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The Effect of Contextual Teaching and Learning Model Assisted by Audio Visual Media on Student Learning Outcomes in Science Subjects Class V SD Inpres 1 Kayumalue Pajeko

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A B S T R A C T

This study aims to determine the influence of the Contextual Teaching and Learning Model assisted by audio visual media on student learning outcomes in the Science Subject Class V of SD Inpres 1 Kayumalue Pajeko. This study uses a quantitative approach using a quasi-experimental research method. The population in this study is all grade V students of SD Inpres 1 Kayumalue Pajeko for the 2024/2025 school year which amounted to 42 students, 21 students from the experimental class and 21 students from the control class. The average pre-test score for the experimental class was 59.76 while the pre-test for the control class was 60.71 and the average score for the experimental class post-test was 80.00 while the post-test for the control class was 67.14. Based on the results of hypothesis testing using paired sample t test analysis with the help of SPSS 23 which shows that at a significant level of 5% (0.05) a significant value of 0.000 is obtained, because the significant value of the T-Test is obtained at 0.000 < 0.05, then Ha is accepted and Ho is rejected, meaning that it can be concluded that there is an influence of the use of the Contextual Teaching and Learning model assisted by audio-visual media in the science subject of class V of SD Inpres 1 Kayumalue Pajeko

INTRODUCTION

Education is a purposeful and organized way to create a learning environment and process that helps students actively develop their abilities in areas like religious and spiritual strength, self-discipline, personality, intelligence, good morals, and the skills they need for themselves and society (Rahman et al., 2022). In Indonesia, education has gone through many changes and improvements in terms of teaching tools and curriculum policies. At first, the curriculum in Indonesia was the 2013 curriculum, which aimed to help students become individuals who have good character, are good citizens, productive, creative, innovative, and can take part in the life of their community, country, and nation (Simatupang, 2023).

The Ministry of Education and Culture (Jannah et al., 2022) explained that the independent curriculum includes various intracurricular activities that help students reach their full potential and build strong understanding and skills. Kusumaningrum et al. (2022) mentioned that in the independent curriculum, subjects like science and social studies are combined into a subject called IPAS. The goal of IPAS in the independent curriculum is to encourage students' interests, curiosity, active participation, and help them gain knowledge and skills. According to Purba as stated in (Nihayatul Fadlilah et al., 2024), IPAS learning under the independent curriculum can be done through interaction between teachers and students during lessons, creating a two-way communication between them.

Lastrijanah et al. in (Suradi & Sumiati, 2022) found that having good interaction during classroom learning is very important. To help students understand better, teachers need to be more creative and use learning materials that can help them explain things clearly. Using these materials can make learning more effective.

From observations during an interview with Mrs. Yusna S. Pd, the teacher of class V at SD Inpres 1 Kayumalue Pajeko, it was seen that the teaching method is still teacher-centered. The results of the students' learning are not meeting the expected standards. The minimum completeness criteria (KKM) set by the teacher is 70, but only 66% of the students met this standard in science, while 33% did not. During the teaching process, the teacher mainly used lecture methods and package books. This led to low student participation, boredom, and lack of interest. Students were not enthusiastic about the lessons, and the learning results were still not very good. This shows that the teaching process needs to change to create a more active, creative, and enjoyable learning environment.

Based on the problem discussed, the researcher will use a Contextual Teaching and Learning model along with audio-visual media, hoping it will work better. This approach is expected to improve how students learn in social studies.

According to Tamam et al. (2021), Contextual Teaching and Learning (CTL) is a method that helps students connect lessons to real-life situations, which can help them learn better. Triani & Putra (2023) explain that Contextual Teaching and Learning is a teaching idea that helps teachers link the material to students' real lives, encouraging them to connect what they learn with how they use it daily. This can make students more curious about what they observe, says

Azzahra et al. (2023), as they are encouraged to explore the events and things happening around them.

Fadila et al. (2021) mention that audio visual is a part of multimedia that helps teachers during the learning process. Using videos in learning allows for interaction between teachers and students, not just during face-to-face sessions, but also through media that shows both sound and visuals. These media can improve students' ability to learn and help them achieve good results in their studies.

Based on this, the researcher wants to do a study titled "The Influence of the Contextual Teaching and Learning (CTL) Model Assisted by Audio Visual Media on Student Learning Outcomes in the Social Studies Subject for Class V Students at SD Inpres 1 Kayumalue Pajeko."

LITERATURE REVIEW

According to Hasudungan in (Amir & Rahmah, 2024), the Contextual Teaching and Learning (CTL) model helps teachers connect what is taught in school to students' real lives. It also encourages students to use what they learn in their families and society. In this model, students take part in activities that help them link what they learn in school with real-life situations. Meanwhile, Zulfa in (Dewi et al. , 2023) says that Contextual Teaching and Learning (CTL) is a learning model that brings real-world experiences into the classroom. This helps students connect what they know to how they can use it in their daily lives, allowing them to develop skills for solving problems as part of society.

Saputro et al. (2021) explain that audio-visual media is a type of material that uses sight and sound to help students understand and learn new things. Hermawan Dalam (Ningsih 2022) mentions that audio-visual media is a modern teaching tool that has been developed to fit current needs, focusing on what can be seen and heard.

METHODOLOGY

The research used is quantitative and follows quasi-experimental methods. Sugiyono, as cited in Hasanah et al. (2018), explains that experimental research methods are used to find out how certain treatments affect others in controlled conditions.

The population of this study includes VA class students from SD Inpres 1 Kayumalue Pajeko, who are the experimental group with 21 students, and VB class students from the same school, who are the control group with 21 students. This makes the total population 42 students.

The sample in this study consists of the 21 students in the experimental class and the 21 students in the control class, making the total number of samples 42 students.

Table 1. Number of Research Samples

No	Class	L	P	Number of Students
1.	Experimental class	11	10	21
2.	Control class	7	14	21
Total Population				42

This study will use a sampling method called saturated sampling, where all members of the population are included as samples. This approach is chosen because the population is small, with fewer than 100 people, or because the study aims to make generalizations with very little error. In this study, there are two groups.

The first group receives treatment based on a contextual model (X_1), while the second group is treated using the lecture method (X_2). The group that uses the contextual teaching and learning model with audio-visual media is called the experimental class. The group that does not receive any special treatment and is taught through the lecture method is called the control class.

Table 2. Pretest-Postest Control Experimental Design

Class	Pretest	Treatment	Posttest
Experimental Classes	0_1	X_1	0_2
Control Class	0_1	X_2	0_2

Information:

X_1 : Treatment using contextual models

X_2 : Treatment using the lecture method

0_1 : Initial test

0_2 : Final test

RESULTS AND DISCUSSION

Pretest Results

The researcher conducted the study in class V of SD Inpres 1 Kayumalue Pajeko. They assigned the VA class as the experimental group with 21 students, using the Contextual Teaching and Learning (CTL) model along with audio visual media. The VB class was the control group with 21 students, and they used the lecture method. Below is the descriptive analysis of the pre-test results for both the experimental and control classes:

Table 3. Results of Pre-test Data Analysis for Experimental and Control Class

	N	Minimum	Maximum	Mean	Hours of deviation
Pre-Test Experiment	21	20	95	59.76	21.936
Pre-test check-ups	21	15	95	60.71	22.764
Valid N (listwise)	21				

From the data given, the experimental class had a pre-test average score of 59. 76, with the highest score being 95 and the lowest 20. The standard deviation was 21,936. In the control class, the pre-test average was 60. 71, with the highest score also 95, the lowest 15, and a standard deviation of 22,764. Looking at these pre-test results, it is clear that most students' abilities were below the KKM level. This suggests that the students did not have a good understanding of the material before the study began.

Posttest Results

The following is a descriptive analysis of the post-test of the experimental class and the control class, namely:

Table 4. Results of Post-test Data Analysis of Experimental and Control Class

	N	Minimum	Maximum	Mean	Hours of deviation
Post-Test Experiment	21	50	100	80.00	13.693
Post-Test Control	21	35	90	67.14	16.551
Valid N (listwise)	21				

After using a teaching method that includes audio visual tools, the experimental class had a mean score of 80. 00 on the post-test, which was higher than their pre-test mean. The highest score was 100, the lowest was 50, and the standard deviation was smaller compared to the pre-test, with values going from 21,936 to 13,693.

The data shows that the average score of students has gone up a lot. In the experimental class, the scores after the test are higher and meet the KKM standard, but the scores before the test were still quite low. The average score

after the test in the experimental class went up, as some students got good marks and even some got perfect scores of 100. This shows that using the contextual teaching and learning model with audio and visual media can help improve student learning results.

Looking at the data from the control class after using the lecture method, the average score was 67.14, which is higher than the average score from the pre-test. The highest score was 90, the lowest was 35, and the standard deviation was 16,551. From these results, it appears that some students improved a lot, while others kept the same scores as before. This suggests that the lecture method didn't greatly improve the learning outcomes.

Normality Test Results

For normality in this study, it was carried out with the help of the SPSS 23 program using the Lilliefors (Kolmogrov-Smirnov) test. The following are the values of the normality test results obtained in this study, which are as follows:

Table 5. Normality Test Results of Pre-Test and Post-Test Data

Class		**Kolmogorov-Smirnov**		
		Statistic	**df**	**Itself.**
Student Learning Outcomes	*Pre-Test* Experiment	.166	21	.136
	Post-Test Experiment	.167	21	.131
	Pre-test check-ups	.154	21	.200
	Post-Test Control	.159	21	.179

Based on the data in table 5, the normality test using the Lilliefors (Kolmogorov-Smirnov) method in SPSS 23 showed that all the data had a significance value greater than 0. 05. The significance value for the experimental group's pre-test was 0. 136, which is more than 0. 05. For the control group's pre-test, it was 0. 200, also more than 0. 05. The experimental group's post-test had a significance value of 0. 131, and the control group's post-test had a value of 0. 179, both above 0. 05. Therefore, it can be said that all the data follows a normal distribution.

Homogenity Test Results

The homogeneity test was done using the Levene test or Bartlett test with the help of the SPSS 23 program. The following are the results of the homogeneity test found in this study, namely:

Table 6. Homogeneity Results of Post-Test Experiments and Control

		Levene Statistic	df1	df2	Itself.
Student Learning Outcomes	Based on Mean	.745	1	40	.393
	Based on Median	.447	1	40	.508
	Based on Median and with adjusted df	.447	1	37.132	.508
	Based on trimmed mean	.672	1	40	.417

From table 6, we see that the Sig Based on Mean value is 0. 393, which is greater than 0. 05. This means that the experimental class post-test group and the control class post-test group are the same or have similar characteristics.

Hypothesis Test Results

The hypothesis test in this study used a Paired Sample T-Test with the help of SPSS 23 software, and the significance level was set at α = 0. 05. The data collected for the study followed a normal distribution and had equal variance, which are necessary conditions for this type of test. The results from the hypothesis test are as follows:

Table 7. Results of Paired Sample T-Test Experimental Class Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PreEksperimen - PostEksperimen	-20.238	18.267	3.986	-28.553	-11.923	-5.077	20	.000
Pair 2	PreKontrol - PostKontrol	-6.429	14.330	3.127	-12.951	.094	-2.056	20	.053

Looking at table 7, we see that in the experimental class, the significant value from the paired sample t-test is 0. 000. Since this value is less than 0. 05 (0. 000 < 0.05), we accept the alternative hypothesis (Ha) and reject the null hypothesis (Ho). However, in the control class, the significant value from the paired sample t-test is 0. 053. Here, the value is greater than 0. 05 (0. 053 > 0. 05), so we reject Ha and accept Ho. This means that in the experimental class, there is an effect of using the Contextual Teaching and Learning (CTL) Model with audio-visual media on students' science learning outcomes in class V of SD Inpres Kayumalue Pajeko. But in the control class, there is no such effect from using the same model.

In the experimental class, the researcher noticed that the students were very excited to answer questions. They were active when asked to look for changes and effects in everyday life. The students also worked together to complete the LKPD properly and accurately. On the other hand, in the control class, the students were not as interested in learning. The classroom felt dull, and the students found it hard to understand the material. The researcher also saw that the students were not as involved when asked questions. They were less eager to finish the LKPD and often left the class when the teacher was explaining the lessons. This shows a clear difference between the experimental and control classes.

According to the researcher, using Contextual Teaching and Learning (CTL) methods with audio-visual tools is very helpful in education. This is because it helps teachers connect the lessons to real-life situations students face, which encourages students to use the knowledge they already have in their everyday lives. Also, using audio-visual materials makes it easier for students to pay attention and get involved in the lessons.

Based on the research done, pre-test and post-test data were collected from both the experimental and control classes. Then, an analysis was done using SPSS 23. From table 4. 5, the normality test results showed that the pre-test scores in the experimental class had a Sig value of 0. 136, which is greater than 0. 05, and the control class pre-test had a Sig value of 0. 200, also greater than 0. 05. For the post-test, the experimental class had a Sig value of 0. 131 and the control class had 0. 179, both above 0. 05. So, it was concluded that the data is normally distributed. Looking at table 4. 6, the Sig value based on the mean was 0. 393, which is above 0. 05, indicating that the experimental and control groups are similar or homogeneous. Since the data meets the requirements for normality and homogeneity, a hypothesis test was carried out using a paired sample t-test with SPSS 23. From table 4. 7, the Sig value for the experimental class's pre-test and post-test was 0. 000, which is less than 0. 05. This means the null hypothesis (Ho) was rejected and the alternative hypothesis (Ha) was accepted.

Based on the results from the paired sample t-test, it shows that using the contextual teaching and learning model along with audio-visual media has an effect on students' science learning outcomes in class V at SD Inpres 1 Kayumalue Pajeko. This finding matches the study done by Utami (2020), where the results showed that learning outcomes improved after students were given treatment, with pre-test scores being lower than post-test scores. The data processing results show a t-count of 3. 61 and a t-table value of 1. 669. Since the t-count is higher than the t-table value, we reject the null hypothesis (Ho) and accept the alternative hypothesis (Ha). This means that the Contextual Teaching and Learning (CTL) approach with audio-visual media does have an impact on chemistry learning achievements, with an effect size of 16%.

This research is also supported by Wahyudi (2023), who found that the Contextual Teaching and Learning Model using audio-visual media influences student learning outcomes. In conclusion, using the Contextual Teaching and

Learning Model with audio-visual media greatly affects student learning in the classroom, helping to improve their learning outcomes effectively.

CONCLUSION AND RECOMMENDATION

Based on the research done at SD Inpres 1 Kayumalue Pajeko, it can be said that using the Contextual Teaching and Learning (CTL) model along with audio visual media does affect how well students perform in science subjects for grade V. This was shown through a hypothesis test called the Paired Sample T-Test, which was done at a 5% significance level. The test result had a significance value of 0. 000, which is less than 0. 05. Because of that, the alternative hypothesis (Ha) was accepted, and the null hypothesis (Ho) was rejected. So, the study shows that learning in classes using the Contextual Teaching and Learning (CTL) model with audio visual media helps students do better in science compared to classes that use just the lecture method.

FUTHER STUDY

This study is not complete yet, so more research is needed on how the Contextual Teaching and Learning model, when supported by audio and visual media, affects the learning results of fifth-grade students in science classes at SD Inpres 1 Kayumalue Pajeko. This will help improve the study and provide more information for others to learn from.

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