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THE INFLUENCE OF WATER CYCLE VIDEO LEARNING MEDIA ON THE UNDERSTANDING OF GRADE V STUDENTS OF SDN TAROKAN 3 ON WATER CYCLE MATERIAL

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Abstract

This research was motivated by the lack of learning media used by teachers when delivering material. The solution to overcome this problem is to use learning video media. The aims of this research are (1) To find out how the use of water cycle video learning media affects the understanding of class V students at SDN Tarokan 3 in the experimental class, (2) To find out how learning without using learning media affects the understanding of class V students at SDN Tarokan 3 in the control class , (3) To determine the difference between the use of water cycle video learning media and without the use of media on the understanding of class V students at SDN Tarokan 3 regarding the water cycle material. This research is a type of quantitative research with experimental techniques. The conclusion of this research is that the water cycle video learning media has a greater role in increasing students' understanding compared to delivering material without using learning media.

Keywords: *learning media, videos, water cycles, student understanding.*

Abstrak

Penelitian ini dilatarbelakangi oleh kurangnya media pembelajaran yang digunakan guru saat meyampaikan materi. Solusi untuk mengatasi masalah ini adalah dengan menggunakan media video pembelajaran. Tujuan penelitian ini adalah (1) Untuk mengetahui bagaimana penggunaan media pembelajaran video siklus air terhadap pemahaman siswa kelas V SDN Tarokan 3 di kelas eksperimen, (2) Untuk mengetahui bagaimana pembelajaran tanpa menggunakan media pembelajaran terhadap pemahaman siswa kelas V SDN Tarokan 3 di kelas kontrol, (3) Untuk mengetahui adanya perbedaan penggunaan media pembelajaran video siklus air dan tanpa penggunaan media terhadap pemahaman siswa kelas V SDN Tarokan 3 terhadap materi siklus air. Penelitian ini merupakan jenis penelitian kuantitatif dengan teknik eksperimen. Simpulan penelitian ini adalah media pembelajaran video siklus air memiliki peran lebih dalam meningkatkan pemahaman siswa dibandingkan dengan penyampaian materi tanpa menggunakan media pembelajaran.

Kata Kunci: media pembelajaran, video, siklus air, pemahaman siswa.

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INTRODUCTION

Education is one of the factors that make a nation advanced. With education, it is able to produce young generations who have broad insights. Broad insight can make the younger generation able to innovate and able to compete in all aspects. The progress of a nation in the future will be determined by a qualified young generation. Education is one of the needs of every human being that is inseparable in everyday life. One education that cannot be separated from everyday life and exists in the surrounding environment is Natural Science. Natural Science or known as Science is one of the lessons found in elementary school. Natural Science itself is a learning that is closely related to life and is often found in the surrounding environment. (Oktafiani et al., 2020) said that Natural Science has a very close relationship with the real world and is widely encountered in the surrounding environment such as plants, animals, air, energy, water, natural events, and so on. One of the materials contained in science lessons that is closely related to human life is the water cycle. The water cycle is a material that contains the movement of water flow. The water cycle process includes several stages, namely: evaporation, condensation, precipitation, and infiltration. Science learning in elementary schools should use appropriate learning media and support the material being discussed, one of which is the water cycle material.

However, in schools there are still many teachers who deliver material using only the lecture method. (Winda &; Dafit, 2021) stated that there are some teachers who have difficulty in using audio-visual media due to lack of knowledge about IT. So it is more often to use the lecture method when explaining the material. Similarly, when observations were made at SDN Tarokan 3, it turned out that in delivering the material the teacher did not use learning media at all. From the observations during learning, when questions and answers were made about the water cycle material, almost 50% of students could not answer the questions. In addition, after the formative test, there were 75% of students who scored below 75. This is motivated by the lack of learning media used by teachers when delivering material. With these problems, the solution to overcome them is to use video learning media. Video learning media is able to stimulate students' thinking skills because it contains images, animations and also interesting sounds so that the learning atmosphere is not boring and the material delivered will be easier to understand.

Interaction between teachers and students in a learning environment requires appropriate learning media to develop the abilities of students. According to (Junaidi, 2019) learning media plays a role for teachers and students in the learning process because it is able to foster student interest in learning and make it easier for students to understand the material presented. Thus, learning media is

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needed in the teaching and learning process. Learning media is a communication tool or technology used to assist in delivering material to students in learning.

With these problems, this study aims to examine (1) How is the use of water cycle video learning media on the understanding of grade V students of SDN Tarokan 3 in the experimental class? (2) How is learning without the use of learning media on the understanding of grade V students of SDN Tarokan 3 in the control class? (3) Is there a difference in the effect of using water cycle video learning media and without the use of media on the understanding of grade V students of SDN Tarokan 3 on water cycle material?

RESEARCH METHODS

This research uses a quantitative approach with a type of experimental research. In this study, there is also a research design. This research design contains a design on the way and process of data analysis. The design used is Posttest-Only Control Design. The design in this study is as follows:

Kelas	*Pre-Test*	Variabel Bebas	*Post-Test*
E	O_1	X	O_2
K	O_3		O_4

Figure 1. Research Design (Sugiyono, 2015)

Description: O1=experimental pretest, O2=experimental posttest, O3=control pretest, O4=control posttest, X=treatment. Based on the research design above, it was explained that all samples did the same pretest, then did a posttest but in the experimental class a treatment was given in the form of water cycle video learning media. The population in this study was class V SDN Tarokan 3, while the sampling technique used was a purposive sampling technique with a total sample of 24 divided into 2 groups, namely 12 experimental class students and 12 control class students. The data analysis technique in this study used a t-test. Before the t-test, prerequisite tests were first carried out, namely reliability tests, normality tests, and homogeneity tests, then hypothesis tests with t-tests at a significance level of 0.05 with the help of SPSS 26.0.

RESULTS AND DISCUSSION

Reliability Test

Based on the results of the pre-test, a reliability test of 0.762 and a post-test of 0.736 were obtained so that the results of this study were said to be consistent (reliable).

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Normality Test

The calculation of the normality test using the shapiro-wilk formula can be seen in the following table:

Table 1. Normality Test

Variabel	n	α	Sig.	Distribusi
Pre test Kelas Eksperimen	12	0,05	0,412	Normal
Post test Kelas Eksperimen	12	0,05	0,118	Normal
Pre test Kelas Kontrol	12	0,05	0,503	Normal
Post test Kelas Kontrol	12	0,05	0,280	Normal

From the results in table 1 it can be seen that all data have a value of Sig. > 0.05, then the variables are normally distributed. Because all data is normally distributed so that it can be continued with parametric statistics.

Homogeneity Test

Table 2. Homogeneity Test

Test Results	*Statistic Levene*	α	Sig.	Decision
Based Of Mean	0,313	0,05	0,581	Homogen

Based on the results in table 2, it is known that the data has a Sig. value of > 0.05, then the data is declared homogeneous so that it is eligible to be continued with the t-test.

T-test

Table 3. T-test

Implementation	*Mean*	α	Sig (2-*tailed*)
Pre test dan Post test kelas eksperimen	-25.000	0,05	0,000
Pre test dan Post test kelas kontrol	-10.833	0,05	0,000
Post test kelas kontrol dan *post test* kelas eksperimen	-14.583	0,05	0,000

Based on the results of the t-test, it is known that the Sig (2-tailed) value < 0.05, it is concluded that there is a significant influence and difference in student learning outcomes before and after the use of learning media in experimental classes and control classes.

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Discussion of Research Results

Water cycle video learning media is a learning media that consists of animated videos, images, writing and audio. Learning media is used to convey information in the form of interesting learning material so that it has a positive influence in stimulating students' ability to understand the material presented. The above results were obtained from the results of the pre-test and also post-test conducted at SDN Tarokan 3. These results were carried out to see the comparison of student learning outcomes before treatment and after treatment. From research conducted by (Rozie, n.d., 2013) with the title Development of water cycle learning video media to improve the process and science learning outcomes of elementary school students, it was found that this learning media can help the student learning process in increasing their understanding of water cycle material, besides that video media is an interesting media that makes students more focused on the material, But there is also a drawback in the use of time that has a fixed speed. Similarly, in this study, what distinguishes this research from previous research is the process of data collection and also the time used in learning videos is adjusted to the content of the material presented, so that the material is delivered appropriately. Based on data analysis from the t-test in the posttest and pretest of the experimental class, it is known that the value of Sig. (2-tailed) in the experimental class is 0.000. With these data, it can be concluded that there is an influence of water cycle learning media on the understanding of grade V students of SDN Tarokan 3 on water cycle material. In addition, from the results of mean paired differences, a result of -25,000 was obtained which indicates that the pre-test results are lower than the post-test results with the meaning that there is student understanding after the use of video learning media. In addition, based on the results of data analysis, it is known that the value of Sig. (2-tailed) in the control class is 0.000. From these results, it can be concluded that learning without the use of learning media has an understanding of grade V students of SDN Tarokan 3 on water cycle material. In addition, the mean paired differences obtained a result of -10,833 which indicates that the pre-test results are lower than the post-test results.

Based on the results above, it is also known that there is a difference in learning outcomes between the control class and the experimental class, namely it is known that the value of Sig. (2-tailed) in the experimental class is 0.000. It was concluded that there are differences in influence in learning using video learning media and without the use of video learning media. The difference in influence is also evidenced by the average student learning outcomes between the control class and the experimental class is -14,583 and the difference in the results of the difference is between -19,656 to -9,511 (Safitri, 2017; Safitri et al., 2023; Safitri & Hasibuan, 2018). A negative result indicates that the average post-test result of the control class is lower than the post-test result of the experimental class. This is reinforced by

the theory of Cheppy Riyana (2007) in research (Zickuhr, 2016) which states that learning video media is media that presents audio and visual containing good learning messages containing concepts, principles, procedures, theories of knowledge application to help understanding of a learning material (Mansah & Safitri, 2022; Romaito et al., 2021; Safitri et al., 2019). So that the difference in learning outcomes is influenced by the use of video learning media.

CONCLUSION

Based on the results of the analysis using the t-test at a significance level of α 0.05, this study can be concluded that there are influences and differences when using water cycle video learning media (treatment) and not using water cycle video learning media in the control class, where a Sig (2-tailed) value of 0.000 is obtained with a confidence level of 0.05. From the results of the study, there was an increase in student learning outcomes after the use of water cycle video learning media.

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