, ICT has the potential to improve the quality of education because it can support active learning, cooperative and collaborative learning, creative learning, integrative learning and evaluative learning (Maslin, Consultant, & Ltd, 2010). The use of ICT in learning can assist teachers in conveying messages or subject matter so that it is easy to understand, interesting, fun, and can provide an abstract experience that becomes concrete (Djamarah & Zain, 2006).

The growth of ICTs provides opportunities for teachers to innovate in using media in learning. One example of the use of ICT in education is by using e-learning. E-learning is a learning media that can be used by teachers in conveying information to students using computers and the internet (Manggala, Asrori, & Astuti, 2018). E-learning brings changes to learning from conventional forms into digital form, both in content and the system (Agustina, 2013). The use of e-learning is very important because it can expand pedagogical resources, help students in their learning, develop students' skills, motivation and knowledge, prepare them to be productive in the workplace (Kuimova, Kiyanytsyna, & Truntyagin, 2016). The application of e-learning can create a pleasant learning atmosphere, motivate students to learn independently, be more interactive so that it can improve learning outcomes (Darmawan & Bariyah, 2014). One of e-learning that is quite popular nowadays is e-learning based on Moodle.

Moodle is a software package in a learning management system that facilitates online learning between tutors and students (Chourishi, Buttan, Chaurasia, & Soni, 2015). Moodle-based e-learning can help organize subject matter content to be more consistent and organized.

In addition, students can learn material anywhere and anytime in collaboration. Thus learning time becomes more efficient because students are not only focused on learning when learning activities at school. Learning using Moodle-based e-learning makes it easy for students in the learning process because Moodle provides several types of modules including: assignments, chat, forums, quizzes, and others. The use of moodle-based e-learning media serves as a discussion forum between teachers and students, and can also be used as an online quiz, so the learning process becomes very effective (Harahap, 2015). Based on research conducted by Waheed, students are satisfied with the communication tools available on Moodle and can influence interest in learning and trigger students' extrinsic motivation (Waheed, Kaur, Ain, & Hussain, 2016). Learning with Moodle-based e-learning can also improve student learning outcomes (Sari & Setiawan, 2018).

Moodle can not only be filled with theoretical material, but in Moodle it can also be filled with learning in video form. Video is a medium that combines images and sound, so that it can provide concrete teaching material to students. Through Moodle-based e-learning, students are expected to understand the basic theories of design simultaneously, because Moodle-based e-learning can be adapted to the abilities of each student. Students can set their own pace of learning according to their abilities. Students can repeat Dasar Desain practice material outside of classroom activities so students can study independently and can control understanding in learning.

Learning Dasar Desain with Moodle-based e-learning is expected to increase the enthusiasm of learning and attract students' attention because this media provides a concrete picture and students do not imagine to understand the basics of design. In addition, students can also repeat learning to further enhance their understanding. Through Moodle-based e-learning, students are expected to be more creative and innovate in applying fashion parts and forms to designs based on their understanding and what is obtained through that media, so they can improve learning outcomes in Dasar Desain subjects. Based on this explanation, it is deemed necessary to develop Moodle-based e-learning in Dasar Desain subjects in the fashion study program.

2. Research Method

The method used in the development of Moodle-based e-learning in Dasar Desain subjects uses Research and Development (R&D) research. This research method used to develop a product that is Moodle-based e-learning for Dasar Desain subjects and then test the effectiveness of this product. The development model used in this study is Dick and Carey. This Dick and Carey procedural model is a research model that suggests that the application of development design principles is adjusted to the steps that must be taken in sequence. This model is a systematic learning design model that builds on the theoretical foundation of learning and it is oriented to the descriptive research stage.

There are 10 stages in the development of the Dick and Carey model, namely: (1) identifying the general objectives of learning by designing e-learning that is tailored to the indicators of achievement in Dasar Desain subjects and also characteristics of students; (2) carrying out teaching analysis by designing learning activities that are suitable for use in Dasar Desain subjects; (3) identify the input behavior and characteristics of students by observing in class and providing pre-test related to teaching material; (4) formulating performance goals by

providing direction related to the development of e-learning; (5) developing benchmark reference test items by making pre-test and post-test questions; (6) developing teaching strategies by designing strategies for using e-learning products according to student characteristics; (7) developing and selecting teaching materials such as body proportions, body parts and clothing shapes, collage concepts in fashion design, material selection according to fashion design, color mixing, display design, production design, and design according to the concept; (8) design and carry out formative evaluation by testing the product validity by media experts and material experts; (9) revising learning material that is making improvements from the results of formative evaluation, (10) designing and conducting summative evaluations by testing the product on students to find out the effectiveness in improving student learning outcomes.

The subjects of this development product trial were 31 students from class X of Fashion Design Study Program in SMKN 2 Singaraja. The design validated by the media expert validator and the material expert validator. Validity analysis of e-learning uses expert validation sheets. The results of the assessment of all aspects are measured by a Likert Scale. In this study the answers to the instrument items are classified into five choices. Each indicator that measured is given a scale score of 1 to 5. Then, the way to calculate the weight of each response and how to calculate the average score is used the following formula.

$$\bar{x} = \frac{\sum x}{n} \tag{1}$$

With :

\bar{x} = average score

n = number of evaluators

$\sum x$ = total score

Then to obtain the percentage of results can be calculated with the following formula..

$$\text{Result} = \frac{\text{total score}}{\text{maximum score}} \times 100\% \tag{2}$$

The eligibility category is based on the following criteria (Arikunto, 2006).

Table 1. Eligibility Criteria

No.	Score in Percentage (%)	Eligibility Category
1	< 21%	Very Inadequate
2	21% - 40%	Not Worthy
3	41% - 60%	Decent Enough
4	61% – 80 %	Worthy
5	81 – 100 %	Very Decent

After being validated, Moodle-based e-learning was tried out on class X students of Fashion Design Study Program in SMKN 2 Singaraja. The research design used was a pre-test and post-test one group design. The data taken is student learning outcomes data. Learning outcomes are calculated using Normalized Gain. Normalized Gain is the difference between the post-test and pre-test scores. Normalized Gain (g) provides an overview of the increase in learning outcomes between before and after learning, the magnitude of the increase before and after learning is calculated by the normalized gain formula (Sundayana, 2016).

$$N\text{ Gain} = \frac{S_{\text{posttest}} - S_{\text{pretest}}}{S_{\text{maksimum}} - S_{\text{pretest}}} \quad (3)$$

With :

S_{posttest} = final test score

S_{pretest} = initial test score

S_{maksimum} = ideal scores from the initial test and the final test

The Normalized Gain interpretation values are as follows (Sundayana, 2016).

Table 2. Modified Normalized Gain Interpretation

Normalized Gain Value	Interpretation
$-1,00 \leq g < 0,00$	Decreased
$g = 0,00$	Permanent
$0,00 < g < 0,30$	Low
$0,30 \leq g < 0,70$	Medium
$0,70 \leq g \leq 1,00$	High

3. Result and Discussion

Moodle-based e-learning products in Dasar Desain subjects that have been developed are on the website with the address www.dasardesain.com which consists of several menus, namely (1) Home which contains material that has been filled out by the teacher, students just click course material to be studied, in each material contains a comment or discussion column, (2) Private File, contains tasks uploaded by students, chat room between teacher and students, (3) Administration, a place for students to register on the course and contains a list of students enrolled in the course, (4) Settings for managing or editing all course needs such as entering material or editing material, giving assignments to students, and making announcements.

The development of Moodle-based e-learning in Dasar Desain subjects is intended to make audiovisual media on Dasar Desain material that can provide concrete images to students to facilitate the understanding of the material that presented. The steps for developing Moodle-based e-learning are in accordance with the Dick and Carey development model. Researchers conduct initial observations related to student characteristics and subject matter that are in Dasar Desain subjects. Then design is carried out in the preparation of material on Moodle. The subject matter consists mainly of practical material and some theoretical material. This is because in the Dasar Desain subjects, the students must be able to produce a design and fashion product.

The assessment obtained in the Dick and Carey model includes formative evaluation and summative evaluation to determine the level of validity and effectiveness of Moodle through student learning outcomes. Formative evaluation is carried out throughout the process of media development such as validation of the media expert test and material expert test. Meanwhile, a summative evaluation is carried out after Moodle is validated by experts to find out the effectiveness of this media. Summative evaluation is done by comparing the results of students' pre-test scores before using this media and post-test results after students learn using this media. The material used as the pre-test and post-test is the presentation design material. So the calculation of the gain score is focused on the psychomotor aspects.

In the material expert test, the feasibility of the material is reviewed from 3 aspects and each aspect consists of several criteria. First is aspects of indicators' suitability that consist of 3 criteria, second is aspects of presentation of material that consist of 3 criteria and third is aspects of pedagogy that consist of 4 criteria. Each criterion is assessed with a range of 1 to 5 scores with the provisions that 5 = very good, 4 = good, 3 = enough, 2 = bad, 1 = very bad. The results of the material feasibility test that have been tested on 3 experts, are shown in the following table.

Table 3. Table of Material Expert Test Results

No.	Assessment Aspects	Total Expert Scores Per Aspect		
		Expert 1	Expert 2	Expert 3
1	Indicators' Suitability	15	15	15
2	Presentation of Material	13	15	14
3	Pedagogy	20	19	20
Total		48	49	49
Average		0,96	0,98	0,98
Total Average		0,97		
Percentage		97%		

The results of material expert test obtained an average of 0.97 with a percentage of 97%. Based on the table of eligibility criteria, this result are included in the very decent criteria. There are some inputs from material experts such as adjusting some competency with the content of the material discussed, designing more attractive layouts and compiling assessments to suit the expected competencies. After re-consulting and making improvements, Moodle-based e-learning is worth continuing.

In the media expert test, the feasibility of the media is reviewed in 3 aspects and each aspect consists of several criteria. First is aspects of the display that consist of 4 criteria, second is aspects of language use that consist of 3 criteria and third is aspects of audio that consist of 3 criteria. Each criterion is assessed with a range of 1-5 scores with the provisions that 5 = very good, 4 = good, 3 = not good, 2 = not good, 1 = very not good. The results of the media feasibility test that have been tested on 3 experts, are shown in the following table.

Table 4. Table of Media Expert Test Result

No.	Assessment Aspects	Total Expert Scores Per Aspect		
		Expert 1	Expert 2	Expert 3
1	Display	20	20	19
2	Language use	15	14	10
3	Audio	14	14	12
Total		49	48	41
Average		0,98	0,96	0,82
Total Average		0,92		
Percentage		92%		

The results of media experts test obtained an average of 0.92 with a percentage of 92%. Based on the table of eligibility criteria, this result is included in the very decent criteria. There are some improvements that must be made based on the results of this evaluation, such as the learning steps must be made more structured, the addition of musical illustrations and the addition of questions and answers. From the suggestions given, improvements have been made and consulted again with media experts. Then it was accepted so that e-learning was valid in terms of media.

After the Moodle-based e-learning that was developed was declared feasible by the experts then a summative evaluation was carried out by conducting a Moodle-based e-learning trial to students. The subjects of this summative evaluation test were 31 students from class X of Fashion Design Study Program in SMKN 2 Singaraja. Students are given a pre-test before do learning with Moodle-based e-learning to determine the students' initial abilities before using e-learning. After conducting the pre-test, students begin to be treated with Moodle-based E-Learning in Dasar Desain subjects.

Each student is asked to study the material on Moodle. In the Moodle contains videos on how to make a fashion design. The teacher asks students to choose the material, namely the design of the presentation. Then students were asked to study the material and understand the video presented. Furthermore, students were asked to practice the material contained in the Moodle. Before ending the lesson, the teacher gives students an opportunity to discuss or ask questions to unite understanding and get conclusions. Moodle-based e-learning is not only accessible at school, but students can access Moodle wherever and whenever. This Moodle provides a discussion forum with the aim of making it easier for students to discuss with teachers and other students without having to wait for class meetings.

At the end of the learning topic, students are given a post-test (final test) to find out the competency of students after getting learning using Moodle. Furthermore, the results of the post-test and pre-test are compared and the difference is sought to find out the improvement in student learning outcomes after learning by using Moodle. N-Gain calculation results obtained an average value of N-Gain is 0.79 and based on the interpretation table, this result included in the high criteria. From 31 students who took the test, there were 23 students received N-Gain

scores with high criteria and 8 students received N-Gain scores with medium criteria. Based on these results it can be seen that there was a significant increase in student grades after using Moodle-based e-learning media.

4. Conclusion

Based on the results of this research, it can be concluded that Moodle-based e-learning media influences student learning outcomes. There was a significant improvement after students applied learning using Moodle-based e-learning. Based on the test of material experts and media experts, Moodle-based e-learning media is included in the very decent criteria. The average value of material expert test is 0.97 with a percentage of 97% and the average value of the media expert test is 0.92 with a percentage of 92%. The results of the N-Gain calculation value of students who were the subjects of the study showed a significant increase with an average value of N-Gain is 0.79 and this result included in the high criteria. There has been an increase in student learning outcomes in the Fashion Study Program after using Moodle-based e-learning media.

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Management of Indoor and Outdoor Learning Environments Oriented toward the Concept of Tri Hita Karana as an Effort to Integrate Environmental Education

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Abstract. Prevention of environmental damage is not solely the responsibility of the government, but also educational institutions. Educational institutions must be able to accommodate the formation of students as the nation's future candidates who are able to apply the principles of sustainability and ethics in the environment from an early age. One of the policies that the government has taken to overcome this problem is environmental education. To be able to integrate environmental education in kindergarten, it is necessary to manage the right indoor and outdoor learning environment. One educational model that can be applied to integrate environmental education in kindergarten is through education that is oriented to the values of *Tri Hita Karana*. Based on these problems, this study was conducted with the aim of describing the management of *Tri Hita Karana's* indoor and outdoor learning environment as an effort to integrate environmental education in kindergarten. This research is classified as qualitative research with data collection methods in the form of observations, interviews, and questionnaires. The results of this study indicate that the management model of indoor and outdoor learning that is oriented to THK values can be applied to integrate THK environmental education. Through the THK concept that contains values such as: (1) nature conservation, (2) maintenance of the school environment, (3) maintaining school cleanliness, and (4) plant maintenance can certainly foster awareness of students in kindergarten about the importance of protecting the environment so that they can play a role active in environmental preservation and safety efforts.

Keywords: Education, Environment, *Tri Hita Karana*

1 INTRODUCTION

Environmental damage is one of the serious problems facing the people of Indonesia. The more days pass issues related to environmental damage are increasingly worrisome. Even damage to the environment directly threatens human life. According to the Indonesian traffic police number of vehicles listed until January 2017 has reached 102,328,629 vehicles. This condition gives air pollution problems which had more than 165,000 people died (Tjumano, D, 2018). Data from the Ministry of Environment and Forestry also shows that Indonesia produced up to 65 million tons of waste in 2016 and increased to be 67 million tons in 2017. Similar data was also shown by the Oceanographic Center which stated around 35.15% of coral reefs in Indonesia are in bad condition and only 6.39% in very good condition. Indonesia also ranks second in a hundred and ninety-two countries as contributors to plastic waste to the ocean

(Jambeck, Jenna R, Roland Geyer, Chris Wilcox, Theodore R, Siegler, Miriam Perryman, Anthony Andrady, Ramani Narayan, Kara Lavender Law, 2015)

The condition has explained that until now the problems of the environment are still become an evaluation that has not been completed by the Indonesian people. If this problem is ignored and not immediately addressed it is feared that it will disrupt human life in the future. Environment pollution is a worldwide problem and its potential to influence the health of human populations is great (Fereidoun et al, 2007; Progressive Insurance, 2005). Pollution is an undesired change in physical, chemical or biological characteristics of air, water and soil that may harmfully affect the life or a potential health hazard of any living organisms (Pathak, Chintan & Hiren C. Mandalia, 2011). A good and healthy environment cannot be obtained by the Indonesian people due to environmental damage. Whereas, based on the secure article 28h law of the state of the republic of Indonesia of 1945 has been explained that a good and healthy life environment is a right to any citizens of Indonesia.

In order to overcome these environmental problems, good program and collaboration between all components of the nation is needed. Environment Program must be one of the core work of the government (Burrows, 2013). Other than that there needs to be a joint awareness that tackling the problem of environmental damage is not solely the responsibility of the government. But it is also the shared responsibility of all components of the nation, including educational institutions. Educational institutions ranging from Early Childhood Education to tertiary institutions must be able to create future successors who have an awareness of the importance of the environment. For this reason, education in these institutions must be able to accommodate the formation of future successors who are able to apply the principles of sustainability and ethics in the environment from an early age.

Early Childhood Education, especially in kindergarten is the right time to start instilling environmental education because building a lifestyle and value system that promotes a life that is in harmony with the environment is not an easy job and cannot be done in a short time. Therefore, environmental education must be given as early as possible from education in Early Childhood Education, especially kindergartens. By providing environmental education early on it is expected to create citizens who have knowledge about the environment and its problems, fostering awareness so that they are effectively involved in actions towards better and more livable environmental development. In addition, according to Tim MKU PLH (2014) the introduction of the environment from an early age is a good first step for young children to appreciate the surrounding environment. Because at this time one of the basic quality aspects that can be developed significantly is environmental preservation.

To support the inculcation of awareness of the environment from an early age, the government has taken policies through environmental education. Environmental education is conceptualized in a broad sense to include all educational programs, information campaigns, or any other organized effort at confronting peoples' understanding of, attitudes toward, or behavior affecting our natural resources (McGuere, Nicholas, 2015). Through environmental education, it is expected to be able to move the community to play an active role in environmental preservation and safety efforts for the benefit of present and future generations.

Sudira (2014) states the five objectives of environmental education as follows:

1. Field of knowledge: helps individuals, groups and communities to gain experience and gain knowledge about what is needed to create and maintain a sustainable environment.

2. Field of awareness: helping social groups and individuals to gain awareness and sensitivity to the environment as a whole along with the accompanying issues, questions, and problems related to the environment and development.
3. Behavioral field: helps individuals, groups and communities to obtain a set of values for feeling concerned about the environment and motivation to participate actively in environmental improvement and protection.
4. Field of skills: helping individuals, groups and communities to gain skills to identify, anticipate, prevent, and solve environmental problems.
5. Field of participation: provide opportunities and motivation for individuals, groups and communities to be actively involved in creating a sustainable environment.

Based on the five educational objectives above, it can be concluded that environmental education is needed to be able to wisely manage resources and foster a sense of responsibility towards the interests of future generations.

The implementation of environmental education is in line with the mandate of Law Number 32 Year 2009 concerning Environmental Protection and Management, especially in article 65 paragraph (1) which states that "everyone has the right to a good and healthy environment as part of human rights" and paragraph (2) which states that "every person has the right to receive environmental education, access to information, access to participation, and access to justice in fulfilling the right to a good and healthy environment. Based on the two paragraphs in article 65 it can be understood that one of the people's rights is to get environmental education. In addition, the implementation of environmental education is also in line with a joint agreement between the State Minister for the Environment and the Minister of National Education conducted in 2010. Based on the agreement Number 03 / MENLH / 02/2010 and Number 01 / II / KB / 2010 regarding Environmental Education, then the community is required to be involved in the Control of Environmental Pollution.

Education was chosen as a vehicle for planting environmental education because education is actually a process of making humans as beings who are responsible for themselves and their environment. In addition, education is also believed to be the main domain in human development, the environment, and religion. To be able to integrate environmental education in indoor and outdoor environments in kindergarten, the right educational model is needed. One model of education that can be applied to integrate environmental education in kindergarten is through education oriented to the values of *Tri Hita Karana* (THK). Sudira (2014) states that THK has been used by the Balinese in every aspect of structuring public life that is both material (*sekala*) and non-material (*niskala*). In relation to education, the THK education model aims to produce outcomes of students with the character and culture of THK. In other words, THK is not only understood as education in order to produce people who are able to live in harmony with each other, but also produce people who care about the environment.

Based on the description above, the researchers are interested in conducting research with the aim of describing the management of the indoor and outdoor learning environment oriented *Tri Hita Karana* as an effort to integrate environmental education in kindergarten. Through the management of THK-oriented indoor and outdoor learning environments in kindergarten, it is hoped that it can grow young people who have the awareness and responsibility to prosper them while maintaining their environment.

2 METHOD

This research is classified as qualitative research with data collection methods in the form of observations, interviews, and questionnaires. This research was conducted at Eke Dharma Singaraja Kindergarten. The data of this study were analyzed by qualitative methods through three stages, namely: data reduction, data presentation, and drawing conclusions (meaning) data.

3 RESULTS AND DISCUSSION

The concept of THK-oriented education is actually not a new thing found in Bali. The concept of education has actually long been applied in schools in Bali. This can be seen from how the arrangement and utilization of the building facilities and school temples, the environmental arrangement of the school area, and the presence of elements of people or school residents.

One kindergarten that has used the THK concept in managing indoor and outdoor environments is TK Eka Dharma Singaraja. Based on observations at the kindergarten, it was found that the structure of TK Eka Dharma Singaraja had used the THK concept as a basis for managing indoor and outdoor environments. This can be seen from the existence of *parhyangan* in the form of a temple which was built in the main part of the *mandala* as the upstream location of the kindergarten. The *pawongan* element consists of teachers, students, and education staff. The weakening element as the third element in the THK concept also forms an inseparable part in this kindergarten. The arrangement of the outdoor and indoor environment that focuses on the shade, beauty and comfort of kindergarten with various plants strongly supports the government program called green school. The existence of plants in outdoor and indoor environments is believed to have a very important function. Aside from being a producer of fresh oxygen, plants grown in outdoor and indoor environments turned out to be very good learning objects for children in kindergarten. Plants that are in the indoor and outdoor environment can be used as a medium to teach the behavior of maintaining and caring for plants. It is thus expected to provide awareness to children especially those who have a conservation culture to care for and preserve the natural environment in kindergarten.

The existence of the THK concept in managing indoor and outdoor environments in Eka Dharma Singaraja Kindergarten is believed to be the right concept to integrate environmental education in this kindergarten. In addition to the placement of plants, the integration of THK-oriented indoor and outdoor environments as an effort to integrate environmental education is also carried out by including THK's core values in the learning curriculum conducted at Eka Dharma Kindergarten. In order to give maximum results, principals and teachers also disseminate THK's core ethical and performance values to children. Understanding and knowledge of the values contained in THK is very important because it helps the school community behave accordingly. The values contained in the THK element can be taught in TK Eka Dharma are: (1) the value of the *parhyanganelement*: trust in God and increase piety to God, (2) the value of the *pawongan* element: mutual respect, mutual respect, cooperation, and responsibility answer, and (3) the value of elements of weakness: (1) maintenance of the environment and cleanliness of the school environment. THK values socialized at TK Eka Dharma are in accordance with THK values stated by Sudira (2014) as follows.

Tri Hita Karana (THK)		
Values of Parhyangan	Values of Pawongan	Values of Palemahan
1. Awareness to Atman	1. The power of prana	1. Awareness / anggasarira
2. Utilization of School Parhyangan	2. Think critically	2. Maintenance of body
3. Attitude to live clean physically and spiritually	3. Mutual cooperation	3. Understanding the functions of the five senses
4. Cultivating faith	4. Serve one another	4. Understanding the function of five motors
5. Foster piety	5. Effective communication	5. Conservation of nature
6. Foster togetherness	6. Collaboration	6. Maintenance of the school environment
7. Eliminating selfishness	7. Responsibility	7. Maintenance of school buildings
8. Cultivating the nature and integrative attitude	8. Culture of learning	8. Maintenance of school facilities
9. Building moral strength and mental strength	9. Creative	9. Maintain cleanliness of the school
	10. Innovative	10. Plant maintenance
	11. Productive	11. Preservation of cultural arts
	12. Democratic	
	13. Open remains rooted in Balinese culture	
	14. Discipline life attitude	
	15. Mutual respect	
	16. Cultivated work	
	17. Discipline life attitude	
	18. The truth	
	19. Loyalty	
	20. Love	
	21. Without violence	
	22. Politeness	
	23. Tolerance	
	24. Honesty	
	25. Responsibility	
	26. Tri KayaParisudha	

Based on the table above, it can be seen that the value contained in one of the THK elements, which is palemahan has included environmental education activities in schools. Values such as: (1) nature conservation, (2) maintenance of the school environment, (3) maintaining school cleanliness, and (4) caring for plants can certainly foster student awareness about the importance of protecting the environment in school. Through an understanding of these values is also expected to increase students' knowledge, skills and awareness in schools about environmental values and environmental issues so that they can move students to play an active role in environmental preservation and safety efforts.

Aside from being a media for integrating environmental education in schools, THK-oriented education can also integrate mindset and life attitudes to always build emotional intelligence, spiritual intelligence, and ecological social intelligence, and kinesthetic intelligence, artistic and cultural intelligence to students (Sudira, 2014). The construction of temples in schools as

the implementation of the parhyangan element has been proven to be able to foster an attitude of faith, piety, culture of service, togetherness, mutual respect, eliminate egoism, change the exclusive nature to be integrative, build moral strength and mental strength, meticulous, talent development, and cultural arts interests.

The implementation of the *parhyangan* element through the construction of temples in schools has also helped shape the awareness of God in students so that they feel more peaceful, safe, their minds are more focused on learning at school so education at school becomes more conducive. A safe, comfortable and conducive educational environment is very helpful in implementing quality education in schools. In addition, *parhyangan* intensively as well used as a means of building harmony between students, educators, and education staff.

4 CONCLUSION

Based on the discussion above, it can be concluded that THK-oriented education can be used as an effort to integrate environmental education in schools. Through the concept of one of the THK elements, namely *palemahan* containing values such as: (1) preservation of nature, (2) maintenance of the school environment, (3) maintaining school cleanliness, and (4) caring for plants can certainly foster student awareness about the importance of protecting the environment so can play an active role in environmental preservation and safety efforts.

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The Effectiveness of Project-Based Learning with Performance Assessment in Enhancing Students' Critical Thinking Ability, Scientific Attitude, And Self-Efficacy in Science Teaching

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Abstract. Assessment tool is one of the essential parts in science teaching. The implementation of teaching model with the right instruments for assessing the students' performance can help students to enhance their scientific thinking skills. This research was aimed at analysing the effect of Project Based Learning model (PjBL) and performance assessment on students' critical thinking ability, scientific attitude, and self-efficacy. This research used a quasi-experiment with the post-test only control group design. The research population consisted of all nine grade students of SMP Negeri 1 Singaraja in the academic year 2017/2018 with the total of 269 students. The sample was selected from the existing classes by random sampling technique. The research instruments were critical thinking ability test, scientific attitude questionnaire, and student's self-efficacy. Before they were used, their validity and reliability were tested first and it turned out that the tests have high reliability coefficients. The sample (N=60) was obtained by lottery and the members were assigned to the experiment class (30 students) and the control class (30 students). The data were analysed descriptively and to test the hypothesis the research used MANOVA at $\alpha = 0.05$. The results showed that simultaneously, the critical thinking ability, scientific attitude, and self-efficacy of the students who learned through PjBL and authentic assessment differ significantly from those who learned through PjBL and conventional assessment ($F=10.79$; $p<0.05$). The group of students who learned through PjBL and authentic assessment had a higher mean score than the group of students who learned through PjBL and conventional assessment. In other words, authentic assessment is effective in enhancing critical thinking ability, scientific attitude, and self-efficacy in science teaching.

Keywords. Project Based Learning (PjBL), performance assessment, critical thinking, self-efficacy

1 INTRODUCTION

In the current era of globalization, the challenge of improving quality in all aspects of life is no longer negotiable. The rapid development of science and technology requires every nation to utilize its potential resources in order to survive and be able to win the competition with other countries. This means that every nation needs to enhance a competitive attitude towards human resources (HR) systematically through education and training. In order to face the challenges of the future (towards generation 2045), five minds of the future are required which consist of disciplined mind, synthesizing mind, creating mind, respecting mind, and the ethical mind (Gardner, 2007). Furthermore, the globalization must be "resisted" by developing creativity and entrepreneurship through a transformative critical pedagogic in national education (Tilaar, 2012). Thus, the important thing that must be prepared for human resources

in the future is the ability to think. Education nowadays must be directed at increasing the competitiveness of the nation in order to be able to compete in this global competition. This can be achieved if education in schools is directed not solely on mastery and understanding of scientific concepts, but also on improving students' thinking ability, especially in high order thinking.

Science education has a great potential in developing students' high order thinking skills. In addition to studying science products in the form of facts, concepts, principles, laws, and theories, science education also develops scientific attitudes and thinking skills of students (Collette & Chiappetta, 1994; Suastra, 2013). Through it, students will be encouraged to develop personal experiences and practical skills which will be very useful in the process of solving a problem (Gödek, 2004). Lewis & Kelly (1987) also emphasized that science education provided both in formal and non-formal education is very important in developing the quality of human life.

Various efforts have been done by the government relating to the development of quality human resources through science learning in schools, for example: improving the quality of teachers, fixing the learning facilities, developing competency-based curricula, and implementing integrated quality management. However, these efforts have not shown optimal results. Some researches and assessments of the human resources quality in Indonesia, still reflects a low figures. The Survey of Trend International Mathematics Science (TIMSS) reported that Indonesia is ranked 36th out of 49 countries in the world on the average value of science in the cognitive domain. Indonesia obtained scores of 425, 426, and 438 for the knowing, applying, and reasoning abilities, respectively. All these scores were below the TIMSS average score, which is 500 (Mullis et al., 2015). In 2012, Indonesia ranked 121st among the countries in the world for the Human Development Index compiled by UNDP (United Nation Development Program) (UNDP, 2013). There was also the results of a survey conducted by the OECD (Organization for Economic Co-operation and Development) in 2015, which showed Indonesia's position ranked 69th out of 76 countries for science skills based on the category of 15-year-old students (OECD, 2015). The description of the low quality of human resources in Indonesia can also be seen from various social problems that occur, as seen in printed media, television, and other social media, related to provocation and slander through hoaxes that can damage and destroy the social order of the nation which are divisive among the Indonesian. This requires the criticality of the community in facing this false news so that the integrity of the unitary state of the Republic of Indonesia is maintained. The low quality of human resources can also be measured by the low critical thinking skills possessed by each individual. The results of the study conducted by Sadia (2008) showed that the critical thinking skills of students in SMP and SMAN in the province of Bali were still relatively low. This is due to the dominance of teachers in the learning process which does not give access to students to develop the knowledge through their own discovery. Based on these explanations, then in science learning, it is expected that students gain meaningful experiences to develop their thinking abilities. (Suastra et al., 2007) also revealed that the achievement of scientific performance of students in learning science, especially physics, is still low due to the characteristics of the material that is too dense. The benchmark of success in education that is also still focused on the product (concept), so that the application of physics learning especially on scientific performance aspects is very minimal to do. Based on the description above, it appears that the low critical thinking skills and scientific performance of students in science learning tend to be caused by the implementation of learning that has not been optimal.

It is necessary to improve the learning process, both by renewing it and implementing more innovative learning models that are able to develop students' scientific performances and critical thinking skills. One of the learning models that does not only empowers science as a product but can also empower science as a process especially for improving scientific

performance and critical thinking skills of students is the Project Based Learning (PjBL) model. This model is recommended to be implemented in the 2013 Curriculum (K-13) which emphasizes the learning process with a scientific approach. The Project Based Learning (PjBL) model is a learning model that refers to the philosophical theory of constructivism, which states that knowledge is the result of cognitive construction through an activity that includes students' scientific skills and attitudes, so students can construct their own knowledge through real experiences. This learning model focuses more on concepts that involve students in problem solving activities, giving students the opportunity to work autonomously, construct their own learning, and produce valuable and realistic students' work (Liu et al., 2004). The PjBL model also facilitates students in getting more in-depth learning and understanding of the topics that they learn as well as increasing their learning motivation (Bell, 2010). Through the PjBL model students will be accustomed to use their cognitive abilities in analysing a problem that is integrated in a project model, which later will have an impact on improving students' critical thinking skills (Thomas, 2000). Çakici & Türkimen (2013) found that PjBL was better in terms of improving the learning achievement and scientific attitude of students in learning science compared to the conventional learning model. This is in accordance with previous findings which state that PjBL can help students in carrying out their assignments, present their ideas, and build relationships between concepts (Tal et al., 2006). During a project work, the teacher should act as a guide and facilitator to provide feedback on the objectives of the activity (Kurznel & Rath, 2007). The Project Based Learning (PjBL) model assisted by performance assessment is chosen in science teaching because it has enormous potential to develop students' scientific performance, train students' thinking processes that lead to students' critical thinking skills, and develop their scientific attitudes. Santyasa (2006) further stated that the Project Based Learning (PjBL) model can foster students' efforts to build complex and rich experience of memory representation, which shows a strong level of connection between semantic, episodic, and action knowledge. In addition, in project-based learning students are encouraged to be more active in learning activities so they can improve their scientific performance, while teachers are only as facilitators and evaluate the process and products of students' performance that include outcomes displayed from the results of the project. The Project based learning (PjBL) model as a tool that maximizes student activity in learning can improve students' scientific activities and performance and help students develop critical thinking skills and scientific attitudes. The study conducted by Sumarni et al., (2016) concluded that PjBL has the characteristics of cooperative learning, increases student learning motivation, increases creativity, active students, and fosters elements of lifelong learning. The Project Based Learning (PjBL) model has 5 steps, namely: (1) setting the theme of the project, (2) the context of learning, (3) planning activities, (4) processing activities, and (5) implementing activities to execute the project. At the step of setting the theme of the project, students are given the opportunity to set the theme of the project according to existing problems. The learning context guides students to work autonomously and conduct inquiry based on the theme of their project. Planning activities will lead students to look for sources related to the project to be designed. Processing activities related to students' activities in determining the steps in the project. Implementing activities leads students to start working on projects based on the steps that have been set and present them to solve problems related to the project. The application of the five stages of this learning model simultaneously in learning physics will optimize the understanding of concepts, thinking skills, process skills and scientific attitudes of students (Santyasa, 2006).

The implementation of the 2013 Curriculum (K-13) has consequences for the changes in the assessment system. The 2013 curriculum requires the teacher to balance the assessment of the student's learning outcomes which includes competency attitudes, knowledge and skills. One of the evaluation method emphasized in the 2013 curriculum is the authentic assessment which

is a form of continuous comprehensive assessment carried out by teachers on instructionally-classroom activities (Regulation of the Ministry of Education and Culture No. 104 of 2014). The authentic assessment is defined as an integral part of science learning and has characteristics which are described by a direct evaluation toward the students' performance during the learning process (Harlen, 1992). The evaluation process in the authentic assessment give opportunities to the teachers to assess students' performance while they are doing their assignments so that this will encourage students to show their high-level cognitive abilities(Worthen, 1993). Emery (2001) also adds that by doing the tasks given in the authentic assessment, students are given a space of freedom to integrate their scientific processes and abilities of inquiry and use the scientific understanding they have in the context of solving problems. One type of authentic assessments that can be used in conducting science learning process is performance assessment. This type of assessment is regarded as an attempt to measure a student's mastery of a high-level, sometimes quite sophisticated skill through the use of fairly elaborate constructed-response items and rubric (Popham, 2003). Performance assessments emphasize higher-order thinking skills (*Application, Analysis, Synthesis, and Evaluation*) that go beyond the *knowledge* level (Butler et al., 2005). The evaluation sheets that use the performance-based criteria have more advantages than competence-based criteria because: (1) They are directly observable, (2) they lead to a better quantitative differentiation of levels of performance, (3) they stimulate a step-by-step process leading to desired performance, and (4) they require less cognitive capacity for assessment leaving more capacity for learning the task at hand (Fastré et al., 2010). Several studies show that the performance assessment can help to increase the students' science competency. Based on the results of a study conducted by Al-Sadaawi (2007), the results of science learning in the group of students that were given performance assessments were better than the results of science learning given ordinary assessment. In addition, the study done by Damayanti et al. (2017) showed that the science learning using virtual lab project based model with authentic assessment can significantly improve students' critical thinking. By looking at the characteristics and the effectiveness of performance assessment in evaluating the students' competency as well as their performance during the class, this such assessment might be suitable to be implemented with the PjBL model. Therefore, in this study the effect of the implementation of the PjBl model and authentic assessment in the classroom will be investigated.

2 METHOD

This research was a quasi-experiment in which not all variables that influenced the results of the study can be controlled properly and the process of selecting samples cannot be done with the full randomization process. This study used a post-test only control group design that only takes into account the post-test score that was done at the end of the study [28]. There are two variables used in this study, i.e., independent and dependent variables. The independent variable was the assessment tool and the independent variable were scientific performance, critical thinking skills, and self-efficacy. The use of assessment tools as a treatment was differentiated into two, i.e., performance assessment for the experimental group (EG) and conventional assessment for the control group (CG). Both groups use the same learning model i.e., Project Based Learning (PjBL). In more detail, the research design can be seen in Table 1.

Table 1. The research design with post-test only control group.

Group	Treatment (X)	Post-test (O)
Experimental (E)	X	O _{1,2,3}
Control (C)	-	O _{1,2,3}

(Arikunto, 2010)

The population of this research was 269 ninth-grade students of SMP N 1 Singaraja in the first semester on academic year 2015/2016. SMP N 1 Singaraja was chosen as the population in this research based on consideration of its affordability and feasibility. The affordability means ease of access, so that a smooth implementation of this research can be guaranteed. The feasibility means the opportunity for the realization of the experimented learning model because the school has experience in implementing the 2013 Curriculum and its infrastructure is sufficient to carry out project based learning model.

Based on the population characteristics, in which all classes in the population are equal, two samples were then chosen by random sampling techniques from existing classes as the experimental group (EG) and the control group (CG). In this study, each group consisted of 30 students.

The data of this research were collected using the critical thinking skill test, scientific attitude questionnaires, and self-efficacy questionnaires. The tests of critical thinking skills was developed into 30 items of an objective test and meets the indicators of interpretation, analysis, evaluation, inference, and explanation. The scientific attitude questionnaire fulfils the indicators of curiosity, respect for facts, critical reflection and perseverance, open mindedness, working with others, the desire to accept uncertainty, and being sensitive to the environment. The number of items on the scientific attitude questionnaire was 25 items. The self-efficacy questionnaire consisted of 25 items and was developed based on aspects of the level of difficulty, level of strength, and generalization. All instruments used in this study meet valid and high requirements. The data were analysed through descriptive statistics and factorial analysis with a 5% significance level.

3 RESULTS AND DISCUSSION

Based on the data analysis, it was found that the average scores of critical thinking skills, scientific attitude, and self-efficacy of the students who learned through the PjBL model with performance assessment were higher than those obtained through the PjBL with conventional assessment tools. The average score of critical thinking skills, scientific attitude, and self-efficacy of the students who learned through the PjBL model with performance assessment were 71,00 (good category), 80,76 (good category), and 87,50 (very good category), respectively. On the other hand, the group of students who learned through PjBL with conventional assessments obtained the average score of 64,83 (enough category) for critical thinking skills, 76,66 (good category) for scientific attitude, and 80,37 (good category) for self-efficacy.

Before conducting the Manova statistical test, the normality of data distribution, homogeneity of the experimental and control groups as well as inter-correlations between dependent variables were firstly tested. The normality of data distributions were tested using the Kolmogorov-Smirnov and Shapiro-Wilk Test. The summary of the result of normality is shown in Table 2.

Table 2. Results of normality test.

Dependent Variables	Assessment Tool	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Critical Thinking	Authentic	.149	30	.088	.959	30	.289
	Conventional	.125	30	.200*	.980	30	.834
Scientific Attitude	Authentic	.150	30	.085	.919	30	.025
	Conventional	.128	30	.200*	.967	30	.452
Self-efficacy	Authentic	.134	30	.182	.942	30	.102
	Conventional	.149	30	.086	.930	30	.048

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on Table 2, the data distribution on the score of the students' critical thinking skills, scientific attitude, and self-efficacy of the experimental and control groups are normally distributed (sig normality > 0.05). Thus, it can be continued with the homogeneity test for the experimental and control groups which is given in Table 3.

Table 3. The summary of the result of homogeneity test.

		Levene Statistic	df1	df2	Sig.
Critical Thinking	Based on Mean	.001	1	58	.978
	Based on Median	.049	1	58	.826
	Based on Median and with adjusted df	.049	1	57.969	.826
	Based on trimmed mean	.002	1	58	.968
Scientific Attitude	Based on Mean	1.972	1	58	.166
	Based on Median	2.006	1	58	.162
	Based on Median and with adjusted df	2.006	1	56.196	.162
	Based on trimmed mean	2.015	1	58	.161
Self-efficacy	Based on Mean	2.694	1	58	.106
	Based on Median	2.642	1	58	.109
	Based on Median and with adjusted df	2.642	1	57.986	.109
	Based on trimmed mean	2.797	1	58	.100

Based on the results of data analysis in Table 3, it can be concluded that both the experimental and control groups are homogeneous. The inter-correlation test between dependent variables is shown in Table 4.

Table 4. The summary of the result of inter-correlations test.

		Critical Thinking	Scientific Attitude	Self-efficacy
Critical Thinking	Pearson Correlation	1	.045	.250
	Sig. (2-tailed)		.731	.054
	N	60	60	60
Scientific Attitude	Pearson Correlation	.045	1	.041
	Sig. (2-tailed)	.731		.758
	N	60	60	60
Self-efficacy	Pearson Correlation	.250	.041	1
	Sig. (2-tailed)	.054	.758	
	N	60	60	60

Based on the results of the analysis in Table 4, it appears that the inter-correlations between the dependent variables are entirely below 0.8. This means that there is no very strong correlation between critical thinking skills, scientific attitude, and self-efficacy. Thus, the requirements for analysis using Manova has been met. Simultaneous and inter-subject analysis of multivariate (Manova) test results are presented in Table 5 and Table 6, respectively.

Table 5. Results of simultaneous analysis of multivariate test

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.998	7481.155 ^b	3.000	56.000	.000
	Wilks' Lambda	.002	7481.155 ^b	3.000	56.000	.000
	Hotelling's Trace	400.776	7481.155 ^b	3.000	56.000	.000
	Roy's Largest Root	400.776	7481.155 ^b	3.000	56.000	.000
Assessment	Pillai's Trace	.365	10.739 ^b	3.000	56.000	.000
	Wilks' Lambda	.635	10.739 ^b	3.000	56.000	.000
	Hotelling's Trace	.575	10.739 ^b	3.000	56.000	.000
	Roy's Largest Root	.575	10.739 ^b	3.000	56.000	.000

a. Design: Intercept + Assessment

b. Exact statistic

Table 6. Results of inter-subjects multivariate test

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Critical Thinking	589.067 ^a	1	589.067	10.221	.002
	Scientific Attitude	252.150 ^b	1	252.150	4.931	.030
	Self-efficacy	763.267 ^c	1	763.267	16.868	.000
Intercept	Critical Thinking	277168.067	1	277168.067	4808.971	.000
	Scientific Attitude	371778.817	1	371778.817	7270.037	.000
	Self-efficacy	422688.267	1	422688.267	9341.296	.000
Assessment	Critical Thinking	589.067	1	589.067	10.221	.002
	Scientific Attitude	252.150	1	252.150	4.931	.030
	Self-efficacy	763.267	1	763.267	16.87	.000
Error	Critical Thinking	3342.867	58	57.636		
	Scientific Attitude	2966.033	58	51.139		
	Self-efficacy	2624.467	58	45.249		
Total	Critical Thinking	281100.000	60			
	Scientific Attitude	374997.000	60			
	Self-efficacy	426076.000	60			
Corrected Total	Critical Thinking	3931.933	59			
	Scientific Attitude	3218.183	59			
	Self-efficacy	3387.733	59			

a. R Squared = .150 (Adjusted R Squared = .135)

b. R Squared = .078 (Adjusted R Squared = .062)

c. R Squared = .225 (Adjusted R Squared = .212)

Based on the results of analysis using MANOVA test as given in Tables 5 and 6 the following findings are established. The result test of hypothesis 1. The hypothesis 1 which states that simultaneously there is no difference in critical thinking, scientific attitude and self-efficacy between the students who learned through PjBL with performance assessment and those who learned using PjBL with conventional assessment is rejected ($F=10.74$; $p<0.05$). In other words, simultaneously there is a difference in critical thinking, scientific attitude and self-

efficacy between the students who learned using PjBL with performance assessment and those who learned using PjBL with conventional assessment.

Result of Hypothesis 2 testing. The hypothesis 2 which states that there is no difference in critical thinking between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment is rejected ($F= 10,22$; $p<0,05$). In other words, there is a difference in critical thinking between the students who learned using PjBL and performance assessment and those who learned using PjBL and conventional assessment.

Result of Hypothesis 3 testing. The hypothesis 3 which states that there is no difference in scientific attitude between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment is rejected ($F = 4,93$; $p< 0,05$). In other words, there is a difference in scientific attitude between the students who learned using PjBL and performance assessment and those who learned using PjBL and conventional assessment.

Result of Hypothesis 4 testing. The hypothesis 4 which states that there is no difference in self-efficacy between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment is rejected ($F= 16,87$; $p< 0,05$). In other words, there is a difference in self-efficacy between the students who learned using PjBL and performance assessment and those who learned using PjBL and conventional assessment.

The results of analyses as shown in Tables 5 and 6 show that the students of the experiment group who learned through PjBL with performance assessment could develop their critical thinking, scientific attitude, and self-efficacy in science teaching more effectively than those who learned using PjBL and conventional assessment. This is shown in the MANOVA result that shows that $F = 10.74$ with the level of significance lower than 5%. This is also supported by the mean scores for critical thinking, scientific attitude, and self-efficacy of the students that are higher in the group of students who learned using PjBL with performance assessment than those in the group who learned using PjBL and evaluated by the conventional assessment. From the points of view of the mean scores for critical thinking, scientific attitude, and self-efficacy in science teaching for both the experiment group and the control group, it is apparent that only the critical thinking of the control group fell into the enough category, while the critical thinking of the experiment group fell into the good category. The scientific attitude for both the experiment group and the control group were in the good category. The self-efficacy of the students was in the very good category for the experiment group and in good category for the control group. These results show that PjBL gives a positive contribution to the improvement of the students' scientific attitude and self-efficacy. The implementation of project based learning seems to be effective in helping the student to do exploration, evaluation, interpretation and synthesizing information through a meaningful way. The project based learning model involves students directly in the learning process through research activities which allows them to work on and complete a particular learning project (Thomas, 2000). By doing this way, students will be given the opportunity to enhance their critical thinking and problem solving skills as well as improving their scientific attitude. By owing such high critical thinking and problem solving ability and good scientific attitude, students are gaining more chances to develop their self-efficacy. The result shown in this study is in accordance with the results of study conducted by Marlinda et al. (2013) where the implementation of the PjBL model was found to be able to improve the critical thinking of junior high school students. The similar result was also conveyed by Mihardi et al. (2013) who found that PjBL was able to develop students' creative thinking processes and their problem solving ability in physics. The results of research conducted by Bilgin et al. (2015) also explained further that PjBL was able to enhance students' learning achievement and self-efficacy in science learning.

The improvement of critical thinking, scientific attitude, and self-efficacy of the students was not only caused by the learning model, but it is also due to the implementation of performance assessment in the teaching process. The utilization of performance assessment as the evaluation tools at the end of learning process with PjBL model, providing an opportunity to deepen the students' concept understanding by applying it through the performance-based set of tasks. The main characteristic of performance assessment that reflex the real-life experiences and combines different skills and knowledge, helps the students to explore more their concept understanding (Davey et al., 2015). In teaching science with the implementation of PjBL, the performance tasks given to the students can develop their 'critical thinking, scientific attitude, and self-efficacy higher than in the one using conventional assessment (essay test). They stimulate higher-order thinking skills that ask students to do more than simply recall basic facts. Instead, these assessments ask students to apply, analyze, synthesize, or evaluate (Butler et al., 2005). Apart from this, the performance assessment also encourage the students' self-assessment as the development of the students from the beginning on can be monitored thoroughly (Fastré et al., 2010). The observations found in this study is quite similar with the result of study conducted by Suastra et al. (2007) which found that the performance assessment system was effective enough to increase the students' competencies (knowledge, skills, and attitude) in physics learning. Therefore, PjBL in combination with performance assessment can effectively enhance students' critical thinking, scientific attitude, and self-efficacy.

4 CONCLUSION AND OUTLOOK

Based on the results and data analysis of this study, it can be concluded that 1) simultaneously there is a difference in critical thinking, scientific attitude and self-efficacy between the students who learned through PjBL with the aid of authentic assessment and those who learned through PjBL with conventional assessment, 2) there is a difference in critical thinking between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment, 3) there is a difference in scientific attitude between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment, 4) there is a difference in self-efficacy between the students who learned using PjBL and authentic assessment and those who learned using PjBL and conventional assessment.

The use of authentic assessment in the implementation of PjBL were found to be effective in enhancing students' critical thinking, scientific attitude, and self-efficacy. It can be seen from the comparison of average scores of the critical thinking, scientific attitude, and self-efficacy of students who learned through PjBL with the aid of authentic assessment which were better than those who learned through PjBL with conventional assessment (only by using tests). Based on the conclusion, it can be suggested to the science teachers that they integrate PjBL and authentic assessment in science teaching since it can give a positive contribution to the development of critical thinking, scientific attitude, and self-efficacy of the students. The teachers can implement PjBL with the aid of authentic assessment for certain relevant topics minimally once in a semester. To the principal it is suggested to provide complete science laboratory facilities to support the effectiveness of science teaching using the PjBL model. A further study needs to be done with a broader scope and involving more schools as the subject research to see the result at a larger scale.

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Using Multidimensional Fluency Scale for Reading Class of Engineering Students

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Abstract. The objective of this research was to find out the reading fluency of the second semester Petroleum Engineering students of Engineering Faculty of Universitas Islam Riau (UIR) in term of reading text of petroleum engineering. In this research, the writers only focused on four components of reading fluency namely expression and volume, phrasing, smoothness, and pace. The data was collected by tape-recording audio of all students' reading aloud the text titled 'Offshore Fixed Platforms', which contains around 100 words and analyzed by using multidimensional fluency scale in which those four indicators. Meanwhile, the participants of this research were 25 students. The result of this research showed that the average of the students' score in expression and volume was 66, in phrasing was 55, in smoothness was 71 and in pace was 73. It can be analysed and concluded that the students' reading fluency has average 66.18 which categorized as 'good'.

Keywords: Multidimensional, Reading, Fluency

1 INTRODUCTION

English is an International language that used in communication in many countries in the world. Indonesia is as one of developing countries in the world has to prepare its generation to master English in order to face global Era. Therefore, in Indonesia, English has been taught in the formal education from the basic level such as elementary School to university level, and also informal education (Kemendikbud, 2013). Although English is as a foreign language in Indonesia, it has good development since many students and also people in Indonesia interested to studying English.

In university level, in Engineering Faculty of Islamic University of Riau, English is as a compulsory subject. They study English in the first semester. It can help them a little bit in understanding and comprehending their petroleum engineering lesson materials. In studying English, students should know the four language skills; those are listening, speaking, reading and writing. In reading, especially in general reading comprehension has purposes in order to make students be able to find main idea of paragraph, choose important items, following guide, determine the organization of reading materials, make conclusion what they have read. Furthermore, the objective of teaching reading is to develop the students' ability to read the material, especially for engineering students, they read a material that relate to engineering material, to get information from the text and to understand the text. In getting information, after students read the text, they get the new information about what they read. Reading is a

particular way in which reader understands a text or a book; it is the way to compare the information with the reader's own knowledge. It is also the way to interpret the authors' means (Kim, Wagner, & Foster, 2011; Fuchs, Fuchs, Hosp, & Jenkins, 2001; Perfetti & Stafura, 2014; Frijuniarsi & dan Noni, 2016). Therefore, petroleum engineering students must comprehend the lesson from their books which are written in English. Besides, giving assessment in students' reading ability could support the students' reading activities (Pan, 2020).

However, based on the researchers observation in the second semester of petroleum engineering students at engineering faculty of UIR, some of them still have difficulties on their reading. It might be caused by several factors. One of them is fluency, sometimes students are still confuse how to pronounce the words, and never try to improve it. Because of unable in reading a text fluently, they become lazy to read an English book. Instead of the science and knowledge about petroleum engineering is in English language. To face this problem, students can use several ways to improve their reading fluency, so that students are more motivated to learn.

There are many problems of fluency in reading text. The first problem deals with accuracy; the students cannot succeed to precisely produce the correct sound of each word they read. The second problem the students have related to reading fluency is speed. It is hard for the students to identify the words they read; they need more efforts and attention cognitively to do it. The last problem is prosody which implies that the students are not capable of reading with proper articulation and expression, read text with appropriate volume, stress, pitch, as well as intonation. In this research, researchers only focused on four components of reading fluency including expression and volume, articulation (stress/tone), smoothness and speed.

Reading is an important skill for all learning aspect. The students can get many information that they need to reach their knowledge (Perfetti & Stafura, 2014; Harras, 2011). It means that to get information or knowledge, the students must comprehend a reading text because the main purpose of reading is comprehension. The Petroleum Engineering Students can comprehend what they have been read a book or text that related to petroleum material. While they are comprehending the text, they should read a text fluently. Reading fluency is the ability to simultaneously process written texts accurately, automatically, with appropriate prosody and comprehension (Rasinski, Rikli, & Johnston, 2009; Schwanenflugel & Kuhn, 2015). Kim et al (2011); Harras (2011); Fuchs et al (2001) define reading comprehension as a purposeful activity. It means that the students do reading to obtain any information or to review the author's thoughts. Reading comprehension become difficult when text that have to read in English text. English is a foreign language which have structures that of course different with our own language. Furthermore, Zutell & Rasinski (1991) assert that fluency is influenced by correct speed, accuracy, articulation, and expression. These components of reading fluency are reflected in two major theories that are accuracy, automaticity and prosody.

Besides, Kim et al (2011) and Fuchs et al (2001) argued that fluency consists of three major elements: reading speed, reading accuracy, and reading expression. Meanwhile, Schwanenflugel & Kuhn (2015) mention that a person who can read fast, quickly identifies words, and understand phrases precisely is known as a fluent reader. Although many experts

have already mentioned the components of reading fluency, most researchers like to agree on two elements of fluency in silent reading; they are the precision of word identification and reading speed.

Here are the reading fluency activities; classroom that support reading fluency : Reading Self-Check Poster, Model, Word Per Minute Partner Read, Sight Words Instruction, Fluency With Punctuation, Repeated Reading Homework Log, Audiobooks, Prefixes and Suffixes, Choral Reading, Buddy Reading, Reader's Theater, Poetry Anthologies, Read the Room, Repetitive Oral Reading, Fluency Phrases, People Reading, Guided Oral Reading, Lego Fluency Cards, Oh! No Game, Ring Words Template, Silent Sustained Reading (SSR) (Nafiah, 2016; Sessiani, 2007; Zutell & Rasinski, 1991). Besides, reading strategies could also help them in comprehending the reading text easily (Daguay & Ferdinand, 2020; Alfheid & Alkhatib, 2011).

2 METHOD

This research is a descriptive analysis. The writers focused on students' reading fluency. This research was conducted at the Engineering faculty of UIR Pekanbaru which is located on Jl. K.H. Nasution started on April – September 2016. Participants of the research were 25 second semester students of petroleum engineering at engineering faculty of UIR Pekanbaru. They were selected by using purposive sampling. The data were collected through a Reading Fluency test consisting of four indicators: 1) Expression and Volume, 2) Phrasing, 3) Smoothness, and 4) Pace or speed. A text titled "Offshore Fixed Platforms" which consists of 100 words was taken as the instrument in this research. Then, the data were collected by recording the students reading the text. After collecting the data, the writers analyzed the data by using Multidimensional Fluency Scale proposed by Zutell & Rasinski (1991) in order to describe Students' Reading Fluency.

Based on the rubric, there are four dimensions of scoring. It was assumed that by using the rubric, the lecturers can assess students' reading having effective sense of proper expression, intonation, phrasing, smoothness and pace in reading. The score varies started from 4 to 16. If the score obtained is below 8, it means that students should improve their fluency in reading. Meanwhile, if the score is 8 or above, it means that the students have attained an excellent improvement of fluency. Or the score that were given by rater has range from 1 to

4. The researcher calculated these score in order to find individual score. The mean score of all respondents will be categorized for descriptive analyzing. A range of scale must be calculated for categorization. Range of scale is determined by formula below:

$$\text{Range of scale} = \frac{\text{Maximum score}-\text{Minimum score}}{\text{sum of alternative answer}} \quad (1)$$

Based on the calculation as mentioned above, the scores' categories on this study are shown by table 1 as follows

Table 1. Categories of Students' Reading Fluency Score.

No	Mean Scores' Interval	Categories
1	81.25 – 100	Excellent
2	62.5 – 81.24	Good
3	43.75 – 62.49	Fair
4	25 – 43.74	Poor

(source : Zutell & Rasinski (1991))

The data of this research is collected from scores of Reading Fluency test. The recordings of students' Reading Fluency Test were analyzed. The scoring based on Multidimensional Fluency Scale of Rasinski (Zutell & Rasinski (1991); Rasinski et al (2009); Rasinski (2004)). Based on Multidimensional Fluency Scale, there are four scopes of scoring: expression and volume, phrasing, smoothness and pace (during section of minimal disruption). The score that was given by rater/researchers has range from 1 to 4. The researchers calculated these score in order to find individual score. The mean score of all respondents was categorized for descriptive analyzing. A range of scale must be calculated for categorization.

3 RESULT AND DISCUSSION

In reading fluency, the students were assessed in four terms, they are: Expression and Volume, Phrasing, Smoothness and Pace. Researchers presented the result of the test showing students' performance each term of reading fluency which collected from test of student's reading aloud of a text about petroleum engineering titled "Offshore Fixed Platforms". The result can be seen the table below.

3.1 Students' Reading Fluency in term of Expression and Volume

Table 2. The Number of Students in term of Expression and Volume.

No	Criteria	Score	Number of Students
1	Read with insufficient expression or enthusiasm in voice. Read words as if simply to get them out. Little sense of trying to make text like natural language. Tends to read in quite voice	1	0
2	Some expression. Begin to use voice to make text sound like natural language in focus remains largely on saying the word. Still reads in a quite voice	2	11
3	Sound like natural language throughout the better part of the passage. Occasionally slips into expressionless reading. Voice volume is generally appropriate throughout the text.	3	12
4	Read with good expression and enthusiasm throughout the text. Sound like natural language. The reader is able to vary expression and volume to match his/her interpretation of the passage.	4	2
TOTAL			25

((Source : Zutell & Rasinski (1991); Rasinski et al (2009); Rasinski (2004))

The data show that 44% of the students ensured expressions; they began to utilize their voice in order to sound the text like natural language in some area of the text while others mostly focused on saying the words and read in a quiet voice (score 2). After that, 40% of the students sounded like natural language in some part of the passage, sometimes they did not have any expressions during reading, and the voice volume was mostly accurate throughout the text (score 3). Then, the data showed that only 8% of the students read the text with good expression and enthusiasm, sounded naturally (the language), and able to diverge the expressions and volume to attain their interpretation of the passage (score 4). At last, it was found that there was no student reading with insufficient expressions or enthusiasm and few efforts to make the text sound like natural language (score 1).

Specifically, the reading fluency of the students, namely Student 7 and 9, can be classified as good, they showed good expressions and enthusiasm in reading the text. They read naturally like a native. After that, they were able to diverge the expression and volume to suit their understanding about the text. Meanwhile, this research did not find students who read with little expression or enthusiasm and little efforts to make text sound naturally. Moreover, some students (number 1, 2, 3, 6, 10, 11, 12, 19, 20, 22, 24, 25) can read the text

naturally like a native. Occasionally, they did not have any expressions during reading. The volume of their voice was generally correct throughout the text.

Finally, students number 4, 5, 8, 13, 14, 15, 16, 17, 18, 21, 23 showed some expression. They begin to read the text in a natural language sound in some area of the text while others focused largely on saying the words. They read in a quiet voice. Ni Kt. Janurti, I Kt. Dibia (2016) also mention that some factors that influence speed reading include concentration and eye movements during reading. Besides, Kurniawanti (2013) found that reading comprehension ability is 51% with the speed 234,83 kpm in order to comprehend the content of the text. It means that students can comprehend the text depend on their voice. The more they read in aloud the more they can understand the text about.

3.2 Students' Reading Fluency in term of Phrasing

Table 3. The Number of Students in term of Phrasing.

No	Criteria	Score	Number of Students
1	Monotonic with little sense of phrase boundaries, frequent word-by-word reading.	1	5
2	Frequent two-and three-word phrases giving the impression of choppy reading; : improper stress and intonation that fail to mark ends of sentences and clauses.	2	12
3	Mixture of runs-ons, mid-sentence pause for breath, and possibly Some choppiness; reasonable stress's/intonation.	3	6
4	Generally well phrased, mostly in clause 4 and sentence units, with adequate attention to expression	4	2
TOTAL			25

(Source : Zutell & Rasinski (1991); Rasinski et al (2009); Rasinski (2004))

Table 3 shows that only 8 % of the students were well phrased, especially in clause and sentence units, with adequate attention to expression (score 4). Meanwhile, 24% of the students had mixture of runs-ons, mid-sentence pause for breath, some choppiness, and acceptable stress or intonation (score 3). In addition, 48 % of the students demonstrated repeated two-and three-word phrases meaning as choppy reading; they also produced inappropriate stress and intonation. As a result, they could not succeed to mark the end of the sentences or clauses (score 2). Then, only 2% of the students were monotone with one phrase boundaries, frequently read word-by-word (score 1);

To be specific, the reading fluency of each students for example student 7 and 9 was generally well phrased, especially in clause and sentence units with enough attention to the

expression. Meanwhile, students 4, 16, 17, 18, 20, and 24 showed a mixture of runs-ons, mid-sentence pause for breath, some choppiness, and acceptable stress or intonation. After that, students 2, 3, 10 – 15, 19, 21, 22 and 25 had repeated two-and three-word phrases which mean that they had choppy reading; they also produced inappropriate stress and intonation resulting in unsuccessful marking the end of sentences and clauses. Lastly, students 1, 5, 6, 8 and 23 were monotone because of the few phrase boundaries and frequent word-by-word reading. This is in line with the research conducted by Kamalasar (2012) which found that students should be practiced various activities in effort reading fluency.

3.3 Students' Reading Fluency in term of Smoothness

Table 4. The Number of Students in term of Smoothness.

No	Criteria	Score	Number of Students
1	Frequent extended pauses, hesitations, false starts, sound-outs, repetitions, and/or multiple attempts.	1	2
2	Several "rough spots" in text where extended pauses, hesitations, etc, are more frequent and disruptive.	2	2
3	Occasional breaks in smoothness because of difficulties with specific words and/or structures	3	19
4	Generally smooth reading with some breaks, but word and structure difficulties are resolved quickly, usually through self-correction.	4	2
TOTAL			25

(Source : Zutell & Rasinski (1991); Rasinski et al (2009); Rasinski (2004))

Table 4 shows that 76% of the students (19 students) did infrequent pauses in smoothness because of the problems in specific words and/or structures (score 3). Only 8% of the students had some "rough spots" in which extended pauses, hesitations, and others were more common and distracting (score 2). 8% of the students read smoothly with some pauses; they were able to resolve the word and structure difficulties immediately through self-correction (score 4). Finally, only 8% of the students did repeated extended breaks, delays, incorrect beginnings, sow and/or various efforts (score 1).

In this term, only students 7 and 9 read smoothly with some breaks. They can quickly resolve the difficulties in word and structure through self-correction. They generally read with well phrased, especially in clause and sentence units, with enough attention to expression. Meanwhile, student 1 -6, 10 15, 18, and 24 did occasional breaks in smoothness as a result of difficulties with specific words and/or structures. Then, students 17 and 25 had some "rough

spots” in which extended breaks, delays, and others were more common and distracting. Finally, students 8 and 16 frequently did extended breaks, delays, incorrect beginnings, read aloud, recurrences. and/or various efforts.

This result supports the result of other studies. Karma (2017) found that measuring students’ reading speed does not only count the numbers of words the students can read in one minute. The teacher should also check the students’ understanding about the reading text. Moreover, Ni Kt. Janurtri, I Kt. Dibia (2016) found that some factors that influence speed reading are concentration and eye movements during reading.

3.4 Students’ Reading Fluency in term of Pace

Table 5. The Number of Students in term of Pace.

No	Criteria	Score	Number of Students
1	Slow and arduous	1	0
2	Slightly slow	2	2
3	Unequal combination of fast and slow reading	3	23
4	Consistent	4	0
TOTAL			25

((Source : Zutell & Rasinski (1991); Rasinski et al (2009); Rasinski (2004))

Table 5 shows that only 8% of the students have moderately slow on reading (score 2). However, 92% of the students have uneven mixture of fast and slow reading (score 3). But none of students slow and also on reading (score 1), and also consistently conversational on reading (score 4). Overall, the reading fluency of each students in term namely pace, there is no students can consistently conversational and slow and laborious Meanwhile, students 1 – 15 and 18 – 25 demonstrated unequal combination of fast and slow reading. Finally, students 16 and 17 read moderately slow in pace.

Based on the results of the analysis, the researchers found that the average score in Expression and Volume was 66; the average score in Phrasing was 55; the average score in Smoothness was 71, and the score in pace was 73. Overall, the analysis of Students’ Reading Fluency obtained an average of 66.18 which can be categorized as “good”. This result relates to others, like (Kamalasari (2012); Kurniawanti (2013); Nafiah (2016); Wardani (2014)). The result showed that the students still have difficulty in speed reading. It showed that factors affecting the speed reading are concentration and eye movements during reading. In teaching and learning process of reading class, in order to solve the difficulties in reading speed, the efforts teachers can do is to always give motivation for the students to practice reading more frequently.

3 CONCLUSION

The objective of this research was to find out the reading fluency of Petroleum Engineering students at Engineering Faculty, Islamic University of Riau reading a text related to petroleum engineering. The research question was how good the students can read the text of petroleum engineering. It was found that the students are able to read the text aloud. Meanwhile, in term of expression and volume, only 8% of the students showed respectable expression and interest in reading, read with native-like language, and was capable of corresponding the expression and volume with their interpretation about the passage. Besides, in term of phrasing, also only 8 % of the students got good articulation, especially in the units of clause and sentence, with sufficient consideration to the expression. And only 8% of the students read smoothly (smoothness) with some breaks; they can resolve difficulties related to word and structure immediately. However, no students demonstrated consistent casual style on reading.

After analyzing the students reading fluency, it can be concluded that the reading fluency of the Petroleum Engineering students at Engineering Faculty of Islamic University of Riau is categorized as a 'good' (average score is 66.18).

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The Effect of Parenting Style Authoritative on Self-Efficacy of Class V Students of SD Gugus I Gusti Ngurah Rai Kecamatan Denpasar Selatan Academic Year 2018/2019

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Abstract. This study aims to determine the effect of authoritative parenting parents on the self-efficacy of fifth grade elementary school students Gugus I Gusti Ngurah Rai, South Denpasar District 2017/2018 academic year. This type of research is ex post facto, correlation research. The population of this study was all fifth-grade students of Elementary Schools in Gugus I Gusti Ngurah Rai, South Denpasar District, 2017/2018 academic year, totaling 266 students. Determination of samples using proportional random sampling technique with a level of error of 5% so that the number of samples obtained from the population is 155 students. Data on authoritative parenting and self-efficacy were collected using the questionnaire method with a likert scale and questionnaire scoring using politomy. Data analysis techniques were using simple linear regression analysis. As a prerequisite test is a test of data distribution normality and linearity test. Based on the results of data analysis shows there is a positive influence of authoritative parenting on self-efficacy of class V students with the contribution of the value of $R^2 = 0.329$ or 32.9%. The authoritative equation of self-efficacy regression model = $66.5 + 0.78$ authoritative. The regression equation explains that each increase in authoritative parenting scores will cause an increase of 0.78 increases in student self-efficacy in the constant 66.5. So it can be concluded that an increase in parental care can improve student efficacy

Keywords: Parenting Style, Self-Efficacy

1 INTRODUCTION

The development of elementary school children is in the transition period from the rapid growth of childhood to the preteens. Changes in mental and social development characterize the early school period. At this stage, children are faced with various changes that occur in the phase of development. There are three aspects of development in the elementary school age period proposed by Slavin (2011: 101), namely; Physical development, cognition and socio-emotion. The thought process of children also undergoes important changes in the transition period from the preoperative thinking stage to the concrete operation stage. Entering the stage of concrete operation, elementary school-age children rapidly develop memory and cognition abilities, including the ability of meta-cognition, namely the ability to think about their own thoughts and learn how to learn. Students who feel confident about their ability to use meta-cognitive behavior and self-motivation may have

high confidence. Belief as a child's own effort determines his success or failure. However, not all children experience transition at the same age, and none of the children changes from stage one to the next stage quickly. This is caused by factors that influence the development of the child itself which includes heredity (heredity) and its development environment.

Problems will arise when children are not ready to face reality as a result of their own self-confidence and abilities, making them afraid to go to school and close themselves to their environment. This is also supported by information obtained from the V elementary school homeroom teacher in Gugus I Gusti Ngurah Rai, data obtained that most children who have problems in learning, such as embarrassment in expressing opinions, have a fear of going to school, the spirit of learning is still low, hesitant in answering questions from the teacher, causing children to have excessive anxiety, this is due to the lack of confidence in what he is doing which in this case is influenced by the environment itself which causes disruption in the child's development phase. In the development of children there are developmental tasks that children must be able to pass through as they are required to be able to get along with peers, develop basic skills, and learn to independently make plans that are free from the influence of parents and other people. So from that, elementary school age children need to develop their own confidence that they are able to pass through and carry out the changes that occur within themselves. This belief is said to be self-efficacy. In line with this, Bandura (1997) argues that self-efficacy can make a child make a choice, how much their efforts to progress, persistence and perseverance that they show to deal with a problem or changes that occur around it. Everyone believes that he has the potential to change things around him and act actively compared to people who have low self-efficacy. Further explanation, the formation of self-efficacy in a person is inseparable from the role of the surrounding environment.

Early growth of self-efficacy develops through the role of parents, then influenced by siblings, peers, and other adults. The role of parents is very important for children, because children will make parents as a model for their behavior. This means that children follow the behavior of their parents, even more so that children will also follow the views, mindsets and values adopted by parents. Clearly the role of the family is the main thing for the development of children's behavior. Thus, the family is the first socialization institution obtained by children and becomes the main thing in the child's development process.

Parents have different ways of educating their children. One of them is by applying parenting. "Parenting is all forms and processes of interaction that occur between parents and children" (Mulyadi, 2016: 183). If parenting and interaction with other family members are good, then it becomes one of the supporting factors for the formation of positive self-efficacy in children. Children will be more independent in solving problems faced. So from that, that parenting is one of the determinants of the formation of student efficacy.

The purpose of this study is: to determine the effect of parenting parents on the self-efficacy of fifth grade elementary school students Gugus I Gusti Ngurah Rai Academic Year 2018/2019.

Self Efficacy

Self-efficacy is an individual's belief or belief in the ability he has in carrying out and completing the tasks he faces, so that he is able to overcome obstacles and achieve his expected goals. From an early age began to develop self-efficacy as an effort to train the ability to face the physical and social environment. They begin to understand and learn about their abilities, physical skills, social abilities, and language skills which are almost constantly used and shown in the environment. The beginning of the growth of self-efficacy is centered on the parents then influenced by siblings, peers, and other adults. Efficacy in adulthood includes adjusting to marital problems and career advancement until the elderly age. Efficacy is influenced by several factors including culture, gender, the nature of the tasks faced, external incentives, the status and role of individuals in the environment and information about their abilities. Efficacy dimensions include magnitude, generosity and strength.

Parenting Parents

Parenting is all forms of interaction processes including attitudes or ways parents educate and influence children to have a positive influence on the development of strong children's personality both from the body, spiritually and intellectually which are expected to develop optimally. In Diana Baumrind's concept parenting styles are influenced by control and responsiveness. The control dimension includes the demands given by parents to children so that children become mature and responsible individuals and enforce established rules and boundaries. The dimensions of responsiveness include the support of warmth and affection shown by parents to children. The relationship between the dimensions of control and responsiveness can form several types of parenting. Parenting is divided into three according to Diana Baumrind's research results namely; authoritarian, permissive and authoritative.

Linkage of Self-Efficacy and Parenting

Self-efficacy is closely related to the pattern of parenting, where the initial growth of self-efficacy is focused on parents who are then influenced by siblings, peers and other adults around the child. It is also closely related to the source of efficacy which states that children will tend to follow the social model and social support from the closest and most attached people to the child's life, namely the parents. Parents will be the first figure the child will observe. If the figure of the observed figure has success and supports the child, then he will tend to have high efficacy, otherwise self-efficacy will decrease if the figure observed by the child has a failure and is less supportive of the child. Clearly, self-efficacy can be increased and reduced by the support and role of parents. Furthermore, there are several factors that influence the efficacy of the child itself, namely from the culture adopted by the people closest to the child who can provide an assessment of the efficacy of the child whether the child is high or low. Then, it can be seen based on gender that affects self-efficacy. Girls tend to have high self-efficacy compared to boys because girls can manage assigned tasks compared to boys. Furthermore, based on the nature of the task faced, the tendency of external incentives, the status or role of the child in their environment, and information

about their abilities both positive and negative both have a tendency to increase or reduce children's self-efficacy. Therefore, self-efficacy is closely related to parents, especially where the child is treated and cared for. Proper treatment and care will increase the efficacy of the child.

2 METHOD

Types of research

This study included the type of ex post facto research with correlation studies because in this study only revealed the symptoms that occur as they are and revealed the factors that influence the independent variables on the dependent variable. In this study we discussed the extent of the influence of authoritative parenting on self-efficacy. Parenting patterns will influence children's confidence and self-confidence in this case the efficacy in children so that children can be independent and able to develop their own abilities.

Time and Place of Research

This research was conducted in February 2019 until May 2019. The research locations were Public Elementary School Gugus I Gusti Ngurah Rai, South Denpasar District, in Academic Year 2018/2019.

Research Population and Samples

The population in this study was all fifth grade students of SD Gugus I Gusti Ngurah Rai, South Denpasar District. There are 5 Public Elementary Schools, namely SD Negeri 4 Sanur, SD Negeri 3 Sanur, SD Negeri 1 Sanur, SD Negeri 11 Sanur, SD Negeri 8 Sanur with population of 266 V students.

Given the limitations of time and funds in this study, the study sample was used. Determination of sample size used the theory of R.V. Krecjie and D.W. Morgan with a table to determine the number of samples taken from a random population with an accuracy rate of 95% and a significance level of 5% for the proportion of the population (Agung, 2014). The population in this study was 266 students with as many as 141 students and women as many as 125 students, so the number of samples was 155 students based on the distribution table of the R.V theory by Krecjie and D.W. Morgan. Furthermore, each sample was searched for from the distribution of the fifth grade population of SD Gugus I Gusti Ngurah Rai, South Denpasar Sub-district, with the sampling technique used being proportional random sampling.

Data Collection Methods and Techniques

The data collection method used is using the non-questionnaire in the form of a Likert scale model whose scoring technique uses politomy. The instruments of self-efficacy are compiled through the theoretical constructs of Bandura (1997) by reviewing the dimensions of efficacy aspects namely; Magnitude, generality and strength. Questionnaires compiled based on the Morgan-Jinks Student Efficacy Scale which have been adapted and modified according to the digestive language grammar of elementary school age children consisting of favorable items and unfavorable items.

The parents' parenting instruments are compiled through the theoretical construct of Baumrind by reviewing the dimensions of parenting aspects namely; control and responsiveness imposed by parents based on parenting styles are divided into 3 types, namely authoritarian parenting, permissive, authoritative. Questionnaires were compiled based on authoritative parenting parents' questionnaire compiled by Erlina (2016) which were then adjusted to the grammar of digestive language of elementary school age children consisting of favorable items and unfavorable items.

After the self-efficacy questionnaire and parenting instruments were made, it continued with a test of theoretical validation and empirical validity. The trial was conducted to obtain an empirical description of the questionnaire that had been prepared properly to be used as a research instrument.

Data Analysis Methods and Techniques

The research data that has been collected will then be analyzed data. This analysis activity was carried out after data from all respondents in the sample and other sources collected. After the data is collected, the data is processed and analyzed. In this study, the data analysis used was inferential statistical analysis. Based on the formulation of the problem, statistical hypothesis testing in this study was analyzed using simple linear regression analysis. To be able to use simple linear regression analysis must meet two conditions first, namely normality and linearity.

The normality test is intended to show that the distribution of sample data is normally distributed. According to Sugiyono (2017) the data normality test is done to determine whether the data obtained can be tested with parametric statistics or not. To test the normality of data distribution, the Kolmogorov-Smirnov formula was used.

The linearity assumption is a linear equation $Y = b_0 + b_1 X$ according to explaining the effect of free X variable on bound variable Y. The lack of fit test can be used to determine whether the linear regression model is appropriate (fit) to explain the effect of X on Y.

The hypothesis tested in this study is: There is no effect of authoritative parenting on the self-efficacy of fifth grade elementary school students, Class I Gusti Ngurah Rai, South Denpasar District Academic Year 2018/2019. After going through the analysis and fulfilled prerequisite test, it is continued by statistical hypothesis testing using simple linear regression analysis.

3 RESULTS AND DISCUSSION

Data on parenting parents of fifth grade elementary school students from Gugus I Gusti Ngurah Rai Denpasar Selatan was obtained from secondary data in the form of parenting parents' questionnaire. The sample distributed parenting questionnaires were 155 respondents and 30 were given. Based on the data from the score of parenting parents, the highest score is 94 and the lowest score is 70.

Based on the results of the analysis of the data distribution normality test at the significance level of 5% and $dk (1-\alpha; n)$ obtained $KS_{tabel} = 0.10$. The results of the analysis of the normality distribution of parenting data were obtained by the KS_{count} results of 0.08. Because KS_{count} is $0.08 < KS_{tabel} 0.10$, then H_0 is accepted which means that the data is normally distributed.

Self-efficacy data of fifth grade students of Elementary School Gugus I Gusti Ngurah Rai, South Denpasar, were obtained from the distribution of self-efficacy questionnaires. The sample distributed parenting questionnaires were 155 respondents and 30 were given. Based on the results of the self-efficacy score data obtained the highest score is 117 and the lowest score is 69.

Based on the results of the analysis of the normality distribution test of self-efficacy data, get the KS_{count} result of 0.05. Because $KS_{count} < KS_{tabel} 0.10$, then H_0 is accepted which means the data is normally distributed.

Based on the linearity test at the significance level of 5% and dk (α , k-2, n-k) obtained $F_{tabel} tc = 1.70$. The results of the linearity test analysis get the results of $F_{count} tc = 1.58$. Because $F_{counts} tc < F_{tabel} tc = 1.70$, then H_0 is accepted which means linear data.

Based on the results of the normality test and linearity test it can be seen that the data obtained from the authoritative parent parenting variables and self-efficacy are normally distributed and have linearity. The data obtained has fulfilled the prerequisite test, then the hypothesis test is carried out using simple linear regression analysis.

Based on the calculation of the coefficients b_1 and b_0 , the regression model is obtained, namely $Self\ Efficacy = 66.5 + 0.78\ Authoritative\ parents\ style$.

Based on the results of data analysis it is known that parenting style (X) with self-efficacy (Y) fifth grade students of Elementary School Gugus I Gusti Ngurah Rai, South Denpasar District Academic Year 2017/2018 with regression $F_{count} = 5.34$, and $F_{tabel} regression = 3,90$ ($n = 155$) at a significance level of 5% with db (regression) 1 accepting H_a which states there is an influence of parenting style on the self-efficacy of fifth grade elementary school students, Cluster I Gusti Ngurah Rai, South Denpasar District 2018/2019 Academic Year with coefficients determination $R_2 = 0.329$. If the percentage, $R_2 (0.329) \times 100\%$ obtained a result of 32.9%, it means that parenting contributes to self-efficacy of 32.9%.

Based on the results of the discussion above parenting parents provide a contribution of self-efficacy of 32.9%. Proper treatment and care will increase the efficacy of the child. Through a good family environment the initial formation of child efficacy will be improved. It is also closely related to the source of efficacy which states that children will tend to follow the social model and social support from the closest and most attached people to the child's life, namely the parents. Parents will be the first figure the child will observe. If the figure of the observed figure has success and supports the child, it will tend to have high efficacy, whereas self-efficacy will decrease if the figure observed by the child has a failure and is less supportive of the child. Clearly, self-efficacy can be increased and reduced by the support and role of parents. Furthermore there are several factors that influence the efficacy of the child itself, namely from the culture adopted by the people closest to the child who can provide an assessment of the efficacy of the child whether the child is high or low. Then, it can be based on gender that affects self-efficacy. Girls tend to have high self-efficacy compared to boys because girls can manage assigned tasks compared to boys. Furthermore, based on the nature of the task faced, the tendency of external incentives, the status or role of the child in their environment, and information about their abilities both positive and negative both have a tendency to increase or reduce children's self-efficacy. Self-efficacy has a

close relationship with parents, especially where the child is treated and cared for. Proper treatment and care will increase the efficacy of the child.

This is supported by the opinion of Bandura (1997) which states that there are several other factors affecting self-efficacy in individuals other than the pattern of parenting among others; 1) Culture; culture can influence self-efficacy through values, beliefs, and self-regulation processes that function as a source of self-efficacy assessments and as a consequence of the student's self-efficacy beliefs. 2) Gender; gender differences can also affect students' self-efficacy. This is related to how the individual manages his role. Girls used in helping with assignments from their mothers at home are inversely proportional to boys who tend not to get used in helping their mothers. So that girls tend to have high self-efficacy compared to boys. 3) The nature of the tasks faced; if the child is assigned to do work which according to them is complicated the child will tend to judge that he is unable to complete the work. Also the opposite applies if the child is assigned to do work that is easy and simple for them. Then the child will be high in assessing his ability so that it will cause the child's self-efficacy to increase. 4) External incentives; giving the right gifts, support and motivation will increase the efficacy of these students. 5) The status or role of children in the environment both in the family, school and community environment. If the child is in a situation he is cared for and loved by the child will feel that he means so that it will improve the child's self-efficacy and the last, namely, 6) Information about his abilities, if the child is given positive information about his abilities it will improve children's self-efficacy that is. The opposite applies if the child gets negative information about his ability without any support from the closest person, so the child's self-efficacy will decrease and tend to be low in his self-esteem. In addition, Bandura said that besides the factors that influence the above there are also sources that can reduce and improve student self-efficacy. Like the experience of the child in the past if the child has success in the past the child will begin to pursue and make it part of the child's hobby. Compared to the case if the child fails, the child will tend to avoid this. Next is the vicarious experience obtained from the social model, social persuasion and emotional state of the child. It is clear that children's self-efficacy can increase and decrease depending on how the child evaluates his abilities. So from that it is necessary to have support and motivation from the environment around students to be able to provide enthusiasm to convince these students to get through various problems and challenges faced.

4 CONCLUSIONS AND SUGGESTIONS

Based on the results of the analysis and discussion that there is an influence of parenting parents can determine student self-efficacy. This is evidenced by the results of simple linear regression analysis, the results of regression $F_{\text{count}} = 5.34$ and $F_{\text{table regression}} = 3.90$, which means regression $F_{\text{count}} > F_{\text{table regression}}$, so H_a states that there is a significant effect of parenting on class V self-efficacy SD Gugus I Gusti Ngurah Rai, South Denpasar Sub-district, 2017/2018 academic year was accepted. The regression count value = 5.34 also shows that there is a positive influence of parenting on students' self-efficacy. The coefficient of determination shows 32.9% variation in self-efficacy is determined by parenting so that it can be interpreted that, parenting influences self-

efficacy. This is evidenced by parenting parents contributing 32.9% to student efficacy. This means that there are factors that dominate other than the parent pattern of parenting. Based on the theory put forward by Bandura, there are other factors that affect a person. But it is clear that one's self-efficacy depends on how the person evaluates his abilities.

The suggestions that can be conveyed are based on the results of the research that has been done, namely: for parents to be able to provide good examples, support and affection so that children can develop positive self-efficacy because children learn from the observations of close people, so children need to get a good environment to learn and imitate. Through good and proper care, the child will be able to develop maximum self-efficacy. In addition, the role of the teacher needs to be able to provide support, motivation and attention to students because the teacher's participation in the school also determines the formation of self-efficacy in students. Teachers can create a pleasant learning atmosphere that makes students comfortable and motivated to adapt to their surroundings.

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