



Effect of The Use of Interactive Multimedia Learning Media on Student Learning Outcomes (Quasi-Experimental Study on Theme Subtema 2 of Grade IV Science Content in Lebakwangi Elementary School 2, Kuningan District)

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Abstract. The background in this study is that there is a problem in student learning outcomes in the cognitive realm of science content caused by the use of learning media that are less varied. This study aims to determine (1) differences in learning outcomes between students who use interactive multimedia learning media in the experimental class with students who use powerpoint media after getting treatment in the control class, (2) the difference in gain of student learning outcomes using media interactive multimedia learning in the experimental class with students using powerpoint learning media in the control class. The type of research used in this study was quasi-experimental with nonequivalent control group design. The number of students in class 4A 24 students and 4B class 24 students. The data collection used in this study was a test instrument in the form of 20 multiple choice questions. The data analysis used is differential statistical analysis and inferential statistical analysis. The results showed (1) there were differences in student learning outcomes using interactive multimedia learning media with students using powerpoint learning media, (2) there were differences in improvement in student learning outcomes using interactive multimedia learning media with students using powerpoint learning media. The implication in this study is that interactive multimedia learning media are more effectively used in the subject of style influences. The researcher suggested that it would be better when the learning process was carried out as interesting as possible.

Keywords: Interactive Multimedia, Science, Experiments

INTRODUCTION ~ Learning is a process of transfer of knowledge or two-way interaction conducted by the teacher of students, in learning there is an assessment of learning outcomes consisting of several domains such as the affective, cognitive, and psychomotor domains. The purpose of learning is to achieve good learning outcomes. In the cognitive domain students can be said to be successful when reaching the KKM (Minimum Completeness Criteria) for the cognitive domain. Whereas in the affective domain students want to be able to behave properly not doing things that violate morals, then the psychomotor domain students not only understand or know but students must be able to do a skill in

learning. As in the content of science in elementary schools that emphasize learning in these three domains by providing direct experience related to learning about the environment so that students are able to explore and understand the nature around scientifically. To achieve these learning objectives, a teacher is required to make an active, innovative, and fun learning and be able to develop IT in learning.

The results of observations made by researchers on Monday, January 14, 2019 at Lebakwangi State Elementary School 2, Lebakwangi District, there are some gaps in the learning process which include teachers who are more dominant than students so that learning is less interactive,



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the use of instructional media is modest like books, tables and chairs. That is due to the lack of learning media in schools, furthermore learning media that are often used are not attractive so learning does not stimulate students' interest or desire to learn which results in low student learning outcomes in the cognitive realm in class B. From the data obtained from the homeroom teacher that there is no problems in the affective or psychomotor domains, skewed problems occur in the cognitive realm as recorded in student learning outcomes in science content many students get grades below the Minimum completeness criteria (KKM).

The problem of low learning outcomes in the science content is one of the problems that is fatal because it can affect students' skills in science content besides it also affects the learning system that takes place because in learning in the 2013 curriculum the learning process is mutually sustainable between one material to another. Then the problem to be solved is the problem of learning outcomes in the cognitive realm. The problem that occurs is caused by factors that are less interactive learning.

Reviewing the problems above, an effort that can be done is to create an effective, active, and enjoyable learning media that is able to increase students' desire to learn and be able to make students understand what is conveyed by the teacher. In this study, researchers tried to use interactive multimedia learning media. Interactive

multimedia learning media is a media or tool used by a teacher in conveying learning as an application in which there is a combination of design, video, animation, and audio. As revealed by Daryanto (2013: 53) Interactive multimedia is multimedia that is equipped with a controller that can be operated by the user so that the user can choose what they want for the next process. Examples of interactive multimedia are interactive CD and game applications. In addition, according to Daryanto (2013: 54), the advantages of interactive multimedia learning media can arouse student learning interest, besides interactive multimedia can also clarify an object that cannot be imported, or imagined such as objects in the sky, objects that are sized small. By seeing the advantages of interactive learning media that is listed can increase student interest in learning which can affect student learning outcomes.

Furthermore, interactive multimedia learning media that review from the background are able to display concretely, and are able to make interactive learning by attracting students' interests. I.e, by displaying or showing a real or concrete media to students will more influence student learning outcomes in the content of science. As previously done by researchers Mukti (2012: 6) the effect of the use of interactive multimedia affects student learning outcomes in natural science learning such as high student motivation, teaching and learning activities more interesting, students are



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more active in learning, this shows that active creative innovative creative learning is effective and fun (PAIKEM) come true. The acquisition of the average value in the experimental group is greater than the acquisition of the average value in the control group that is $67.83 > 53.40$.

METHOD

This research uses quantitative research that aims to test hypotheses and data that have been collected in accordance with previous theories and concepts. According to Sugiyono (2017: 14) "Quantitative research is a type of research based on the philosophy of positivism, which is used to examine a particular population or sample, basically sample collection techniques are conducted randomly, data collection uses research instruments, data analysis is quantitative / statistical in order to test the hypothesis that has been set."

The research method is a way for researchers to conduct research. The research method according to Sugiyono (2017: 1) in general the research method is defined as a scientific way to obtain data with specific purposes and uses. Therefore the researchers used the Quasi Experimental research method. According to Sugiyono (2017: 114) Quasi Experimental is a development of true experimental that is not carried out. This design has a control group, but it cannot function fully to control external variables that affect the implementation of the experiment. While the research design uses the

Nonequivalent Control Group design, this design is almost the same as the pretest-posttest only in this design the experimental class and the control class are not randomly selected.

RESULTS AND DISCUSSION

A. Differences in Learning Outcomes

This study aims to determine the differences and differences in the increase (gain) of learning outcomes in the cognitive domain between students who are treated with interactive multimedia and students who are given treatment in the form of power point learning media. On the theme of learning the beauty of the diversity of science content about the style and its influence in class IV SD Negeri 2 Lebakwangi student learning outcomes in the cognitive realm have increased in understanding the subject matter provided. These results can be seen based on the pretest and posttest scores. The results of the pretest in the experimental class which amounted to 24 students got an average value of 58.33 and students in the control class of 24 students got an average value of 57.50. Of the two classes there is no significant difference because seeing from the average value of the control and experimental class is only in the range of 0.83, it is because the two classes have not been given treatment so that the initial conditions of the two classes are the same.

Whereas after being given treatment the students got an average value of 83.25 and the posttest score obtained an



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average value of 70.83. After analyzing the data obtained from the posttest scores of the two classes. The results of the analysis show that there are differences in the improvement of student learning outcomes using interactive multimedia learning media with students who use power point learning media. In the experimental class there was a good improvement compared to the control class. Then based on test results using the t test where the value of $t (5.03) > t_{table} (2.014)$ means that there are differences between students who are treated with interactive multimedia learning media and students who are given power point learning media treatment. This can happen because students who are treated with interactive multimedia are more enthusiastic and well motivated so that learning is more interesting, enjoyable. When the learning process with active student conditions will have an impact on learning outcomes that increase, because students are more focused and pay more attention to the learning process. In line with Munir's opinion, (2013: 132) that interactive multimedia makes the learning process more creative, innovative, and fun so that it can increase student motivation resulting in achieving desired learning goals, in other words the learning objectives in this study are the learning outcomes of students in cognitive realm.

The results of this study are also in line with previous studies conducted by Jatmiko (2015), namely: That there is an influence of the use of interactive learning

multimedia on student learning outcomes in Islamic Religious Education subject matter in the fourth grade students of SD Negeri Sebomenggalan. This has been proven in the results of the t-test, where $t_{count} = 2.853 > t_{table} = 1.690$, and $Sig. (2-tailed) = 0.007 < significant\ level\ 0.05$. This research also proves that students who use interactive multimedia (experimental class) have higher average scores than students who learn using lecture and textbook methods (control class).

In a study conducted by Jatmiko (2015) explained that the interactive multimedia learning media can teach Islamic religion to improve learning outcomes of fourth grade students in Sebomenggalan State Elementary School. This is indicated by an increase in the average value of students.

B. Difference in Improved Learning Outcomes

The results of data analysis obtained from the N-Gain value of the experimental class were 0.58 and the control class was 0.29 and a hypothesis test was performed in which the results of $t_{count} (4.83) > t_{table} (2.014)$. Then it can be interpreted that the experimental class that uses interactive multimedia learning media is included in the medium criteria while the control class that uses the power point learning media is in the low criteria. From this analysis it can be explained that students who learn by using interactive multimedia learning media are better improved than students who learn by using power point media. So there is a



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difference in the improvement of student learning outcomes using interactive multimedia learning media with students who use power point learning media after being treated. This can happen because students who learn by using interactive multimedia learning media can attract students' interest or motivation so students learn wholeheartedly and happily. In addition, students are more interested when the learning process is different and there are fun for students such as video shows, pictures, gifs and varied quizzes. In line with Daryanto's opinion, (2012: 54) that interactive multimedia is able to display what cannot be brought in real, besides multimedia also displays a combination of interactive text, gif, images, audio, and

CONCLUSIONS

Based on the results of research and hypothesis testing in this study, the following conclusions can be drawn:

1. There is a difference in learning outcomes between students who use interactive multimedia in the experimental class and students who use power point learning media in the control class on the beautiful theme of the diversity of science material style influences.
2. There is a difference in the increase (gain) of learning outcomes between students who use interactive multimedia learning media in the experimental class and students who use power point learning media in the

video so as to increase student motivation and attention related to learning objectives.

The obstacle found by researchers is in making learning media very complicated and requires calm in the manufacturing process. In this research, it takes a long time in making interactive multimedia learning media, the difficult stage in making this media is when making an action script, and converting video into a format that can be read by Macromedia flash. The next obstacle is preparing a material that will be designed because the content we will discuss is sometimes difficult to find. For a teacher who has difficulty operating a computer or using Macromedia Flash.

control class on the beautiful theme of the diversity of science content.

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