

**THE EFFECT OF AUDIO VISUAL MEDIA ON SCIENCE LEARNING OUTCOMES IN GRADE IV STUDENTS OF UPTD STATE ELEMENTARY SCHOOL 122383 PEMATANG SIANTAR**

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**ABSTRACT**

*This study aims to analyze the influence of audio visual media on science learning outcomes in fourth grade students of UPTD SD Negeri 122383 Pematang Siantar. This type of research applies quantitative by using the experimental method (Pre-experimental) with a one group pretest-posttest design held at UPTD SD Negeri 122383 Pematang Siantar This research was given to fourth-grade students with a population and sample of 29 students. The research instrument was in the form of multiple-choice test. Data processing utilized the assistance of Microsoft Excel and IBM SPSS Statistic 26 application programs. The pretest results were 55.172 and the posttest results were 86.206. Referring to the results of the research analysis, the t-test results obtained with a t-count value  $>$  t-table or  $17.797 > 2.048$  and a significance level (2-tailed)  $< 0.05$ . This shows that the significant value (2-tailed) =  $0.000 < 0.05$  which means  $H_0$  is rejected and  $H_a$  is accepted. So it can be concluded that there is an influence of audio-visual media on science learning outcomes in fourth-grade students at the UPTD SD Negeri 122383 Pematang Siantar. Statistical analysis shows a strong correlation ( $r=0.779$ ) with the contribution of audio-visual media as seen from the R Square of 60.7%. The regression equation  $Y=61.986+0.438X$  shows that every 1% increase in audio-visual media increases learning outcomes 0.438.*

*Keywords: audio-visual; media; learning outcomes; natural science (IPA)*

## INTRODUCTION

An organized action to expand the potential of a superior individual can be obtained by education. The statement is relevant to the content of Law of the Republic of Indonesia No. 20 of 2003 Article 1 Paragraph 1 that: "Education is an activity design to develop the potential of individuals through the realization of active, creative, innovative learning conditions and processes that are active, creative, innovative, according to norms, able to control themselves, have noble character, and are beneficial to themselves, family, nation and state".

The form of activity in carrying out the educational mechanism at the school level is learning activities carried out by educators and students. This process must be carried out constantly and consistently in order to obtain optimal educational goals. The implementation of education is divided into 3 (three) types, namely formal, non-formal, and informal education. The aspects that want to be changed in the educational process in schools are related to aspects of thoughts, attitudes and feelings.

Internally, a learning strategy is a series of teaching activities that contain knowledge, potential, attitudes and values that are in line with the main goal. The implementation of education is assisted by the fulfillment and improvement of the quality of facilities and infrastructure. The completeness of facilities, tools and materials supports the rapid achievement of educational goals, especially natural science (IPA) learning. The field of study that needs to be studied at the elementary school level is Natural Sciences (IPA). However, there is still a lot of understanding crisis at the elementary school level, especially in the strategic aspect. Science subjects emphasize on strategies for understanding the universe in an actual, systematic and scientific manner.

Marudut et al. (in Syafira, 2020:28) said that Natural Sciences (IPA) is a learning concept that explains the conditions of the environment and the universe directly. Where, educators are required to be able to create and build interactive, participatory, comfortable and safe learning conditions during the learning process. It is expected that educators will apply the right learning methods or approaches that are tailored to the needs of students in order to be able to build interactive learning to achieve educational targets.

Understanding and deepening of material about natural sciences must be carried out thoroughly. This is able to form students' activeness and understanding regarding the importance of taking care of the environment properly. Students who master learning materials well will be able to maintain the environment well. However, the science learning provided by educators seems monotonous and difficult to understand because it focuses too much on memorizing the material. A step in creating flexible learning is to choose the right and appropriate media. The use of audio-visual media is able to produce creative teaching materials in order to realize maximum learning goals.

The problem that we often see in the world of education is related to the problem of quality of education. This is evidenced by the low level of technological development and activeness between educators and students in the learning process. Where, learning activities are more oriented to traditional methods, namely lecture methods and the use of media that are not technology-based. The means used by educators are considered less attractive to students because they are in the form of pictures only. Thus, learning strategies are considered less effective, inefficient and unsatisfactory. Therefore, educators feel it is important to implement the use of creative learning media to improve the learning process. Where, educators are required to be more creative and active in making media. This is useful for focusing your mind and attention fully in order to achieve brilliant learning achievements.

Then, Melinda, A (2024:1-2) argues that the media is a supporter of the success of the learning process so that it is more meaningful and has a real impact on adding and understanding learning materials. The use of media in the learning process has several functions for subjects, namely creating safe and comfortable learning conditions and spaces. The implementation of media is able to realize maximum learning targets. The use of learning media is in the form of video media.

The use of video media is considered effective compared to other means. As stated by Ahdar (in Yossinta et al., 2022:23) that audio-visual media is an aid that utilizes the senses of hearing and sight. Audio-visual media contains groups of moving images and sounds. Audio-visual media presents the material concisely, generates high motivation, and creates a learning strategy that is fun or not monotonous.

The final goal of learning activities is called learning outcomes. Where, Fitriah Mujahidah (in Lathifa et al., 2023) revealed that learning outcomes are a transition in students' attitudes and behaviors after obtaining subject matter related to affective, cognitive, and psychomotor aspects.

Sourced from this opinion, learning outcomes are related to the achievement of students in the learning process.

Then, Sudhana (in Sulastri et al., 2022) assumes that learning outcomes are driven by two important factors that are sourced internally and externally. Factors that arise from within are related to changes in students' attitudes and behaviors. Meanwhile, external factors are related to the main environmental conditions. Achievement in learning is driven by the potential and quality of teaching. Teaching quality is related to the skilled attitude of educators in providing teaching with abilities in the fields of attitude, intellect and behavior. Therefore, the purpose of learning outcomes is determined by achievement and grades in a subject.

Referring to a number of these assumptions, the definition of learning outcomes is an achievement of the transition from negative attitudes to positive attitudes obtained by students during the learning process. These changes are marked by a positive shift in attitudes, knowledge and potential with presentations in the form of certain numbers and symbols.

This aroused the enthusiasm of researchers to make observations at the UPTD SD Negeri 122383. Where, the researcher found that there were students who were less interested in participating in science learning activities. This phenomenon is caused by the state of the classroom and facilities that are considered inadequate. This is supported by the discovery of grades of grade IV students who did not reach the Minimum Completeness Criteria (KKM). The standard KKM score in Natural Sciences (IPA) learning is 70. Where, out of 29 students in one class, only 9 students completed the KKM score and 20 students did not meet the KKM score.

The phenomenon is caused by a learning experience that is not comprehensive and does not focus on achieving core competency standards. Where, students only learn at a low cognitive level, so many students are less inclined to think independently. Low achievement levels and lack of student activity have a negative impact on the achievement of overall learning outcomes.

The researcher assumes that less than optimal learning outcomes are caused by low student performance in learning activities. Where, the use of learning media is not implemented by educators appropriately and optimally. As a result, learning strategies become less interesting, monotonous and less memorable for students. The efforts carried out to improve student achievement are the implementation of creative and innovative learning media in the form of audio-visual media. The media is considered capable of improving student achievement superiorly. Because, the implementation of media requires students to be more participatory, highly reasonable, independent and fully concentrate on the learning material.

## **RESEARCH METHODS**

### **Types of Research**

UPTD SD Negeri 122383 Pematang Siantar was chosen as the place to conduct the research. In which, the assessment applied quantitative research of experimental methods (pre-experimental) with the support of Design One Group Pretest-Posttest. Sugiyono (2022:7) states that quantitative research is a technique guided by the philosophy of positivism, which is useful for studying certain populations and samples. Then, the method in determining the sample was applied randomly. The research utilizes the deployment of instruments to obtain important data and information. The data analysis process aims to measure provisional information.

The researcher will analyze 1 group called the experimental class. Then, the group will be distributed a pretest measuring tool to find out the initial condition before providing treatment. Then, the researcher will give treatment to the group. Furthermore, the researcher will provide a posttest to find out the learning outcomes or students' ability to apply treatment.

### **Research Design**

The assessment emphasizes pre-experimental with a one-group pretest-posttest design. Pre-experimental is an experimental research by looking for the relationship between independent variables and bound variables. Meanwhile, the One Group Pretest-Posttest design is one of the research designs by examining the initial and final conditions of treatment (Sugiyono, 2019:74). The research design took one class which would be an experimental class without a comparative group with the title "The Influence of Audio Visual Media of Grade IV Students on Science Learning at UPTD SD Negeri 122383 Pematang Siantar".

Pretest instruments (initial tests) were deployed before the application of audio-visual learning media, while posttest instruments (final tests) were deployed after the implementation of audio-visual learning media.

### Data Analysis Techniques

Sugiyono (2019:207) stated that the data analysis technique uses quantitative research analysis. Where, this analysis collects data based on certain types and variables. Then, the data will be tabulated in the form of a table. The data calculation process is useful for answering problem formulations and testing hypotheses beforehand.

#### Descriptive Analysis

The analysis of studies is included in descriptive statistical techniques. Where, the technique is related to how to summarize and describe the characteristics of a set of data in a structured manner. In descriptive statistics, various mean, median and mode measures are used to indicate the median value of the data, while spread measures such as standard range and deviation are used to measure the variation contained in the data. The purpose of the data analysis method is to describe the analytical potential of students, especially the achievements of science subjects.

#### Normality Test

A form of measurement that is useful for examining the level of distribution in normal and abnormal ways is called the normality test. This assessment process applies a formula normality test Kolmogorov-Smirnov and Shapiro-Wilk with IBM SPSS program for windows 26.

The following are the standard provisions that apply, namely:

The acquisition of a significant value  $> 0.05$  indicates that the data is distributed normally. Meanwhile, a significant value of  $< 0.05$  indicates that the data is abnormally distributed.

#### Homogeneity Test

The process of measuring scores to assess the level of homogeneous and non-homogeneous data is called the homogeneity test. The test applies the test Living with IBM SPSS program Statistic windows 26.

#### Uji Hypothesis T-test

The research process applies the t-test in measuring hypothesis tests. The t-test is useful for studying changes in scores Pre-test and post-test in the study of data. The purpose of this study is to answer whether or not there is an impact of the use of audio-visual media on the development of students' learning achievement in the field of science study. Researchers take advantage of the program's assistance Microsoft Excel 2021 to make it easier to manage and analyze data statistically. Applying t-test paired sample t-test. This is due to the research using the same sample. Where, the research sample only amounted to 29 students and no more than 30 students.

## RESULTS AND DISCUSSION

### Research Data Analysis

After conducting a study at UPTD SD Negeri 122383 Pematang Siantar, the results of teaching actions in experimental classes with the use of audio-visual media were obtained. The scores obtained will be presented in the table below:

**Table 1. Pre-Test and Post-Test Score Data for Class IV**

Information	Value Results	
	Pre-test	Post-test
Number of Students	29	29
Average	55,17	86,20
Maximum Value	75	100
Minumum Value	25	70

Based on the table presented in the experimental group above, the score Pre-test highest is worth 75 and scores post-test is worth 100. Then, the score pre-test lowest is worth 25 and scores post-test the lowest is worth 70. In addition, the average pre-test total of 55.17 and average post-test a total of 86.20.

#### Descriptive Analysis

In analyzing the data, the researcher applied two parts of the test pre-test and post-test. Where, the comparison of the total scores before and after will be described with the following information:

**Table 2. Descriptive Analysis**

Pre-test scores		Post-test scores	
Mean	55,17	Mean	86,20
Standard Error	2,63	Standard Error	1,48
Median	55	Median	85
Mode	55	Mode	90
Standard Deviation	14,17	Standard Deviation	7,97
Sample Variance	200,86	Sample variance	63,66
Kurtosis	0,04	Kurtosis	-0,47
Skewness	-0,22	Skewness	-0,48
Range	60	Range	30
Minimum	25	Minimum	70
Maximum	75	Maximum	100
Sum	1600	Sum	2500
Count	29	Count	29

The data shows the results of descriptive statistical analysis for the group pre-test (before treatment) and post-test (after treatment). Where, the average score acquisition pre-test of 55.17 with a standard deviation of 14.17 which shows that there is a considerable variation in results. Meanwhile, the findings of the average score post-test increased significantly to 86.20 with a lower standard deviation of 7.97. Median value acquisition for pre-test a total of 55 and post-test A total of 85. This proves that there is a result post-test with a score above 85. Then, the mode value proves an increase from a score of 55 to 90 points. This proves that the value of 90 is the most often appearing after using audio-visual media. The analysis also includes a spread size such as a range indicating that pre-test has a value range of 60 (from 25 to 85), while post-test has a narrower range, which is 30 (from 70 to 100). Overall, this data shows the development of students' attitudes and behaviors after the treatment (audio visual media).

**Normality Test**

The normality test applies the Shapiro-wilk formula in examining the distribution of variables whether they are classified as normal or abnormal. Where, datasets with a significance of > 0.05 are classified as normal and abnormal with a standard significance of < 0.05.

Be This is the result of the normality test of each variable with the IBM SPSS application Statistics 26, namely:

**Table 3. Normality Test Results**

Result Learn	Tests of Normality			Shapiro-Wilk		
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Itself.	Statistic	df	Itself.
Pre-Test Results	.116	29	.200*	.971	29	.582
Post-Test Results	.165	29	.041	.934	29	.068

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Previous results prove that the sig pre-test in grade IV students using Shapiro-Wilk is 0.582 and the score is 0.582 and the score sig post-test in grade IV students amounted to 0.068. Data acquisition pre-test and post-test Students in grade IV have a sig assessment criterion of > 0.05. Thus, the assumption of the data is declared normal.

**Homogeneity Test**

The results will be displayed in the table below:

**Table 4. Data Homogeneity Test Results**

Test of Homogeneity of Variances					
	Levene Statistic	df1	df2	Itself.	
Learning Outcomes	Based on Mean	3.044	1	27	.087
	Based on Median	3.000	1	27	.089
	Based on Median and with adjusted df	3.000	1	26,312	.090
	Based on trimmed mean	3.032	1	27	.087

Based on the results of the homogeneity test calculation by utilizing the SPSS application program Statistics 26 that the significant value is  $0.087 > 0.05$ . This means that the acquisition of research data is homogeneous

**Hypothesis Test**

Ho : there is no effect of the use of audio visual media on improving the learning outcomes of grade IV students of SD Negeri 122383 Pematang Siantar

Has : There is an influence of the use of audio-visual media on improving the learning outcomes of grade IV students of SD Negeri 122383 Pematang Siantar

The hypothesis test (t-test) has the main target in examining the impact of the implementation of audio visual media for the development of learning achievement of grade IV students of SD Negeri 122383 Pematang Siantar with the following results:

**Table 5. Hypothesis Test Results**

	Posttest value	Nilai pretest
Mean	86,20	55,17
Variance	63,66995	200,8621
Observations	29	29
Pearson Correlation	0,779724	
Hypothesized Mean Difference	0	
df	28	
t Stat	17,797	
P(T<=t) one-tail	0,000	
t Critical one-tail	1,701	
P(T<=t) two-tail	0,000	
t Critical two-tail	2,048	

Guided by the results of descriptive statistical tests through the application of tests paired sample t-test That the T-Count score amounted to 17,797 and the T-Table score amounted to 2,048. Where, P-value tailed very small with a standard of  $0.00 < 0.05$ . The exposure proves the existence of results before and after the administration of treatment (audio-visual media). The average score increased by 31.03 points after treatment. The results of the comparison stated that Ha was accepted, which means that audio visual media has a positive impact on the development of science learning achievement in grade IV of SD Negeri 122383 Pematang Siantar.

**Simple Linear Regression Analysis**

**Correlation Test**

The following are the results of the correlation test, to see how strong the relationship between the two variables is

**Table 6. Correlation Test Results**

	And	X
And	1	
X	0,779	1

In the calculation results, the value of the correlation coefficient obtained was 0.779. According to the R Square interpretation table, this proves that the relationship between audio-visual media and results is in the strong category, as the value is in the range of 0.60-0.799.

**Determination Test (R Square)**

The determination coefficient (*R Square*) aims to determine the extent of the ability of independent variables to dependent variables. The following are the results of the determination test (*R Square*).

**Table 7. Determination Test (R Square)**

<i>Regression Statistics</i>	
Multiple R	0,779
R Square	0,607
Adjusted R Square	0,593
Standard Error	9,036
Observations	29

Based on the results of the calculation of the summary model determination test above the R Square value of 0.607 or 60.7%, this shows that by using the regression model, where the independent variable (audio-visual learning media) has a significant influence on the dependent variable (student learning outcomes) by 60.7%.

**Simple Linear Regression Test**

The results will be displayed in the table below:

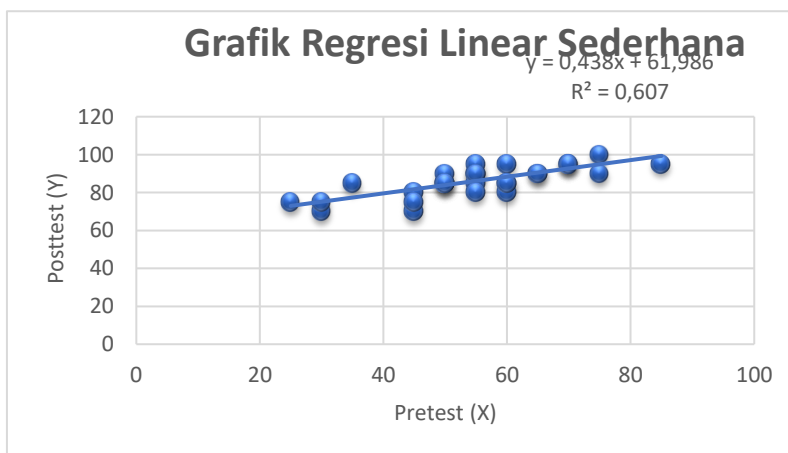
**Table 4.11 Linear Regression Test**

D	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	61,986	3,860382	16,05709	0,000	54,06566	69,90736	54,06566	69,90736
X	0,438	0,067842	6,470868	0,000	0,299795	0,578194	0,299795	0,578194

It is known that the value of constant (a) is 61.986, while the value of science learning outcomes (bx/regression coefficient) is 0.438, so the regression equation is:

$$Y = a + bX$$

$$Y = 61.986 + 0.438 X$$



**Figure 1. Simple Linear Regression Graph**

A simple linear regression graph shows the relationship between the pretest (X) and posttest (Y) variables. The data points represent the pretest and posttest scores of each individual, while the straight lines show the linear regression lines that describe the relationships between variables.

A simple linear regression equation is  $Y = 61.986 + 0.438 X$ . The regression coefficient with a value of 0.438 shows that for every 1% increase in the pretest value and the posttest value is expected

to increase by 0.438 units, this identifies a positive relationship between the pretest and the posttest. The constant is 61.986 which means that the consistency value of the audio visual media variable is 61.986. The determination test value of 0.607 indicates that there is about 60.7% variation in the posttest score.

### **Research Discussion**

The research was held directly in grade IV at UPTD SD Negeri 123383 Pematang Siantar. The assessment process went well and followed the procedure systematically. This is shown by the activeness and participation of the students. Audio-visual media with the topic "Change in the Existence of Things" was applied to grade IV students.

The purpose of this study is to find out how much influence audio visual media has on material about changes in the shape of objects in grade IV students of SD Negeri 122383 Pematangsiantar. This research was carried out in only one class, namely grade IV students of SD Negeri 122383 Pematangsiantar. Before conducting the research, the researcher made instruments and made observations.

This research was conducted using pre-experimental With design one group pre-test and post-test given to students of class IV. The distribution of the instrument in the form of a multiple-choice test of 20 questions with an assessment system where, a score of 5 will be given to the correct answer and a value of 0 to the wrong answer. Where the pre-test researcher only gives a question sheet and students are asked to answer without using audio-visual media, in the post-test test students are asked to fill out the question sheet after using audio-visual media and after completion the student is asked to come forward to explain about the change in the shape of the object.

At the beginning of the study, the researcher conducted a pre-test to determine the initial ability of students at UPTD SD Negeri 122383 Pematangsiantar. Based on pre-test data, the average score of students is 55.17. After that, the researcher used audio-visual media to help students learn science in grade IV.

After greeting everyone, check who was present, sing the national anthem, convey the learning objectives, and give motivation. As motivators and educators, teachers must be more innovative and attract students' attention to learn. After that, teachers began to use audio-visual media as a learning medium. Furthermore, the purpose of learning aids or learning media is to achieve broader and useful learning outcomes.

Learning media is a communication tool from teachers to students in a series of attitude development known as learning media. These tools are useful as a tool to convey important messages and information related to the learning materials provided. Angely et al. (2023) argues that learning media is a bridge in conveying messages or information related to education in schools.

Audio-visual media is considered effective in increasing students' enthusiasm and willingness to learn. Where, the presentation of videos is able to maximize the optimal function of the senses of sight and hearing so that students better understand the topic of learning in depth. Pagarra et al. (2022) Audio-visual media is a means of learning with additional audio and visual at the same time. Illustration presentation can be in the form of specific text and dialogue, while audio presentation can be in the form of sound effects or certain music. The use of audio elements emphasizes the ease for students to receive information by maximizing the functions of the senses of hearing and sight. Thus, audio-visual learning is concerned with the use of certain sounds and visuals to present material in an interesting way.

After using audio-visual media in the learning process, the researcher provides a post-test. The average score obtained by students during the post-test was 86.20. These results resulted in an increase in the pre-test score (before the application of treatment) of 55.17 and the post-test score (after the application of treatment) of 86.20.

If all the initial test data and final test data are obtained, the researcher can conduct a normality test and a hypothesis test (t-test). This data test is carried out using the SPSS program. The results of the calculation of the data normality test carried out with the SPSS program show that the data in this study is distributed normally. This is in accordance with the provision that the data in this study is normally distributed if  $p < 0.05$ . In this study, the pre-test sig value was 0.582 and the post-test sig value of 0.068 was greater than 0.05 respectively, which means that the two data are normally distributed.

While the acquisition hypothesis test (T-test) with t-test (Paired Sample t-Test). This hypothesis test using Microsoft Excel shows that the acquisition of a t-count score of 17,797 with a significance

of 0.000 or a T-score  $>$  T-table ( $17,797 > 2,048$ ), then  $H_0$  was rejected and  $H_a$  was accepted. There is an increase in the value Pre-test and the value post-test with the following calculations:  $86.20 - 55.17 = 31.03$  (56%). So, there is a positive influence of the application of audio-visual media on the improvement of science learning achievement in grade IV students at UPTD SD Negeri 122383 Pematang Siantar.

The regression equation resulting from the data analysis is  $Y = 61.986 + 0.438 X$  describing the relationship between independent variables (audio-visual media) and dependent variables (learning outcomes). A constant of 61.986 indicates the consistency level of the audio-visual media variable, a determination coexistence of 0.607 indicates that there is about 60.7% variation in the posttest score. Meanwhile, the regression coefficient of 0.438 states that every 1% increase in the use of audio-visual media will increase student learning outcomes by 0.438. The significance value of  $0.000 < 0.05$  also proves that audio-visual media has a positive effect on science learning outcomes. This means that the more often this method is applied, the better the learning outcomes achieved by students,

Sourced from the presentation of these phenomena, data and facts, it is concluded that the teaching process with audio-visual media is able to develop learning achievements, especially science subjects. Where, this treatment is useful for training and creating students' self-readiness when they face challenges in the future.

## CONCLUSIONS

The implementation of the research was directly applied to grade IV students at the UPTD SD Negeri 122383 Pematang Siantar. The average score of students before the application of treatment was 55.17 and increased by 86.20 after treatment (audio-visual media). The t-calculation results were 17,797 and t-table was 2,048 with a significant level of 5%. The provision in decision-making if the value of t-is calculated  $>$  t-table, then  $H_a$  is accepted. Conversely, if the value of t-calculates  $<$  t-table, then  $H_0$  is rejected. The acquisition of t-calculated values  $>$  t-table or ( $17.797 > 2,048$ ) with a significance level of 0.05 ( $0.000 < 0.05$ ). This means that  $H_a$  is accepted or students get an increase in learning outcomes. Thus, it can be concluded that there is an influence of audio visual media on improving student learning outcomes in grade IV science subjects at UPTD SD Negeri 122383 Pematang Siantar. The correlation coefficient was strong with a value of 0.779 which proved the close relationship between the application of audio-visual media and learning outcomes, while the determination coefficient (R Square) of 60.7% proved that audio-visual media contributed greatly to improving learning outcomes. The regression equation  $Y = 61.986 + 0.438 X$  confirms that every 1% increase in the application of audio-visual media consistently increases student learning outcomes by 0.438.

## BIBLIOGRAPHY

- Akrim. (2021). Strategies to Increase Students' Learning Interest Learning PAI Molds Students' Character. Yogyakarta: Pustaka Ilmu Publisher.
- Althafunisa, M. (2024). The Influence of Audio Visual Learning Media on Elementary School Students' Learning Outcomes. *Journal of Bina Mutiara Sukabumi Education*, 1-2.
- Angreiny, D, et al. (2020). The Effect of the Use of Audio Visual Media on the Motivation and Learning Outcomes of Science Class V of Bontoramba State Elementary School. *Journal of Education*, 4(1).
- Arifannisa, et al. (2023). Sources and Development of Learning Media. Jambi: PT Sonpedia Publishing Indonesia.
- Arikunto. (2018). Fundamentals of Educational Evaluation . Jakarta: PT Bumi Aksara.
- Fadhli, M. (2020). Learning Variables (Concept Compilation). Medan: CV Pusdikra Mitra Jaya.
- Ginantia, R, et al. (2023). The Influence of PBL Model Assisted by Audio Visual Media on Student Learning Outcomes in Elementary Science Learning. *Journal of Basic Education Research*, 6 (3), 416.
- Gunawan, & Asnil Aidah Ritongah. (2019). Industry-Based Learning Media 4.0. Medan: Raja Grafindo Persada.
- Gustina. (2022). The Application of the Resume Group Method Through Documentary Film Media to Improve History Learning Activities and Outcomes. *Journal of Education*, 5 (1), 1501.
- Hasan, M, et al. (2021). Learning Media . Klaten: Tahta Media Group.

- Hastutik, I, P., & Setyawati, R. D. (2024). The effectiveness of the use of audio-visual media in Indonesian learning in grade II of SD Negeri Sawah Besar 01 Semarang. *Journal of Multidisciplinary Research*, 3(2) 5653-5660.
- Intaniasari, Y, et al. (2024). Fostering Enthusiasm for Learning Through Audio Visual Media in Elementary School Students. *Journal of Learning Tool Development Bulletin*, 4 (1), 23.
- Kurniawati, W, et al. (2023). *Science Learning in Elementary School*. Yogyakarta : Press.
- London, T, K. (2023). *Elementary School Natural Science Material Development and Learning*. Surakarta : Tahta Media Group.
- Nabillah, T, Agung, P, A. (2020). Factors Causing Low Student Learning Outcomes. *Journal of Psychology*, 660.
- Nasaruddin, et al. (2022). The Use of Audio Visual Media to Improve the Learning Outcomes of Grade V Students at SDN No.69 Galesong 1 Takalar. *Journal Of Education*, 2 (1), 7.
- Nupus, H, et al. (2021). The Influence of Audio-Visual Media Guided Inquiry Model on Elementary School Students' Conceptual Understanding Ability. *Journal of Education*, 5 (2), 344.
- Pagarra, H, et al. (2022). *Learning Media* . Makkasar : UNM Publishing Board.
- Ramli, M. 2012. *Media and Learning Technology*. Banjarmasin.IAIN Antasari Press.
- Shoffa, S, et al. (2023). *Learning media*. West Sumatra: CV Afasa Pustaka.
- Sihombing, J, R. (2021). Power Point Learning Media: Efforts to Improve Learning Outcomes of Creative and Entrepreneurial Products. *Journal Of Community Empowerment*, 2 (2), 4.
- Simarmata, J, et al. (2022). *Multimedia-Based* . Pematang Siantar: Yayasan Kita Writes. Siswanto, M, A & Susanto, R. (2022). The Effect of the Use of Audio-Visual Media on Science Learning Outcomes in Elementary Schools. *Indonesian Journal of Action Research*, 7(3).
- Siregar, Z, Mukhlis, M., & Asnidar, A. (2024). The Use of Audio Visual Media to Increase Students' Learning Interest. *Journal of Professional Education*, 1(1), 91-98.
- Sudirman, Burhanuddin, Fitriani. (2024). *Theories of Learning and Learning*. Central Java: Pena Persada Kerta Utama.
- Sugiyono. (2019). *Quantitative, Qualitative, and R&D Education Research Methods*. Bandung: Alfabeta.
- Sugiyono. (2022). *Quantitative, Qualitative, and R&D Research Methods*.
- Suhelayanti, et al. (2023). *Natural and Social Sciences (IPAS) Learning*. Langsa: Yayasan Kita Write.
- Sulastri, A, et al. (2022). Improving student learning outcomes in natural science learning by using image media. *Journal of Education*, 2 (1), 3.
- Syafira, L, B. (2022). The Effect of the Problem Based Learning (PBL) Learning Model Assisted by Audio Visual Media on the Learning Achievement of Science Class V Elementary School. *Journal of Elementary Schools*, 2 (1), 28.
- Syarifuddin, & Eka Dwi Utari. (2022). *Learning Media (From the Conventional Era to the Digital Age)*. Palembang: Clear.
- Wahab, G, Rosnawati. (2021). *Theories of Learning and Learning*. Indramayu: CV Adanu Abimata.
- Wirda, Y. (2020). *Determinants of Student Learning Outcomes*. Jakarta: Policy Research Center, Research and Development Agency and Bookkeeping of the Ministry of Education and Culture.
- Yusnarti, M, & et al. (2022). The Influence of Audio Visual Learning Media on Science Learning Outcomes in Grade V Elementary School Students. *Journal of Research and Community Service in the Field of Education*, 3(3).