

The Effectiveness of Video Media in Improving Student Learning Outcomes of Class V in Mathematics Subjects at SD Kemuning Lor 01 Jember Indonesia

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Abstract: *The background of this problem is the teaching and learning process of students in the classroom still using conventional methods (lectures), so the use of video media in learning is very necessary to create a more interesting classroom atmosphere so students in the class do not feel bored with the video learning media. This research is a quantitative research type with the use of video media in learning. The purpose of this study was to determine the effectiveness of video learning media compared to conventional methods in mathematics subjects in Class V SDN Kemuning Lor 01, Jember Regency. This research method uses a type of experimental research using pretest - posttest questions. There are two classes in this study, the experimental class using video media and the control class using image media. The population in this study were all fifth grade students of SDN Kemuning Lor 01 Jemberi consisting of 3 classes with a total of 78 students. The number of samples in this study were 50 students. Based on the results of research conducted, it was concluded that the value of students who use media images is better than students who use conventional learning and there are significant differences. With the results of the experimental class posttest 88,75 and control class 73.25. While the t test results obtained significance value of $000 < 0.05$ which proves that the image media is more effective in improving the learning outcomes of thematic learning.*

Keywords— Video Media, Mathematics Learning, Learning Outcomes

1. INTRODUCTION

Technological progress in Indonesia has a considerable influence on the development of education, so educational institutions are trying to support the learning process by using existing technology. Utilizing technology to solve problems in education is wise. For this reason, an appropriate strategy is needed by taking into account the supporting components, such as materials, methods, learning media, facilities and infrastructure as well as evaluation. A teacher must be able to improve a teaching and learning activities towards achieving optimal learning outcomes. One component that supports learning is the selection of appropriate learning media. One

use of technology in the world of education is to use video media as a medium of learning in the classroom. Learning video media is a tool in the delivery of material to support the learning process in the classroom so that it can achieve the goals of active and effective learning. Information presented through video media is presented in the form of live documents, can be viewed from the monitor screen or when projected onto the big screen via an overhead projector and can be heard, seen in motion (video or animation). The video is also considered effective for the use of elementary school students because these three advantages can meet the learning needs of elementary school students who are in the concrete operational phase.

Sanaky [4] says that learning media is a tool that functions and can be used to convey learning messages. Learning is the process of communication between learning, teaching, and teaching materials. So it can be said that, this form of communication will not work without the help of means to convey messages. Yudhi [3] says that everything that can convey and channel messages from sources in a planned manner so as to create a conducive learning environment where the recipient can carry out the learning process efficiently and effectively. Learning media is one component that has an important role in learning. Arsyad [1] said that "the media is an inseparable part of the teaching and learning process for the achievement of educational goals". The media aims to present information in a form that is fun, interesting, easy to understand and clear, information will be easy to understand because as many senses as possible, especially the ears and eyes, are used to absorb that Based on the function of the media in the learning process described above, in general the function of the media in the learning process include: the media as a tool to create an effective learning atmosphere, the media as a means to observe objects or obtain a clear picture of objects that are difficult to observe, teaching media is not an entertainment tool but this tool is used to complete the teaching and learning process so that it attracts the attention of students more, students can learn according to their abilities, interests and tempos, preferably to speed up the teaching and learning process and can help students capture understanding which is conveyed by the teacher, the use of this tool is prioritized to improve the quality of teaching and learning.

In the Indonesian dictionary, effectiveness comes from the effective root word, the word effective means to have an effect, influence or effect. So the effectiveness can be interpreted how much the level of success that can be achieved (achieved) from a particular way or business in accordance with the objectives to be achieved. According to the Indonesian encyclopedia dictionary 1 "effectiveness" is to indicate the level of achievement of a goal, can produce results. An effort is said to be effective if the effort has achieved its objectives. Effectiveness is the achievement of goals correctly or choose the right goals from a series of alternatives or choices of ways and determine the choice of several other choices Effectiveness can also be interpreted as a measure of success in achieving the goals that have been determined. For example if a task can be completed by the selection of methods that have been determined, then the method is correct or effective

Mathematics is a tool to provide a way of thinking, composing clear, precise, and thorough thinking states, mathematics as an abstract object, of course, is very difficult to be understood by elementary school children (SD) which they by Piaget, classified still in the stage concrete operations Elementary School (SD) students ber there are at ages ranging from ages 7 to 12 years, at this stage students are still thinking in the concrete operational phase. The ability that appears in this phase is the ability in the process of thinking to operate the rules of logic, although they are still bound by concrete objects in [2] Elementary students are still bound to

the objects that are captured with the five senses, so it is expected that in learning abstract mathematics, students use more media as aids, and use of visual aids. Because the use of media and props can clarify what is conveyed by the teacher, so students understand it more quickly.

SDN Kemuning Lor 01 is one of the schools located in remote highlands in Jember Regency, precisely in the Village of Kemuning Lor District of Arjasa Regency. With areas far from cities, educators only utilize textbooks in the learning process. The media used are only modest without any innovation from local wisdom or the plantation environment. The use of media is very lacking, so students participating in learning feel bored. By looking at the phenomenon of educational practitioners who are in the educational environment, in elementary schools, and who are in rural areas, in carrying out their daily tasks, as educators still carry out many teaching and learning activities by applying traditional teaching styles or models such as "I talk, you listen" the teacher explained, the child or students were told to be quiet, even though the silence of the child is not necessarily they are happy and understand the material delivered by the teacher. Because the tools produced by technological advances have been so advanced, it is no longer appropriate if the delivery of educational messages is still verbally or in mere words. Education must be in line with the progress of the way humans use all available tools for the learning process in schools to be effective.

Considering the above, using video as a learning medium is very important. It is hoped that after the teacher uses the learning video it can improve the quality of the learning process, encourage students to be active, and provide motivation for students to learn. To find out how much an increase in the effectiveness of the use of video media, it is also necessary to conduct research studies using instructional media that apply conventional learning media. Then compare the results achieved by implementing an interactive learning process and also the conventional learning process. From these results can be used as a reference and motivation to improve the learning process to be better in SDN Kemuning Lor 01.

Based on the above background, the problems examined in this study can be formulated into the following subproblems: there differences in learning outcomes in mathematics in fifth grade students of SDN Kemuning Lor 01 Jember Regency from groups of students who take part in learning using video and picture media? Furthermore, the following research hypotheses are proposed that there are differences in the improvement in learning outcomes of mathematics subjects in fifth grade students of SDN Kemuning Lor 01, Jember Regency, from groups of students who take part in learning by using video and image media. For the purposes of this research, the above hypothesis is then tested and analyzed with inferential statistics to obtain more detailed research results.

2. RESEARCH METHODOLOGY

This research is categorized into quasi-experimental research, which is a research method implemented and planned by researchers to collect evidence that has to do with hypotheses, however, sampling in this study was not carried out by full randomize. The selection of the Quasi Experimental method is imposed on this study. The researcher did not randomize before the test was carried out. The design used in this study is matching pretest-posttest control group design in [5]. The research design looks like the following:

| Group | Pre-Test | Treatment | Post Test |
|-------|----------|-----------|-----------|
| A | T1 | X | T2 |
| B | T1 | Y | T2 |

Description:

A: Control Group

B: Experiment Group

X1: Conventional Learning with image media

X2: Learning with video media

T1: Posttest (initial test)

T2: Posttest (final test)

This research was conducted on fifth students grade at SDN Kemuninglor 01 , Jember Regency. The population of this research is all fifth students of gradeSDN Kemuning Lor 01 , Jember Regency, as many as 50 students. Sampling is done by *random sampling* by selecting two classes from three classes. Sampling was focused on 2 classes which were divided into two research groups namely the experimental group and the control group. The experimental group had25 students and the next group was the control group with 25 students. Treatment was given to both samples. The treatment using video media was given to the experimental class and the media image was given to the control class.

The data collection methods used in this study are the documentation method in the form of a teaching preparation book, student attendance, a list of grades and syllabus, an observation method in the form of student learning activities and a test method that is by giving a pretest and posttest. Pretests are given when students have not been given treatment, while posttests are given after treatment is given to students. The scores on these two tests are the data to be analyzed. Free sample t-tests are used to compare averages of two independent case groups. To facilitate calculations, the t-test in this study was carried out with the help of Statistical Product and Service Solutions (SPSS) software.

The data obtained in this study were all processed and analyzed using descriptive statistical techniques. This analysis includes averages, standard deviations, maximum values and minimum values. Furthermore learning outcomes data are categorized quantitatively based on categorization techniques determined by the Ministry of National Education as follows:

Table 1. Categories of learning outcomes Value of Learning

| Outcomes Learning Outcomes | Category |
|----------------------------|-----------|
| 90-100 | Very High |
| 80-89 | High |
| 65-79 | Medium |
| 55-64 | Low |
| <55 | Very Low |

3. RESULTS AND DISCUSSION

Learning in the control class and the experimental class has differences in the learning process and the use of instructional media. The control class is a class that does not get treatment in the delivery of learning material that is, learning only uses picture media. Experimental class is a class that gets treatment that is, learning by using instructional video media in the delivery of learning material.

Based on the results of data processing obtained $t = -10,055$ with a significance value (p) of 0,000. Thus, $t_{count} = -12.055 < t_{table} = -2.678$ and significance value (p) 0.000 < 0.05 . And in this study an average value of 88.75 was obtained. Thus, H_0 was rejected and H_a was accepted, so it can be concluded that there are differences in mathematics learning outcomes for students in grade 5 at SDN Kemuning Lor 01, Jember Regency ". This is supported by observations that show that students are more enthusiastic in answering questions from the teacher. In addition, students become active in asking when experiencing a difficulty. Thus, the use of video media will have an impact on student learning outcomes. Video media can make students more active, more motivated in learning and will better understand the material being studied. This is evident from the high average value.

Table 2. Results of pretest and posttest learning and classroom control Classroom Experiment

| Statistics | Experiment Class | | Classcontrol | |
|----------------|------------------|----------|--------------|----------|
| | pretest | posttest | pretest | posttest |
| Range | 39 | 23 | 30 | 30 |
| Minimum | 40 | 75 | 45 | 52 |
| Maximum | 79 | 98 | 75 | 82 |
| Mean | 50.30 | 88.75 | 60.50 | 72.25 |
| Std. Deviation | 14,384 | 6,227 | 16,713 | 10,119 |
| Variance | 175,909 | 73,495 | 182,731 | 83,225 |

Based on the results of research conducted video media researchers are more effective than image media in improving mathematics learning outcomes of fifth grade students of SDN Kemuning Lor 01 in Jember Regency. This is evidenced by the results of the calculation of the average (mean) motivation to learn mathematics using video media

88.75 while the average (mean) image using media 73.25 ($88.75 > 73.25$) then the results of learning mathematics students by using video media higher than learning outcomes compared to media images. Based on the results of data analysis in this study shows that learning using instructional video media in the learning process is more effective in improving student learning outcomes. This is based on observations of the atmosphere of the experimental class which is conducive to the learning process and students' enthusiasm when learning using instructional video media. The average value of the experimental class also shows an increase based on the average pretest and posttest scores.

4. CONCLUSION

Based on the formulation of the problem and the purpose of the study and the results of the study and the discussion obtained as described, it can be concluded that the application of video media is more effective than conventional learning. This is indicated by the average value and the t-test for N-gain data. The average value of the experimental class from the pretest and posttest scores increased and was greater than the average value of the control class. To find out the increase in pretest and posttest data it is known that the N-Gain data t test obtained P value of .000. By comparing the value of α (0, 05), then the value of $P, 000 < \alpha$ (0.05). Which means there is a significant difference between the application of video media compared with conventional learning in improving the learning outcomes of third grade students of SDN Kemuning Lor 01, Jember Regency in mathematics learning. From these results prove that learning using video media is more effective than conventional learning.

5. REFERENCES

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