

THE INFLUENCE OF DIFFERENT STRATEGIES LEARNING OUTCOMES ON THE MATERIAL OPERATIONS IN INTEGRATED NUMBER

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ARTICLE INFO

Keywords:

Counting Strategies (Different Strategies),
Learning Outcomes

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ABSTRACT

In this study describes one of the Different Strategies on the Results of the Study of Mathematics Operations of Whole Numbers. The method used in this research is quasi-experiment method. The analysis technique in this study used a t-test to assess the hypothesis. Based on the results of the calculation of the hypothesis test, the t-count value is 0.6071 then consulted to the t-table at a significant level of 0.05 and 35 degrees of freedom, the t-table value is 1.6896. Because $t_{count} < t_{table}$ ($0.6071 < 1.6896$), then H_0 is accepted, so there is no difference in math learning outcomes in Different Strategies using the traditional algorithm. Thus learning with Different Strategies has no effect.

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1. INTRODUCTION

In the advancement of technology and the development of scientific technology at this time. so it is necessary to increase the quality of human resources (HR). One of the efforts to compete is to improve the quality and potential of human resources through mathematical methods. In the knowledge of mathematics is one of the most important sciences that must be studied by humans because the knowledge is related to everyday human life. Mathematics contains very broad knowledge so that it is the basis for developing technology and science that needs to be learned by students at all levels.

In Indonesian Law number 20 of 2003 concerning the national education system education system article 1 paragraph (1), education is a conscious and planned effort to realize a learning atmosphere and learning process so that planned to create a learning atmosphere and learning process so that learners actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state, while in article 1 paragraph (2), National Education is education based on Pancasila and the Constitution of the Republic of Indonesia 1945 which is rooted in religious values, Indonesian national culture and responsive to the demands of changing times.

Based on some field data taken from direct observation in several schools in the city of Medan, the results of information obtained from mathematics teachers, that the scores obtained by students have not been maximized to reach the KKM standard. This is because most students have difficulty in completing the steps of story-shaped math problems. Therefore, researchers are trying to use algorithmic counting strategies to solve the steps of story problems, so that students do not find it difficult to learn math. Where there are several Algorithmic counting strategies are so important because they can increase students' knowledge to be better at learning math. In order to overcome these problems in the process of learning mathematics, you can use counting strategies. where based on previous research sources rahmayanti (2017) explains that a strategy is a way that needs to be done or implemented systematically. Strategy is a design in lesson activities in order to achieve the expected learning objectives".

The improvement in learning outcomes by using strategies can be seen from previous research conducted by Nurul Azizah (2018), the results of which show that H_1 is accepted and H_0 is rejected. Based on this description, it can be formulated that there is an influence of the algorithm counting strategy on the learning outcomes of students on social arithmetic material, the utilization of the algorithm counting strategy must be applied in order to increase mathematics learning outcomes in order to obtain optimal results. With the strategy of counting algorithms in math lessons, students are more active. easy concepts to more difficult ones. In addition, math learning also follows a spiral approach, where each new concept learned needs to pay attention to concepts that have been learned before. Ideas such as five, rectangle, plus, negative, equal, are all examples of mathematical concepts.

This is in line with the purpose of learning mathematics (NCTM, 2000) which is to help students develop their ability to solve mathematical problems. Teaching with the use of standardized algorithms makes students uncommunicative, less creative and tend to be passive.

2. METHOD

In this study using several quantitative methods, with a post testnonequivalent control group design approach. The treatment given to several classes in the city of Medan, namely, using the algorithm counting strategy. The data collection technique uses test questions given after treatment. Validate the instrument in this study by consulting the instrument to lecturers and mathematics teachers. The next step is to do field trials to get valid data. Data analysis techniques carried out in this study using prerequisite analysis tests, namely normality test and homogeneous test, after normality and homogeneous data are continued hypothesis testing using the t-test.

The research instrument used in this study was a test sheet. Test instruments are tools used in the context of measurement and assessment,

Nurazizah, Maulana, & Kusnandar, The Effect of Jarimatika Method on Students' Understanding of Mathematical Concepts on Multiplication Material⁵⁴ usually in the form of a number of questions / questions given to be answered by the subject under study. Data analysis in this study is quantitative. Quantitative data are test results obtained from pretest and posttest results. The test sheet used in this study is a test of the ability to use the jarimatika method which is a data collection tool regarding the ability to understand students' mathematical concepts before and after learning. The test used for students to measure the use of the jarimatika method on the ability to understand students' mathematical concepts is related to the multiplication calculation operation material using a description test with a total of 5 items. Each question can be used to measure all indicators of students' understanding of mathematical concepts. Indicators of the ability to understand mathematical concepts used in the study are: (1) the ability to restate a concept, and (2) the ability to apply concepts or algorithms to solve problems. This study is all students of Gudang Kopi II Elementary School in the 2020/2021 academic year consisting of 16 students, including 11 female students and 5 male students.

3. RESULT AND DISCUSSION

Before using the instrument in data collection, the instrument test was carried out with a normality test to prove that the data obtained was normal. Based on the results of the normality test data calculator, this test is sensitive to detecting data normality (Geovani, 2017). Can be done by looking at the results of the calculation of a significant value of more than the error rate of 0.05, then the data is normal. The results of the normality test can be seen in the table below.

Table 1. Normality Test Results

N	Experimental class	Control Class	Asymp. Sig
24	0.97		0,195
24		0.993	0,213

Based on the calculation of Table 1 above the data from the sample obtained is normally distributed. Obtained tilapia contents gnifrieen greater than a critical limit with a significant value of 0.195.

Table 2. Homogeneity Test

Levene Statistic	df1	df2	Sig.
,090	1	38	,766

From the calculation results of Table 2 above it is concluded that the experimental class data and homogeneity control classes because the significant value is greater than the critical limit with the significant value obtained: 0.766.

After the data obtained by normality and homogeneity the researcher continues to analyze the data carried out using the t-t-t-test

Table 3. Hypothesis Test

N	t-Calculate	t-Table	Decision
42	5	3.01	H0 Rejected

Table 3 can be seen the value of $t\text{-count} > t\text{-table}$ so that it is concluded H1 is accepted and H0 is rejected. This means that there are differences in mathematics learning outcomes in experimental classes using algorithm and control classes do not use the algorithm count strategy on social arithmetic material.

4. CONCLUSION.

Based on the results of data analysis and discussion of the effect of using the jarimatika method on the ability to understand students' math concepts on multiplication material, the author concludes that "The use of the enhance method has a significant effect on students' understanding of mathematical concepts on multiplication material".

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