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THE EFFECT OF USING *NESTED TYPE LEARNING MODEL* ON UNDERSTANDING THE CONCEPT OF CLASS VII MTS IN ASHHABUL MAIMANAH

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Abstract

This research is motivated by the low understanding of students' mathematical concepts influenced by several things, one of which is the learning model used by the teacher. The teacher's selection of an inappropriate learning model will affect the student's learning process. Therefore, learning is needed to make it easier for students to understand mathematical concepts and involve them to be more active and concentrate more in the learning process. The research aims to determine: 1). Is the ability to understand the concept of students who are given learning with nested type models better than those given conventional learning; 2). How does using the nested type model affect the ability to understand the concepts of class VII MTS Ashhabul Maimanah? The method used in this study is the True experimental design method, posttest-only control design. Data collection techniques using students' mathematical concept understanding tests amounted to 8 items of description, and data analysis was carried out by testing requirements (normality test and homogeneity test), Hypothesis 1 Test (Average difference test), and Hypothesis 2 Test (Effect Size). Based on the t-test obtained = 2.8108 and = 1.1683. Because > so the decision is rejected and accepted. Based on the interpretation of the Cohens table in Table 1.7 with the 79th percentile in addition to the effect size, which is 0.882, this shows that the non-overlapping distribution of the experimental class scores with the control class score distribution of 47.7% is high. The conclusion is 1). Understanding the concept given by nested model learning is better than the conventional model. 2) The effect of using a nested learning model on the concept understanding of the seventh-grade students of MTS Ashhabul Maimanah is high.

Keywords: Nested Type Learning Model, Comprehension Abili Draft

INTRODUCTION

The importance of mathematical comprehension skills is stated in the mathematics learning objectives of the High School Mathematics Curriculum (Sumarmo, Hendriana, & Rohaeti, 2017), which states that the purpose of teaching mathematics is to convey good mathematical knowledge to students.

According to (2017), The fact that students' understanding of mathematical concepts is still low can be seen based on the concept understanding test given, and most students have not been able to complete it well. Students cannot use whichever formula is appropriate to solve a mathematical problem. In addition, the process of completing the answers of some students answers with the correct steps and answers. The reality in the field shows that students' ability to understand concepts is still low. The results of the TIMSS (Trends in International Mathematics and Science Study) science survey and international studies on mathematical achievement show that in Indonesia, many students still have difficulty understanding mathematical concepts precisely. Indonesia ranks 36th out of 49 countries. The results of the 2010 TIMSS survey stated that Indonesia's position was relatively low, with an average of 397

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compared to other countries participating in TIMSS and an average international score of 500 (Ella Pranata, 2016)

The low understanding of students' mathematical concepts is influenced by several things, one of which is the learning model used by the teacher. Improper selection of learning models by teachers will affect students' learning process. Therefore, learning is needed that can make it easier for students to understand mathematical concepts and involve all students to be more active and concentrate more in the learning process (Hadi & Umi Kasum, 2015)

Through an integrated learning model, students can find their things related to learning material so that they are trained to find the concepts learned holistically, meaningfully, and authentically for themselves. In the integrated learning model, there are various types of learning, one of which is the nested type integrated learning model (Armini, 2020)

METHOD

Quantitative research is a method used to examine a specific population or sample. Sampling techniques are generally random. This research method uses sampling techniques on quantitative or statistical data analysis research instruments to test hypotheses that have been applied (Sugiyono, 2018).

The form of experiment in this study is a *posttest-only* control design type experimental design. There are two groups, each of which is randomly selected. The first group (experimental class) is given treatment with methods, while one group (control class) uses conventional learning.

This research was conducted at MTS Ashhabul Maimanah on Jalan Raya Jl. KH.Syanwani Sampang Susukan RT 06 Rw 03 Ds.Susukan Kec.Tirtayasa Serang Banten.

RESULTS AND DISCUSSION

Table 10. Description of *Posttest Values*

	Ẍ	SD	Max	Min
Experiment	82,095	11,188	96	88
Control	72,524	11,048	63	60

H_0 = customarily distributed data

H_1 = data is not normally distributed

Table 11. Final Stage Normality Test Results

Class	Experiment (VII A)	Control (VII C)
N	21	21
Average $\dot{x}$	82,095	72,523
Variance (s^2)	11, 188	11,048
Do	0,187	0,189
D_{tabel}	0,190	0,190

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From the table above, it is concluded that *Do*<D_{tabel}
In experimental and control classes, so H_0 Accepted means that the two classes are typically distributed.
The homogeneity test was carried out to determine the variance between two groups given different treatments. To test the homogeneity of both groups, the formula of variance.

$F_{hitung}=\frac{s_1^2}{c^2}$ From the results of calculations obtained the results of homogeneity of the following final stages:

Table 12. Final Homogeneity Test Calculation Results

Class	Experiment (VII A)	Control (VII C)
Number of Values	1724	1523
N	21	21
Average (ẋ)	82,095	72,524
Variance(s)	125,19	122,6
Standard Deviation(s)	11,188	11,048

After the normality and homogeneity test, the average difference was carried out to determine which class was better between the experimental class and learning using nested type models or control classes with conventional methods.

Table 13. Final Value t-Test Results

Class	Experiment VII A)	Kontrol (VII C)
Sum	1724	1523
N	21	21
Average (ẋ)	82,095	72,524
Variance(s)²	125,19	122,6
Standard deviation (s)	11,188	11,048
t_{hitung}	2,8108	2,8108
Dk	40	40
t_{tabel}	1,1683	1,1683

Based on the calculation of the difference test, two experimental class averages obtained $\dot{x}_1$ = 82.095 and average in control class $\dot{x}_2$ = 72,524 with n_1 = 21, n_2 = 21, obtained t_{hitung} = 2.8108 and t_{tabel} = 1.1683 with a significant level of 5% and *Dk*

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= $n_1 + n_2 - 1$ because $t_{hitung} > t_{tabel}$ so H_0 rejected and H_1 accepted, because H_0 rejected so that it is concluded that the ability to understand the concept of students given learning model *Nested* better than Conventional models.

Effect Size

Based on the interpretation of *Cohen's Table in* Table 1.7 with the 79th percentile and the effect size of 0.882, this shows that the distribution of experimental class scores with a *no overlap* of 47.7% is high.

Test the average difference using the tes*t* Because of the normally distributed and homogeneous data from the calculations, the average experimental class was 82,095, and the control class was 72,524. Next, do the tes*t*, it can be concluded that the understanding of mathematical concepts of experimental class students using a type learning model *nested* It is better to use conventional control classes.

CONCLUSION

Based on the research conducted, it was concluded that The ability to understand mathematical concepts of students given nested model learning is better than conventional models and The effect of using *nested type learning models* on the understanding of mathematical concepts of grade VII students of MTS Ashhabul Maimanah is high.

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