

**THE EFFECT OF USING PAKRPATI MEDIA (SQUARE ROOT BOARD) ON STUDENT
LEARNING OUTCOMES IN LEARNING MATHEMATICS CLASS V SDN 03 ALAI
PADANG**

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ABSTRACT

This research is motivated by students who are less interested in learning mathematics, seen from the learning outcomes of students who are classified as low, as evidenced by 140 students, 23 students who complete the odd semester MID scores and 117 students who do not complete. This can be seen from the achievement of the KKM that has been set by the school, which is 80. The objectives in writing this thesis are (1) to find out the results of the Pre-Test of the fifth grade students of SDN 03 Alai by using the media of expert starch in the Mathematics subject (2) to find out the results of the Post-Test of the fifth graders of SDN 03 Alai using the media expert in Mathematics subjects (3) to find out the differences in students' mathematics learning outcomes using the media expert and without using the media expert for class V SDN 03 Alai. This type of research is a quasi-experimental (quasi-experimental) research design using a pretest posttest control group design. Data collection techniques using observation, tests and documentation. The data analysis technique used the "t" test with data processing using SPSS Version 28 and Ms. Excel.

The results showed that the average value of the experimental class mathematics learning outcomes increased from the pre-test score of 51,87 to the post-test of 90,93 while the average score of the control class's pre-test 43,42 to post-test was 51,31. Based on the hypothesis test with SPSS Version 28, it was obtained that there was a significant on both sides (2-tailed) of $= < 0.001$ with the basis of decision making if $\text{sig} < 0.05$ and $t_{\text{count}} > t_{\text{table}}$ then, H_a was accepted and H_o was rejected. So it can be concluded that $(0.001 < 0.05)$. This means that the learning outcomes of students who use expert media are higher than the learning outcomes of students who do not use expert media (conventional).

Keywords: Media Expert (Root Board Rank Three), 1 Learning Outcomes².

A INTRODUCTION

Mathematics is a universal science that underlies the development of modern technology. and has an important role in various disciplines, and advances human thinking. Mathematics is a form of human activity "(Mathematic as a human activity)". Mathematics as one of the subjects in school is considered to play a very rational, critical, careful, effective, and efficient role. therefore mathematics is needed both for everyday life and in dealing with science and technology so that mathematics needs to be supplied to every student since kindergarten.

Although there are many benefits to learning mathematics, the reality is that most mathematics is difficult to understand and is not of interest to students, many students are found to be less interested in learning a material because the learning material is boring. Until now, there are still many students who feel that learning math is difficult, unpleasant, and even a frightening specter for students. This is because there are still many students who have difficulty working on math problems. This is supported by ariesandi setyono's statement that math is something that can make the face pale, stomach ache or the body become trembling and cold sweat, math is considered as something scary. Therefore, to achieve optimal learning objectives and understand students in abstract mathematical concepts, the learning process requires assistance in presenting material in the form of concrete objects. Which objects can be said to be props or media.

Teaching aids (media) means intermediary or introduction. Teaching aids are needed for a teacher in delivering mathematics material because teaching aids have a very important role in determining the success of the teaching and learning process, besides that teaching aids can be used to attract students' attention in learning mathematics. With students seeing directly, learning will be more interesting so that the expected learning outcomes can be achieved.

Based on the results of observations made on July 12 October 16, 2021 regarding the learning process in the classroom and the learning outcomes of students in mathematics learning, based on the results of observations at SDN 03 Alai, one of the problems that arise is that there are still many student learning outcomes that are below the KKM set by the school, namely 80. One of them is in mathematics learning outcomes, one of which is in the square root material, this is because the conditions for implementing mathematics learning still use old concepts, namely the concept of factor trees and memorization, besides that odd semester fifth grade students consider square root learning material to be material that is considered quite difficult, especially in calculating multiplication and division, this situation certainly has an impact on student learning outcomes as seen in the following table.

Table 1.1 Math 1st Semester MID Score¹

No.	Class	Number of learners	Female	Male	Number who complete	Number of incomplete
1.	VA	28	12	16	4	24
2.	VB	28	11	17	4	24
3.	VC	28	13	15	5	23

¹ Guru Kelas V SDN 03 Alai Padang,

4.	VD	28	11	17	6	22
5	VE	28	12	16	4	24
Total		140	59	79	23	117

Source: Class teacher SDN 03 Alai

Based on the table above, it can be concluded that the odd semester MID scores of students are still low, as evidenced by most students scoring below the KKM set by the school, which is 80.

Efforts made to improve student learning outcomes are by choosing varied learning methods and using the right media. The media that can improve the learning outcomes of students on the square root material is pakarpati media (Square Root Board) because pakarpati media is one of the tools to concretize the square root withdrawal material. This Pakarpati props is used as a math learning media to help students understand the square root material more easily and fun.

Based on the background description above, the author is interested in pouring it into a thesis with the title ***"The Effect of Using Pakarpati Media (Square Root Board) on Student Learning Outcomes in Grade V Mathematics Learning SDN 03 Alai Padang"***.

B RESEARCH METHODS

1. Research Type and Design

This research uses a quantitative research approach with experimental methods in the form of Quasi Experiments. Quantitative research is one type of research whose specifications are systematic, planned and clearly structured from the beginning to the making of the research design, this research is also research that requires the use of numbers, starting from data collection, interpretation of the data, and the appearance of the results.²

The quasi-experimental method is an experimental method that does not allow researchers to fully control all relevant variables. Control is only carried out on one variable, namely the most dominant variable.³ The research design used was *Pretest-Posttes Control Group* design.

Table 3.1 Experimental Design Model Pretest- Posttes Control Group Desai

Group	Pre-test	Treatmen	Post-test
Eksperiment	O ¹	X ^e	O ²
Control	O ³	X ^c	O ⁴

Description:

O¹ : *Experimental group pretest*

O² : *Experimental group posttest*

² Sandu Siyoto dan Ali Sidik, *Dasar Metodologi Penelitian* (Jogjakarta: Literasi Media publishing, 2015), h. 17

³ Nana Syaodih Sukmadinata, *Metode Penelitian*, (Bandung: Raja Rosdakarya, 2010), h.59

O³ : *Control group pretest*

O⁴ : *Control group posttest*

X : *Treatment (Treatment using the multiliteracy)*

X^c : *Treatment (Treatment using the conventional).*

Population is a number of data that is of concern to research in a specified scope and time.⁴ The population in this study were all grade V students at SDN 03 Alai Padang..

Table 3.2 List of Student Population at SDN 03 Alai Padang

No.	Class	Gender		Number of learners
		Female	Male	
1.	VA	12	16	28
2.	VB	11	17	28
3.	VC	13	15	28
4.	VD	11	17	28
5.	VE	12	16	28
Total		59	79	140

According to Saharsimin Arikunto, the sample is part or representative of the population under study. In this study, the sampling technique used was non-probability sampling with purposive sampling technique. Purposive sampling is a data source sampling technique with certain considerations.⁵ The reason for using purposive sampling is because not all samples have criteria that match the phenomenon under study. Therefore, researchers choose Purposive sampling technique which determines certain considerations or criteria that must be met by the samples used in this study. In this study, the samples were two classes from all fifth grade classes at SDN 03 Alai Padang. Where class VA as the experimental class and VB as the control class, this consideration is seen in terms of the average value of grade V students at SDN 03 Alai where these two classes have an average that is not too far different.

Table 3.3 Research Class Samples

Class	Number of Students	Average
VA	28	64,61
VB	28	64,16

2.Data Collection Techniques and Instruments

⁴ Margono. *Metodologi Penelitian Pendidikan*, (Jakarta: Rineka Cipta, 2004), h.118

⁵ *Ibid.*, h. 85

a.Observation

Observation is a technique or way of collecting data by observing ongoing activities. With this research, observation data was obtained when researchers directly observed the process of teaching and learning activities in class V SDN 03 Alai. When researchers are in the classroom, researchers will directly observe attitudes, behavior, learning styles, cooperation, or other actions.

b.Documentation

Documents are written records of various activities or events in the past. This method is used to obtain data including: a brief history of the establishment of the school, school organizational structure, data on teachers, students, and school staff, school facilities and infrastructure. This technique is used to obtain data relating to the value of student learning outcomes in mathematics learning for class V students of SDN 03 Alai and this documentation is a support for the perfection used in collecting the data needed by researchers.

c.Test

A test is a series of questions or exercises or other tools used to measure skills, knowledge of intelligence, abilities or talents possessed by individuals or groups.⁶ The test data generated in the form of the average score of the *Pre-test* and *Post-test* of students' learning outcomes. The test was made in the form of multiple choice questions which were carried out before and after the treatment was given.

3.Instrument Testing Technique

a Validity

Validity is a measuring tool that shows the levels of validity or validity of an instrument. This validity test can use the Pearson *Product Moment* formula, then be tested using the *t test*, and finally see the interpretation of the correlation index. For Table T A = 0,05 Degree of Freedom (Dk = N-2). If $T_{hitung} > T_{tabel}$ means valid, and vice versa, $T_{hitung} > T_{tabel}$ means invalid. Then the correlation index (*r*) is:⁷

Table 3.4 Correlation Index *r*

Correlation Index <i>r</i>	Description
0,800 – 1,000	Very high
0,600 – 0,799	High
0,400 – 0,599	High enough
0,200 – 0,399	Low
0,000 – 0,199	Very low (Invalid)

⁶ Agung Widi Kurniawan dkk, *Metode Penelitian Kuantitatif*.(Yogyakarta: Pandiva Buku 2016), Cet.1.,h. 105

⁷ Aziz Alimul Hidayat, *Menyusun Instrumen Penelitian & Uji Validitas-Reliabilitas*, (Surabaya: Health Books Publishing, 2021), h. 12

In the trial conducted by researchers with many students, namely 14 people. Then consulted to the product moment “*r*” value table. So that the results are as follows:

a. significant level 5% (*r_t*)= 0,532

b. significant level 1% (*r_t*)= 0,661

If the value (*r_{pbi}*) of the correlation coefficient is greater (>) than the table value (*r*) = 0,532 for the 5% level, the result obtained is significant, meaning that the item is declared valid. If the value (*r_{pbi}*) of the correlation coefficient is smaller (<) than the table value (*r*) = 0,532 for the level obtained is non-significant, meaning that the item is declared invalid. See the table below:

Table 3.5 Validity of Problem Instruments

Problem Category	Question Number	Total
Valid	1,2,3,4,5,6,7,8,9,11,12,14,15,16, 17,18,19,20,22,25	20 Questions
Invalid	10,13,21,23,24	5 Questions

From table 3.7, invalid questions will not be used as *posttest* questions while valid questions are 20 questions that are used as *posttest* questions..

1. Reliability

The reliability of a test measure can be trusted to be used as a data collection tool. A test is said to have high reliability if the test can give the right results even though the time is different.

Table 3.6 Classification of Reliability Coefficients⁸

Correlation Coefficient	Interpretation
0,00-0,20	Almost no correlation
0,21-0,40	Low
0,41-0,60	Simply
0,61-0,80	High
0,81-1,00	Very high

In the trial conducted by researchers, the test reliability result was 0.860, which means that the test has a very high reliability.

2. Question difficulty index

⁸ Purwanto, *Evaluasi Hasil Belajar*, (Yogyakarta: Pustaka Belajar, 2010) , h.144

The index of the difficulty level of the question is an indicator that shows whether the question is an easy question, to find out the difficulty level of the question

Table 3.7 Classification of Level of Difficulty⁹

Coefficient of difficulty	Criteria for difficulty level
0,00-0,30	Difficult
0,31-0,71	Medium
0,71-1,00	Easy

The results of the interpretation search on the initial trial for the level of difficulty can be seen from the table below:

Table 3.8 Criteria for Level of Difficulty

Question Category	Question number	Total
Easy	1,4,18,19,21,22,23	7 Questions
Medium	2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,20,24,25	18 Questions
Difficult	-	-

Based on table 3.11 above, it can be seen that there are 7 questions categorized as easy, 18 categorized as medium and 0 categorized as difficult. From the level of difficulty of the questions, there are no difficult questions because the level of understanding of the questions is seen to be in the C1-C3 cognitive domain, namely, knowledge, comprehension and application.

3. Question discriminating power index

Question discriminating power is the ability of a question to distinguish between students who are good (high ability) and students who are less good (low ability).

1.) is in the fourth step.

Table 3.9 Classification of Differentiating Power¹⁰

Index number	Criteria
< 0,20	Low
0,20 - 0,40	Simply
0,40 - 0,70	Good
0,70- 1,00	Very good

⁹ Wahyudin, *Penelitian Pendidikan Matematika*, (Bandung: Refika Aditama,2006), h. 95

¹⁰ *Ibid.*, h.96

The results of the search for the interpretation of distinguishing power in the initial test can be seen in the table below:

Table 3.10 Interpretation Results of Question Distinguishing Power

Problem Category	Question Number	Total
Very Bad	10, 21, 23	3 Questions
Bad	1	1 Questions
Simply	1, 20, 24	3 Questions
Good	1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 22.	16 Questions
Very Good	7	1 Questions

In table 3.14 the results of the interpretation of the differentiating power of the questions are 24 questions categorized as bad, there are 0 questions categorized as moderate, 1 question is categorized as good and 0 is categorized as very good. From the results of the interpretation of the differentiating power of the question, there is no question that is very good because the level of understanding of the question is seen to be in the C1-C3 cognitive domain, namely, knowledge, comprehension and application.

4. Data Analysis Technique

a Data Normality Test

The normality test aims to see whether the two samples are normally distributed or not, to carry out this normality test it is assisted by using the IMB SPSS version 28 program.¹¹

Table 3.11
Normality Test Results Using IMB SPSS Version. 28

Group	Shapiro- Wilk		
	Statistics	df	Sig
Experiment Class	0,942	16	0,318
Control Class	0,915	19	0,092

¹¹ Suharsimi Arikunto, *Op.Cit.*, h. 333

From the data above, it is found that the sample class is normally distributed because the significant α is greater than 0.05, namely the experimental class, namely $0,381 > 0,05$ meaning that in two sides it is normal distribution data and the control class is $0,092 > 0,05$ meaning that in two sides it is normal distribution data. This means that both samples, namely the experimental and control classes, are normally distributed.

b Homogeneity Test

The purpose of this test is to determine whether the experimental group and control group come from the same population or not. The formula that is tested through the SPSS version 28 program can be used.

Table 3.12
Homogeneity Test Results Using IMB SPSS Version 28

Ngain		Statistics	df1	df2	Sig.
	Based On Mean	0,886	1	33	0,353
	Based On Medium	0,678	1	33	0,416
	Based On Median And With Adjusted df	0,678	1	31,630	0,416
	Based On Trimmed Mean	0,874	1	33	0,357

Based on the table above, it is obtained that the two class groups have the same variance or homogeneous, namely with a significant value *based on mean* $0,353 > 0,05$, *based on median* $0,416 > 0,05$, *based on median with adjusted df* $0,416 > 0,05$ dan *based on trimmed mean* $0,357 > 0,663$. In a two-sided test means the data is homogeneous. Based on the above results, it is concluded that the Post Test data of the experimental class and control class have normal and homogeneous data. So that the experimental group and control group come from the same population or the same variant.

c Hypothesis Test

Hypothesis testing aims to determine whether the research hypothesis is accepted or rejected. *Test-t* is used to determine a significant T_{tabel} . Hypothesis testing with the *t-test* was carried out with the help of the SPSS version 28 program. By averaging the experimental class scores and control class scores. Decision-making criteria if the sig value. (*2-tailed*) $< 0,05$ nd if $t_{\text{count}} > t_{\text{tabel}}$ then H_0 is rejected and H_a is accepted and vice versa.

C RESULTS AND DISCUSSION

Based on research that has been conducted in class V SDN 03 Alai in two sample classes, namely class VA as an experimental class with a total of 16 students using pakarpati

media while class VB as a control class with a total of 19 students. The learning outcomes of students in this study were obtained through research instruments in the form of objective question tests totaling 20 items.

Table 4.1
Test data on learning outcomes of the sample class after the pre-test

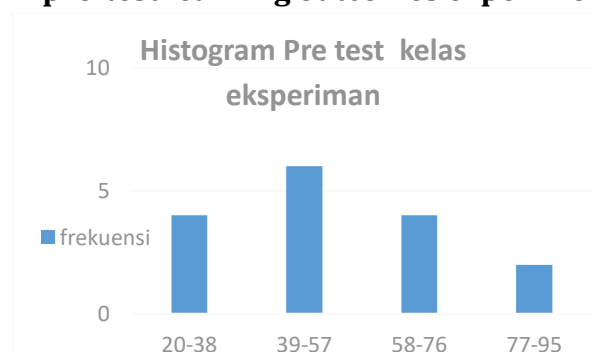
Class	Minimum	Maximum	Mean
Eksperiment	20	95	51,87
Control	25	75	43,42

1. An overview of the pretest learning outcomes of grade V students of SDN 03 Alai

a. Experimental class pretest data

The average pretest picture of the learning outcomes of the experimental class of mathematics class VA at SDN 03 Alai is in the sufficient category. To more easily compare the distribution, it can be depicted in the following histogram:

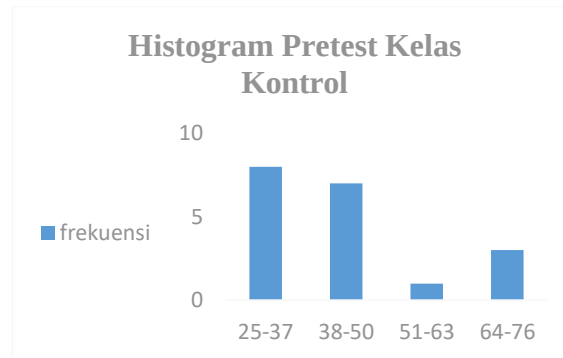
Chart 4.1
Histogram pre-test learning outcomes experimental class



b. Control class pretest data

The average pretest picture of the learning outcomes of the control class of mathematics class VB at SDN 03 Alai is in the insufficient category. To more easily compare the distribution, it can be depicted in the following histogram:

Chart 4.2
Histogram of Pre-test Learning Outcomes of Control Class



2. An overview of the post-test learning outcomes of grade V students of SDN 03 Alai

Data on the results of the student learning outcomes test in square root material is obtained after being given a posttest in the experimental class and control class with the same test questions. The number of posttest questions given amounted to 20 items consisting of objective questions. The results can be seen as follows:

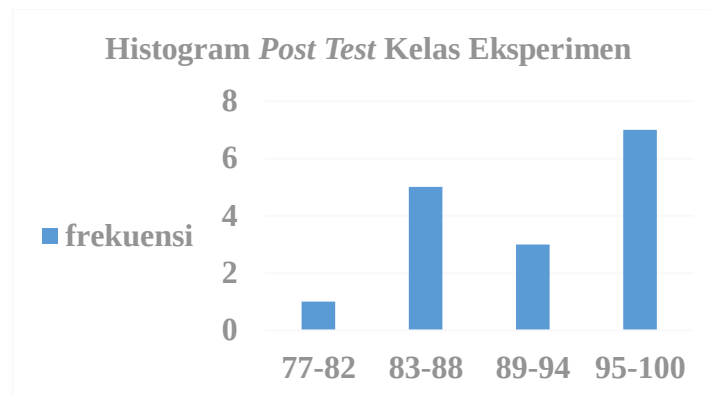
Table 4.4
Test Data of Learning Outcomes of Sample Classes after Posttest

Class	Minimum	Maximum	Mean
Eksperiment	80	100	90,93
Control	30	85	51,87

a. Experimental class posttest data

The average post-test picture of the experimental class of grade V math subjects at SDN 03 Alai is in the high category. To more easily compare the distribution, it can be depicted in the following histogram.

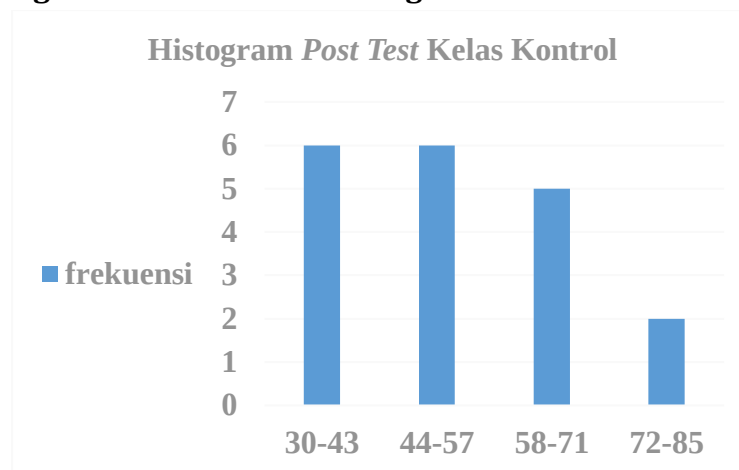
Chart 4.3
Histogram of Post-test Learning Outcome of Experimental Class



b. Control class posttest data

The average posttest picture of the experimental class of mathematics class V SDN 03 alai is in the category of less and enough, to more easily compare the distribution, it can be depicted in the following histogram:

Chart 4.4
Histogram of Post-test Learning Outcomes of Control Class



3. The difference in learning outcomes of experimental and control classes after the implementation of the assessment in class V students of SDN 03 Alai.

Based on the frequency distribution table of the experimental class and control class scores, it is known that student learning outcomes are different. This difference can be seen from the categories of very good, good, sufficient and less. The average value of the experimental class is 90 and is in the range of 86-90 with a percentage of 18.75% in the sufficient category. As for the control class, the average value is 57.5 and is in the range of 44-57 with a percentage of 10.53% and is in the sufficient category.

To see conclusions about the data obtained from student learning outcomes in both sample classes, namely classes VA and VB, statistical analysis was carried out. Before testing the hypothesis with the test, first the normality test and the variance homogeneity test were carried out. This hypothesis submission is carried out through a t-test with the help of SPSS (statistical product and service solution) Version 28 if the sig value. (2-tailed) < 0,05 then H_0 is rejected and H_a is accepted. And if $T_{hitung} > T_{tabel}$ then H_0 is rejected H_a is accepted.

The following table illustrates the results of the t test analysis of the experimental class, namely class V A and control class V B:

Number of variables = 2

Total respondent/ data(n) = 35

Taraf Sig. (2 sisi) = 0,05

Derajat bebas (df) = n - k

= 35 - 2

= 33

T_{tabel} = 2,035

Table 4.7 Experiment class t test analysis results and Contral Class Independent Samples Test

Group	N	Df	Mean	Standar Deviation	Std. Error Mean	Sig (2 Tailed)	Uji-t	95% Confidence Interval Of The Difference	
								Lower	Upper
Class Eksperiment	16	33	0,8067	0,14994	0,03749	<,001	11,558	0,54443	0,77704
Class Control	19	32,988	0,1460	0,18248	0,04186	<,001	11,758	0,54640	0,7756

Testing Based on the t test with IMB SPSS version 28 or the results of the analysis obtained a sig in two sides or sig (2-tailed) of = <,001 with the basis for decision making if $sig \alpha < 0,05$ and $T_{hitung} > T_{tabel}$ then H_a accepted dan H_0 rejected. So it can be concluded that (0,001< 0,05). This means that H_0 which reads there can be no difference in learning outcomes between those using pigeonhole expert media is rejected and H_a is accepted. This means that there is a difference in learning outcomes between those who use pigeon media and those who do not use pigeon media, it can be concluded that the learning outcomes of students who use pigeon media are higher than the learning outcomes of students who do not use pigeon media or conventional media.

So with the results of the t-test analysis conducted on theIMB SPSS version 28 software, the sample mean is 0.8067 with a standard error = 0.3749. The value of $T_{hitung} = 11.558$

while the value of df 33 is 2,035, the value of $p(t) = <,001$ and *Confidence Interval Difference Lower* of 0,54443 and *Upper* 0,77704. Thus, $T_{hitung}(11.558) > T_{tabel}(2,035)$ then H_0 is rejected and H_a is accepted.

So that $Sig \alpha < 0,05$ which is 0,001 mean $0,001 < 0,05$ then H_a is accepted and H_0 is rejected and $T_{hitung} > T_{tabel}$ which is $11.758 > 2,035$ mean H_a which says there is a difference in learning outcomes between the experimental class using pigeon media and the control class without using pigeon media H_0 is rejected. With these results it can be concluded that there are differences in the learning outcomes of students who use pigeon media with those who do not use pigeon media in learning grade V mathematics SDN 03 Alai Padang.

D. CONCLUSIONS

1. The learning outcomes of students in the experimental class using pakarpati media (triple root board) in learning mathematics in class V SDN 03 Alai Padang got an average pretest score of 51.87 with the lowest score of 20 and the highest score of 95. While in learning in the control class, the average pretest score was 43.42 with the lowest score of 25 and the highest score of 75.
2. The learning outcomes of students in the experimental class using pakarpati media (triple root board) in mathematics learning in class V SDN 03 Alai Padang got an average posttest score of 90, 93 with the lowest score of 80 and the highest score of 100. While in the control learning, the average posttest score was 51.87 with the lowest score of 30 and the highest score of 85..
3. There is a significant influence of pakarpati media (square root board) on the learning outcomes of students in mathematics subjects with square root material, based on the hypothesis that has been carried out, the t test data obtained with the help of IMB SPSS version 28 or the results of the analysis obtained αsig in two sides or sig (2-tailed) of $= <,001$ with the basis for decision making if $sig \alpha < 0,05$ and $T_{hitung} > T_{tabel}$ then H_a is accepted and H_0 is rejected. So it can be concluded that $(0,001 < 0,05)$. This means that H_0 ywhich reads that there is no difference in learning outcomes between those using pigeonhole expert media is rejected and H_a is accepted. This means that there is a difference in learning outcomes between those who use pigeon media and those who do not use pigeon media, it can be concluded that the learning outcomes of students who use pigeon media are higher than the learning outcomes of students who do not use pigeon media or conventional media.

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F. LITERATURE

Arikunto, Suharsimin. 2010. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta : Rineka Cipta.

Darwis, Saputra. *Peran Sistem Pembelajaran Dalam Jaringan (SPADA) Sebagai Solusi Pembelajaran Pada Masa Pandemi Covid-19 Di SMK YPI Tanjung Bintang, Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika*, 1(2).

Kustandi, Cecep. 2020. *Pengembangan Media Pembelajaran*. Jakarta: Kencana.

M. Thobroni. 2015. *Belajar dan Pembelajaran Teori dan Praktik*. Yogyakarta: Ar-Ruzz Media

Nurfadhillah, Septy . 2021. *Media Pembelajaran*. Sukabumi : Jejak Publisher.

Nurmalisa, Mariana Fitria. 2020. *Hakikat Matematika dan Pembelajaran Matematika*. Jakarta: Universitas Muhammadiyah.

Nyimas, Aisyah, dkk. 2007. *Pengembangan Pembelajaran matematika di SD*. Jakarta: Depdiknas.

Sudijono. 2015. *Anas Pengantar evaluasi pendidikan*. Jakarta : Raja Grafindo Persada.

Sugiyono. 2015. *Metode Penelitian Pendidikan Pendekatan Kualitatif, Kuantitatif dan R&D*. Bandung: Alfabeta.

Sukmadinata, Nana Syaodih. 2010. *Metode Penelitian*. Bandung: Raja Rosdakarya.

Sundayana, R. 2013. *Media dan Alat Peraga dalam Pembelajaran Matematika*, Garut :

Proceedings of the 3rd UIN Imam Bonjol International Conference on Islamic Education

“Embracing Islamic Education Based Local Wisdom of Malay World on Society 5.0”

Padang, 14 - 15 October 2022

ISSN XXX-XXX-XXXX-XX-X

Widyana Atmasari. 2020. *Arikel Senangnya Belajar Akar Pangkat Tiga dengan Pakarpati*. Purbosari: SD 2 Purbosari, diakses pada tanggal 10 November 2021.