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The influence of animated macros-based PowerPoint learning media on the learning outcomes

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ABSTRACT The study objectives are: (1) To determine the learning outcomes of students taught with animated macros-based PowerPoint learning media. (2) To determine the learning outcomes of students taught by conventional methods. (3) To analyze the influence of animated macros-based PowerPoint learning media on the learning outcomes of grade VII students of SMPN 2 Kalidawir. Quantitative research approach with Quasi-Experimental Design type. The population in this study is all grade VII students of SMP Negeri 2 Kalidawir. The sample in this study was class VII A, an experimental class with a total of 20 students, and class VII B, a control class with 21 students with purposive sampling techniques. The data collection techniques used are tests and documentation. The data analysis technique used is an independent t-test. The results showed that (1) Student learning outcomes scores when using animated macros-based PowerPoint learning media obtained an average score of 86.00. (2) Student learning outcomes scores obtained an average score of 78.43 when using conventional methods. (3) animated macros-based PowerPoint learning media influences the learning outcomes.

1. INTRODUCTION

Being a developed nation is certainly an ideal that every country wants to achieve. It is known that the success or failure of a country is influenced by educational factors (Nur Wahyuni, 2023). So important is education so that a country can measure whether the nation is advancing or retreating (Hamalik, 2008), because as we know, education will produce good quality Human Resources in terms of spirituality, intelligence, and skills, and education is a process of producing the nation's next generation (Darmadi, 2019). In producing the next generation of the nation, of course, quality education is needed. This can be achieved by implementing the existing education system in schools effectively and efficiently to obtain optimal goals (Febrianty et al, 2022).

Based on observations made by researchers during an internship at SMPN 2 Kalidawir, the school still does not use learning media in teaching, especially in mathematics learning. Teachers still use conventional methods in delivering their material. In conventional learning, teachers use lecture and assignment methods, causing students to get bored.

In addition, the interview results conducted by researchers with one of the mathematics subject teachers, Mr. Riyanto, S.Pd., explained that students still have less than optimal learning outcomes due to the Covid-19 pandemic where learning is carried out online, and teachers do not know the process of understanding and learning that students do at home. Also, teachers have several other problems, such as the teacher's ability to motivate students. Civil service teachers advise interns to motivate students and use the right media in the learning process so that students are more enthusiastic and learning outcomes increase after the pandemic.

Based on these problems, teachers must change the learning model used in the classroom, and it is time for teachers to be able to keep up with current technological developments. To improve student learning outcomes researchers have ideas to improve student learning outcomes with the help of learning media in the form of animated macros-based PowerPoint to be applied at SMPN 2 Kalidawir. This is supported by previous research stating that using PowerPoint learning media in mathematics learning significantly influences student achievement (Anas et al, 2020).

2. METHOD

This type of research is quantitative and uses an experimental design. According to Tatag, quantitative research is a study that uses a measurable and observable quantitative mindset, a specific formulated theoretical framework, and aims to compile generalizations (Siswono, 2019). The subjects in this study were grade VII students of SMPN 2 Kalidawir, namely class VII A as an experimental class and class VII B as a control class. The sampling technique used is Purposive Sampling with consideration of teachers who teach mathematics subjects at SMPN 2 Kalidawir. Class VII A was an experimental class using animated macros-based

PowerPoint learning media on Line and Angle material. In contrast, class VII B used conventional methods as a control class.

A reliability test is carried out to determine the instrument to be used more than once (Hermawan, 2019). A measuring instrument is reliable if it produces the same results despite being repeatedly done. As for finding the reliability of the problem, it can be known by reliability with Cronbach's Alpha ≥ calculation result of 0.6 (Yustina et al., 2022). After the results were obtained that animated macros-based PowerPoint influenced student learning outcomes, further tests were carried out to determine the magnitude of the influence (Effect Size). Effect Size is a measure of the magnitude of the treatment of a variable on other variables in an experiment (Yuliana, 2020). Effect Size calculation to measure the magnitude of the influence of animated macros-based PowerPoint learning media on student learning outcomes using Cohen's formula.

3. RESULT AND DISCUSSION

This PowerPoint media research based on Animation Macros is carried out through several stages. The first stage is the potential and problems, where at this stage is to identify the problems that exist in class VII at SMPN 2 Kalidawir. Identifying problems in the field was conducted by interviews with mathematics subject teaching teachers, namely Mr. Riyanto, S.Pd., who stated that PowerPoint learning media was still not implemented in the school. Using PowerPoint Learning Media based on Animated Macros to motivate students to improve their learning outcomes.

One of the features contained in animated macros-based PowerPoint. Macros is another word for programming to enter a code in running the Powerpoint. The file type is called PowerPoint Macro-Enabled Presentation with an extension (.pptm) and is used for presentations containing Visual Basic for Application (VBA) code (Ika Parma et al., 2021). How to use Visual Basic Application must display Developer features in Microsoft PowerPoint method (Fatkhuddin, 2018). The parts of animated macros-based PowerPoint are as follows.

The first page Figure 1.A is the title of the material and the button to enter the slides as follows. The second page Figure 1.B contains menu instructions in animated macros-based PowerPoint, while the slides are presented in the following image.

Figure 2 contain Lines and Angles. The slides are presented in the following image.

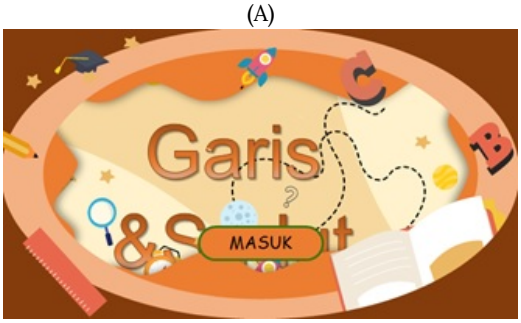
Figure 3 contain the Line and angle Material quiz, while the following image presents the slides.

This research was conducted at SMPN 2 Kalidawir, class VIIA and class VIIB. In this study, the experimental class (applied animated macros-based PowerPoint) was applied to class VIIA, while the control class (conventional method) was applied to class VIIB. Based on the test result, data obtained by students in experimental and control classes are presented in Table 1.

Table 1 shows that the average value of the experimental and control classes have a significant difference.

The significance of normality test on the experimental class is 0.077 > 0.05, and the control class is 0.200 > 0.05. Then, the data is normally distributed. After knowing the normally distributed data, a hypothesis test was carried out, namely the t-test, using the help of IBM SPSS Statistics 25.

(A)



(B)

FIGURE 1. Figure (A) Title Page, (B) Menu contained in the media

TABLE 1. Student learning outcomes test scores Experimental Class Control Class

Experimental Class		Control Class	
Average	86	Average	78,43
Top Rated	98	Top Rated	92
Lowest Value	70	Lowest score	60

The value of Sig. (2 tailed) is 0.002. It can be concluded that there is an influence of animated macros-based PowerPoint learning mediaon the learning outcomes of grade VII students of SMPN 2 Kalidawir.

To find out how much influence animated macros-based PowerPoint media has on the learning outcomes of grade VII students of SMPN 2 Kalidawir can be known through the calculation of the effect size on the t-test is 1,057 or in Cohen's table the percentage shows 84%. It can be concluded that the magnitude of the influence of animated macros-based PowerPoint learning media on the learning outcomes of grade VII students of SMPN 2 Kalidawir is classified as high.

The animated macros-based PowerPoint aims to increase student activity in the learning process. PowerPoint is the most likely media to achieve learning objectives (Hendra, 2023). The test results in this study show that the average for class VII A (experimental) is 86.00. it is stated in the very high category. This is to previous research, which states that there is a significant influence of using Power Point-based learning media on students' mathematics learning outcomes (Termin In Seysen Zalukhu et al., "The Effect of Using Power Point-Based Learning Media on Mathematics Learning Results of Students at SMP Negeri 1 East Lahewa Year Lesson 2021/2022).

In the learning process in the experimental class, students try to understand the material Lines and Angles by paying attention to the material presented by the researcher via a projector screen. After the researcher explains the material, students are asked to answer the ques-

FIGURE 2. Material

tions (quiz) contained in PowerPoint, and the scores obtained will be known immediately so that students are enthusiastic and active in participating in the learning.

In the learning process, students listen to explanations from researchers, and then students are given assignments as evaluation material. Some students still appear less than optimal and passive in understanding the lesson because it is difficult to truly imagine the angles in the book and those depicted on the blackboard. So, quite a few students complain of difficulty in working on questions. Therefore, the position of learning media is very important in the learning process as a driver of student motivation in learning and influences student understanding (Septy et al., Elementary Level Learning Media (Sukabumi: CV Trace, 2021).

FIGURE 3. Quiz

The animated macros-based PowerPoint has been proven to influence student learning outcomes. This means that there is a significant influence in the use of Microsoft PowerPoint learning media on students' interest in learning (Putri Indah Cahyani, The Influence of Using Microsoft PowerPoint Learning Media on Mathematics Learning Interest of Class VIII Students at Ar-Rahman Percut Private Middle School for the 2017-2018 Academic Year). The other research has concluded that using PowerPoint in mathematics learning is very influential in improving student learning outcomes (Nasib et al, 2020).

4. CONCLUSION

Based on the results of research obtained regarding the use of animated macros-based PowerPoint learning media outcomes of grade VII students of SMPN 2 Kalidawir, it can be concluded that using animated macros-based PowerPoint learning media, student learning outcomes scores obtained

an average of 86.00. Student learning outcomes when using conventional methods obtained an average score of 78.43. The animated macros-based PowerPoint influences the learning outcomes of grade VII students of SMPN 2 Kalidawir on Line and Angle material. The influence is 84%, including the high category.

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