The Influence of Using Diorama Learning Media on Human Needs Material on the Learning Outcomes of Grade IV Students

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Abstract— Quality education must be supported by the use of appropriate learning media. However, there are several problems in the learning process, namely the lack of use of learning media during the learning process which causes low student learning outcomes. This study aims to determine the effect of the use of diorama learning media on human needs material on the learning outcomes of class IV students. The research method used is quantitative with a quasi-experimental approach. The research sample consisted of 36 students who were divided into experimental and control classes. The research instrument was in the form of learning outcome test questions. Data were collected through pretest and posttest. Data analysis techniques were carried out through normality, homogeneity and hypothesis testing using SPSS version 25. Hypothesis testing used independent sample t-test to see the differences in learning outcomes of the two groups. The average value in the control class was 60.56 and in the experimental class was 82.22 with a difference of 21.66. Based on the results of the t-test, the significance value (2-tailed) of 0.000 <0.05 indicates that the use of diorama learning media on human needs material has an effect on student learning outcomes.

Keywords— Media, Diorama, Learning Outcomes, Social Studies, Human Needs

INTRODUCTION

Education is a process of acquiring learning knowledge that occurs throughout life in all places and situations that have a positive influence on the growth of every living thing (Pristiwanti et al. 2022). Learning is an activity carried out by a person to achieve new behavioral changes as a whole as a result of individual experience and relationships with the environment (Sapitri et al. 2021). Social Sciences (IPS) is an integration of a number of social sciences for educational and pursuit purposes (Putri et al. 2023). Learning can be maximized by utilizing learning media to encourage student motivation and attract student interest during learning activities (Yunanto et al. 2022). Learning media is one of the important components in achieving success in the learning process (Wardoyo et al. 2022). Putra and Suriarsih (2021) said that education can help educators in conveying learning materials and information to students by using tools in the form of learning media to improve student learning outcomes. Learning outcomes are something that is obtained and gained by someone when that person has learned and will experience changes in behavior, knowledge by achieving the set educational goals both in terms of cognitive, affective and psychomotor (Afiyahni in Samosir 2022).

Based on the results of interviews conducted by researchers at SDN Wonokitri, there were several obstacles faced, including the lack of use of learning media during the learning process, which resulted in low student learning outcomes which can be seen from the lack of understanding of the concepts that have been taught, incomplete KKM, scores less than 70 and learning objectives not achieved. To overcome this problem, an aid is needed in the learning stage in the form of diorama learning media. A diorama is a form of mini three-dimensional imitation that aims to provide an overview of a real atmosphere or situation (Sujana et al. 2022). Diorama Learning Media is a media that depicts or plays an event in the form of still and three-dimensional media that is small in size (Maulana et al. 2022).

To support and strengthen the basis of this research, the researcher reviewed several previous research results that were relevant to the topic raised. Research conducted by (Safitri & Mujiatun 2022) which showed that there was an increase in the use of diorama media on social studies learning outcomes, the theme of the area where I live, the material of economic activities and types of jobs that produce goods and services for grade IV students of SDN 193 Pekanbaru. Research conducted by (Sintia Mila et al. 2022) which showed that there was an influence of the use of diorama media on learning outcomes in social studies learning at SDN 21 Rambutan which was indicated by students understanding the material better which could be seen from the test scores given. Research conducted by (Hidayati et al. 2017) obtained results that there was an influence of the use of diorama learning media on student learning outcomes in activity material which could be seen from the difference in test results in the experimental class using diorama media and in the control class where learning was carried out conventionally.

Based on the findings of previous studies, further studies are still needed regarding the use of diorama learning media, especially on the material of human needs and its influence on student learning outcomes in the cognitive aspect which can be seen from the test scores given. The novelty in this study lies in the use of media. This study provides benefits, such as being able to improve students' understanding of social studies subjects, foster motivation and active participation in the learning process. This study aims to determine the extent to which the use of diorama learning media influences the learning outcomes of grade IV students in social studies subjects. The focus of this study is directed specifically at the material of human needs. By using diorama media, students are expected to be able to more easily understand the concept of human needs through concrete visualization, so that it can improve students' understanding and learning outcomes.

METHOD

The research design used in this study is a quantitative approach. Quantitative is research that aims to test hypotheses (Dwi. 2019) The real experimental method is used in the evaluation to examine the possibility of a causal relationship. (Rustamana, et al., 2024). The type of design used is Nonequivalent Control Group Design, this design allows researchers not to select control and experimental groups randomly (Rahkma et al. 2024). Population is a scope consisting of individuals who have certain characteristics that are selected by researchers to be analyzed and then conclusions are drawn. Population is defined as all individuals, objects, or events that are the main subjects of investigation in a study. (Susanto et al., 2024). The population in this study were all Grade IV Students of SDN Wonokitri. The sample refers to a subdivision of the population selected for observation or research purposes. The use of samples allows researchers to make more efficient and cost- effective generalizations from the sample to the population. (Susanto et al. 2024). The sample in this study consisted of 36 students consisting of two classes, namely class IV-A and class IV-B. Class IV-A became the experimental class and class IV-B became the control class.

Data collection techniques in this study were multiple choice tests, observation and documentation. The instruments used in this study were multiple choice tests. The test was conducted at the beginning of learning to obtain pre-test data and at the end of learning to obtain post-test data. The learning outcomes obtained showed the learning outcomes of class IV-A and IV- B students on the material of human needs. Data analysis is the most decisive step in a study, because data analysis functions to collect research results. In this study, the SPSS Version 25 program was used. Data analysis in this study was carried out using a quantitative approach to examine and process the data collected, researchers collected data in the form of numbers, arranged them and then analyzed them. First, the normality test was used to determine whether the data obtained was normally distributed. The criteria for normally distributed data, if the value (sig.) > α with a value of α = 0.05, conversely the data was not normally distributed if the value (sig.) < α with a value of α = 0.05. Second, the homogeneity test was carried out to determine whether the data had homogeneous variance. The criteria for homogeneous variance data, if the significance value (sig.) > α with a value of α = 0.05. Conversely, non-homogeneous variance data, if the significance value (sig.) < α with a value of α = 0.05. Third, the hypothesis test is conducted to determine whether or not there is an influence of the use of diorama learning media on human needs material on the learning outcomes of Class IV students.

RESEARCH RESULTS

Validity Test

The validity test describes the extent to which the test results of a measuring instrument are correlated with future success (Farida and Musyarofah, 2021). The results of the item validity test are as follows:

Table 2 Instrument

Validity Test

Question Number	Amount	Category
1,2,10,11,14,16,17,20,23,25	10	Valid
3,4,5,6,7,8,9,12,13,15,18,19,2122,24	15	Invalid

Reliability Test

Reliability Test is a coefficient that shows the extent to which an instrument or measuring tool can be trusted, meaning that if an instrument test is used repeatedly to measure the same thing, the results are relatively stable or consistent (Farida et al. 2021). In

this study, reliability was calculated using the Cronbach Alpha formula with the help of the SPSS 25 program with the following results:

Table 3 Instrument
Reliability Test

Reliability Statistics

Cronbach's Alpha	N of Items
,559	26

Based on table 3, the Cronbachs Alpha result of 0.559 means that the reliable value is in the moderate category. Data Analysis Technique
Based on the pretest and posttest results from the experimental class and control class at SDN Wonokitri, the following data were obtained Prerequisite Test Results
The researcher will examine the data from the experimental class and control class. Before analyzing the data, a normality and homogeneity test was carried out first to determine whether the data obtained was normally distributed and homogeneous. The results of the prerequisite test analysis are as follows:
Normality Test
The normality test is a test conducted with the aim of assessing the distribution of data in a group of data or variables, whether the data distribution is normally distributed or not (Nurhaswinda et al.2025). The results of the data analysis are as follows:

Table 4
normality test

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	KELAS	Statistic	df	Sig.	Statistic	df	Sig.
HASIL	Pretest eksperimen	,158	18	,200*	,908	18	,080
	Posttest eksperimen	,196	18	,066	,908	18	,079
	Pretest Kontrol	,173	18	,164	,925	18	,155
	Posttest Kontrol	,214	18	,029	,926	18	,167

Based on table 4, the results of the normality test can be seen that the significance value is greater than α = 0.05, so it can be concluded that the data is normally distributed.
Homogeneity Test
The homogeneity test is carried out to determine whether the data in the experimental class and in the control class have homogeneous variance. The results of the homogeneity test in this study are as follows:

Table 5
Uji Homogenitas

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
HASIL	Based on Mean	2,525	3	68	,065
	Based on Median	2,159	3	68	,101
	Based on Median and with adjusted df	2,159	3	61,998	,102
	Based on trimmed mean	2,391	3	68	,076

Based on table 5, the results of the homogeneity test show that the significance results are greater than α = 0.05, so it can be concluded that the data is homogeneous.
Hypothesis Testing
After obtaining the results of the normality and homogeneity tests, the next step is to conduct a hypothesis test using the T- test formula with the following results:

Table 6 Group Statistics

Group Statistics

	KELAS	N	Mean	Std. Deviation	Std. Error Mean
HASIL	Posttest eksperimen	18	82,22	15,168	3,575
	Posttest Kontrol	18	60,56	14,337	3,379

Based on table 6, it can be seen that the average post-test score of students in the experimental class is greater than the average post-test score in the control class

Table 7 Hypothesis Testing

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
HASIL	Equal variances assumed	,026	,873	4,404	34	,000	21,667	4,919	11,669	31,664
	Equal variances not assumed			4,404	33,893	,000	21,667	4,919	11,668	31,665

Based on table 7, it can be seen that the sig.(2-tailed) value = 0.000, which indicates that the data is valid.

DISCUSSION

This research was conducted at SDN Wonokitri, located in Tosari District, Pasuruan Regency. This research was conducted on Monday, February 24, 2025 to Wednesday, February 26, 2025. The validity testing of the instrument was conducted at a different school, precisely at SDN Podokoyo II on Monday, February 10, 2025 on 11 fifth grade students with the results that there were 10 valid questions and 15 invalid questions. The valid questions are at numbers 1,2,10,11,14,16,17,20,23,25 and the invalid questions are at numbers 3,4,5,6,7,8,9,10,12,13,15,18,19,21,22. After conducting a validity test, the researcher conducted a reliability test on the question items with a Cronbach's Alpha result of 0.559, which means that the reliable value is in the moderate category (Fatimah & Nurul.2019). On February 24, 2025, researchers conducted research by giving pre-test questions to the experimental class and control class with the aim of knowing the initial conditions of students before being given treatment. Furthermore, on February 25, researchers conducted research in the experimental class where in this study the learning process used diorama media on human needs material. During the learning process, students in the experimental class were actively involved in using the media and students also actively asked and answered the questions given. After learning using diorama media, it was continued with working on post-test questions to see whether student learning outcomes had improved or not after being given treatment in the form of using diorama learning media on human needs material. Furthermore, on February 26, 2025, researchers conducted research in the control class to see a comparison of student learning outcomes. The normality test was carried out using the Shapiro Wilk method. Shapiro Wilk is a method used to test data normality, this test is very effective on small samples and measures the suitability of data to a normal distribution (Nurhaswinda et al. 2025). From the analysis results, the pre-test value for the experimental class was 0.080 > 0.05, the post-test value for the experimental class was 0.079 > 0.05, the pre-test value for the control class was 0.155 > 0.05 and the post-test value for the control class was 0.167 > 0.05, so the data was declared to be normally distributed.. After the data is declared normally distributed, it is continued with a data homogeneity test. The data homogeneity test is carried out to determine whether the level of data variance between the two groups, namely the experimental class and the control class of the study is the same or not in the homogeneity test (Rahkma et al. 2024. The results of the homogeneity test show a significance level of > 0.05, then it can be stated that the variance owned by the sample in question is not much different, then the sample is declared homogeneous (Nurhaswinda et al. 2025). After the normality and homogeneity tests were carried out, the

hypothesis test was continued to see if there was a comparison of learning outcome values in the experimental class and in the control class. To test the truth of the hypothesis, the researcher used the T-test formula with the results of the statistical group of the average post-test scores of students in the experimental class and the control class with an average post-test score in the experimental class of 82.22 and a post-test score in the control class of 60.56, where there was a comparison of the average score of 21.66. The post-test results showed that students in the experimental class had better learning outcomes after being given treatment in the form of diorama media than the learning outcomes of students in the control class. From the results of the T-test calculation, the researcher analyzed the data using SPSS version 25 with the results of the t-test sig (2 tailed) 0.000 <sig 0.05 which means Ha is accepted and H0 is rejected which reads "There is an effect of the use of diorama learning media on human needs material on the learning outcomes of class IV students". This is in line with research conducted by (Sintia et al.2022) showing the results of the hypothesis test (t-test) with the results of the T T-count calculation 2.1338> T-table 1.68195 which means the working hypothesis (Ha) is accepted.

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the results of data analysis, it can be concluded that the use of diorama learning media on human needs material has an effect on the learning outcomes of fourth grade students at SDN Wonokitri. This is proven through statistical calculations using SPSS version 25, which shows that the average posttest score of students in the experimental class is higher than the average score in the control class. The average learning outcomes of students in the experimental class reached 82.22, while in the control class only obtained 60.56, with a difference of 21.66. These results prove that the use of diorama learning media on human needs material can significantly improve student learning outcomes.

Suggestion

In the learning process, teachers should use dioramas or other media as a strategy to improve student learning outcomes.

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