THE EFFECTIVENESS OF EEL Dr. C MODEL (ENROLL, EXPERIENCE, LABEL, DEMONSTRATE, REVIEW, CELEBRATE) FOR MATHEMATICS LEARNING OUTCOMES AT SEVENTH GRADE STUDENTS OF SMP NEGERI 3 KASIHAN

Lili Riani[a], Widayati[b]
Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul Yogyakarta
[a]liliriani0@gmail.com,[b] widayati@uad.ac.id

ABSTRACT

The learning model is still used for the submission of verbal / lectures make students who have the ability to listen to high would be effective, but the students who have poor listening skills will be difficult to understand the material presented. It is thought to make low yields mathematics learning. This study aims to determine whether there is a difference in learning outcomes of students learning math using TANDUR and expository models and assess the effectiveness of the model TANDUR and the model Expository towards learning outcomes in mathematics class VII SMP Negeri 3 Kasihanin the Academic Year 2015/2016. The population in this study there are five classes. Samples were taken two classes with the technique of random sampling of classes and class VII D was chosen as an experimental class and class VII B as the control class. The design of this research is the control-group posttest only design. Data collection techniques using documentation technique and test technique. Data collection instrument in the form of test results to learn. Test data collection instruments used validity, distinguishing features and reliability testing. Data were analyzed using analysis prerequisite tests including normality test and homogeneity, continued to test the hypothesis using the T-test. Results of research on the significant level of 5% and dk = 52 show that: (1) There are differences in students' mathematics learning outcomes using models TANDUR with mathematics learning outcomes of students who use the Expository models. This is indicated by the value of $t_{count} = 2.4125$ and $t_{table} = 2.01025$ so $t_{count} > t_{table}$, and (2) a model TANDUR more effective than Expository models on the results of students' mathematics learning. This is indicated by the value of $t_{count} = 2.4125$ and $t_{table} = 1.67492$ so $t_{count} > t_{table}$.

Keywords: Effectiveness, TANDUR Model, Model Expository

INTRODUCTION

Education is one important factor in the development and development of a country. The progress of a country in all fields in the fields of economy, technology, agriculture, and others cannot be separated from the role of education. Education can be interpreted as capital in preparing human resources who are able to think independently and critically, as well as constituting basic capital as quality human development. With the realization of the very important role of education in efforts to improve quality resources, the government has made various efforts to improve the quality of education. We can see this by training and improving the quality of teacher competencies, procurement of books and stationery, improving education facilities and infrastructure as well as repairing, changing, and improving the curriculum.

The teacher is the most influential factor in learning success. So the learning strategy used has an important role in the learning process because the learning strategy is one of the main supports of the success or failure of a teacher in teaching. The lecture and memorization method is certainly not appropriate when used in science subjects, especially mathematics. According to Hamalik, Oemar (2012: 27) that "Learning is a modification or reinforce behavior through experience. Learning is not just remembering, but it is broader than that, namely experiencing. "Mathematics learning not only understands concepts but also calculations, so it requires understanding and reasoning, not just memorization. In addition, demonstrations by students are also very necessary in learning mathematics, thus enabling students to be actively involved in learning, not just listening.

In the Big Indonesian Dictionary quoted from Mulyasa, E (2012: 82) stated that "Effective means that there is an effect (effect, affect, impression), effective, can bring results." In other words, effectiveness is something that has an effect or effect that is caused brought about results and is the success of a business or action, in this case, the effectiveness can be seen from whether or not the specific objectives that have been planned. Based on the results of interviews and observations at SMP Negeri 3 Kasihan on teaching and learning activities teachers have tried to attract student responses in learning. But the response of students is still lacking, namely students lacking in expressing opinions and less enthusiasm in following the learning process. Learning activities are also still dominated by students with high learning abilities so that student involvement in learning activities in the classroom is still lacking. In its implementation the teacher still uses the expository learning model that is the teacher gives an explanation of the material accompanied by questions and answers and exercises questions then students are given an assignment. In addition, the media used in the learning process is also lacking. This makes it difficult for students to understand the material presented, so students feel bored in the process of teaching and learning mathematics and cause students to do activities outside the lesson to eliminate boredom by drawing or inviting other students to chat. Based on the even Midterm Examination (UTS) score shows that from the mathematics learning outcomes of VII grade students totaling 132 students, there are 23 students who have fulfilled the KKM (Minimum Graduation Criteria) criteria set by SMP Negeri 3 Kasihan namely 75.

Referring to Gagne's thought in Suprijono, Agus (2009: 5-6), "learning outcomes in the form of 1) Verbal information, namely the ability to express knowledge in the form of language, both oral and written. 2) Intellectual skills are the ability to present concepts and symbols. "Based on these descriptions, the authors will, therefore, research the Effectiveness of the TANDUR model on mathematics learning outcomes of Grade VII students at SMP Negeri 3 Kasihan, Bantul. According to DePorter (2010: 127) "the word TANDUR is an acronym from the words Grow, Natural, Name, Demonstrate, Repeat, Celebrate." Following are the steps of the TANDUR model according to De Porter (2010: 128-136) which the author tries to describe: 1) Growing is how the teacher fosters students' interest and attention during the learning process. 2) Natural that is giving experiences like the general experience students have before. 3) Name the students with the help of the teacher trying to find the concept of the experience that has been passed. 4) Demonstration that is giving opportunities to students to translate and apply the knowledge they receive during the learning process. 5) Repeat, ie students repeat the subject matter that has been learned using their own ideas. 6) Celebrate the students who have presented the results of their discussion in front of the class given appreciation in the form of praise and applause. The writer uses the expository learning model as a comparison model.

From the explanation above, the objectives of this study are 1) to find out whether there are differences in student mathematics learning outcomes between the TANDUR learning model and the Expository learning model. 2) The effectiveness of the TANDUR model with the Expository model of student mathematics learning outcomes.

METHODS

This type of research uses a true experimental design with a posttest-only control design (Sugiyono, 2012: 112). In this study using two classes, namely, the experimental class conducted learning using the TANDUR model and the control class conducted learning using the expository model. The population in this study were all VII grade students of SMP Negeri 3 Kasihan for the 2015/2016 Academic Year, totaling 132 students. While the sample in this study was class VII D as an experimental class and class VII B as a control class, the sampling technique used was Random Sampling. The data analysis technique used is the test technique with the instrument in the form of objective questions in the form of multiple choice. The analysis prerequisite test is the Chi-square formula normality test and the homogeneity test uses Bartlett. Research hypothesis testing uses the first hypothesis test and the second hypothesis test. The first hypothesis test using a two-party T-test was conducted to determine whether there were differences in learning outcomes using the TANDUR and

expository models. While the second hypothesis test using a one-party T-test was conducted to determine the effectiveness of the TANDUR model with the expository model of student mathematics learning outcomes.

RESULTS AND DISCUSSION
1. **Initial Ability**
   a. Initial Ability Normality Test

      From the normality test at a significant level of 5% and the degree of freedom = 4, it is obtained χ^2_{stat}= 8,07707 and χ^2_{table} = 9,4877 so that $\chi^2_{stat} = < \chi^2_{table}$ which means that the experimental class has initial ability data that is normally distributed. While the normality test at a significant level of 5% and the degree of freedom = 2 is obtained χ^2_{stat}= 4,88745 and χ^2_{tabel} = 5,9915 so that $\chi^2_{stat} < \chi^2_{table}$ which means the control class has the initial ability data that is normally distributed.

   b. Initial Ability Homogeneity Test

      From the homogeneity test at the level of 5% and the degree of freedom = 4, it was obtained χ^2_{stat}= 3,38454 and χ^2_{table} = 9,4877 so that $\chi^2_{stat} < \chi^2_{table}$ which means that both classes have the same variance (homogeneous).

   c. Hypothesis Testing Two Parties

      From the two-party hypothesis test at a significant level of 5% and degrees of freedom = 52, it was obtained $t_{stat} = 0,02942$ and $t_{table} = 2,010249$ so that $t_{stat} < t_{table}$ which means there is no significant difference in the initial ability scores between students of class VII B and class VII D even semester of SMP Negeri 3 Kasihan in the academic year 2015/2016 So it can be said that both classes have the same ability.

2. **Mathematics Learning Outcomes**
   a. Normality test

      From the normality test at a significant level of 5% and degrees of freedom = 2, it is obtained χ^2_{count}= 3,38454 and χ^2_{table} = 5,9915 so that $t_{count} < t_{table}$ which means that the experimental class has mathematical learning outcomes data that are normally distributed. While the normality test at a significant level of 5% and the degree of freedom = 3, it is obtained χ^2_{count}= 2,0788 and χ^2_{table} = 7,8147 so that $t_{count} < t_{table}$ which means the control class has mathematical learning outcomes data that are normally distributed.

   b. Homogeneity Test

      From the homogeneity test at a significant level of 5% and the degree of freedom = 1, it was obtained χ^2_{count}= 2,0788 and χ^2_{table} = 3,8415 so that $t_{count} < t_{table}$ which means that the learning outcomes of both classes have the same variance (homogeneous).

   c. Hypothesis Testing Two Parties

      From the two-party hypothesis test at a significant level of 5% and degrees of freedom = 52, it was obtained χ^2_{count}= 2,4125 and χ^2_{table} = 2,0102 so that $t_{count} > t_{table}$ which means that there are differences in mathematics learning outcomes of students whose learning uses the TANDUR model with learning outcomes in mathematics using expository models that are applied to class VII students of SMP Negeri 3 Kasihan for the 2015/2016 Academic Year.

   d. One-Party Hypothesis Test

      From the one-party hypothesis test at a significant level of 5% and degrees of freedom = 52, it is obtained χ^2_{count}= 2,4125 and χ^2_{table}= 1,67492 so that $t_{count} > t_{table}$ which means that the TANDUR learning model is more effective than the mathematics learning model that uses expository learning models for class VII students of SMP Negeri 3 Kasihan for the 2015/2016 Academic Year.

CONCLUSION

Based on the analysis of the experimental data and its discussion, the following research conclusions can be drawn:

1. There is a difference in mathematics learning outcomes between the experimental class and the control class of seventh-grade students in the even semester of SMP Negeri 3 Kasihan for the 2015/2016 Academic Year. This is shown from the calculation of the value $t_{count} = 2,4125$ and $t_{table} = 2,01024$ then $t_{count} > t_{table}$. So H_0 is rejected and H_1 is accepted.

2. The TANDUR learning model is more effective than the expository learning model in grade VII students of SMP Negeri 3 Kasihan for the 2015/2016 Academic Year, this is shown from the results of the calculation of grades $t_{count} = 2,4125$ dan $t_{table} = 1,67492$ then $t_{count} > t_{table}$. So H_0 is rejected and H_1 is accepted.

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