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Effectiveness Method Jarimatika To Ability Counting Multiplication Participant Class III students at SDN 1 Lungbenda Subdistrict Palimanan Cirebon Regency

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Efektivitas Metode Jarimatika Terhadap Kemampuan Berhitung Perkalian Peserta Didik Kelas III SDN 1 Lungbenda Kecamatan Palimanan Kabupaten Cirebon

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Keywords:
Domino card media; Mathematics of Equivalent Fractions; Learning Outcomes.

Abstract: The study in the background behind by the low ability counting multiplication participant education and methods ongoing learning _ conventional (memorization) is used in the learning process . Objective study This is For know ability counting multiplication participant educate before use method jarimatics , knowing ability counting multiplication participant educate after use method Mathematics , and knowing difference ability counting multiplication participant educate before and after use method Jarimatika . Method research used _ is method quantitative type experiment with design used pre - experiment as for the model namely one group pretest-posttest. Population study This is 20 participants consisting of students of 12 men and 8 women . Retrieval technique samples in research This is saturated sampling which all participant educate class III as many as 20 students become sample

study . Ability counting multiplication participant educate class III of SD Negeri 1 Lungbenda after use method Jarimatika categorized as high , p This based on percentages score mark amounting to 78.9% with the class average score is 78.89 with total of 20 participants educate . There is significant difference _ between ability counting multiplication participant educate class III of SD Negeri 1 Lungbenda Subdistrict Palimanan Cirebon Regency before use method jarimatics and after use method Jarimatika . This matter proven through testing hypothesis carried out through the Paired sample T-Test test, it was proven that Ha was accepted and H0 was rejected . with results thitng > ttable that is amounting to 5,666 > 1,724 as well mark significance of more than 0.000 small from 0.05 (0.000 < 0.05). So , method Jarimatika be one _ alternative method effective learning _ used For Study multiplication to make more easy Because there is difference results Study before and after apply method This . However with notes practice in a way continously method Jarmatics so that it doesn't forget method use his finger .

INTRODUCTION

Quality graduate participants _ educate be one _ success something institution education / school . Teachers are very people influential in creating participants _ quality education . _ Possible business carried out by teachers for create quality graduates _ is develop strategy learning with apply various models, methods , media and techniques supportive learning _ in activity learn for purpose expected learning _ can achieved in a way maximum so that quality participant educate increase in a way significant .

One of eye lesson to be decider success participant educate is lesson mathematics . Mathematics known with difficult lesson _ understood by participants educate Because relate with numbers and calculations . Whereas in in fact , count is activities that are not Can free from life man . By No aware , activities carried out man every day need count like activity sell buy , determine distance and speed as well as Still Lots example other . Ability counting is key from draft or ability else , fine in a way direct nor No directly (Al Musthafa & Mandailina , 2018). So ability counting This very important owned by everyone participant educational and important developed For provisions life participant educate in the future .

According to Romlah in (Al Musthafa & Mandailina, 2018; Fatmawati, 2014 ; Meutia , 2017) ability counting is business know related mathematics _ with nature and relationships numbers real things that matter addition , subtraction , multiplication and division . So ability counting is proficiency somebody in operate numbers real shaped related numbers _ with operation count addition , subtraction , multiplication and division .

In learning mathematics in class III elementary school, there are topic about multiplication number . Multiplication number This is base For do operation number furthermore . Multiplication can explained as summation repeated from something number with specified amount . _ Draft multiplication state that if A is multiplied with B, then B will added A number of times. For example , multiplying 3 by 4 results is 12, which means the numbers 4 are added together three times, yes written as 4+4 + 4 = 12.

Understanding about multiplication number very important for students _ Because own linkages with material to be studied furthermore . For example , in context problems involved _ money , material measurement time and length . If participant educate No capable control operation multiplication with well , they are will experience difficulty in understand material to be studied furthermore . This matter can hinder the learning process and hinder achievement objective learning in a way maximum .

Observations carried out at SDN 1 Lungbenda to be precise in class III, researcher find that participant educate class III SDN 1 Lungbenda Not yet everything memorize multiplication numbers 1 through number 10. Moreover numbers 6 through number 9, them consider that multiplication number the is very multiplication _ difficult For memorized Because big number _ with amount more numbers _ Lots . Based on problem that , then researcher use method Jarimatika as solution overcome difficulty learning experienced by participants _ educate .

Method Jarimatika is something technique calculations that use finger hands and parts the section (Wijaya & Yadewani, 2022; Wulandani, 2008) . As example , when We want to do multiplying 4 by 3, we can assume finger thumb as number 1, finger index finger as number 2, finger middle as number 3, and so on . Next , because We multiply with number 3, then every finger calculated as many as 3 sections . With Thus , there are a total of 4 fingers with every the section calculated , and the results is 12 which is results from multiplying 4 by 3 (Salsinha et al.,

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2019). Method Jarimatika This can help participant educate For know results multiplication with take advantage fingers their hands _ have .

Based on background behind problems that have explained previously , researcher own interest For do A research entitled : " Effectiveness Method Jarimatika To Ability Counting Multiplication Participant Class III student at SD Negeri 1 Lungbenda Subdistrict Palimanan Cirebon Regency ".

METHOD

Method research used _ is method quantitative type experiment with pre- experimental design type of one group pretest-posttest design .

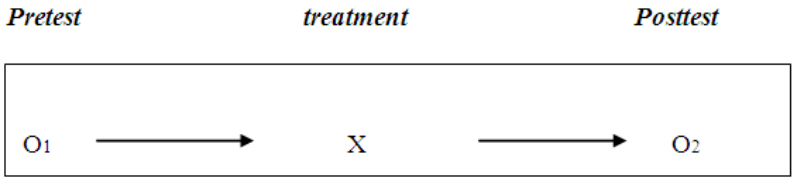

Figure 1. One Group Pretest- Posttest Design

Population study This is 20 participants consisting of students of 12 men and 8 women . Retrieval technique samples in research This is saturated sampling which all participant educate class III becomes sample study .

Data collection instrument used in study This that is use question test essay . The data analysis technique uses Statistical testing is a prerequisite test consists from the normality test , homogeneity test and hypothesis test using the paired sample test.

RESULTS AND DISCUSSION

Normality test

The normality test is carried out to evaluate whether the residual value is has a normal distribution or not. The decision is based on the significance value, where if the value is greater than 0.05, then the residual value is considered to have a normal distribution. However, if the significance value is less than 0.05, then the residual value is considered not to have a normal distribution. The following are the results of the normality test *output* using SPSS:

Table 1.
Normality Test Output Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	,150	20	,200*	,933	20	,174
Postest	,159	20	,200*	,909	20	,061

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

a. Lilliefors Significance Correction

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Based on the results of the table above, the *output results* of the normality test calculations for data on the multiplication arithmetic ability of class III students at SD Negeri 1 Lungbenda looking at the *Kolmogorov Smirnov table* without applying the Jarimatika method were obtained. sig value . 0, 200 and data on students' multiplication counting abilities after applying the Jarimatika method obtained mark sig. 0, 200 . Both the *pretest significance value* and the *posttest significance value* have greater values of 0.05 (> 0.05), with thereby meaning Ha is rejected and Ho is accepted so it is stated that the two data are normally distributed.

Homogeneity Test

After the data is tested to be normally distributed, the next step is for the researcher to carry out a data homogeneity test to find out whether the data is homogeneous data or not. To carry out a homogeneity test. The SPSS *output* results from the homogeneity test can be seen in the table below.

Table 2.
***Output* Homogeneity Test Results**

Test of Homogeneity of Variances

		Levene Statistics	df1	df2	Sig.
Data	Based on Mean	1,283	6	29	,296
	Based on Median	1,069	6	29	,404
					34
	Based on Median and with adjustments df	1,069	6	25,755	,406
	Based on trimmed mean	1,253	6	29	,309

From the results of homogeneity test calculations on data on the multiplicative numeracy skills of class III students at SD Negeri 1 Lungbenda, a significance value based on mean of 0.296 was obtained . With a significance value of 0.296 > 0.05. thereby meaning that Ha is rejected and Ho is accepted, it can be concluded that the data comes from a homogeneous population. In other words , the two samples have homogeneous variances

Research Hypothesis Test (T-Test)

After completing the prerequisite test calculations and proving that the data is normal and homogeneous, the analysis continues with hypothesis testing using the Paired Sample test. T-Test with a significance level of 0.05. The criterion for testing the hypothesis is that if the t-count value is smaller than the t-table, then H0 is accepted. Conversely, if the t-count value is greater than the

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t-table, then H0 is rejected. Based on the data obtained, the results of the research hypothesis test using SPSS version 25 produced the following *output :*

Table 3.
T-Test Test Results *Output*

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pretest - Posttest	-38.889	30,695	6.864	-53.254	-24,523	-5.666	19	,000

The results of calculations using the *Paired Sample Test* show that the application of the Jarimatics method significantly increases students' multiplication calculation skills. with a significance level of 5% (95% confidence level), a t-count value of 5.666 was obtained and a significance value (2-tailed) of 0.000. T-Test test analysis shows that the t-count value (5.666) is greater than the t-table (1.724) and the significance value (0.000) is smaller than 0.05 (0.000 < 0.05). This shows that there is a significant increase between *the pretest* and *posttest.* Based on the results of the T-Test, the alternative hypothesis (Ha) is accepted and hypothesis 0 (H0) is rejected. Therefore, it can be concluded that there is a significant difference in the multiplication calculation skills of class III students at SD Negeri 1 Lungbenda, Palimanan District, Cirebon Regency before and after implementing the Jarimatika method.

According to Linda Nurmasari, the Jarimatika method is considered an easy way to learn counting, because this method can connect the concrete stages of cognitive development of students with abstract numeracy material. Apart from that, this method is also considered fun for students because they feel like they are playing while learning and they feel challenged by using the mathematics method. Jarimatika methods can also help balance students' right and left brain activities. This can be seen when students use their left and right fingers equally when carrying out calculations using the finger method (Authar et al., 2023; Putra, 2021; Tahir, 2021 ; Chasanah, 2020).

CONCLUSION

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Before use method Mathematics , ability counting multiplication participant educate class III at SD Negeri 1 Lungbenda categorized as very low . This matter seen from percentage score mark amounting to 42.15% with the average class value (Mean) is 42.22 with total of 20 participants educate . After using method Mathematics , ability counting multiplication participant educate class III at SD Negeri 1 Lungbenda categorized as tall . This is visible from percentage score mark amounting to 78.9% with class average _ amounting to 78.89 with total of 20 participants educate . There is significant difference _ between ability counting multiplication participant educate class III at SD Negeri 1 Lungbenda before and after use method Jarimatika . This matter proven through hypothesis testing using the T-Test, where Ha is accepted and H0 is rejected . Calculated t-value amounting to more than 5,666 big from t- table values of 1.724 (t-count > t- table) and value significance of more than 0,000 small from 0.05 (0.000 < 0.05)..

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