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Video Assisted Learning Analysis in Improving Student Learning Outcomes in Elementary Schools

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Abstract
This research investigates the use of video as a medium of learning in elementary grades. Video media is an appropriate and accurate learning media in conveying messages and will greatly help students' understanding. With video media, students will understand more about the material presented. In particular, this study aims to explore whether video-assisted learning can increase student motivation. A qualitative approach was adopted in this study by employing teachers and students in an elementary school in Indonesia as research participants. These participants were selected purposively. Interviews, observations, and documentation were used to collect data. This study found that video-assisted learning media positively facilitates technology-enhanced teaching and learning processes and offers more optimal time management, flexible and varied teaching materials. These findings also show that the use of video-assisted learning media has a positive impact on student learning. Videos can create variations in class so that students' attention is focused on learning which stimulates students' motivation to be involved during the teaching and learning process. Students are motivated to take part in learning because the materials and media used are more sophisticated, modern, interesting, effective and innovative.
Keywords: *learning motivation, technology-enhanced teaching, video-assisted learning*

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INTRODUCTION

Education is the most important foundation to improve the quality of life of a nation. A person's cognitive capacity will develop and improve during the educational process. According to Asrial et al. (2020), education can be a benchmark for the quality of human resources. According to Law Number 20 of 2003 (Praditya, 2019), education is a deliberate effort to create an active learning environment for students to further develop their potential and personality. The problem of education and teaching is a fairly complex problem that is influenced by many factors. Teachers are one such factor. The role of teachers in education and teaching is very important and significant. A teacher is very responsible for the success of the learning process. Using textbooks and other media, the teacher's role in student learning is to communicate the subject matter to them through interaction and communication.

The teacher's ability to deliver material effectively depends largely on how textbooks and other educational materials are used according to the learning environment and circumstances of the students. One very important factor in achieving educational success is the teacher who serves as the foundation of education in accordance with the objectives of the aforementioned law. One alternative used in education is video media (Khairani, 2019). The enthusiasm for learning of students is greatly influenced by the teacher. The competence of lecturers and teachers is a list of national education goals. A teacher needs to have professional competence and attitude in order to meet the demands of the increasingly advanced world of education.

Teachers can use a variety of learning models to help students learn. Student competence can be improved by using creative and innovative learning models. (Aspini, 2020) says that learning models can be used to make learning more comfortable for students and help them think more clearly. Independent curriculum is a time when teachers and students have freedom of thought and are free from the burden of thought so that they can explore and develop their educational potential more broadly and unfettered. (Izza, 2020). The Indonesian government hopes that students can develop critical thinking skills, intelligence, and character through independent learning so that they can keep up with technological advances (Sulistyosari, 2022). This idea aims to encourage creativity and innovation in the learning process while giving freedom to students to learn according to their interests and abilities.

Research conducted by (Rohedi, 2022) aims to determine the effect of the US Video Assisted Synergetic Teaching learning method on improving student learning outcomes in science subjects. Like the research conducted by (Sulistyosari, 2022) which discusses the application of differentiated social studies learning media in the independent learning curriculum, another study

was conducted by (Hidayat, 2023) which examined the effectiveness of the principal's leadership in implementing an independent curriculum, another study was conducted by (Pujiman, 2019) in his research entitled the application of classroom management principles and their effects on student learning motivation in schools basis.

METHODS

The findings of a quasi-experimental study using a post-test control group design informed the writing of this article. This research was conducted in the second semester (even) of the 2022/23 school year at an elementary school in Kalangan Village. The population of this study is all grade V students in Bojonegoro Regency who use the 2013 curriculum in 2022 and 2023. There are 330 students enrolled in

three elementary schools, SDN 1 Kalangan, SDN 2 Kalangan, and SDN 3 Kalangan. Sampling was carried out by random sampling consisting of 64 children divided into two classes, from a total population of 330 children divided into ten classes.

In this study, the data you want to know is student learning outcomes. Objective tests and essay tests with a total of 25 questions were used for data collection. The content and empirical validity of 20 objective questions and 5 essay questions have been established. According to the psychology of grade V elementary school children, the content of the test meets the elements of basic competence with strong sentences. While the internal consistency analysis of tests on 25 test items was part of the empirical validation analysis, all tests tested were found to be valid. Based on the analysis of test reliability, the reliability of the essay and objective tests is high (0.65-0.68, respectively). Analysis of the difficulty level of the questions found that 9 questions met the easy criteria, 13 questions met the medium criteria, and 3 questions met the difficult criteria. Four questions have good qualifications, 18 questions meet the requirements sufficiently, and three questions meet the requirements less well according to the differentiation power analysis. Post- test is given to students after scientific application of audiovisual assisted observation learning activities and conventional learning activities to collect data on student learning outcomes. The t- test was used to test the hypothesis in this study. However, as seen in Table 1, descriptive analysis with ideal mean criteria and ideal standard deviation was used to provide an overview of the research data.

Table 1 Criteria for Ideal Average and Ideal Standard Deviation

Score Range	**Real Score Range**	**Category**
$Mi + 1{,}5\ SDi \leq \bar{X} < Mi + 3{,}0\ SDi$	$30 \leq X \leq 40$	Very high
$Mi + 0{,}5\ SDi \leq \bar{X} < Mi + 1{,}5\ SDi$	$23{,}33 \leq X < 40$	Tall
$Mi - 0{,}5\ SDi \leq \bar{X} < Mi + 0{,}5\ SDi$	$16{,}67 \leq X < 23{,}33$	Keep
$Mi - 1{,}5\ SDi \leq \bar{X} < Mi - 0{,}5\ SDi$	$10 \leq X < 16{,}67$	Low
$Mi - 3{,}0\ SDi \leq \bar{X} < Mi - 1{,}5\ SDi$	$0 \leq X < 10$	Very low

RESULTS AND DISCUSSIONS

The post-test given to 32 experimental group students produced learning achievement test data that showed the highest score was 38 and the lowest score was 17, while the control class post- test results showed the highest score was 31 and the lowest. The score is 14. In a scientific approach, this study found that after participating in audiovisual-assisted observation learning activities, 78.12% of students in the experimental group scored in the high and very high categories, 21.89% scored in the medium category, and 0% scored in the low and very low categories. Traditional learning activities produced mixed results, with 45.16% of students scoring in the high or very high category, 38.71% scoring in the medium category, and 16.12% scoring in the low or very low category. The distribution of data in this study shows that in the experimental group student learning outcomes data tend to be in the high and above categories, while in the control group tend to be in the medium to lower category. It can

be described so descriptively. The full point-by-point post-test results are shown in table 2.

Table 2. Criteria for Ideal Average and Ideal Standard Deviation

Real Score Range	Experimental Group	Control Group	Category
30 ≤ X ≤ 40	18 (56,25%)	5 (16,13%)	Very high
23,33 ≤ X < 30	7 (21,88%)	9 (29,03%)	Tall
16,67 ≤ X < 23,33	7 (21,88%)	12 (38,70%)	Keep
10 ≤ X < 16,67	0 (0,00%)	5 (16,13%)	Low
0 < X < 10	0 (0,00%)	0 (0,00%)	Very low

The group that utilized video-assisted learning activities in a scientific approach had an average learning outcome of 29.25 (in the high category) based on criteria of five scales and data analysis findings. Meanwhile, using conventional learning activities, the average learning outcome of the medium category group was 22.45. This shows that the average score of the learning outcomes of the experimental group students is higher than the average value of the learning outcomes of the control group. Table 3 displays the mean data as well as the standard deviation of the post-test results of both groups.

Table 3. Mean and Standard Deviation of Post-test Results

Variable	Experimental Group		Control Group	
Post – test	Average (mean)	Standard Deviation	Average (mean)	Standard Deviation
	29,25	6,28	22,45	5,22

In this study the learning outcome instrument is based on the dimensions of cognitive processes. The next question to be answered is how much influence treatment has on the dimensions of cognitive processes that contribute to student learning outcomes. C1 (retention), C2 (comprehension), C3 (application), C4 (analysis), C5 (evaluation), and C6 (creation) are examples of cognitive process-based instruments. The percentage of children in the experimental and control groups who were proficient in different aspects of cognitive processes differed. The results of student abilities in terms of the dimensions of cognitive processes are summarized below.

Table 4. Summary of Learning Outcomes in terms of the Cognitive Process Dimension

No	Dimensions of Cognitive Processes of Experimental Classes						Dimensions of Control Class Cognitive Processes					
	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6
Total	86	263	101	74	194	202	60	188	67	48	183	143
Shoes max	96	288	128	128	384	256	96	288	128	128	384	256
Percentage	89.58	91.3	78.9	57.8	50.5	78.9	62.5	65.2	52.3	37.5	47.66	55.86

The number of experimental class students who were able to answer questions C1 and C2 was 89.58 percent; 91.32%, C3; 78.91%, C4 ; 50.52%, and C6; 78,91%. In addition, the percentage of control class students who answered the question correctly was related to the C1 cognition. category; 62.50%, C2; 65.28%, C3; 52.34%, C4; 37.50%, C5: 47.66%, and C6; 55,86%. This suggests that learning outcomes differ depending on the category dimension of cognitive processes.

The prerequisites for the distribution of research data are tested first before an independent t-test is used to test the hypothesis. The homogeneity test of intergroup variance and the normality test of data distribution for all units of analysis are two components of the analysis prerequisite test (Nyoman Jampel, Kadek Riza Puspita, 2017).

Data normality tests were carried out on the entire unit of analysis, namely the experimental group and the control group. The analysis used in testing the normality of data distribution is chi squared analysis. The analysis process is assisted by using the Microsoft Excel 2016 for Windows program. The significance level used to determine data normality is 0.05 or 5%. A summary of the results of the data normality test in the experimental group and the control group is presented in table 5.

Table 5. Summary of Data Distribution Normality Test Results

Learning Outcomes Data Group	X^2	dk	Critical Score with 5% Significance Level	Status
Post-test Experiments	5,11	3	7,81	Normal
Post-test Control	3,74	3	7,81	Normal

The normal data distribution of the two groups above is described using table 6. The experimental class X 2 hits is 5.11, and the control class X 2 hits is 3.74, and X 2 tabs is 7.81, according to the X 2 hits X^2tab test which states the data distribution of the two groups to be normal. The learning outcomes of the experimental group and the control group were used as the basis for the variance homogeneity test. There are 32 and 31 students for each unit of analysis. Use the F test to test for homogeneity of variance between groups. If F count is greater than F of the table, then the data is considered homogeneous. Table 6 provides a summary of the results of the homogeneity test of variance between groups.

Table 6. Summary of Variance Homogeneity Test Results with F Test

Sample	Mean	SD	Variance	F count	F table	Conclusion
Experimental group	29,25	6,28	39,48	1,45	1,93	F calculate < F
Control group	22,45	5,22	27,31			table

A summary of the data from the results of the homogeneity test of the variance of the two groups as shown in table 6 shows that the Microsoft Excel 2016 for Windows application is assisted by FcountFtable. This suggests that there is uniform variation among groups of students. Students who participated in conventional learning activities and students who participated in audiovisual assisted observation learning activities had different learning outcomes, according to the research hypotheses that had been tested. Uncorrelated or independent t-tests are used to test the proposed hypothesis. The polling variant formula used in this uncorrelated t-test is shown homogeneously in Table 6, as is the number of students in each class. Table 7 provides a summary of uncorrelated t-test results.

Table 7. Summary of Hypothesis Test Results Data

Group	N	$\bar{X}$	s^2	t count	t tabel	Conclusion
Experiment	32	29,25	39,48	9,33	2,000	t count> t tabel
Control	31	22,45	27,31			Ha Accepted

With a significance level of 5% and supported by the difference in average score obtained between the experimental group of 29.25 which is in the high category and the control group of 22.45 which is in the medium category, the alternative hypothesis is accepted based on the research hypothesis that has been proposed in the theory review of testing criteria. H0 is rejected if tcount is greater than ttable, and H1 is accepted. The same is shown in the summary of the results of hypothesis testing: tcount is greater than ttable, then H0 is rejected and Ha is accepted. As a result, in the 2022/23 academic year, there will be significant differences in learning outcomes between the group of grade V students of SD Bojonegoro Regency who participate in traditional learning activities and the group of students who participate in Video Assisted Learning activities.

Based on the results of data analysis, the significance level of 5% is 2,000, and it is known that the value of tcalculate = 9.33 and ttable at dk = 61. This shows that the group of students who participated in the video learning activity had a higher learning outcome score than the group of students who participated in the traditional learning activity, or t count > t table.

The group of students who participated in video learning activities had a higher average score of learning outcomes compared to the group of students who participated in conventional leaactivities. The study was also based on average learning outcome scores. When students participated in video learning activities, their average learning outcome score was 29.25 or 73.13 percent of the maximum score. When students participate in conventional learning activities, the average value of student learning outcomes is 22.45 or 56.13 percent of the maximum score. It can be seen that the treatment of learning videos has a significant influence on the average difference in learning outcomes scores of experimental and control groups by 17%.

The magnitude of the contribution of treatment to children's abilities in the cognitive process dimension can be seen in the post-test result score which is the next finding. After receiving treatment for audiovisual-assisted observation learning activities, the memory ability of children in the experimental class was different from the memory ability of children in the control class. The fact that the experimental class achieved a percentage of 82.59 percent versus 62.50 percent also showed that the child's memory cognition improved as a result of the treatment. The percentage of comprehension score of the experimental class category C2 was 91.32 percent, while the control class was 65.28 percent. The experimental class consisted of 78.91 percent of the Apply (C3) category, while the control class consisted of 52.34 percent. The percentage of experimental class scores in the analyzing category (C4) was 57.81 percent, while the control class was 37.50 percent. The experimental class obtained a percentage score of 50.52% in the Grading Category (C5), while the experimental class obtained a percentage score of 47.66%. The percentage of the experimental class reached 78.91 percent for the Create (C6) category, while the control class percentage was 55.86 percent.

Students' ability to remember, understand, apply, analyze, evaluate, and create learning outcomes is clearly influenced by the treatment of experimental classes, as shown by the findings above. In other words, the use of audiovisual media to see learning activities can make learning more successful.

To answer the question of why learning outcomes from audiovisual-assisted observing learning activities were found to be superior to traditional classroom learning activities, a number of arguments were presented. The following is a list of such reasons.

First, the scientific use of audiovisual media in learning is emphasized on the step of observing audiovisual-assisted observing learning activities. In this learning, students are more involved in exploring their knowledge based on visual and audio-based media displays in the form of films, videos, and sound image slides when audiovisual-assisted observation learning activities are carried out scientifically. This is in line with Nurul's theory (Marjan, 2014) which states that students must actively participate in learning activities by exploring concepts and principles individually and in groups. Observing, questioning, associating / processing information / reasoning, trying, and communicating are learning activities in a scientific approach.

Second, the 2013 Curriculum makes excellent use of learning videos. The successful use of audiovisual media in this study resulted in increased enthusiasm of students in listening learning.

CONCLUSION

For the 2022/23 school year, this study found that scientifically-based audiovisual-assisted observation learning activities improved the learning outcomes of grade V students in Bojonegoro District. The scientific method of observation of learning activities assisted by learning videos produces better learning outcomes compared to conventional learning activities. Therefore, it is recommended that teachers use audiovisual assisted observation learning activities in their classrooms as a more effective alternative learning method. This study also shows that audiovisual-assisted observing learning activities can improve children's abilities in the areas of remembering, understanding, applying, analyzing, evaluating, and creating. In addition, this research can be the basis for additional research on different topics.

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