



The Influence of Using Animation Video Media on Interest in Learning Mathematics in Class V Students of SDN Karebasse, Bontonompo District Gowa Regency

Rahmawati Patta¹, Hotimah Hotimah², Nurhidayat Nurhidayat³

^{1,2,3} Makassar State University

¹hidayatsatuhang@gmail.com, ²rahmawati@unm.ac.id

³hotimahunm@unm.ac.id

Abstract. This research was conducted based on the problem of students' lack of interest in learning mathematics. The aim of this research is to determine the description of the use of animated video media, the description of students' interest in learning mathematics, and the influence of the use of video media on the interest in studying mathematics of class V students at SDN Karebasse, Bontonompo District, Gowa Regency. This research is included in experimental research with a quantitative approach. The design used in this research is a quasi-experimental type with a nonequivalent control group design. The population in this study was all fifth-grade students at SDN Karebasse, Bontonompo District, Gowa Regency, totaling 40 students. The sample in this study was 18 class VA students and 18 class VB students who were selected using a simple random sampling technique. The data in this research was collected using observation sheets and questionnaires. Data were analyzed using descriptive and inferential analysis. Based on the results of descriptive statistical analysis, it was found that the use of animated video media was effective in increasing students' interest in learning as seen from enthusiastic students and their involvement during the learning process. So it can be concluded that: (1) the description of the use of mathematical animation video media is very effective; (2) the illustration of interest in learning mathematics in the experimental class has increased after treatment in the form of using animated video media; (3) there is an influence of the use of animated video media on the interest in learning mathematics of fifth grade students at SDN Karebasse, Bontonompo District, Gowa Regency.

Keywords: animation, video, media, learning, mathematics

1 Introduction

Republic of Indonesia Government Regulation no. 57 of 2021 article 1 paragraph 1 concerning national education standards states, "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively

develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, as well as the skills needed by himself, society, nation and state". In achieving a learning process with an active learning atmosphere, teachers as learning managers must create active learning. The success of a lesson is determined by the learning process. Therefore, teachers should support learning improvements.

Education in Indonesia has various levels, one of which is elementary school education. In elementary school education, there are various subjects taught, one of which is mathematics. Mathematics is a subject taught from an early age in both primary and higher education. Mathematics is basic knowledge which is considered the mother of all scientific disciplines (Maswar, 2019). Therefore, mastery of mathematics is important to achieve everyday problem-solving abilities and to increase creativity, accuracy and thinking skills.

Mathematics is a subject that is different from other subjects. Mathematics is different from other materials which mostly only contain writing and knowledge, in mathematics there are theorems and number operations, so mathematics is different from other subjects (Meidya, 2020). Mathematics is often considered by some students to be a difficult subject compared to other subjects. In mathematics, students are required to think harder to gain an understanding of the material being studied.

Siswono (Rochimah, 2019, p.2) explains that "In mathematics there are still many problems, these problems can originate from students, teachers, curriculum, mathematics teaching materials, and learning strategies or models. In other words, all aspects have an impact on mathematics learning." Rusman (Jafar et al., 2021, p. 252), said that "Teachers' mathematics learning process generally concentrates too much on practicing solving problems. When learning activities take place, teachers usually explain concepts informatively, while students during learning activities tend to be passive. Students just listen, note down explanations, and work on questions."

When a child does not have an interest in mathematics from an early age, he will experience difficulties at the next level (Rochimah, 2019). Students who feel that they continuously have difficulty with mathematics lessons will have a bad impact on students, where students will be lazy about studying mathematics.

Teachers as the spearhead of education must be able to create interesting learning in the classroom so that students are able to concentrate on learning (Rochimah, 2019). One way is by using learning media. Learning media is one component in the learning process that is very necessary, considering that the position of media is just a teaching aid, but rather an inseparable part of the learning process (Agustien et al., 2018).

One component that supports learning to be carried out well is learning media, but in reality, in Indonesian schools it is still often found that classroom learning does not use media that can help students understand lessons (Mahardika et al., 2021). There are various types of learning media such as audio, visual, audio-visual, and multimedia media, but in this research, we will limit the media discussed to only animated video media. Learning media in the form of animated videos is a tool to convey something, in this case the subject, namely mathematics.

Learning processes in classes that use little or no media can result in several negative impacts. One of the impacts is students' lack of interest in learning. In fact, interest is

the most convincing basis for the success of a process. Low interest in a subject, one of which is mathematics, will have an impact on the lack of desire to study mathematics.

Based on the results of interviews with class V teachers, it was stated that class V students had less interest in learning mathematics and field data for January 2023 at SDN Karebasse, many students were less interested in learning. Information and facts were obtained that in the process of teaching and learning mathematics, there were students who were not paying attention, chatting with friends, going in and out of class, not doing their assignments. In this case, the use of animated videos can be an alternative for teachers in providing learning material. The use of learning media in learning will increase students' interest in learning and create enjoyment in the process of learning activities. The success of students in class and the success of a school are influenced by various factors, including interest in learning (Ulpah et al., 2020).

As for relevant research regarding the effect of using animated video media on students' interest in learning, namely research by Kinanti (2021) and Mahatir (2021), the results of their research state that students' interest in learning can increase through the use of animated video media, this can be seen from their enthusiasm. and students' lack of attention increased after the treatment.

Based on this, prospective researchers want to know more deeply about the influence of using animated video media on the interest in learning mathematics in class V of SDN Karebasse. The title of this research is "The Effect of Using Animation Videos on Interest in Learning Mathematics in Class V Students of SDN Karebasse, Bontonompo District, Gowa Regency".

2 Methods

The research used in this research is experimental research, namely quasi-experimental research using a quantitative approach. Quasi experimental design is a type of experiment that has a control group but cannot fully function to control external variables that influence the implementation of the experiment. The experimental class in this study was given treatment in the form of learning using animated video media, while the control class was not given treatment as a comparison.

This research took place at SDN Karebasse, Bontonompo District, Gowa Regency. Researchers chose this location because there were facts that students at this school had little interest in mathematics and lack of use of learning media provided by teachers. The time for the research will be carried out in May 2023.

Procedurally, the design pattern used in this research is a quasi-experimental nonequivalent control group design type. This design was used by researchers to determine the effect of using animated video media on interest in learning mathematics in class V students at SDN Karebasse, Kec. Bontonompo, Gowa Regency.

The samples in this study were students in classes VA and VB. The two classes will be divided into a control class (VB) which was not treated or did not use media consisting of 18 students and an experimental class (VA) which was treated or used animated video media consisting of 18 students. In this research, there are two variables, namely the independent variable and the dependent variable. The independent variable is animated video media (X) while the dependent variable is interest in learning mathematics (Y). The data analysis techniques used in this research are descriptive statistical analysis and inferential statistical analysis. This descriptive data analysis aims to describe or depict students' learning interest scores in both the experimental and control classes. Descriptive statistical data analysis was used to describe the implementation of the learning process using animated video media and interest in learning as seen from filling in the observation sheet before and after being given a statement. Meanwhile, inferential statistical analysis is intended to test research hypotheses. Data analysis was carried out using the assumption analysis requirements test which consisted of several types of tests, namely normality and homogeneity tests, and continued with hypothesis testing.

2.1 Normality Test

The normality test is intended to test whether the distribution of variable data is normally distributed or not. In this research, the technique used to test data normality is the Kolmogorov Smirnov test which aims to find out whether the variables being analyzed are normally distributed (Sugiyono, 2013). The criteria in this test are at a significance level of 5% or 0.05. Data is declared to be normally distributed if the significance value is > 0.05 and if the significance value is < 0.05 then the data is not normally distributed. The formula uses the Kolmogorov Smirnov Normality Test as follows:

$$KD = 1,36 \frac{\sqrt{n_1+n_2}}{n_1 n_2}$$

Source: Sugiyono (2013, h.257)

Information:

K.D = number of Kolmogorov-Smirnov searched

n_1 = number of samples obtained

n_2 = expected number of samples

2.2 Homogeneity Test

The homogeneity test is used to find out whether the two groups have the same level of data variance or not. The homogeneity test in this study was carried out using the Levene test in the SPSS application. The Levene test formula is as follows:

$$W = \frac{(n-k) \sum_{i=1}^k (Z_i - Z) k^2}{(k-1) \sum_{i=1}^k \sum_{j=2}^k (Z_{ij} - Z_i)^2}$$

Source: Sugiyono (2013)

Information:

n = number of students

k = number of classes

Z_{ij} = $|Y_{ij} - Y_t|$

Y_i = average of group i

Z_i = group average of Z_i

Z = overall average of Z_{ij}

2.3 Hypothesis Testing

Hypothesis testing is used to test whether there is an influence of the use of animated video media on interest in learning mathematics in the control class and the experimental class. Hypothesis testing aims to prove that the proposed research hypothesis is accepted or rejected. Hypothesis testing using this testing application is carried out using the independent sample t-test analysis technique, with the following formula:

$$t = \frac{X_1 - X_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Source: Montolalu dan Langi (2018, h.45)

Information:

X_1 : Average class score using animated video media

X_2 : Average class score without animated video media

S_1^2 : Standard deviation of experimental class values

S_2^2 : Standard deviation of control class values

n_1 : Number of students in the experimental class

n_2 : Number of students in the kcontrol class

In hypothesis testing, the provisions of the t-test analysis are used, namely if $t_{count} > t_{table}$ then the alternative hypothesis H_a is accepted, but if $t_{count} < t_{table}$ then H_0 is rejected with a significance rate of 5% $\alpha=0.05$. The research hypothesis is as follows:

H_0 : There was no influence on the interest in learning mathematics of fifth grade students at SDN Karebasse after using animated video media

H_a : There is an influence on the interest in learning mathematics of fifth grade students at SDN Karebasse after using animated video media

3 Results and Discussion

3.1. Research Result

Overview of the Use of Mathematics Animation Videos for Class V Students at SDN Karebasse, Bontonompo District, Gowa Regency

The learning process using mathematical animation videos is very effective in experimental classes. This can be seen from the enthusiasm and enthusiasm of students in the learning process using mathematical animation videos. Students are more active and enthusiastic during the learning process. The use of mathematical animation videos in Mathematics subjects is described through observation sheets regarding the implementation of the learning process. The learning observation sheets observed were teacher observation sheets and student observation sheets, namely:

Table 1. Value of the Results of the Implementation of the Learning Process Using Mathematics Animation Video Media.

	<i>Treatment 1</i>	<i>Treatment 2</i>
Obtained Score/Maximum Score on Teacher Observation Sheet	20/24	22/24
Obtained Score/Maximum Score on Student Observation Sheet	13/16	16/16
Presentation of Teacher Observation Sheets	79%	91.6%
Presentation of Student Observation Sheets	75%	100%
Category	Effective	Very effective

Based on Table 1 above, it can be concluded that in the first treatment the learning process carried out can be categorized as effective with a percentage achievement level of 79% on the teacher observation sheet and 75% on the student observation sheet. Meanwhile, in the second treatment, the learning process carried out could be categorized as good and very effective with an achievement level percentage of 91.6% on the teacher observation sheet and 100% on the student observation sheet.

Description of the Mathematics Learning Interest of Class V Students of SDN Karebasse, Bontonompo District, Gowa Regency

Students' interest in learning mathematics through animated video media shows that students are increasingly active in the learning process. Students' interest in learning mathematics referred to in this research consists of 4 indicators such as feelings of joy, interest, attention and involvement. To measure the variable interest in learning

mathematics using an assessment instrument in the form of a learning interest questionnaire.

Pretest and Posttest Experimental Class Students' Interest in Learning Mathematics and Control Class

Table 2. Description of the results of the Experimental and Control Classes

Descriptive statistics	Experimental Class		Control Class	
	<i>Pre-nontest</i>	<i>Post-nontest</i>	<i>Pre-nontest</i>	<i>Pre-nontest</i>
Mean	51.22	80.78	50.89	51.22
Median	50.50	80.50	52.00	50.50
Mode	51	83	52	69
Std. Deviation	9.378	2.157	7.451	9.378
Range	32	8	27	32
Minimum	40	76	40	40
Maximum	72	84	67	72

Based on table 2 with an experimental class of 16 students, data on students' speaking skills does not show a significant difference between the experimental group and the control group. It can be observed that the average value of the experimental group is 51.22 while the average value of the control group is 50.89. Apart from that, the posttest score data for the experimental group students was 80.78, which was greater than the control group's 51.22.

Results of Frequency Distribution and Percentage of Pretest and Posttest for Experimental Group and Control Group

Table 3. Frequency and Percentage Distribution of result categories Experimental Group and Control Group

Value Interval	Category	Amount				Percentage			
		Ex	Cont	Ex	Cont	Ex	Con	Ex	Cont
81 – 100	Very good	0	0	9	0	0%	0%	50%	0%
61 – 80	Good	2	2	9	17	11.1%	11.1%	50%	95.2%
41 – 60	Pretty good	14	14	0	1	78.2%	78.2%	0 %	5.6%
21 – 40	Not good	2	2	0	0	11.1%	11.1%	0 %	0%
20	Very Not Good	0	0	0	0	0%	0%	0%	0 %
Total		18	18	18	18	18	100.0	100.0	100.0

Based on table 3, it shows that the initial condition of the pretest experimental group students' interest in mathematics learning category is dominated by students in the quite good category with a percentage of 78.2% and a frequency of 14. Meanwhile, the control class shows that the initial conditions of the control group students' interest in mathematics learning level, respectively dominated by students in the quite good category with a percentage of 78.2% and a frequency of 14 people, the good category with a percentage of 11.1% with a frequency of 2 students. It can be concluded that the pretest of the experimental and control groups have similarities, namely that they are still dominated by the quite good category.

Meanwhile, the category level of students' interest in learning mathematics in the Posttest Experiment group was dominated by students in the very good category with a percentage of 50% and a frequency of 9, while the good category had a percentage of 50% and a frequency of 9 students. Meanwhile, the control class showed that the initial condition of the Control Group students' interest in learning mathematics was dominated by students in the Good category with a percentage of 95.2% and a frequency of 17 people, the quite good category with a percentage of 5.6% with a frequency of 1 student. It can be concluded that the posttest of the experimental group was dominated by the very good category while the control group was dominated by the good category.

The Influence of Using Animation Video Media on Students' Interest in Learning Mathematics

The pretest and posttest results of the experimental group and control group have been tested for normality. The results of the normality test are that the data is normally distributed with a sig data value of >0.05 . After carrying out the normality test, a homogeneity test is carried out. The data from the two pairs of pretest and posttest groups stated that there were no significant differences in variance between the two groups of data or the data in this study was homogeneous, because the sig value was >0.05 , which means the data was normally distributed. The results of the normality and homogeneity tests meet the requirements for carrying out the Independent sample T-test.

Table 4. Independent sample T-test pretest and posttest results of the experimental group

Data	Q	Df	Probability Value	Information
<i>Pre-</i> <i>nontest</i> Experimental Class and Control Class	118	34	0.907	$0.907 > 0.05$ = There is no difference
<i>Post-</i> <i>nontest</i> Experimental Class and Control Class	6,182	34	0.0001	$0.0001 < 0.05$ = there is a difference

The significance value is greater than 0.05 (<0.05), and H_0 is rejected if the significance value is smaller than 0.05 (<0.05). Based on the table above, it can be seen that the significance value is ($0.907 > 0.05$), so H_0 is accepted, meaning there is

no difference in the average value of the experimental group pretest and the control group pretest. Then if the t value is calculated in the table ($188 < 0.468$). So it can be concluded that there is no significant difference. If the calculated t value is 6.182 compared to the t table which is greater 0.468 with a value of $\alpha=5\%$ and df 34, then the calculated t has a value greater than the t table ($6.182 > 0.468$). Meanwhile, the probability value is 0.0001, smaller than the significant level value α ($0.0001 < 0.05$). So there is an influence of using animated video media on interest in learning mathematics.

3.2. Discussion

Use of Mathematics Animation Video Media for Class V Students of SDN Karebasse, Bontonompo District, Gowa Regency

The description of the implementation of the learning process using animated video media can be said to be very effective as evidenced by the percentage of implementation of the learning process. The categorization is based on the learning process implementation table according to Sugiyono (2015). By implementing animated video media in accordance with the steps for using animated video media according to Ernanida & Rizki (2019), it can increase students' interest in learning.

In the first step, the teacher outlines the learning objectives through the application of audio-visual media in the form of animated learning videos as a means of delivering teaching materials. In the second step, the teacher has prepared media according to the material being taught, namely spatial mesh material to achieve the desired learning objectives. The third step, the teacher prepares the students and the classroom so that when showing animated video media the class takes place in a conducive manner.

In the fourth step, the teacher presents spatial net material in the form of an animated video. The fifth step, the learning process takes place, through this stage students will pay attention to the animated video displayed by the teacher. The final stage is the evaluation stage, through this stage student learning outcomes will be evaluated by the teacher through the tests given. The test is given to determine the extent to which students understand the material that has been taught through animated video media.

The use of animated video media in the learning process makes students more enthusiastic in the learning process. Meanwhile, in the control class which used image media, only a few students were active and focused on the material because the media used was less motivating and made students in the control class less enthusiastic in paying attention to the lesson. This is in accordance with previous research by Mahatir (2021) which stated that animation media had an effect on students' learning interest. Furthermore, according to Laura & Sahroni (2022), they stated that applying animated video media in the teaching and learning process has an effect on students' interest in learning.

Description of the Mathematics Learning Interest of Class V Students of SDN Karebasse, Bontonompo District, Gowa Regency

The picture of students' learning interest can be seen from the results of descriptive analysis. Based on the results of descriptive statistical analysis, it shows that the experimental class students' interest in learning increased as well as in the control class, but not as significantly as in the experimental class. Based on the pre-nontest results of the experimental class, which shows that the initial condition of students' interest in learning is not much different from the control class, showing that the results of the average value, maximum value and minimum value are almost the same, this proves that there is not too much difference in students' interest in learning between the experimental classes. as well as control when filling in the pre-nontest.

The post-nontest was completed after giving treatment to the experimental class using animated video media and the control class using image media which showed that there were differences in learning interest between the experimental class and the control class, indicated by the post-nontest results of the experimental class having the number of students in There are more high and medium categories compared to the control class, and the average value and maximum value are higher than the control group.

Students' interest in learning mathematics in the experimental class can be said to have increased because it can be seen from the learning process where students are very enthusiastic, their involvement in learning, and their understanding of the learning material presented. Meanwhile, in the control class, there were still students who were less active and less involved in the learning process. Although the average score in the pre-test and post-test of the control class has increased, there is no significant difference. Therefore, it is necessary to use interesting and varied learning media to make students active and focused in learning in order to achieve learning goals optimally. This is in line with research by Laura & Sahroni (2022), that using animated video media in learning has an influence on interest in learning. For this reason, educators must be able to develop material that is interesting, fun, and varied or diverse in the use of learning media such as animated video media.

Based on research conducted in Class V of SDN Karebasse, Bontonompo District, Gowa Regency, it can be found that students' interest in learning mathematics can increase after using animated video media.

The Influence of Using Animation Video Media on Interest in Learning Mathematics in Class V Students of SDN Karebasse, Bontonompo District, Gowa Regency

The use of animated video media has an influence on students' interest in learning mathematics. Based on hypothesis testing carried out with inferential statistics, it shows that there are differences in interest in learning mathematics between the experimental class and the control class. The results of hypothesis testing were carried out by comparing the significant values, t-table and t-count values and the average scores obtained. Statistical results using the independent sample t-test were obtained

from the pre-nontest results of the experimental class and control class with a probability value greater than 0.05, the t-count value was greater than the t-table and when compared to the average score of the class pre-nontest. The difference between the experimental and control classes in the two classes is not much different. So, there was no significant difference in the pre-nontest between the experimental class and the control class. Meanwhile, the post-nontest results for the experimental class and control class have a probability value smaller than 0.05, the t-table value is greater than the t-calculated value and if the post-nontest average scores of the two classes are compared, the experimental class obtained a greater average score compared to the control class.

Hypothesis testing with inferential statistics shows that there is a difference in the learning interest of experimental class students who use treatment in the form of using animated video media in the learning process with the control class who do not apply animated video media. From the statistical results using the Independent Sample t-Test, the difference in students' interest in learning Mathematics was obtained, before the treatment was given and after the treatment was given. It also shows that there is a difference in interest in learning between experimental class students and the average score of control class students. The results of hypothesis testing carried out using the Independent Sample t-Test showed that the significant t value was smaller than the probability value, so H_0 (null hypothesis) was rejected and H_a (alternative hypothesis) was accepted.

The use of animated video media is learning that uses animated videos as learning media in class to attract students' attention to the learning material so that students will be more interested in paying attention to the learning provided by the teacher. The influence of the use of animated video media on class V students' interest in learning cannot be separated from the advantages of animated video media. In line with Delila (2020) in her journal, animated videos are suitable and practical to use in learning because they can make abstract mathematical material concrete. The results of this research are supported by relevant research conducted by Bisri (2019) where there is a significant influence on the use of animated videos to increase students' interest in learning with a significance value of $0.000 < 0.05$. Meanwhile, Nadia (2022) states that there is an influence of animation media on students' interest in learning with a significance value of $0.000 < 0.05$. So it can be concluded that there is an influence of the use of animated videos on the interest in learning mathematics of fifth grade students at SDN Karebasse, Bontonompo District, Gowa Regency.

4 Conclusion

1. The use of animated video media in class V of SDN Karebasse, Bontonompo District, Gowa Regency is implemented well and carried out according to the stages and has a significant influence on students' interest in learning mathematics.
2. Students' interest in learning mathematics in the experimental class after the application of animated video media increased. This proves that the

experimental class students' interest in learning mathematics has increased from the effective to very effective category.

3. There is a significant influence on the use of animated video media on the interest in learning Mathematics of fifth grade students at SDN Karebasse, Bontonompo District, Gowa Regency.

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