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The Effect of Animated Video-Based Multimedia on Students' Interest in Learning Geography

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ABSTRACT

This research was motivated by the low learning interest of students in Geography subjects at SMA Negeri 2 Menggala, which is attributed to the use of conventional teaching methods and the lack of multimedia-based learning tools. The aim of this study is to determine the effect of using animated video-based multimedia on the learning interest of Grade XI students in Geography. The study employed a quantitative method with an experimental approach using a pretest-posttest control group design. Data were collected through observation, interviews, learning interest questionnaires, and documentation. The population of this study consisted of all Grade XI students at SMA Negeri 2 Menggala, with the sample selected using purposive sampling technique. The research instrument used was a learning interest questionnaire that had been tested for validity and reliability. The data were analyzed using a t-test to identify differences in learning interest between the experimental class, which used animated video-based multimedia, and the control class, which used conventional teaching methods. The results of the t-test showed a significance value (2-tailed) of 0.000 (<0.05), with a 95% confidence interval ranging from 9.878 to 23.562. Based on these results, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. Thus, it can be concluded that the use of animated video-based multimedia has a significant effect on increasing students' learning interest in Geography.

INTRODUCTION

Learning interest plays an important role in the world of education because it contributes to encouraging students to be more active, enthusiastic, and passionate in the learning process. According to Harefa, et al., (2022) defines learning interest as a person's interest in a particular field that makes them more focused on understanding the material presented. Students who have a high learning interest tend to pay more attention to the material, participate in learning activities, and try to understand and master the lessons well. Conversely, low learning interest can cause students to have difficulty understanding the material, pay less attention during learning, and ultimately have a negative impact on academic achievement (Trismayanti, 2019).

The problem of low learning interest was also found in geography learning in class XI of SMA Negeri 2 Menggala. Based on interviews with teachers and students, it was found that many students were less interested in this subject. The results of pre-research observations showed that the learning methods applied were still conventional, namely lectures without the use of multimedia or other aids. Teachers rely more on blackboards and books as the main media, which makes students feel bored and less motivated to learn.

Furthermore, observation data revealed that teachers at this school have not utilized projectors or other multimedia tools in learning. Although they understand the benefits of multimedia, its application in teaching and learning activities is still very limited. Interviews with students also showed that most of them felt less interested in learning geography because the learning methods were less interactive. This affects academic achievement, where the average geography score of students only reaches 70, so there is still an opportunity to improve if the learning methods are more innovative.

According to Marti'in, (2019) emphasized that teacher teaching strategies, curriculum, and learning media have a major influence on students' interest in learning. Chita et al., (2024) also found that many students felt dissatisfied with uninteresting learning. One solution suggested to overcome this problem is the use of multimedia in learning.

Multimedia includes a combination of various elements such as text, images, graphics, sound, animation, and video that are packaged digitally to deliver learning materials in a more interesting way (Indrawan, et al., 2020). Research conducted by Wahyudi, et al., (2023) shows that the use of multimedia is not only able to increase interest in learning, but also has a positive impact on student learning outcomes. In the context of geography learning that is closely related to spatial and visual concepts, the use of multimedia becomes very relevant.

One form of multimedia that is effective in increasing learning interest is animated video. Animated video is a collection of moving images accompanied by sound, so that it can provide a more interesting and interactive learning experience. The use of animated videos can help students understand the material better, especially for those who have a visual and auditory learning style. In addition, animated videos allow students to repeat the material without getting bored, and provide flexibility in learning because it can be accessed anytime and anywhere.

Previous studies have proven the benefits of multimedia in improving learning outcomes, there is still a research gap related to its influence on learning interest, especially in geography subjects at the high school level. In addition, previous studies have discussed the use of multimedia in general, without specifically examining the types of multimedia that are most effective in increasing student learning interest. Therefore, this study aims to fill this gap by examining how the use of animated videos can increase student learning interest in geography subjects, especially in class XI of SMA Negeri 2 Menggala.

This study is expected to find more innovative and effective learning strategies in increasing student learning interest in geography. It is hoped that increasing interest in learning can also contribute to improving students' understanding and learning outcomes in the subject.

METHOD

This study used a quantitative experimental design with a pretest-posttest control group (Sugiyono, 2018). The research site was SMA Negeri 2 Menggala in Tulang Bawang, Lampung. The sample included 26 students in class XI IPS 1 (experimental) and 22 students in XI IPS 2 (control), selected purposively.

Instruments included a validated and reliable questionnaire assessing learning interest through four indicators: enjoyment, attention, motivation, and participation (Hidayah et al., 2023). Data collection involved observation, interviews (Rahman et al., 2022), and pretest-posttest questionnaires. Animated video-based lessons were implemented in four sessions for the experimental class, while the control class followed conventional lectures (Khanif, 2011). Statistical analysis was performed using independent sample t-tests to measure differences between groups (Sugiyono, 2018)

RESULTS AND DISCUSSION

Results

This study used a pretest-posttest control group design, which allows comparison between two groups, namely the control class and the experimental class at SMA Negeri 2 Menggala. The research sample consisted of class XI IPS 1 as the experimental class and class XI IPS 2 as the control class. Learning in the experimental class used animated video-based multimedia, while the control class used a conventional learning model.

The results of the study explain the data obtained from the pretest and posttest in both classes, namely the control class and the experimental class. Before data collection, the researcher conducted a trial of the instruments used for the pretest and posttest. This trial involved 30 students as respondents, with 20 questions to measure learning interest, the purpose of this trial was to test the validity and reliability of the instruments used. The next step is to collect initial data by giving a pretest to both classes without special treatment. After that, both classes were given treatment according to the research design, then a posttest was conducted to measure changes in students' learning interest after treatment.

1. *Pretest and Posttest Learning Interest of Control Class Students*

The researcher collected data based on the results of the student learning interest questionnaire in the control class. Based on the results of the pretest and posttest that had been carried out on 22 students, the following data were obtained regarding the categories of student learning interest:

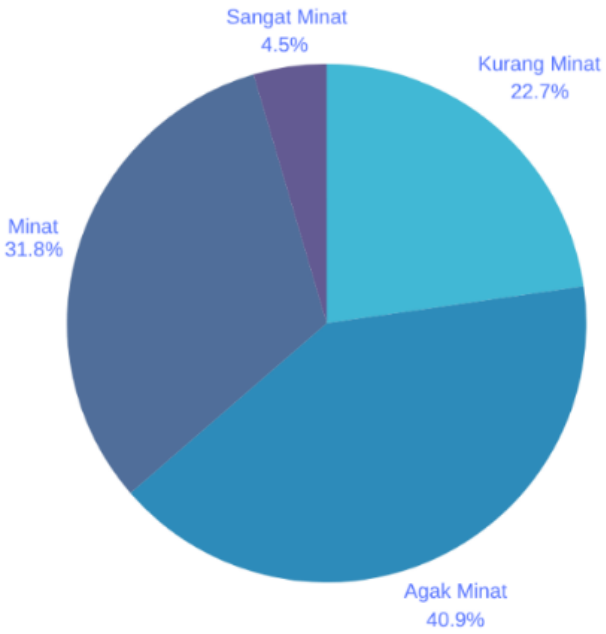

Figure 1. Pretest Diagram of Learning Interest in Control Class
Source: Data Processing Results, 2025

Figure 1 illustrates the distribution of learning interest levels in the control class based on the pretest results. The data indicate that the majority of students, representing 40.9%, fall into the Somewhat Interested category, making it the most dominant group. This is followed by 31.8% of students who are categorized as Interested, showing a moderate level of engagement. Meanwhile, 22.7% of students are classified as Less Interested, reflecting limited enthusiasm toward learning activities. Only a small proportion of students, 4.5%, belong to the Very Interested category, indicating that highly motivated learners were relatively few in the control class before the implementation of the learning model.

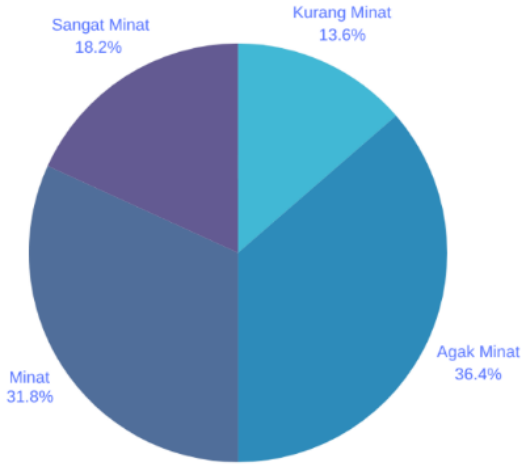

Figure 2. Posttest Diagram of Learning Interest in Control Class
Source: Data Processing Results, 2025.

Figure 2 illustrates the distribution of learning interest levels in the control class based on the posttest results. The data reveal that the *Somewhat Interested* category remains the most dominant, encompassing 36.4% of the students. The *Interested* category follows closely with 31.8%, indicating a moderate level of engagement after instruction. Meanwhile, 18.2% of students fall into the *Very Interested* category, showing an increase in students who demonstrate strong enthusiasm for learning. In contrast, the *Less Interested* category accounts for only 13.6%, reflecting a decline in students with low learning interest compared to the pretest results.

When comparing the pretest and posttest data of students' learning interest in the control class, it can be seen that there was a decrease in the percentage in the "Somewhat Interested" category from 40.9% to 36.4%. Meanwhile, the percentage in the "Interested" category remained stable, which was 31.8%. The "Very Interested" category experienced a significant increase from 4.5% to 18.2%, while the "Less Interested" category experienced a decrease from 22.7% to 13.6%. The following is the calculation of the difference between the two data:

Table 1. Difference between Pretest and Posttest Data for Control Class

Category	Pretest (%)	Posttest (%)	Absolute Difference (%)
Not Interested	0	0	0,0
Lack of Interest	22,7	13,6	9,1
Somewhat Interested	40,9	36,4	4,5
Interest	31,8	31,8	0,0
Very Interested	4,5	18,2	13,7
Total Difference			**27.3%**

Source: Data Processing Results, 2025.

Table 1 shows that based on the analysis results, the total percentage difference between the pretest and posttest data of students' learning interest in the control class reached 27.3%. This difference reflects a change in the distribution of students' learning interest after the learning process took place. The most significant change was seen in the "Very Interested" category which increased by 13.7%, and a decrease in the "Less Interested" category of 9.1%. Meanwhile, the "Somewhat Interested" category decreased by 4.5%, and the "Interested" category did not change.

Table 2 Results of Pretest and Posttest Data for Control Class

Statistik	Control Class	
	Pretest	Posttest
Sample	22	22
Maximum Value	85	92
Minimum Value	37	44
Mean	63	69
Median	62	67
Standard Deviation	14	14

Source: SPSS23, Year 2025.

Table 2 shows that the control class sample in the pretest and posttest amounted to 22, with a maximum value of 85 in the pretest, 92 in the posttest, a minimum pretest value of 37, a posttest of 44, a mean pretest value of 63, and a posttest of 69, for a median pretest value of 62, and a posttest of 67, and a standard deviation of the pretest and posttest of 14.

2. Pretest and Posttest Learning Interest of Experimental Class Students

The researcher collected data based on the results of the questionnaire on students' learning interests in the experimental class. Based on the results of the pretest and posttest that had been carried out on 26 students, the following data were obtained regarding the categories of students' learning interests:

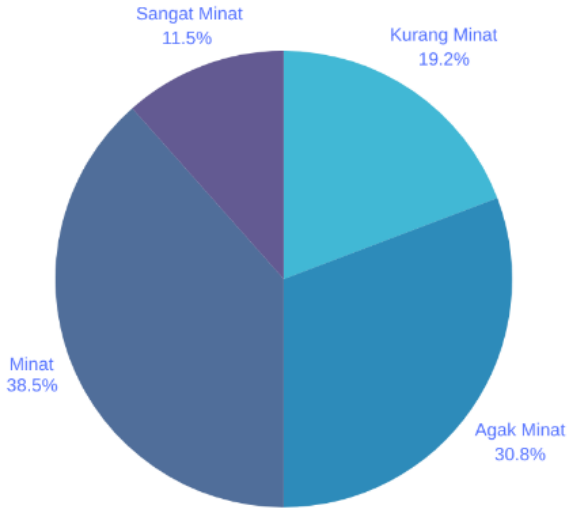

Figure 3. Experimental Class Learning Interest Pretest Diagram
Source: Data Processing Results, 2025.

Figure 3 illustrates the distribution of learning interest levels in the experimental class based on the pretest results. The data indicate that the *Interested* category holds the highest proportion, accounting for 38.5% of the students, suggesting that most learners showed a moderate level of engagement before the intervention. The *Somewhat Interested* category follows with 30.8%, reflecting a considerable number of students with partial interest in the subject. Meanwhile, 19.2% of students fall into the *Less Interested* category, indicating limited enthusiasm for learning activities. The *Very Interested* category has the smallest proportion, at 11.5%, showing that only a few students exhibited strong learning motivation prior to the implementation of the Jigsaw cooperative learning model.

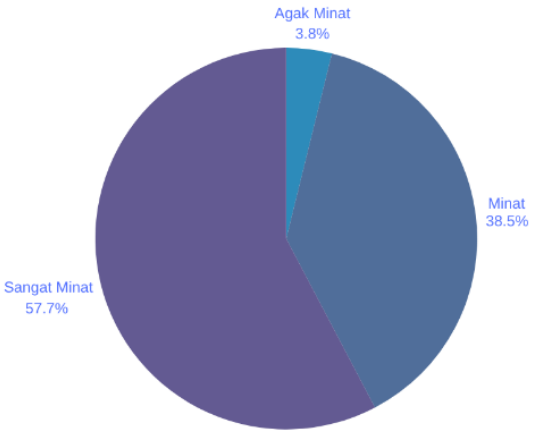

Figure 4. Experimental Class Posttest Diagram
Source: Data Processing Results, 2025.

Figure 4 illustrates the distribution of learning interest levels in the experimental class based on the posttest results. The findings show a substantial increase in student engagement following the implementation of the Jigsaw cooperative learning model. The majority of students, 57.61%, fall into the *Very Interested* category, indicating a strong and positive response to the learning approach. Additionally, 38.46% of students are categorized as *Interested*, further demonstrating a high level of motivation and enthusiasm toward the Geography learning process. Only 3.85% of students are classified as *Somewhat Interested*, suggesting that very few learners displayed moderate engagement. Notably, there were no students in the *Less Interested* or *Not Interested* categories (0%), implying that all participants in the experimental class exhibited meaningful interest in learning after the intervention.

When comparing the pretest and posttest data of students' interest in learning in the experimental class, the "Very Interested" category experienced a sharp increase from 11.5% at the pretest to 57.61% at the posttest, with a difference of 46.11%. The "Interest" category showed very little change, from 38.5% to 38.46% (a difference of 0.04%), so it can be said to be relatively stable. Meanwhile, the "Somewhat Interested" category experienced a drastic decline from 30.8% in the pretest to only 3.85% in the posttest, with a difference of 26.95%. The "Less Interest" category, which previously included 19.2% of students, disappeared completely in the posttest, showing a decline of 19.2%. Here is the calculation of the difference between the two data:

Table 3. Difference between Pretest and Posttest Data for Experimental Class

Category	Pretest (%)	Posttest (%)	Absolute Difference (%)
Not Interested	11.5	57.61	46.11
Lack of Interest	38.5	38.46	0.04
Somewhat Interested	30.8	3.85	26.95
Interest	19.2	0.0	19.2
Very Interested			92.3%

Source: Data Processing Results, 2025.

Table 3 shows that the analysis results show that the total percentage difference between the pretest and posttest data of students' learning interest in the experimental class reached 92.3%. This very high difference reflects a significant change in the distribution of students' learning interest levels after the treatment.

Table 4 Results of Pretest and Posttest Data for Experimental Class

Statistik	Experimental Class	
	Pretest	Posttest
Sampel	26	26
Nilai Maksimal	92	98
Nilai Minimum	37	68
Mean	68	86
Median	70	86
Standar Deviasi	15	9

Source: SPSS23, Year 2025.

Table 4 shows that the control class sample in the pretest and posttest amounted to 26, with a maximum value of 92 in the pretest, 98 in the posttest, a minimum pretest value of 37, a posttest of 68, a mean pretest value of 68, and a posttest of 86, for a median pretest value of 70, and a posttest of 86, and a standard deviation of 15 for the pretest and 9 for the posttest.

Table 5. Results of the Pretest and Posttest Normality Test for the Experimental and Control Classs

	Kelas	Shapiro-Wilk[a]
		Sig.
Learning interest results	Pre-test Eksperimen	,088
	Post-test Eksperimen	,096
	Pre-test Kontrol	,318
	Post-test Kontrol	,515

Source: SPSS23, Year 2025.

Table 5 shows that both experimental and control class data have been normally distributed with the testing criteria if the significance value (Sig) > 0.05 means the sample is normally distributed.

Table 6. Homogeneity Test Results

		Levene Statistic	df1	df2	Sig.
Learning interest results	Based on Mean	2,034	3	92	,115
	Based on Median	1,905	3	92	,134
	Based on Median and with adjusted df	1,905	3	79,523	,135
	Based on trimmed mean	2,047	3	92	,113

Source: SPSS23, Year 2025.

Table 6 shows that the sig value based on mean is 0.115 > 0.05, this indicates that there is no significant difference in variance between groups. Thus it can be concluded that the data has a homogeneous variance.

Table 7. Group Statistics

	Class	N	Mean	Std. Deviation	Std. Eror Mean
Value	Post-test Eksperimen	26	86,04	9,302	1,824
	Post-test Kontrol	22	69,32	14,093	3,005

Source: SPSS23, Year 2025.

Table 7 shows that the average value (mean) of the posttest results of students in the experimental class is 86.04 with a standard deviation of 9.302, while in the control class the average is 69.32 with a standard deviation of 14.093. It can be seen that the average value of the experimental class is higher than that of the control class. Furthermore, a t-test is carried out to determine whether the difference is statistically significant, as in the following table 21:

Table 8. Independent Samples Test

		t-test for Equality of Means			
					95% Confidence Interval of the difference
		Sig. (2-tailed)	Mean Difference	Std. Eror Difference	Lower
Value	Equal variances assumed	,000	16,720	3,399	9,878
	Equal variances not assumed	,000	16,720	3,515	9,587

Source: SPSS23, Year 2025.

Table 8 shows that the Sig. (2-tailed) value = 0.000 <0.05, so it can be concluded that there is a significant difference between the posttest results of students in the experimental class and the control class. Thus, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This means that the treatment given to the experimental class has a significant effect on increasing students' interest in learning compared to the control class.

Table 9. Independent Samples test

		t-test for Equality of Means
		95% Confidence Interval of the Difference
		Upper
Value	Equal variances assumed	23,562
	Equal variances not assumed	23,854

Source: SPSS23, Year 2025.

Table 9 shows that in the continuation of the table there is an average difference between the two groups of 16.720, with a 95% confidence interval ranging from 9.878 to 23.562. Based on the confidence interval (95% Confidence Interval of the Difference), the upper limit value for Equal variances assumed is 23.562 while for

Equal variances not assumed is 23.854. Because the entire range of the confidence interval is above zero (positive), this strengthens the conclusion that there is a significant and positive difference between the two groups.

Discussion

The results of the study showed that the use of animated video-based multimedia had a positive effect on increasing interest in learning geography in class XI students at SMA Negeri 2 Menggala. This can be seen from students in this class showing higher interest, more focused attention, and active participation in discussions and questions and answers during the learning process. This is reinforced by the indicators of learning interest according to Slameto, (2015) where the indicators of learning interest are divided into 4, namely first, feelings of pleasure, if students have a sense of pleasure in a learning activity, the motivation to learn will be higher because of that feeling of pleasure. Second, student involvement, students' deep attention will cause students to feel happy and helped to do something such as actively discussing and actively asking questions. Third, interest, related to students' motivation towards interest in an object. Fourth, student attention, is the focus of students on what is observed.

On the other hand, in the control class using the conventional lecture method, the increase in students' interest in learning was relatively small, students in this class tended to be passive and less enthusiastic in following the lesson. Geography learning cannot be taught only in the classroom using lecture methods alone, it must involve more active student involvement, such as with learning media, so that students can understand the existing material by thinking critically to help improve understanding, by improving students' ability to think critically, it can indirectly improve student learning outcomes (Wulandari, et al., 2017).

According to Banerjee, (2019), multimedia also has benefits in the field of education, first, it can help students understand the material in an easier and more enjoyable way, where by using multimedia students can be helped to visualize difficult concepts and ideas so that they can more easily understand the learning material, second, it can increase students' interest in the subject matter, where by using interesting multimedia such as animated videos can help increase students' interest in the learning material and motivate them to learn, third, reduce the workload of teachers in the teaching process, where by using multimedia teachers can present learning material in a more effective and efficient way so as to reduce the workload of teachers in the teaching process, fourth, accelerate and simplify the learning process, where by using multimedia can accelerate and simplify the learning process because students can study the learning material independently, and fifth, increase student motivation to learn, where by using interesting and interactive multimedia can increase student motivation in learning to follow a more active learning process, thus it can be seen that multimedia in education is to provide a better teaching and learning experience for students and teachers in delivering learning in a more effective way. Research conducted by Rahmadhani, (2023) stated that the use of multimedia in education has several benefits, such as increasing interest and enthusiasm for learning, clarifying teaching materials so that they are easier to understand and achieve goals, diversifying teaching methods and fostering active student participation through various activities such as observation and practice.

Research conducted by Anshor, et al., (2015) concluded that student learning activities using video-based media can increase student learning activities. The use of animated videos in geography learning can attract students' attention because it presents material with attractive visual displays, animated movements, and clear audio narration.

This is in line with research conducted by Rohimah, et al., (2023) which shows that the use of animated video media in geography learning significantly increases students' interest in learning. The study found that students who learned with animated video media showed a higher increase in learning interest compared to students who learned without such media.

The author Deineko, et al., (2022) in his book entitled Multimedia System in Education states that animation can be used to help illustrate concepts that are difficult to understand. Animation can also be used to visualize complex situations such as historical events or natural phenomena. This statement is in line with this study which uses animation to visualize natural phenomena such as natural disasters such as tsunamis, earthquakes, landslides, and so on which are abstract so that they are very difficult to explain only through lectures.

The reason why the use of animated videos has an effect on students' interest in learning is because this media is able to stimulate more than one sense at once, namely the senses of sight and hearing. According to

the multimedia learning theory by (Mayer, 2002), learning will be more effective if information is delivered through two channels: visual and verbal. In addition, according to Wijaya, et al., (2023) video media has the advantage of being able to visualize objects that are difficult for students to imagine and reach in a short time and cheaply. Thus, animated videos allow students to understand the material through images, text, and sound simultaneously, making it easier to understand and remember.

In addition, research by Utami, et al., (2023) also supports this finding, by showing that the use of interactive animated media in learning significantly increases students' interest in learning. Students become more interested and motivated in following lessons when the material is delivered through interactive and interesting media.

Disaster mitigation material was chosen in this study because this material is abstract and requires strong visualization so that it can be understood well by students. In this case, animated videos are very effective in presenting information visually and dynamically, thus helping students understand the process and impact of disasters and the mitigation steps that must be taken. Research by Mayer, (2002) shows that presenting information visually and auditorily simultaneously can improve students' understanding and memory of information.

Previous research also supports the effectiveness of animated videos in increasing learning interest. For example, research by Sulistyowati, et al., (2020) found that the use of animated videos in geography learning can increase student interest and activeness in class. This is reinforced by the results of research by Setiawan, et al., (2021) which shows that the use of animated videos can improve students' understanding of complex and abstract geographical concepts.

CONCLUSION

The findings of this study clearly demonstrate that the use of animated video-based multimedia in geography learning has a significant and positive impact on students' learning interest at SMA Negeri 2 Menggala. Based on the results of the pretest and posttest, it was found that students in the experimental class who were taught using animated videos showed a substantial increase in learning interest compared to those in the control class, which used a conventional lecture-based approach. This conclusion is supported by the statistical results of the independent samples t-test, which produced a significance value of 0.000 ($p < 0.05$), indicating that the difference between the two groups is statistically significant. Thus, the use of animated video-based multimedia can be concluded to effectively enhance students' enthusiasm and engagement in learning geography.

Before the intervention, students in both the control and experimental classes showed relatively similar levels of interest in learning, dominated by the "somewhat interested" and "interested" categories. However, after the use of animated video media in the experimental class, there was a significant shift toward higher levels of engagement. The proportion of students categorized as "very interested" rose sharply from 11.5% to 57.61%, while those in the "less interested" and "somewhat interested" categories dropped drastically. This indicates that animated videos successfully created a more stimulating and enjoyable learning environment, which motivated students to actively participate in class activities.

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BIBLIOGRAPHY

Anshor, S., Sugiyata, I. G., & Utami, S. K. R. 2015. Penggunaan Media Pembelajaran Berbasis Video Terhadap Aktivitas dan Hasil Belajar Geografi. *Jurnal Penelitian Geografi*, 1–9.

Banerjee, R. (2019). Multimedia dalam pendidikan abad 21. *Jurnal Inovasi Pendidikan*, 13(2), 67–75.

Chita, N., Sari, D., & Wibowo, A. (2024). Dampak metode pembelajaran interaktif terhadap minat belajar siswa. *Jurnal Ilmu Pendidikan*, 10(1), 33–40.

Deineko, Z., Sotnik, S., & Lyashenko, V. 2022. Multimedia Systems in Education. *International Journal of Academic Information Systems Research*, 6(7), 23–28. www.ijeais.org/ijaisr

Harefa, M., Lase, K. N., & Zega, A. N. 2022. Deskripsi Minat Dan Motivasi Belajar Siswa Pada Pembelajaran Biologi. *EDUCATIOVO: JURNAL PENDIDIKAN*, *Vol. 1, No. 2*, 381–398.

Hidayah, R., Nurhayati, L., & Sofyan, D. (2023). Indikator minat belajar dalam pembelajaran daring. *Jurnal Psikologi Pendidikan*, 6(1), 76–85.

Indrawan, A., Fitriani, S., & Nugroho, R. (2020). Peran multimedia dalam peningkatan minat belajar. *Jurnal Teknologi Pembelajaran*, 14(2), 98–110.

Khanif, A. (2011). Desain penelitian pendidikan. *Jurnal Evaluasi dan Metodologi Pendidikan*, 3(2), 45–53.

Marti'in. 2019. *Analisis Tentang Rendahnya Minat Belajar Peserta Didik Kelas XI SMA Negeri 5 Pontianak*.

Mayer, R. E. 2002. *Multimedia Learning*. Cambridge University Press.

Rahmadhani, N., Yuliana, T., & Suryani, D. (2023). Pengaruh multimedia terhadap motivasi belajar. *Jurnal Pendidikan Interaktif*, 5(2), 115–125.

Rahman, S., Widodo, T., & Lestari, E. (2022). Teknik wawancara dalam penelitian pendidikan. *Jurnal Metodologi Penelitian*, 10(1), 33–41.

Rohimah, Aunurrahman, & Astuti Indri. 2023. Pengembangan Video Animasi Pembelajaran Materi Hidrosfer Mata Pelajaran Geografi Di Sekolah Menengah Atas. *Jurnal Teknologi Pendidikan*, *Vol. 16, No. 2*.

Setiawan, R., & Nurjannah, S. 2021. Pengaruh Penggunaan Media Video Animasi Terhadap Hasil Belajar Geografi. *Jurnal Pendidikan Geografi*, 9(1), 12-20.

Slameto. (2015). Belajar dan faktor-faktor yang mempengaruhinya. Jakarta: Rineka Cipta.

Sugiyono. (2018). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: Alfabeta. Setiawan, R., & Nurjannah, S. 2021. Pengaruh Penggunaan Media Video Animasi Terhadap Hasil Belajar Geografi. *Jurnal Pendidikan Geografi*, 9(1), 12-20.

Sulistyowati, A., & Purwanto, W. 2020. Penerapan Video Animasi Untuk Meningkatkan Minat Belajar Siswa pada Materi Geografi. Gea: *Jurnal Pendidikan Geografi*, 20(2), 89-96.

Utami, S., Jayanti, & Selesi Faipri, S. 2023. Pengaruh Media Pembelajaran Interaktif Animasi Terhadap Minat Belajar Pada Mata Pelajaran IPS di SD Negeri 3 Tanjung Lago. *Jurnal Pendidikan Dasar Indonesia*, *8*(1), 21–26.

Wahyudi, S., Ramdani, I., & Kartika, N. (2023). Multimedia dalam pendidikan: Pengaruhnya terhadap hasil dan minat belajar. *Jurnal Pendidikan Interaktif*, 9(3), 201–214.

Wijaya, M. N., Yani, A., & Nandi. 2023. The Development of Microlearning-Based on Teaching Materials to Increase Students' Ecoliteracy. *Journal of Education, Teaching, and Learning*, *8*(2), 15–23.

Wulandari, S., Pargito, & Widodo, S. 2017. Efektivitas Pemanfaatan Video Visual Pembelajaran Dalam Upaya Peningkatan Hasil Belajar. *Jurnal Penelitian Geografi*, *8*(2).