THE EFFECTIVITY OF PICTURE AND DIORAMA TO LEARN NATURE APPEARANCE

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Abstract

This study aims to find out the effect diorama media on social studies learning outcomes of 5th grade students at State Elementary School 2 Janturan, Pengasih, Kulon Progo. This study was a quasi experimental design with non-equivalent control group design's type. Subject in this study was 59 fifth-grade students elementary school. The experimental group was treated with diorama media, while the control group was treated with picture media. Data collection technique were observation, test, and documentation. Descriptive statistic were used to analyse the data in this study with mean test of posttest between the experimental and control group with N-Gain test. Based on the data analyse showed than the mean test of experimental group was 85.36 which was categorized on very good level and the mean test of control group was 78.25 which was categorized on good level. The result of this study supported by the result of N-Gain test from experimental group was bigger than control group the was .7 > .3.

Keywords: *Diorama Media; Picture Media; Social Studies; Learning Outcomes.*

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh media diorama terhadap hasil belajar kognitif Ilmu Pengetahuan Sosial kelas V Sekolah Dasar Negeri 2 Janturan, Pengasih, Kulon Progo. Penelitian ini merupakan penelitian quasi eksperimental dengan jenis nonequivalent control group desain. Subjek penelitian ini 59 siswa kelas V Sekolah Dasar. Kelompok eksperimen diberi perlakuan menggunakan media diorama, sedangkan kelompok kontrol menggunakan media gambar. Teknik pengumpulan data melalui observasi, tes, dan dokumentasi. Pada penelitian ini, data dianalisis menggunakan statistik deskriptif dengan uji mean dan uji N-Gain. Berdasarkan hasil analisis data, dapat disimpulkan bahwa rata-rata posttest kelompok eksperimen yaitu 85.36 berada pada kategori sangat baik, sedangkan kelompok kontrol yaitu 78.25 berada pada kategori baik. Hasil penelitian ini didukung hasil uji N-Gain kelompok eksperimen lebih besar dari kelompok kontrol yaitu .7 > .3.

Kata Kunci: *Media Diorama; Media Gambar; IPS; Hasil Belajar.*

A. Introduction

Social studies has to be taught continuously and must be understood by the students. Social studies's contents is human and its environmental issues which can't be comprehended only by memorization but an understanding, observation, and application in their daily life. The statement is accordance with the social studies purpose that argue by Council for the Social Studies (NCSS) in the book Teaching and Learning elementary Social Studies that "The primary purpose of social studies is to help young people develop the ability to make reason decisions for the public good as citizen of cultural diverse, democratic society in an interdependent world" (Ellis, 1998).

Furthermore, Nora (2013) according to opinion the purpose of social studies in education is to promote positive behavior of learners in line with the culture, values, customs and traditions that exist in society. Syawaluddin et al. (2020) this crucial role of social studies for learners requires the learning instructions to be well-prepared otherwise teachers will make the learning meaningless. Hicks, D., van Hover, S., Doolittle, P. E., & VanFossen (2012) say that among the subjects taught in elementary schools, teaching social studies can be quite a challenge for teachers. A

study of social studies in Indonesia elementary schools reveals that the learning process tend to be non-contextual, thus students seem to be less interested, less enthusiastic, bored and sleepy when studying the subject explains that social studies are within the key social science diciplines of history, geography, economics, government, and civics (Uge, 2019)

Learning is a process of interaction among the students with the teacher in their environtment. The lack of information source could obstruct the learning goals. Therefore, strategies are required to achieve the goals, one of which is by using the media learning as a supporting in teaching. In thematic learning especially in social studies subject at SD Negeri 2 Janturan, Pengasih, Kulon Progo, have an issue, it was the teacher not using learning media optimally. Actually, the school have provided the media learning especially for social studies but only some of them, for instance Indonesian map and modul for students. Another issue at SD Negeri 2 Janturan, Pengasih, Kulon Progo, that is the students didn't understand the materials from teacher. It can be seen by the learning outcome on social studies subject is lower than the learning outcome on Indonesian Language subject and natural science subject.

Syawaluddin et al. (2020) according to teaching the social studies subject using traditional textbook based activity can be somewhat dismal and tedious to young learners whoa are likely to benefit more from experiental learning when dealing with abstract concept. Social studies lesson by students are consideres as second grade lesson, whereas in social studies learning in process is very important (Aziz et al., 2014). In the process of social studies teaching and learning activities, teacher generally deliver teaching material dominated by models and learning media that tend to be conventional which are carried out by teacher of the subject. In this model, the transfer of knowledge occurs in one directon and is only teacher centered. In addition, the teaching and learning process in social studies is still the form of a learning process that is less attractive to students, learning that is taught tends to be oriented to aspects of knowledge, facts and concepts that are merely memorizing. As

a result the dialogical process between students and the material being studied becomes less effective. This is what causes the failure of social studies lerning in schools (Ningsih et al., 2019).

It is common to hear children dislike social studies and consider it as one of their fewers favorite subjects at school. Thus, teachers are expected to foster student's interest in learning this concept based subject. They can assist students in building their interest by creating conducive and pleasant learning conditions. This will certainly trigger the student's interest in participating in the learning process. One way to provide interesting learning media so that students don't get bored during learning process is through the use of diorama media (Syawaluddin et al., 2020).

The use of learning media has an important role in the learning process can generate new desires and interest, generate motivation and stimulation of learning activities, even bring psychological influences on students and can affect learning cognitive outcome (Astuti et al., 2019). The role of learning media for the purpose of instruction is to engage students cognitively and emotionally (Syawaluddin et al., 2020). This means that with the use of the learning media, students put efforts into practicing a deeper learning and to be interested in, motivated by, and contented with the learning.

Ayogas (2019) say that one of learning media that can improve student cognitive learning outcome is diorama media. Diorama media are stated as media that are classified as three - dimensional media whose size can be adjusted to the situation in the classroom. Diorama are used to explain or to demonstrate a situation (Amalia et al., 2018). Diorama are useful in conveying information about events in the past. Even diorama media can also be used as a medium that describe the future. Diorama media can be provided in the form of information that can make it easier to understand the media, but also play attention to its meaning and according to needs.

Luh et al. (2020) say that diorama media can be used by teachers anywhere because this media is not permanently created media, media can be moved outside the classroom, or in the middle of the class. So that

if the media is used properly, it can be used in the next class or the same material is obtained by other classes. Making this media does not require a lot of money because it uses unused materials, such as newspapers, cardboard, paper, plastic and so on. The media must be following what will be discussed, so it is necessary to pay attention to the design that is designed so that later there will be no misinterpretation.

The adventges of diorama media is that the design used in designing the media is very attractive because its a replica of the original object (Novelinda, 2017). That in making this media, can use the objects and plants in arround. Media diorama is one of the replica media so that it can attract the attention of people and even students. By using the diorama media, it is hoped that learning will be more meaningfull (Luh et al., 2020). So, based diorama media can bring a quality learning experience to students (Brock et al., 2016).

Carlin (2013) say that there are many ways to teach social studies, but perhaps the most effective are methods which promote active learning and active student. Furthermore, based opinion (Arsyad, 2014) that in order for students to gain or increase learning outcome in social studies classrooms, they should learning with media because the media could make the process of delivering materials more easy so could increase the learning outcomes.

In the 2013 curriculum, nature appearance material can be found in the ninth theme, first subtheme, and fourth learning. The teachers have difficulties in teaching the material because the students couldn't encounter all the material taught directly. This is due to the uncertain location of the students that made them can't see the objects like volcanos, beaches, lakes, rivers, and so on. The teacher only used the student books as the supportive tools to deliver the materials of nature appearance. It's caused a lot of students don't understand the materials.

B. Method

This research used quantitative research. The research used quasi experiment. The design used in this research is nonequivalent control group design. The subjects in this research were students in fifth grade,

that are amounted to 23 students as an experimental class of SD Negeri 2 Janturan, Pengasih, Kulon Progo and are amounted to 19 students as an control class of SD Negeri 1 Janturan, Pengasih, Kulon Progo.

The data collection technique used were observation, test, and documentation. The instrument used are observation sheet of the learning process and test multiple choices. Data analysis in this research used descriptive statistic. Based opinion Sugiyono (2014), descriptive statistic is statistic used to analyze data by describing the data that has been collected as it is without intending to make conclusions. This research was conducted in population without taking any samples that is why descriptive statistic is used to analyze the data. Population research doesn't need a significant test because it is not intended to make generalizations (Riduwan, 2010). Therefore, the analysis data technique used only comparing the means.

After both data from pretest experimental class and control class are collected, the next step is to tabulate into a table. The table below is the assessment criteria.

Table 1. Learning Outcomes Assesment Criteria (Arikunto, 2013)

No.	Range	Category
1.	8.1 – 10.0	Very good
2.	6.6 – 8.0	Good
3.	5.6 – 6.5	Satisfying
4.	4.1 – 5.5	Less than satisfying
	0 – 4.0	Fail

After categorizing the value into the table assessment criteria, the next step is to testing the hyphothesis with mean test and normality gain test (N-Gain) from experiment class and control class. To calculated the mean in this research was used the formula below.

$$\bar{X} = \sum fx / N \tag{1}$$

Information :

$\bar{X}$: Mean score

$\sum f_x$: Total score all respondents

N : Total respondents

If the mean calculation result show that experiment class posttest (Xe) is bigger than the control class (Xk), there are impact of independent variable with the dependent variable. However, if the experiment class mean (Xe) is equal to or smaller han the control class (Xk), then there is no impact of the independent variable in the dependent variable.

Furthemore, N-Gain test is conducted to test the effectiveness of the treatment. The data used to determine the increase in student cognitive learning are the results of the pretest and posttest in the experiment class and control class. The data is analyzed to see the test score than calculate the mean score. After knowing the mean, the N-Gain is calculated between the pretest and posstest was used the Hake formula (Meltzer, 2002).

$$g = \frac{skor\ posttest - skor\ pretest}{skor\ maksimal - skor\ pretest} \qquad (2)$$

Information :
g : *gain score*

Calculation result are interpreted using the normalized gain based to Meltzer's classification. The table below is N-Gain score criteria.

Table 2. N-Gain Score Criteria (Meltzer, 2002)

No.	Range	Category
1.	$0.7 > g > 1$	High
2.	$0.3 \leq g \leq 0.7$	Middle
3.	$0 < g < 0.3$	Low

If the calculated N-Gain result of the experiment class are higher than the control class, then it can be interpreted that the experiment class has a higher change than the control class. This shows that there is an impact of the use diorama media on students cognitive learning outcomes in social studies in nature appearance material.

C. Result and Discussion

1. Result

This research begins with a pretest for the experiment and control class. This is done to see the initial condition of the class. The result pretest mean can see in the table and diagram chart below.

Table 3. The Result Mean Pretest of Experiment and Control Class

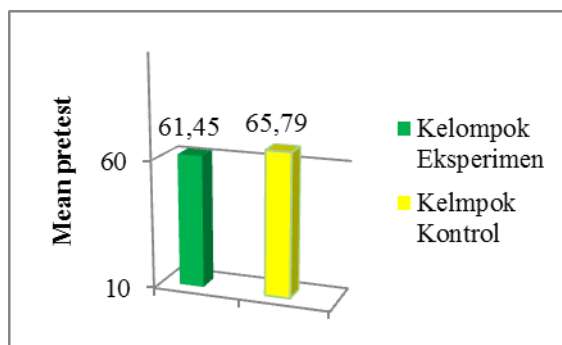| No.	Class	Mean
1.	Experiment	61.45
2.	Control	65.79

Figure 1. The Diagram Chart Mean Pretest

After the pretest the next step is giving treatment to experiment class. The treatment given to experiment class was learning using diorama media. Whereas for the learning control class using image media contained in sudent's book.

The last procedure is to do a posttest. Posttest aims to determine changes in learning outcome after being given treatment. The posttest result showed an increase in learning outcomes in the experiment class. The result posttest mean can see in the table and bar chart below.

Table 4. The Result Posttest Mean of Experiment and Control Class

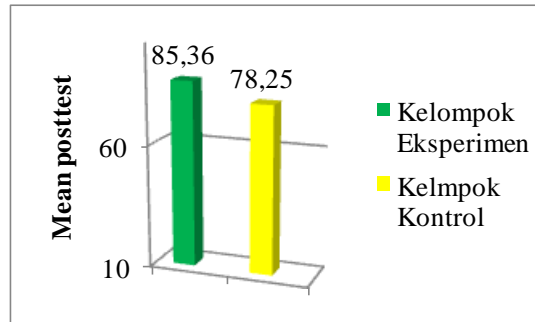| No.	Class	Mean
1.	Experiment	85.36
2.	Control	78.25

Figure 2. The Diagram Chart Mean Posttest

According on the figure 2 above, it can be seen the mean learning outcome between the pretest and posttest. In the experiment class the mean difference was 23.91 while in the control class the difference was 12.46. The mean increase in the experiment class was higher than the control class.

In the observation result using the learning observation sheet, the experiment class learning activities were carried out 95% based the lesson plan. While the control class, 75% of the learning activities were carried out based on the lesson plan. Based the data above to support the result of the research, a hypothesis test using mean test and N-Gain test below.

a. Mean Test

The comparison of mean test result between the experiment class and control class can be seen in the table below.

Table 5. Mean Test Outcomes

No.	Class	Mean	Information
1.	Experiment	85.36	Experiment > Control
2.	Control	78.25	

According on the table 5 above, it can be seen that the posttest mean score of the experiment class was higher than the posttest mean score of the control class. In addition, differences were also seen in the mean posttest category. Where the posttest mean score of the experiment

class was 85.36 in the very good category of learning outcome, while the posttest mean score of the control class was 78.25 in the good category.

b. N-Gain Test

The calculation of the hypothesis test with the normality gain (N-Gain) is by calculating the diffterence and the mean pretest and posttest. The result of N-Gain test can see in the table below.

Table 6. The Result of N-Gain Test

No	Class	Pretest mean	Posttest mean	Ideal score	N-Gain
1	Experiment	61.45	85.36	100	.7
2	Control	65.79	78.25	100	.3

According on the table 6 above, it can be seen that the N-Gain score of the experiment class was .7 and the control class was .3. In the table of N-Gain test, the increase in social studies cognitive learning outcomes the experiment class in the highe level, while the control class in the medium level. Based on the result of the mean test and the N-Gain test that have been describe, it can be stated that the learning outcomes of using diorama media are higher than learning outcomes using the image media. Thus, the hypothesis in this study is proven.

2. Discussion

Based on the result of data calculations, it is known that the social studies learning outcomes of experiment class are higher than the control class. At the beginning of this research, a pretest was carried out fot the experiment class and the control class. This is to determine the initial conditions of the classes. The pretest result for the experiment class was 61.45 while the control class was 65.79. Both pretest result are in the low category. This is shows that students abilities in initial condition are balanced.

Furthermore, giving treatment to experiment class. The treatment given to experiment class was to use diorama media. Meanwhile, the

control class was using picture media from student books. After being given treatment to experiment class and control class, were given a posttest. The posttest aims to determine the ability of students after being given treatment.

The posttest results showed that the experiment class got the mean of 85.36 in the very good category, while the control class got the mean of 78.25 in the good category. This result indicated that there was an increase in score in experiment class and control class. Where the experiment class increase was 23.91, while the control class increase was 12.46. Furthermore, to test the hypothesis in this research used the N-Gain test. The result of the N-gain tests the experiment class and the control class were .7 > .3. It means that the experiment class was higher change in result than the control class.

It happened because of the different treatments that are given for the experiment and control class. In the experiment class, students used diorama media as the instructional media about natural's appearance material and give the students an imitation of the real object to be observed. Diorama media is a combined media of the model with the persperctive picture in a whole appearance and illustrate the real environment.

The different treatments served to the experiment and control class caused the difference behavior in the class. The students of experimental class are seen more excited during the learning process rather than the students who do learn without the diorama media. In learning process, the students can fiddle the diorama and then answer the worksheet from teacher. The answer the worksheet of the group in experiment class t has been done by discussion with observing the diorama media. It doesn't happen to the control class. The observation just by the pictures in students' book. The students answer of the question in their worksheet is based on the same in student's book.

Diorama media can help teachers in teach the material with miniature of natural appearance, so that students will be more interested

and motivated to learn social studies especially in natural appearance's material. Learning using diorama media can help teachers teach material and can be used by students to learn in anywhere and anytime (Prasetyo, 2019). In addition, students can also feel form various natural appearances so that students can gain experience about the natural appearance through the diorama media. This statement is appropriate with the opinion of Daryanto (2010) that diorama media can give direct and concrete experience.

Sanjaya (2015) say that diorama media is a combination of models with perspective images in a complete appearance that depicts the real atmosphere, so learning to use artificial objects can to avoid verbalism. From the statement, it can be concluded that the use of diorama media in experiment class can increase student's experience and understanding of natural appearance material. So, that it can have an impact on learning outcomes.

The use of media in learning process is one of the factors that determine the success of learning, especially in the nature appearance material which must use the media to help students to get assist observation so that students can get the objective data (Purwanto, 2012). Ayogas (2019) say that one of learning media that can improve student cognitive learning outcome is diorama media. Diorama media are stated as media that are classified as three - dimensional media whose size can be adjusted to the situation in the classroom. Diorama are used to explain or to demonstrate a situation (Amalia et al., 2018). Diorama are useful in conveying information about events in the past. Even diorama media can also be used as a medium that describe the future. Diorama media can be provided in the form of information that can make it easier to understand the media, but also play attention to its meaning and according to needs.

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lot of money because it uses unused materials, such as newspapers, cardboard, paper, plastic and so on. The media must be following what will be discussed, so it is necessary to pay attention to the design that is designed so that later there will be no misinterpretation.

The use of media in learning process is one of the factors that determine the success of learning, especially in the nature appearance material which must use the media to assist observation so that students can get the objective data (Purwanto, 2012). Based on statement of Santrock (2017) that the use of the diorama media is also based with Jean Piaget's theory, which state that elementary school age is a concrete operational stage that requires concrete objects to add their experience. Furthermore, the use of media in learning process can be more interesting and be more interactive, then the learning process can be done anywhere, anytime, and students can be increase the learning outcomes after they have received their's learning experience (Angraeni et al., 2020).

Based on the discussion, the authors conclude that there is an impact on the use of diorama media on social studies cognitive learning outcomes about natural appearances in fifth grade students of SD Negeri 2 Janturan, Pengasih.

D. Conclusion

According on the explanation of the result and discussion, can be concluded that there are differences the cognitiv learning outcomes, between the students using diorama media and those who used picture media on social studies learning. The differences are shown by the mean posttest of experiment class that is higher than the control class. It is supported with the N-Gain score that score of experiment class was .7 while the control class was 3. Suggestions for teaching staff in this case are lecturers, namely: (a) familiarize students learning to use media; (b) familiarize students can be active in learning process. For further research, there are several suggestions, namely: (a) further research should use

more research subjects (b) aspects of the student response questionnaire student response instrument should be added, such as the effectiveness of satisfaction of students the use of media.

Acknowledgement

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