

The Effect of Media Usage and Learning Motivation on Learning Results (Experimental Research on First Grade Students of Duren Sawit, East Jakarta) (2018)

Oktafia Suryana, Hapidin, Asep Supena
Department of Primary Education, State University of Jakarta, Indonesia

Abstract:- The aim of this research is to analyze the influence between media usage and learning motivation toward science learning outcomes in first grade elementary school students in Duren sawit. This research was conducted for 6 months starting from February until May 2018 by using 2x2 factorial experimental method with treatment by level designs. The sample in this study came from 34 students of SDIT Segar Amanah and 30 students of SDIT Nurul Islam. Total sample used in this study amounted to 63 students by multistage sampling technique. Based on data analysis outcome, it can be concluded (1) The outcome of science learning in the group of students using media macromedia flash is higher than the students using the media power point, (2) There is interaction influence between learning media and learning motivation toward the science learning outcome, (3) Science learning outcome in the group of students who have high learning motivation using macromedia flash as a learning media is higher than the group of students using power point as a learning media, (4) Science learning outcomes in groups of students who have low learning motivation using macromedia flash as a learning media is lower than the group of students who use the power point as a learning media.

Keywords:- Science learning outcomes, Macromedia flash and Power point, Motivation learning.

I. INTRODUCTION

Education is one of the main path in the order to prepare young people to welcome and face the increasingly competitive times. Education plays an important role in preparing a quality human resources which able to compete in the development of science and technology, so education must be carried out as well as possible in order to obtain maximum results. Education should be managed, both in quality and quantity. This can be achieved with the implementation of effective and efficient education in order to achieve the learning objectives.

In Indonesia, the government's obligation to implement quality education has been clearly mandated in the Preamble of the 1945 Constitution in paragraph 4, which reads: "... and to promote the common prosperity, to educate the people, and join the world order based on independence, eternal peace and social justice". and reaffirmed by the law of the Republic of Indonesia No. 20 of 2003 concerning the national education system (sisdiknas) article 3 states that the objectives of national education are as follows: " The functions of national education is to develop the skills and

shape the nation character and the nation civilization, aimed to develop the students potential that to be a man of faith and fear God Almighty. Be noble, healthy, knowledgeable, skillful, creative, independent, and become a democratic also a responsible citizen.

Furthermore, it is also explained that education is organized as a process of civilizing and empowering students that lasts for life (article 4 paragraph 3). Therefore education should be implemented early. National Association for the Education of Young Children (NAEYC), explains that the early childhood categorized by those whose age is between 0-8 years. Such education generally implemented in children's education programs at daycare centers, pre-school education, and kindergarten or elementary school. So it can be said that the range of early childhood education starting from birth to age 3rd grade elementary school.

The purpose of early childhood education is to help students develop various psychic and physical potentials including moral, religious, social, emotional, cognitive, language, physical/motor, independency and art to be ready for further education. To achieve this purpose, the scope of education is integrated into two fields, that is the behavioral development and the basic skills development.

The basic abilities development is an activity prepared by the teacher to improve skills and creativity in accordance with the stages of child development, including: language, cognitive, physical/motoric, and art. The Cognitive development itself is to develop children's thinking ability to be able to process their learning acquisition, so they can find various alternative solutions to problems, helping children to develop aspects of cognitive development. One aspect of cognitive development is science or known as Ilmu Pengetahuan Alam (IPA).

The subject of Natural Science (IPA) is a knowledge born and developed from observation and experiment, the subject of natural science has two important aspects, is the knowledge and methods to acquire those knowledge itself. Bacon and Aristotle (Usman Samatoa 2006: 13), views science as a lesson that begins with observation leading to general principles or generalizations, and then returns to observation. The development of IPA concept is done through, observation, experiment with procedure and scientific attitude.

The IPA learning objectives for first grade students at Primary school aims so students could: (1) Develop

curiosity and a positive attitude towards science, technology and society. (2) develop skills to investigate the environment, solve problems and make decisions. (3) develop knowledge and understanding of scientific concepts that will be useful and applicable in daily life. (4) develop awareness about the role and importance of science in daily life. (5) transferring knowledge, skills and understanding to other teaching fields. And (6) participate in maintaining, keeping, and preserving the natural environment, respecting various forms of creation of God Almighty in this nature to be studied (Sri Sulistiyorini, 2007; 40).

To be able to achieve these 7ur7ouse, the teacher needs to design and implement a learning that allows students to be able to learn more actively and foster meaningful impression as well as interesting for students by utilizing interactive media so that the expected learning outcomes in science learning can be achieved. However, generally, in natural science learning, students the only sense that active is hearing, so students experience difficulties to understand the concepts of science material. According to Rustaman, science learning this day only focused on memorization without making students interact in it. In addition, in the delivery of a concept the teacher has not fully used the appropriate learning strategy. Most of the learning activities used only a lecture methods without the support of other learning methods or varied learning media, that make the learning monotonous.

The same thing was also found by Adang Sutarman, science learning in schools generally was more focused on the lecture method and use only the textbooks. Children leaded to understand what the teacher is saying without a good visualization of the learning material. The implementation of learning in the classroom, students are asked to listen to the teacher's lecture of science learning materials.

Responding to this reality by paying attention to the opinions expressed, the improvement is necessary by using the media and methods that are appropriate in learning. Learning Natural Sciences should begin with the introduction of problems that are appropriate to the environment and real situations around students or contextual. By proposing contextual problems, students are gradually guided to master the concepts of science. In order to make students accept the concept of a subject (learning), the attractiveness of the lesson is determined by the state of the student, the state of the school, the school environment, and how the teacher teach the subject itself, including the amount of students learning motivation.

The motivation to learn is a powerful impetus to perform an action in achieving a goal. Motivation is the cause of active behavior change to achieve a particular goal. Students' motivation in learning becomes one of the great energies to achieve maximum learning outcomes. While learning motivation can be influenced by the good or bad delivery from teachers to students, the interesting or boring learning methods provided, and interactive or monotonous media that supports the learning.

The role of teachers in science learning should encourage students to love the learning, it is a challenge for science educators to seek and choose science learning that is interesting, easy to understand, stimulating, challenging to engage, and ultimately making students active in learning . Therefore, it is the professionalism of teacher's duty is to make the previously unattractive lesson become attractive, which students feel it difficult become easy, which was meaningless to be meaningful. Learning that only uses the lecture method will be less than optimal will affect students' learning outcomes. The use of the media can make a better understanding for students in receiving the subject. This is as said by Azhar (2007: 91), that the media plays a very important role in the learning process.

Media that will be in use in this research is Macromedia Flash and PowerPoint. The selection of the media is based on the interest of early childhood in viewing the pictorial and moving media. In addition, both media are categorized as an active and interactive media so it can make children become more active and creative in the classroom learning.

Based on observations at the SDIT Segar Amanah. Science learning presented without utilizing an interactive and interesting media. Such learning seems very monotonous and boring because the teacher only uses textbook as media, even though the school has a supportive media that to explain the ongoing material. This makes students bored in class and lazy to engage with the lessons.

Researchers also found that teachers do not involve students directly to understand the learning. Teachers only present what is in the textbook and give the students an exercise without inviting them to understand by utilizing the form of visualization of the material. The students also showed less interest when teachers explain the material in the classroom. Students tend to prefer to play their writing instruments than paying attention the teacher's explanation, there is even students who prefer to chat with their peers.

It was also found that students had difficulty working on the questions independently of the material presented by the teacher in the classroom during learning. Many students do not remember what the teacher has said after learning. Students are inclined to answer questions at random because they do not understand and do not know what to answer, so the results of their tests do not meet the minimum completeness standards (SKM) set by the school.

During the observation, researcher also found some students who have high learning spirit. Some students show high learning motivation. It is indicated from the curiosity of the students when they were asked what will they learn today. In addition, some students who show high learning motivation are easily finishing the tests given by the teacher in natural science learning. A few students easily get bored with learning in a monotonous class by utilizing only the textbooks to teach the natural science material which causing the outcome is not optimal.

Recognizing the importance of media and learning motivation toward natural science learning outcomes in education, then the researcher conducted a research on the influence of media usage and learning motivation on natural science learning outcomes in the first grade students of elementary school.

The purpose of this research is to know "The Influence of Media Usage and Learning Motivation on Natural Science Outcome in First Grade Student of Elementary School". Operationally, this research purpose to know:

1. Qualitatively describe the media that consists of Macromedia Flash and PowerPoint.
2. Quantitatively describe the learning motivation which is divided into high learning motivation and low learning motivation
3. Quantitatively describe the natural science learning outcomes
4. Analyzing and concluding the hypothesis test:
 - A. In the first grade, students given media Macromedia Flash has a better learning outcomes than students given the media PowerPoint.
 - B. There is an effect of interaction between learning motivation and the usage of media on the first grade students learning outcomes.
 - C. In the first grade students who have high learning motivation, students who are given macromedia flash has better learning outcomes than students given PowerPoint.
 - D. In the first grade students who have low learning motivation, students who are given PowerPoint media have better learning outcomes than children given Macromedia Flash.

II. RESEARCH METHODOLOGY

The study was conducted using an experimental method with 2×2 factorial design treatment by level with the learning outcomes of science as the dependent variable, while the usage of media as the independent variable, with Learning Motivation as the attribute variables. The independent variable is the treatment variable that will be given two types of treatment to students. The treatment given is in the form of using Macromedia Flash (A1) Media, and Media PowerPoint (A2). Both treatments are two types of learning media that will be used in activities in two different classes, namely the first grade students at the Amanah Fresh Education Foundation using Macromedia Flash media and the first grade students at the Islamic Nurul Islam Foundation using power point media. The attribute variable is high learning motivation (B1) and low learning motivation (B2).

This research use an experimental method with factorial design 2×2 treatment by level with three research variables, one dependent variable and two independent

variables. As a dependent variable is the result of learning natural science and two independent variables is the use of media and learning motivation.

The target population in this research were all first grade students, at Kecamatan Duren Kelapa, East Jakarta. Due to limitation in research, it is necessary to establish an affordable population in this research. The affordable population in this research were all first grade students at Segar Amanah Foundation and Nurul Islam Foundation. In this reserach, the multistage sampling technique used for the sampling purpose, so that the Macromedia Flash was chosen to be applied in SDIT Segar Amanah and PowerPoint to be implemented in SDIT Nurul Islam. The total number of students consists of 64 children divided into 2 schools (34 students from of SDIT Segar Amanah and 30 students from the first grade of SDIT Nurul Islam).

There is two types of media usage treatments were used In this study, the first is Macromedia Flash and other is PowerPoint. The usage of media was applied to two different groups, namely in first grade of Segar Amanah School given the Macromedia Flash (A1) while the first grade School of Nurul Islam was given PowerPoint (A2). Both groups were taught at the same time by their teachers.

In the experimental group, the researchers gave the treatment during the research process through the usage of Macromedia Flash media which was to improve the learning outcomes of natural science learning (IPA) while the control group was given PowerPoint media. In the treatment to improve natural science learning outcomes, researchers observed students' ability to understand natural science materials, increase students' curiosity in natural science learning and observe changes at the student learning outcomes after the treatment.

III. DATA ANALYSIS TECHNIQUE

The technique for data analysis used in this research was analysis of variance two-way (ANOVA) with factorial experimental design 2×2 treatment by level. In order to test the hypothesis could be done, it is necessary to do the requirements analysis testing, which is the normality test and homogeneity test.

1. Descriptive Statistics

Descriptive statistics are conducted to find out an overview of the research data which are carried out through several stages before an analysis is obtained. The initial data processing stage is to find the mean, median, mode, standard deviation, maximum and minimum score. Then, to make frequency distributions that are visualized through tables and histogram graphs. After that, the requirements analysis testing is done through inferential statistic in the form of normality test and data of homogeneity.

2. Inferential Statistics

A. Normality Test

The normality test is done by the liliefors test, which is frequency similarity test at the significance level of $\alpha = 0.05$.

B. Homogeneity Test

In this study, the homogeneity test used was the Bartlett test with a significance level of $\alpha = 0.05$.

3. Hypothesis Test

The hypothesis test in this research carried out using a Variance Analysis Test Technique two-way (ANOVA). Furthermore, the advanced test are used to determine the interactions that occur between the two causal variables using the Tukey test. The test was carried out at a significance level of $\alpha = 0.05$ and confidence interval of 95%.

IV. RESULTS AND DISCUSSION

➤ Data Description

The results of this research can be presented in several groups, including: (1) data on natural science learning outcomes of students given Macromedia Flash (A_1), (2) data on student learning outcomes given by PowerPoint (A_2), (3) Results data of students who have high learning motivation (B_1), (4) data on natural science learning outcomes of students who have low learning motivation (B_2), (5) data on natural science learning outcomes of students who are given Macromedia Flash with high learning motivation (A_1B_1), (6) data on natural science learning outcomes of students given Macromedia Flash with low learning motivation (A_1B_2), (7) data on natural science student learning outcomes given by PowerPoint with high learning motivation (A_2B_1), (8) data on student natural science learning outcomes given by PowerPoint with low motivational (A_2B_2).

➤ Requirements Analysis Testing

Based on the calculation results of normality test using Liliefors test in table 23 can be concluded that L count on eight groups of research data is smaller than L table at significance level of $\alpha = 0,05$ for $N = 20$ and $N = 10$. Therefore it can be concluded that H_0 is accepted, and the data group is normally distributed.

Based on the calculations results of homogeneity test using the Bartlett test, it can be seen that the calculated score of χ^2 for the entire sample group is 1.4498 smaller than χ^2 tables at the significance level of $\alpha = 0.05$, which is 7.8147. therefore it can be concluded that the population equal in size or a homogeneous variance. The following is the result of homogeneity test between students who were given Macromedia Flash and PowerPoint using Fisher's test.

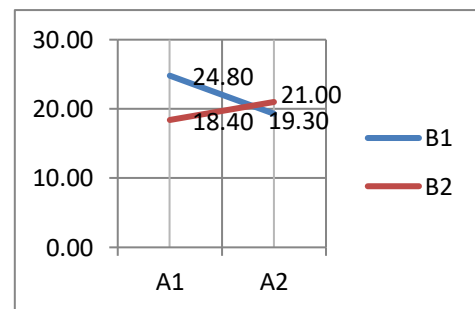
➤ Hypothesis Testing

In this research, the hypothesis testing is done by using analysis of variance two-way (ANOVA) and continued by Tukey test. In this research there are two independent variables and one criterion variable. The independent variables are (1) media (Macromedia flash media and power point) and (2) learning motivation (high and low). While the dependent variable is the result of learning natural science learning. A two-way variance analysis is used to examine the influence of main effects and the interaction effects between media usage and learning motivation on the learning outcomes of natural science learning.

1) The first hypothesis: Science learning outcomes in the group of students using media macromedia flash higher than the group of students who use the media power point.

This hypothesis is accepted after being obtained through the calculation of data using two-way ANOVA using the H_0 test criteria ($H_0: \mu A_1 \leq \mu A_2$) is rejected and H_1 ($H_1: \mu A_1 > \mu A_2$) is accepted at $\alpha = 0.05$ based on the results of two-way ANOVA calculations known that score $F_{count} = 4.91 > F_{table} = 4.08$ which means H_0 is rejected and H_1 is accepted at $\alpha = 0.05$. This means that H_0 is rejected. As a consequence, H_1 is accepted. The average score of natural science learning outcomes of students who use Macromedia Flash is equal to 21.60 higher than the score of natural science learning outcomes of students who use PowerPoint media equals 20.15. Therefore it can be concluded that the outcomes of natural science learning groups of students who were given macromedia flash were higher than the students' who were given Power Point, in other words that group $A_1 >$ group A_2 .

2) The second hypothesis: There is an influence of the interaction between learning media and learning motivation on the results of natural science learning. The results of data analysis using two-way ANOVA at a significant level $\alpha = 0.05$ gives the score $F_{count} = 38.32$ greater than $F_{table} = 4.11$. This means that H_0 is rejected. As a result, H_1 is accepted. Thus it can be concluded that there is a significant interaction between the use of media and learning motivation on the results of learning science. To clarify the occurrence of this interaction, the following graph will be presented which shows the interactions that are intended as follows:



In the graph above, there are four points connected by two intersecting lines. These four points are the average score of each group, which can be briefly mentioned as Macromedia Flash group, PowerPoint group, high learning motivation group, and low learning motivation group. Two intersecting lines indicate that there are interactions between two independent variables, namely the media and learning motivation on the dependent variable, namely the outcome of natural science learning. This interaction is a collaboration between media and learning motivation. Interaction in this also could be interpreted as the influence of the media on the results of natural science learning that depends on learning motivation or vice versa.

3) The third Hypothesis: Natural science learning outcomes in groups of students who have high learning motivation who use a learning media in the form of

Macromedia Flash which is higher than the group of students who use learning media in the form of PowerPoints.

This hypothesis was accepted after being obtained through the calculation of data using two-way ANAVA using the H_0 test criteria ($H_0: \mu_{A_1B_1} \leq \mu_{A_2B_1}$) rejected and H_1 ($H_1: \mu_{A_1B_1} > \mu_{A_2B_1}$) was received at $\alpha = 0.05$. Other than that, the average score of natural science learning outcomes for students given Macromedia Flash and those with high learning motivation (A_1B_1) of 24.80 is higher than the average score of natural science learning outcomes for students who are given PowerPoint learning and with high learning motivation (A_2B_1) of 19, 30.

Based on the results of further testing using the Tukey test, the results shows Q_{count} of 5.50 bigger than the Q_{table} of 2.00 at the significance level $\alpha = 0.05$ so that H_0 is rejected and H_1 is automatically accepted.

Therefore it can be concluded that the learning outcomes of natural science learning groups of students using Macromedia Flash and have high learning motivation (A_1B_1) is higher than the learning outcomes of natural science learning groups of students who use Power Point media and have high learning motivation (A_2B_1).

4) The fourth hypothesis : Science learning outcomes in groups of students who have low learning motivation who use Macromedia Flash are lower than the group of students who use PowerPoints.

These hypothesis was accepted after data calculation using two-way ANAVA using the H_0 test criteria ($H_0: \mu_{A_1B_1} \leq \mu_{A_2B_1}$) rejected and H_1 ($H_1: \mu_{A_1B_1} > \mu_{A_2B_1}$) was received at $\alpha = 0.05$. In addition, the average score of science learning outcomes for students given Macromedia Flash and those with low learning motivation (A_1B_2) was 18.40 lower than the average score of science learning outcomes for students who were given PowerPoint learning media and who had low learning motivation (A_2B_2) of 21.00. Based on the results of advanced testing results also show $Q_{count} = 2.60$ higher than $Q_{table} = 2.00$ at the significance level $\alpha = 0.05$, meaning H_0 being rejected.

Therefore it can be concluded that the learning outcomes of natural science learning in the group of students who use PowerPoint is higher than the group of students who use Macromedia Flash in group of students who have low learning motivation.

➤ *Research Results Discussion*

Natural science learning outcomes in groups of students who use Macromedia Flash are higher than natural science learning outcomes in groups of students who use Power Point. Macromedia Flash is a learning media that presents audiovisual messages to students so that they can be illustrated more interestingly to students to increase students' curiosity and attract students to pay attention to the media. Various advantages of the use of Macromedia Flash include the learning material that is delivered to attract students' attention more, the learning become more

meaningful and memorable, making it easier for students to remember the material described through the use of Macromedia Flash. This is evidenced by the average score of science learning outcomes of students who use macromedia flash with an average score of 20.94 higher than the average score of learning outcomes of natural science learning with conventional media that is equal to 18.87.

There is effect of interaction between the use of learning media and learning motivation on the learning outcomes of natural science learning. The group of students who have high learning motivation and are given learning media in the form of Macromedia Flash, obtain higher natural science learning outcomes than student who are given learning media in the form of PowerPoints. The group of students who had low learning motivation and were given Macromedia Flash was lower than the usage of learning media in the form of PowerPoints. This shows that the use of learning media in accordance with the learning material and in accordance with the characteristics of students will affect students' cognitive development, especially in the acquisition of natural science learning outcomes. From the findings obtained in this study, it can be concluded that there is an interaction between the usage of learning media and learning motivation on science learning outcomes. This statement strengthened by the research result by Prastomo (2012), "there is an influence of the learning media interaction in the form of interactive CDs and students' learning motivation on natural science learning outcomes with the results of $F_{count} > F_{table}$ ($9.088 > 3.84$) thus strengthening the second hypothesis that the interaction between the media learning with learning motivation.

Natural science learning outcomes in groups of students who have high learning motivation given with Macromedia Flash learning media are higher than the group of students given with PowerPoint as learning media. The success of the group of students given the learning media in the form of Macromedia Flash shows that Macromedia Flash is a form of learning media that increases new desires and interests in learning. Interactive media forms make students feel challenged and increase students' curiosity so that increased interest in learning so as to produce better learning outcomes. Students with high motivation will be strongly encouraged by new and innovative media and learning methods. With a high curiosity, want to achieve and have the spirit of a long competition, students who have high learning motivation will be greatly helped by interesting learning media so that this will provide convenience for students who have high motivation to achieve more. The findings of this study that in groups of students who have high learning motivation the average score of science learning outcomes that are given learning media in the form of Macromedia Flash (24.80) is higher than the group of students who were given learning media in the form of PowerPoints (19.30). This is an empirical evidence that the combination of treatment for students who have high learning motivation with the use of learning media in the form of macromedia flash is more effective than students who have high learning motivation with the use of PowerPoint media.

This statement strengthened by the research results of J. Handhika's which explains that there are differences in learning outcomes of natural science learning with the use of Macromedia Flash using power point media. This is shown from the average learning outcomes of students who use Macromedia Flash better than the average learning outcomes of students who use power point media. The average student who uses macromedia flash is 80,625, while students who use PowerPoint have an average learning result of 76,176. So this reinforces that Macromedia Flash provides better learning outcomes than the usage of power point.

Science learning outcomes for groups of students who have low learning motivation who are given Macromedia Flash as a learning media are lower than the group of students who were given PowerPoint as a learning media. Based on the results of previous processing and data calculations, it was found that there were differences in science learning outcomes in groups of students who were given learning media in the form of Macromedia Flash and those given learning media in the form of PowerPoints with low learning motivation. This can be seen in the magnitude of the average learning outcomes of science in the group of students who have low learning motivation given the learning media in the form of PowerPoints is 21. While the average learning outcomes of science in the group of students who use learning media in the form of Macromedia Flash is 18.40. Thus the comparison between A_2B_2 mean and A_1B_2 is significantly better than the group of students who have low learning motivation given the learning media in the form of macromedia flash.

Based on all analysis that have been previously described both with descriptive analysis and inferential analysis, it would be reasonable to say that using learning media in the form of Macromedia Flash is more effective in improving natural science learning outcomes than using learning media in the form of PowerPoints. In the usage of Macromedia Flash as a learning media, teachers need to pay attention to the characteristics of students based on student learning motivation. It has been proven that there are significant differences in learning outcomes of science produced by students who have high learning motivation. Students who have high learning motivation and given Macromedia Flash as a learning media show better natural science learning outcomes than students who use Power Point media.

V. CONCLUSION

Science learning outcomes in groups of students who use Macromedia Flash as a learning media are higher than science learning outcomes in groups of students who use PowerPoint as a learning media. This is based on the two-way ANOVA calculation which shows that the $F_{\text{count}} (4.91) > F_{\text{table}} (4.11)$ at the significance level $\alpha = 0.05$, then H_0 rejected and H_1 accepted.

There is an effect of interaction between the use of learning media and learning motivation on learning outcomes of science. This is based on the two-way ANOVA

calculation which shows that the $F_{\text{count}} (38.32) > F_{\text{table}} (4.11)$ at the significance level $\alpha = 0.05$, then reject H_0 and accept H_1 , it mean that the relationship between the use of learning media and motivation learning has an effect on the high and low natural science learning outcomes.

Natural science learning outcomes in groups of students who have high learning motivation who are given Macromedia Flash as a learning media are higher than the group of students given PowerPoint as a learning media. This is based on the calculation of advance tests using the Tukey $Q_{\text{count}} (5.50) > Q_{\text{table}} (2.00)$ test with a significance level of $\alpha = 0.05$, then H_0 is rejected and H_1 is accepted.

Natural science learning outcomes for groups of students who have low learning motivation who are given Macromedia Flash as a learning media are lower than the group of students who were given PowerPoint as a learning media. This is based on the calculation of advanced tests using the Tukey $Q_{\text{count}} (2.60) < Q_{\text{table}} (2.00)$ test with a significance level of $\alpha = 0.05$, then H_0 is rejected and H_1 is accepted.

Based on the description above, it can be concluded that the usage of learning media and learning motivation affect the natural science learning outcomes. Therefore, to improve student learning outcomes, the usage of learning media and learning motivation that students have is very helpful.

VI. SUGGESTION

For teachers, teachers should be able to improve their ability to choose even design learning methods accordance with the material and characteristics of students and accordance with the with students cognitive style, hopping students can further improve learning outcomes in accordance with the expected learning goals. Teachers should treat students in different ways based on the cognitive style of each student, so the students who feel lesser in learning could help them self from the way the teacher treats students in learning activities.

For school principals, it should provide support to teachers, both with moral support, assistance in providing facilities, holding funds / involving teachers in education and training activities, and by providing opportunities to challenges the teachers to try and develop other learning methods, in order the activities could be done by varies and makes students feel comfortable, so the learning in school will be more enjoyable.

For parents, parents should always understand the characteristics of their children. So parents can provide a learning for children at home according to the characteristics and cognitive style of each child.

This research cannot be separated from various limitations and weaknesses. For that reason, the next researcher who is interested in this problem should be able to control several independent variables as much as possible

and tighten external validity in order to maximized the research.

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