The Effect of Using Virtual Reality Field Trip Video Media on Motivation and
Social Studies Learning Results for Middle School Students

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ABSTRACT

The purpose of this study was to find out: 1) The effect of using Virtual Reality Field Trip video media on students' learning motivation in social studies subjects; and 2) The effect of using Virtual Reality Field Trip video media on social studies learning outcomes. The population in this study were class VII students of SMP Negeri 2 Punung, Pacitan. The experimental class sample was 25 students in class VII B and in the control class were 25 students in class VII D. This research method was a quasi-experimental method, with a pretest-posttest control group design. Data collection techniques used questionnaires and tests, while data analysis techniques used quantitative descriptive statistics and student t-test. The results showed that the use of Virtual Reality Field Trip videos, namely: 1) student motivation in the experimental class increased by 56.48% from the initial score of 60.48 before treatment and increased to 94.64 after treatment; 2) Social studies learning outcomes rose 107.50% from a score of 40.48 before treatment and rose to 84 after treatment. Test the hypothesis to determine the effect of using the Virtual Reality Field Trip video on social studies motivation and learning outcomes using the t test. The results obtained were t calculated at 21.678 > t table at 2.069, with a p-value of 0.00 < 0.05. From this study it was concluded that there was a significant effect of the use of virtual reality field trip video media on motivation and social studies learning outcomes of students in class VII B SMP Negeri 2 Punung Pacitan.

Keywords: media, video, motivation, social studies learning outcomes

1. INTRODUCTION

Education is an inseparable part of human life. Through education, humans will be able to explore and develop their potential optimally, so that they are able to become humans who have good morals, social values, culture, science, technology and art. Education has certain clear and measurable directions and objectives. The goal to be achieved is the development of competence in a comprehensive manner in each student optimally. Teacher perceptions and student participation in class activities will bring up a close relationship between learning, psychological conditions, motivation which will lead to teacher and student satisfaction [3][19]

So that student competence can develop optimally, one important component that needs serious attention is learning. Learning is a core activity carried out by teachers to motivate, facilitate and increase the intensity and quality of learning in students. Motivation is an important key to the success of a lesson, through persistence in carrying out the tasks given [7]. Motivation has a vital role in successful learning and has garnered the interest of numerous scholars in a wide array of contexts, especially education [2]. Learning must be designed optimally, so that it can generate learning motivation and improve various competencies in students, namely learning outcomes. Motivation as a key factor that determines a person's success in the learning process [22]. This motivation has a tremendous influence on attitudes and learning behavior of students in an educational environment, so that learning outcomes are optimal [8]. Through education, which is an effort to develop the potential of human resources through

learning activities, one of which is determined by learning motivation [15].

One effort to increase students' competence can be done through Social Sciences (IPS) subjects. Social Studies is one of the subjects given to students in Junior High School (SMP). Social studies subjects for Junior High Schools (SMP) based on the Independent Curriculum are a combination of geography, history and economics subjects which examine a set of events, facts, concepts and generalizations related to social issues. Because this social studies subject is more dynamic and open, which gives students many opportunities for independent learning in class [18].

Social studies subjects are mandatory subjects that must be studied and are different from other subjects, because social studies subjects have material characteristics in the form of events, facts, concepts and generalizations. To achieve goals with these various characteristics, there are important elements that play a very important role in social studies learning which can explore and improve competencies and various aspects of students, namely the learning media used. Through the use of learning media, all existing events, concepts and facts can be presented in the classroom according to the learning material. The use of learning media needs to be intensified, considering the limited ability of teachers to convey information or lesson material and the limitations of students in absorbing information or understanding the lesson material. Education is expected to shape all aspects of students so that they become superior and qualified individuals, by mastering knowledge, skills and attitudes so that a systematic, rational and critical mindset is formed towards current educational problems and is able to compete in the era of globalization [3].

One of the media that can be used is virtual reality field trip video media that teachers can make through field visits as a strategy to add to students' learning experiences outside of school. This statement implies that with field trip activities students can gain learning experiences outside of school and bring them into school. Field trips are not just recreational activities, but focus on studying carefully by looking at objects directly. For this reason, teacher action and communication are needed as an important part of learning activities in the classroom, so that it creates motivation to study well [21]. Motivation is energy that can move a person to carry out activities to achieve a goal [12]. Motivation to learn is the encouragement of students to carry out learning activities in order to achieve the learning objectives that have been set [16]. With strong learning motivation, students will gain new knowledge and a broader learning experience [17].

The results of field trips, which are manifested in video form, are one of the visual media that can be used in social studies learning. The advantage of video media is that it can display moving images accompanied by sound all at once. Through the use of video media, information in the form of events, facts, concepts and so on can be presented in the classroom. Students are certainly more enthusiastic about learning, because they can see directly the object being studied through the video that is shown. This of course can increase students' participation in learning so that there is a link between the use of video media, learning motivation and student learning outcomes. The use of video will certainly be able to generate student learning motivation, student learning motivation can be seen in student learning activities in the learning process, which in turn can improve optimal student learning outcomes. Because one of the internal factors that can determine the success or failure of the teaching and learning process is learning motivation [15].

In addition, it also requires a learning environment that integrates high-quality learning resources, teacher-student collaboration, cross-cultural awareness, innovative abilities in the classroom, to improve academic and non-academic achievements [24]. Motivation is an important element in the learning process and in everyday life, which stimulates a person's behavior to act better [23]. Achievement motivation is often associated with actual achievement behavior, which is seen in student behavior in response to learning [20].

The use of virtual reality field trip video media is certainly very reasonable, because from the experience of teachers teaching social studies subjects, they find that there are still many students who are lazy and not interested in studying social studies. In fact, if presented in an interesting way, social studies lesson material is very much in touch with everyday human life, and can be used as a guide to values in interacting with fellow humans. Apart from that, through the use of virtual reality field trip videos, it can help students more easily understand social studies lesson material, because so far students have not been able to understand the material optimally which is indicated by a score that has not reached the KKM determined by the school, namely 65. Therefore, as technological developments are currently accelerating and developing rapidly, schools and teachers need to think about innovative models of learning through multi-media in the classroom, so that learning is interesting for students [5].

One of the educational goals to be achieved is to make students competent, who are ready to access information sources, use them and apply them in any learning. In addition, the goal of education today is to train students in lifelong learning and be able to make decisions in their learning. Learning, as a process of understanding knowledge, skills and attitudes, can be more effective if new knowledge is obtained through various reflective experiences during the learning process through the media used by the teacher [9]. Because media is a very important component in the learning process and can influence student learning outcomes [11].

2. RESEARCH METHODS

This type of research is experimental research. Experimental research is a research method used to find

the effect of certain treatments on others under controlled conditions. Experimental research is part of quantitative research which has its own characteristics, especially with the presence of a control group. This study used a True experimental design with a pretest-posttest control group design, where respondents were actually selected at random, then given a pretest to determine the initial state between the experimental group and the control group. The population of this study were all students of class VIII SMP Negeri 2 Punung Pacitan. The sampling technique in this study was carried out by purposive sampling, namely the sampling technique carried out for a specific purpose by looking at the characteristics of each class. The experimental research design can be described in the following table.

Table 1. Form of research design

Group	Pre-test	Treatment	Post-test
Exsperiment	O_1	X	O_2
Control	O_3	-	O_4

Information:

O_1 : experimental class before being given treatment

O_2 : experimental class after being treated

O_3 : control class with pretest

O_4: control class after being given a posttest

X : providing treatment

While the data collection techniques used in this study there are two instruments, namely instruments in the form of questionnaires and test instruments. While the data analysis technique uses quantitative descriptive statistics and t-test. Quantitative data analysis techniques, to find out the categories of student learning motivation as measured through a questionnaire, and carried out by accumulating scores from all questionnaire items for all research subjects. The score is then processed to determine the average and standard deviation of the student learning motivation scores. The average and standard deviation are used as a guide to categorize the learning motivation level of each student in the experimental class and the control class. The criteria for grouping the categories of student learning motivation are presented in the following table.

Table 2. Learning Motivation Assessment Category

No.	Score Range	Score	Category
1.	Mi + 1,5 Si < X ≤ Mi + 3 Si	97,5 < X ≤ 120	Very Good
2.	Mi + Si < X ≤ Mi + 1,5 Si	90 < X ≤ 97,5	Good
3.	Mi - 0,5 Si < X ≤ Mi + Si	67,5 < X ≤ 90	Pretty Good
4.	Mi - 1,5 Si < X ≤ Mi - 0,5 Si	52,5 < X ≤ 67,5	Not Good
5.	Mi – 3 Si ≤ X ≤ Mi – 1,5 Si	30 < X ≤ 52,5	Very Not Good

Information :

Mi : Mean Ideal

Si : Ideal Standard Deviation

3. RESULTS AND DISCUSSION

3.1. Results Of Learning Motivation Analysis

Based on the results of the analysis of student questionnaires, an average score of 60.48 was obtained with a poor category before treatment and a score of 94.64 with a good category after treatment in experimental class VII B. This indicates that there was an increase in student motivation after learning carried out using virtual reality field trip video media in the experimental class. Whereas for the control class there was a decrease in the average score from the initial measurement of 48.44 to 48.28 in the final measurement. The summary results of measuring learning motivation can be seen in the following table.

Table 3. Learning Motivation Scores in The Experimental and Control Classes

Class	Total Students	Average	
		Pretest	*Posttest*
Experiment (VII B)	25	60,48	94,64
Control (VII D)	25	48,44	48,28

Apart from that, if you look carefully through a graph or diagram, it is clear that in the experimental class there was an increase in learning motivation after treatment using virtual reality field trip videos in social studies learning with an increase in scores of 34.16. Whereas for the control class, it actually experienced a decrease in score of 0.16 from the initial measurement to the final measurement. The results of exposure via graphs are shown in the following figure.

Figure 1. Pretest and Posttest Graphs of Learning Motivation in Experimental and Control Classes
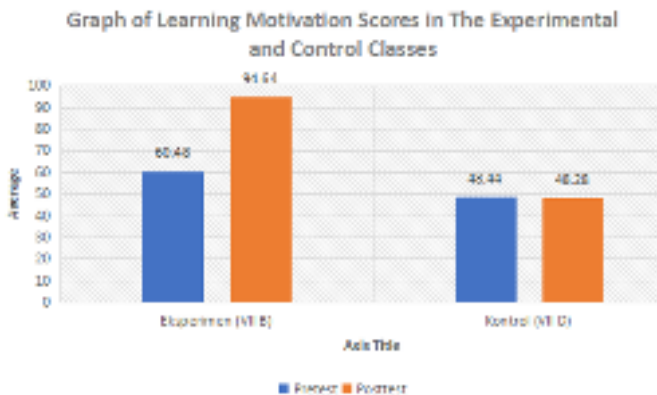
When examined in more detail, in the experimental class there was a significant increase in the aspects of learning motivation. At the time of the initial measurement with a red diagram color, the average number was below 70. After treatment using virtual reality field trip video media in the social studies learning process, student learning motivation rose sharply after the final measurement was carried out, which is shown in the green diagram with an average -the average is close to 100. This shows that the use of virtual reality field trip video media is very influential in increasing learning motivation. The results of the average comparison of learning motivation between the initial measurement and the final measurement can be shown in the following figure.
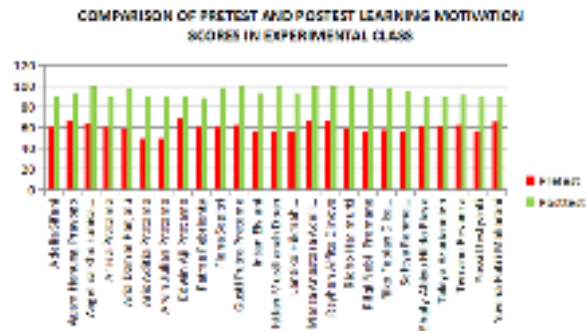

Figure 2. Comparison of Pretest and Posttest Learning Motivation Scores in Experimental Class

Meanwhile for the control class, in the first measurement an average score was obtained of 48.44, although it can be seen that some students had a score close to 70. After the final measurement was carried out, even without treatment, the average score was 48.28. This shows that there was an average decrease of 0.16, although some students for the final measurement had a score close to 70 as well. The results of the comparative analysis of the initial and final measurements can be shown in the following image.
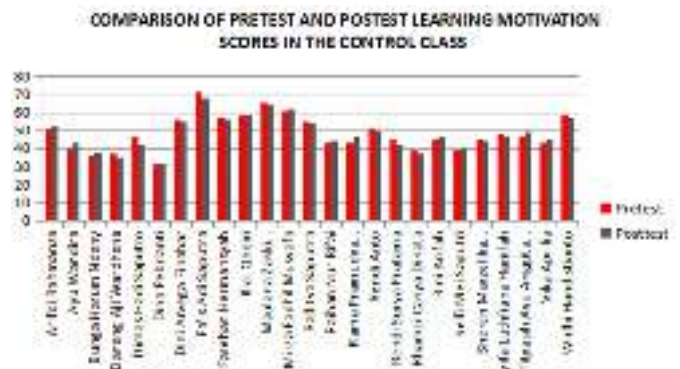

Figure 3. Comparison of Pretest and Posttest Learning Motivation Scores in the Control Class

3.2. Analysis of Social Studies Learning Results

The second variable measured in this research is social studies learning outcomes. For the experimental class consisting of 25 students in class VII B, the average score for social studies learning outcomes before being given treatment was 40.48. However, after being given treatment using virtual reality field trip video media, the average social studies learning outcome increased to 84, an increase of 107.50%. Meanwhile, for the control class, which was not given treatment, the average learning

outcome in the pretest was a score of 38.72 and increased by 18.59% to 45.92 in the final measurement, even without treatment. This shows that the use of virtual reality field trip video media has a big influence on social studies learning outcomes in class VII B as an experimental class. The presentation of the pretest and posttest results for both experimental and control classes can be shown in the following table.

Table 4. Sosial Studies Learning Outcomes Score Experimental Class and Control Class

Class	Total Students	Average	
		Pretest	*Posttest*
Experiment (VII B)	25	40,48	84
Control (VII D)	25	38,72	45,92

Based on the table above, it shows that there was an increase in social studies learning outcomes in the experimental class that was given treatment, and in the control class even though they were not treated. It can be clearly depicted in the following graph.
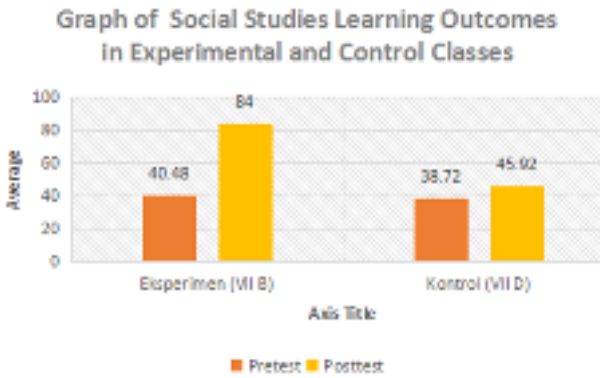

Figure 4. Graph Social Studies Learning Outcomes in Experiment and Control Class

When examined in depth, the comparison of learning outcomes in the experimental class between the pretest and posttest results shows a significant increase. Comparison of the graphs of the pretest in blue and the posttest in orange, it can be seen that there is an increase in the score. This can indicate that the treatment of learning through virtual reality field trip video media has a significant effect on increasing social studies learning outcomes for students. Exposure to these results can be seen in the following graph
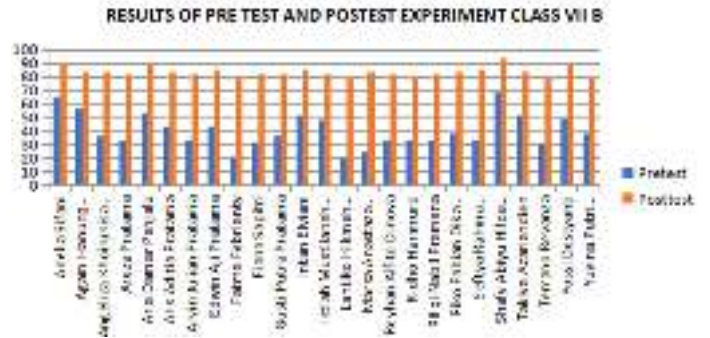

Figure 5. Comparison of Social Sciences Learning Results from the Pretest and Posttest of the Experimental Class

As for the experimental class, there was an increase in the scores of students' social studies learning outcomes, even without treatment through the virtual reality field trip video media. From the initial measurement or pretest, a score of 38.72 was obtained and increased to 45.92. This means that there was an increase in social studies learning outcomes of 18.59% even though the control class did not receive treatment. In the graph it can be seen from the green color for the pretest that some values are in the position of a maximum score of 60, and the pretest results show a slight increase in some students with a score close to 70. These results can be shown in the following graph.
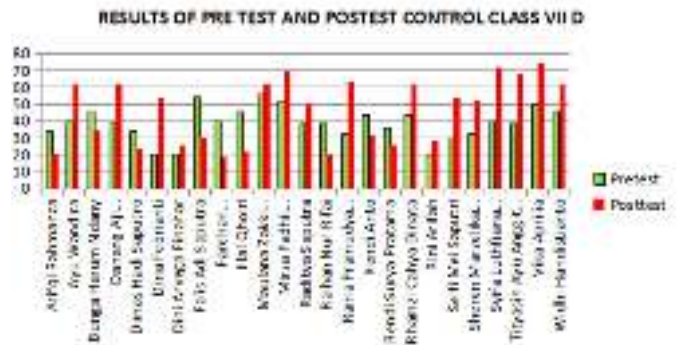

Figure 6. Comparison of Social Sciences Learning Results from Pretest and Posttest Control Class
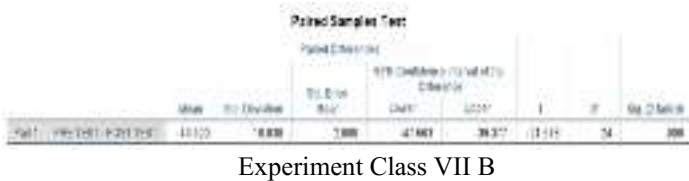
3.3. Student t-test results

To test the effect of using virtual reality field trip video media on social studies learning outcomes, testing was carried out through data analysis using the t-student test. The t-student test was used to analyze whether there was a difference in learning outcome scores between the pretest before treatment and the posttest after treatment. The results of data analysis can be displayed below.

Experiment Class VII B

Based on the results of the data analysis above, it shows that the t count is 21.678 and the t table is 2.064. This means that the calculated t is greater than the t table, meaning that there is a significant influence of the use of virtual reality field trip media on students' social studies learning outcomes. While the value of Sig. (2-tailed) of 0.000 < 0.05, it can be concluded that there is a real difference between learning outcomes with the use of virtual reality field trip video learning media on the coast of Pacitan Bay in the Pre Test and Post Test data.

To test the control class without treatment, initial measurements are still carried out with a pretest and final measurements with a posttest. The results of measurements using the t test are presented in the following image.
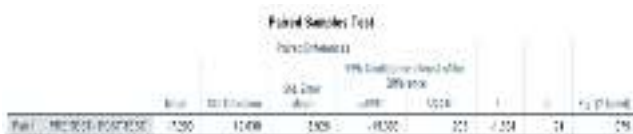

Figure 8. Results of Paired Sample t-Test Control Class VII D

The results of the analysis above show that the calculated t is 1.834, when compared with the t table with df 24, the t table value is 2.064. When compared, it turns out that t count is smaller than t table. This shows that there is no significant effect on the control class, even without treatment. Meanwhile, the Sig value. (2-tailed) is 0.079 > 0.05, so it can be concluded that there is no real difference between students' social studies learning outcomes both pretest and posttest in the control class.

4. DISCUSSION

The use of virtual reality field trip video media in the social studies learning process really needs to be used optimally. This is reasonable, because the increase in learning motivation and social studies learning outcomes

post-measurement after receiving treatment, did not decrease again after it was no longer used in the learning process. Applying a variety of learning approaches can yield many advantages in the development of new and more interesting ideas for students [14]. These positive learning outcomes are the output of a dynamic learning process where the variables of teachers, students, and learning media are interrelated [10].

Social studies teachers should be able to maximize existing learning media, and can even develop more varied learning media so that students always pay attention to lessons and can increase students' creativity and interest in learning social studies. Because the essence of a good teaching and learning process is a communication process for conveying messages from teachers through certain media to students [1]. For this reason, teacher training is needed in terms of developing learning media by lecturers or experts on an ongoing basis through subject teacher meetings in each local district. For this reason, teachers need to pay attention to the learning methods that students prefer, because through this, teachers can improve learning through appropriate teaching methods, so that learning is more effective [13].

Likewise, the local Education Department is also obliged to facilitate teachers to improve their teaching competence to the maximum. Because education is a conscious effort made by educators to create quality and character students, so that students have broad insight to achieve the expected goals [11]. Teacher capacity development programs can be paired with research and community service programs from universities, so that there is synergistic collaboration between teachers, schools, education services and universities. Through partnership programs, improving the quality and capacity of teachers can be even better. Because teachers play an important role in carrying out their duties, so that learning is successful and meaningful [6]. Learning activities that are driven by enthusiasm to achieve the desired goals will produce appropriate learning activities and can improve the expected learning achievements [4].

5. CONCLUSION

Based on the results of the discussion above, it can be concluded that the use of virtual field trip video media in social studies learning for junior high school students can significantly increase learning motivation and social studies learning outcomes. This can be proven from the increase in learning motivation scores at the initial measurement of 60.48 and increasing to 94.64 at the final measurement. The percentage increase in learning motivation scores was 56.48%. Meanwhile, for learning outcomes, there was an increase from the initial score of 40.48 to 84 at the final measurement. The increase in students' social studies learning outcomes increased by 107.50%, this means that there is a significant influence

of the use of virtual reality field trip media on students' learning motivation and social studies learning outcomes. Likewise, the results of the t test show that t = 21.678 > t table = 2.064, and p value = 0.000 < 0.05. This can be interpreted as meaning that there is a significant difference between the pretest and posttest results of students' social studies learning results after being treated with the use of virtual reality field trip video media in the experimental class.

SUGGESTION

1. Research continues on a wider scale and level of education

2. The development of learning media for teachers needs to be carried out continuously through intensive training from education stakeholders

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