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Implementation of the Use of the Guide Note Learning Method Taking in Mathematics

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Abstract

The process of learning mathematics in the classroom is strongly influenced by the role of teachers and students as individuals who are directly involved in the learning process. As an intermediary, the teacher must know where the sources of information for certain knowledge are and regulate the mechanism for obtaining it if students need it at any time. Teachers often have difficulty in carrying out mathematics learning, especially in the material of building space. Students find it difficult to understand concepts in spatial structure, so they seem confused in solving problems related to spatial structure, for example in the form of story questions. In addition, teachers are often confused in determining learning methods so that students can understand the material presented. This study aims to determine the differences in learning outcomes of mathematics using the Guide Note Taking method. This research was conducted in the Even Semester. The variables in this study consist of one independent variable and one dependent variable. The mathematics learning outcomes of students who were taught using the Guide Note Taking method were considered good. The mathematics learning outcomes of students who were taught using the guide note taking method were good and satisfying.

Keywords: Guide Note Taking, Mathematics, Research, Learning Methods

1. Introduction

Mathematics subjects need to be given to all students starting from elementary school to equip students with the ability to think logically, analytically, systematically, critically, creatively, and the ability to work together. These competencies are needed so that students can have the ability to obtain, manage, and utilize information to survive in conditions that are always changing, uncertain, and competitive (Ruseffendi., 1990).

The process of learning mathematics in the classroom is strongly influenced by the role of teachers and students as individuals who are directly involved in the learning process (Andi, 1982). In the learning process in the classroom, of course, there are various problems that often occur during the mathematics learning process, namely that students do not understand the concepts conveyed by the teacher, the lack of perseverance and tenacity of students in learning mathematics is still relatively low (Soedjaji, 2000).

As an intermediary, the teacher must know where the sources of information for certain knowledge are and regulate the acquisition mechanism if students need it at any time (Saud & Suherman , 2006). With the acquisition of information and knowledge, educators help students to develop their ability to respond to their surroundings. It is at this momentum that the act of learning in its true sense occurs, namely when students learn to realistically assess their abilities and apply them to meet their needs (Nasution, 2000).

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Learning that can improve deductive reasoning abilities, one of which is the ability to generalize mathematics, namely learning that provides opportunities for students to play an active role in using all their thinking abilities. But in reality the learning that is held in schools is only limited to accepting it, without questioning why and for what a subject must be taught.

Teachers often have difficulty in carrying out mathematics learning, especially in the material of building space. Students find it difficult to understand concepts in spatial structure, so they seem confused in solving problems related to spatial structure, for example in the form of story questions. In addition, teachers are often confused in determining learning methods so that students can understand the material presented.

The achievement of learning is influenced by the mastery and skills of the teacher in explaining the lesson so that students do not feel bored, and boring, which has been very monotonous in teaching teachers, which can cause students to be lazy to learn, especially learning mathematics (Abdurahman, 1997). The learning method is a way of how students carry out learning activities, for example how they prepare to study, take lessons, self-study activities carried out, their learning patterns, how to take exams. The quality of the way of learning will determine the quality of the learning outcomes obtained. A good way of learning will lead to less success or failure to learn (Agus, 2009).

Cooperative learning (cooperative learning) is any form of learning that allows students to play an active role in the learning process itself, both in the form of interactions between students and students and teachers in the learning process (Mudjiono & Dimyati, 2009). Guide Note Taking learning method or guided notes is a learning method that uses a chart, schema (handout) as a medium that can assist students in taking notes when a teacher is delivering lessons with the lecture method (Suprijono, 2009).

The *Guide Note Taking* method is a method used in the learning process by which the teacher provides a prepared form or sheet, this sheet instructs students to take notes while the teacher teaches (Silbermant, 2009).

From the these definitions, it can be concluded that *Guide Note Taking* learning is learning that uses guided charts or notes that require students to be able to understand problems and solve problems, students are expected to be able to conclude, define, formulate, and think in general.

The learning steps with the *Guide Note Taking method* are as follows:

a) Giving teaching materials, for example in the form of handouts to students
b) Teaching materials are delivered using the lecture method
c) Empty the important parts so that there are empty parts in the handout, for example by emptying terms or definitions or it can be by eliminating some keywords.

Guide Note Taking (Isriani, 2009) learning method:

a) This learning method is suitable for both large and small classes.
b) This learning method can be used before, during or according to learning activities.
c) This learning method is quite useful for introductory material.
d) This learning method is very suitable for materials that contain facts, precepts, pillars or principles and definitions.
e) This learning method is easy to use when students have to study material that is testing cognitive knowledge.
f) This learning method is perfect for starting learning so that students will focus their attention on the terms and concepts that will be developed and those related to the subjects being studied and then developed into a more concise concept or thought chart.
g) This learning method can be used several times to summarize different chapters.
h) This learning method is suitable to replace narrative summaries or long narrative writings.
i) This learning method can be used to assess a person's tendency towards certain information.
j) This learning method allows students to learn more actively, because it provides opportunities for self-development, focus on handouts and lecture material and it is hoped that students will be able to solve their own problems by *discovering* and working alone.

Weaknesses of the *Guide Note Taking Learning Method:*

1. If *Guide Note Taking* is used as a learning method for each subject matter, the teacher will find it difficult to control the activities and success of students.
2. Sometimes in implementing it, it takes a long time so the teacher is difficult to adjust it to the allotted time.
3. Sometimes it is difficult to implement because the teacher must prepare *handouts* or planning in advance, by sorting out which parts or materials should be left blank and weighing the suitability of the material with the readiness of students to learn with this learning method.
4. Teachers who already use old learning methods find it difficult to adapt to new learning methods.
5. Demanding teachers to master the material more broadly than the standards that have been set.
6. The cost for doubling handouts for some teachers is still considered expensive and less economical.

From the problems above, it can be seen that the delivery of mathematics lessons directly, the condition of students will become something abstract when accepted by students, so many students whose scores do not reach the target. In order for this problem to not be prolonged, there must be an appropriate solution. The teacher's role as a motivator is to do various ways in order to continue to increase the learning motivation of students. One way that can be used is the application of the Guide Note Taking (GNT) learning method.

2. Methods

This study aims to determine the differences in mathematics learning outcomes between those using the Guide Note Taking (GNT) method. This research was conducted at the Putra Bangsa Junior High School Tangerang, Jalan Benteng Betawi, Tanah Tinggi, Tangerang District, Tangerang City, Banten, Indonesia. This research was conducted in the Even Semester. The variables in this study consisted of one independent variable and one dependent variable. The independent variable is symbolized by the letter X1 (Suharsimi, Dasar-Dasar Evaluasi Pendidikan, 2008)which is the Guide Note Taking (GNT) learning method. The dependent variable is symbolized by the letter Y, namely the students' mathematics learning outcomes (Sontani, 2011). In solving problems that exist in a study, regular and continuous investigations are needed, while to find out how the research steps should be carried out using research methods (Sumardi, 1987). The research method is a method used in research to achieve one goal. In conducting research, a researcher must determine the method used. Determination of the method used is very important in conducting research, because the selection and determination of the right research method is a directed investigation guide (Suharsimi, Prosedur Penelitian Suatu Pendekatan Praktek, 1998). The method used in this study is an experimental method of Guide Note Taking (GNT) type.

3. Results

3.1. Mathematics Learning Outcomes of Students Taught Using the Guide Note Taking Method

The results that have been given to students in the experimental class taught by the *Guide Note Taking* (GNT) method, the minimum score is 40 , while the maximum value is 85 . With an average value of 63.23 , median (Me) of 64.39 , mode (Mo) of 66.93 , variance of 126.84 and standard deviation of 11.26 . based on the average score, namely the group of students who scored below the average score, namely 1 4 students (4 6.67 %), while the group of students who scored around the average score was 9 students (3 0 %), and 7 students (23.33 %) scored above the average group. From the percentage of the distribution of these values, it can be explained that the mathematics learning outcomes of students who are taught using the *Guide Note Taking method* are in the high category.

3.2. Testing Research Instruments

3.2.1. Validity

The calculation of the instrument for learning mathematics results in the sub-cube and block building material, which consists of 30 questions, can be seen in the validity analysis (Appendix 7 and Appendix 8). To determine whether the question is valid or invalid, the calculated correlation value is compared with the critical price of r product moment at

a significant level of = 0.05 and the amount of data (n) = 30 is 0.361. Of the 30 questions tested, 20 valid questions and 10 invalid questions were obtained, the researcher only took these 20 questions to be tested.

3.2.2. Reliability

The reliability of the learning test results obtained 0.898 critical price r product moment at a significant level = 0.05 from the amount of data (n) = 30 is 0.361. Because $r_{11} > r_{table}$, it can be concluded that the test questions for mathematics learning outcomes in the sub-cube and cuboid building material are reliable and feasible to use.

3.3. Analysis Prerequisite Test

This test is carried out because the use of parametric statistical techniques requires the data to be sourced from a normally distributed population. Second, homogeneity test which assumes that the data has a homogeneous variance.

3.3.1. Normality test

Results testing to sample study used for conclude is observed population normal distribution or no. Criteria testing second hypothesis the set use score statistics- Calculated L based on procedure Uji-Lillefors with provision as following:

If $L_{count} < L_{table}$ means the data is normally distributed and

If $L_{count} > L_{table}$ means data is distributed abnormal

Testing process normality conducted with test distribution of data from both research data. Summary results testing served in table following this:

Table 1. Summary Results Test Data Normality

No	Group	Statistics Test		Conclusion
		L_{count}	$L_{table\ (\alpha = 0.05)}$	
1	GNT class	0.0808	0.1610	Normal

Based on the results of the calculations as listed in the table above, the L_{count} for the group of students' mathematics learning outcomes taught using the *Guide Note Taking* (GNT) method is 0.0 808 , and L_{count}. The L_{count} value is stated to be smaller than L_{table} = 0.161 0 at α= 0.05. Thus, $H1_{\ which}$ states that the data is taken from a normally distributed population is accepted and H0 which states that the data is taken from a population that is not normally distributed is rejected, because the value of L_{count} is smaller than L_{table} . Based on the test results, the research variable data is considered to meet the requirements for further analysis.

3.3.2. Test Homogeneity

Test similarity population variance (homogeneity) second group conducted with test F-test, from results testing homogeneity obtained variance sample A = 1 26.84 and variance sample B = 1 1 1, 8 16. Then with use formula F_{count}:

$$F = \frac{Varians\ terbesar}{Varians\ terkecil}$$

$$F = \frac{126{,}84}{111{,}816}$$

$$F = 1.13$$

F_{count} value is then compared with F_{table} with dk denominator n-1 and dk numerator n-1. So the dk of the numerator is 29 and the dk of the denominator is 29. Based on table F, the price of F_{table} for 5% = 1.85. It turns out that the F_{count} value (1.13) is smaller than F_{table} (1.85). Thus it can be concluded that the variance of the analyzed data is homogeneous.

3.4. Research Hypothesis Testing

Hypothesis testing can be done by using the similarity of the two students' averages with the proposed hypothesis, so this test is a one-party average similarity test using the t-test. From result calculation the variance of the experimental class group, namely the class taught using the *Guide Note Taking method of* 126.84 and deviation the standard of the experimental group is by 1 1,26, So that t_{count} is obtained by 2, 99 and t_{table} at the level of significance α= 0.05 and df = 58 of 2.00. The criteria for testing the hypothesis is to reject Ho if t_{count} is greater than t_{table} , while from the above calculations can be obtained 2.99 > 2.00 , thus means that the null hypothesis is rejected, which means that there is a significant difference between the mathematics learning outcomes of students who are taught using the *Guide Note Taking* learning method. (GNT) on the material Construct Space sub cubes and blocks.

4. Conclusion

From the calculation, it is obtained that the tcount value is 2.99 (attachment 20) which is greater than the ttable value at a significant level = 0.05 and with 58 degrees of freedom which is 2.00, so the conclusion is t_{count} = 2.99 > t_{table} = 2.00 then H1 is accepted, that is, there are students' mathematics learning outcomes taught using the Guide Note Taking method which are considered good. The mathematics learning outcomes of students who were taught using the guide note taking method were good and satisfying on the material for building sub cubes and blocks in class VIII SMP in Tangerang.

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