Discovery Learning Model in Human and Environmental Interaction Materials

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Abstract---**This study aims to analyze the effect of the Discovery Learning Model on students' learning activities in the material of human and environmental interaction. Discovery Learning is a learning model that actively involves participation of students in exploring and discovering their own knowledge and using it in solving problems. This model can increase students' activity in learning material for human and environmental interactions. The research method is quantitative method. This type of research is experimental research with nonequivalent control group design. The instrument used is observation sheet of student learning activities. Activity research data (pretest) showed t_count (-0.120) <table (1.685), which means there was no difference in student activity. After receiving treatment and posttest, the data of activeness (posstest) showed the value of t_count (26,794)> t table (1,685), which means that there was a difference in student activity. After receiving treatment and posttest, the activity in the experimental class was higher than that of the control class. Thus, there is the effect of discovery learning models on student activity.**

Keywords: Discovery Learning, activities

I. INTRODUCTION

Education has an important role for the successful development of a country. Therefore, the government strives for everything to improve the quality of human resources through a curriculum that constantly changes and develops with the progress of the times.

Social studies in elementary school is a subjects packaged in an integrated manner. Law No. 20 of 2003 on National Education System states that "Social studies is a study material that must be included in the basic and secondary education curriculum which includes geography, history, economics, health and others which are intended to develop knowledge, understanding, and the ability of students to analyze the social conditions of the community."

Social studies material consists of various social sciences related to the problems that exist in everyday life. Learning model used by teachers in schools must be able to provide experiences for students and can last a long time in memory so that it is useful in their lives not only in the future but also now. Mulyasa (2013: 54) states that "teacher's most important task is facilitating learning, not merely lecturing or teaching'. Many teachers have only taught social studies subjects in the form of concepts that must be memorized without involving student activities.

Learning requires activity, especially those that can foster a desire to solve problems. Activities in learning must be able to involve all aspects of students, both physical and spiritual so that changes in behavior can change quickly, accurately, easily and correctly (NanangHanafiah, 2010: 23).

To arouse student activity, it is necessary to create fun learning and use appropriate learning models in each material which will ultimately improve student learning achievement.

A learning model that can provide opportunities for students to find out for themselves from active activities during learning is Discovery Learning model. This is one learning model that involves active participation of students in exploring and discovering their own knowledge and using it in problem solving. According to Fasco (in Mustafa, 2014, p. 18) the application of discovery learning models will have the following effects: 1) Provide initial experience for students' interest in asking questions about problems, concepts, situations, or ideas; 2) Provide a manipulative and material situation to begin the exploration path; 3) Provide a source of information for student questions; 4) Provide materials and devices that trigger and encourage discovery learning and student outcomes; 5) Give time for students to manipulate, discuss, try, fail, and succeed; 6) Provide guidance, guarantees, and reinforcement for student ideas and hypotheses; 7) Appreciate and encourage acceptable solution strategies.

The learning process is a major factor in learning activities. Learning activities are held to provide learning experiences to students. If the student is active in the activity then most likely he will be able to take the learning experience. With the existence of interesting activities most likely the students' understanding in learning will increase so that the learning achievement achieved is satisfying.

II. METHOD

The type of research used in this study is an experiment with two variables used, namely the dependent variable and the independent variable. This design uses two class samples where one class is an experimental group, namely the class given the Discovery learning model, and one control group class that is given the direct learning model. In this study the subjects studied were students who had been registered in their respective classes, not random

because randomization was not possible. In this quasi experiment, subjects are not randomly grouped purely but the researcher accepts the state of a rudimentary subject (Ruseffendi, 1998, p. 47). This is also in line with Mc. Millan and Schumacher (2001, p. 402) who assert that quasi-experimental research is "a type of experiment in which research participants are not randomly assigned to the experimental and control group".

The design of this study is a non-equivalent control group design with two groups of control and the experimental group. The control group is the comparison for the experimental group, and experimental group receives treatment so that the result is compared with the control group. Data collection was carried out by pretest in both groups which was carried out before treatment was given to the experimental group to determine the initial ability of the two groups. Posttest in both groups was carried out after experimental group received treatment to determine the effect of the treatment on student learning activities. The design pattern is as follows.

O1   X   O2
O3 ——————— O4
O1: Pretest of experimental group
O2: Posttest of experimental group
O3: Pretest of control group
O4: Posttest of control group
X: Treatment of discovery learning model

For the experimental group, learning was carried out using the Discovery learning model. Whereas in the control group with direct learning models.

The research subjects were students of the V-B and V-C classes at Kedungrejo Elementary School located in Kedungrejo Village, Waru District, Sidoarjo Regency. The choice of this location is based on the weaknesses in class V student learning outcomes. The school is also open to receiving input from other parties to determine the effect of Discovery learning models on class V students' learning activities. The research sample was 23 students for the control class and 23 students for the experimental class.

Data collection technique is technique for how data is obtained. The method used in this study is observation to observe students' activities in classroom learning. The types of activities observed were observing images, asking questions, conducting discussions, issuing opinions, answering teacher questions, analyzing, solving problems, and cooperating with groups.

The instrument in this study uses an instrument in the form of an observation sheet which is used to collect data relating to the technical implementation of the Discovery Learning model and the test sheet used to collect data related to activity. Instrument observation sheet of student activity is held by 2 observers in learning. Data from observations of student activities during ongoing learning are analyzed by the following formula.

$$P = \frac{f}{N} \times 100\%$$

Category:
P = Percentage
f = Number of activities carried out
N = The total number of activities assessed
(Indiarti, 2008:76)

Data analysis was performed using SPSS 21 program with decision making based on the comparison of t count with t table with the following information:

If t_count is greater than t_tabel (t_count> t_ (table)), then the null hypothesis (Ho) is rejected

t_count is smaller than t table (t_ (count) <t_ (table)), then the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected (Sugiyono, 2012)

III.   RESULTS AND DISCUSSION

Observation data on activity (pretest) shows that t_count (-0.120) <table (1.685). This means there is no difference in student activity. After receiving treatment and posttest, data on activity (posttest) showed t-count (26.794)> t table (1.685). This means that there is a difference in student activity. After receiving treatment and posttest, activity in the experimental class was higher than that of the control class. In conclusion, there is the influence of Discovery Learning model on students' activity.

IV.   CONCLUSION

Based on the results of data analysis about the effect of the Discovery Learning model on students' learning activities, there is an effect on the activity of the fifth graders. The effect of Discovery Learning model was higher than that of direct learning. Students were able to ask questions, discuss, issue opinions, answer teacher questions, analyze, solve problems, and collaborate with groups.

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