

COMPETENCE COMPARISON OF LEARNING RESULTS USING PROBLEM BASED LEARNING WITH DISCOVERY LEARNING ON INTEGRATED THEMAT LEARNING IN CLASS IV BASIC SCHOOL

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ABSTRACT

This study aims to compare the application of Problem Based Learning models to Discovery Learning students in grade IV SD 187 Pekanbaru. This research was conducted with experimental research methods with a comparative approach. "This type of research is the same as post-facto research, ie data is collected after all phenomena or events under investigation take place or about things that happen so that nothing is controlled. the average value of the pretest and posttest of student learning outcomes using the problem based learning model that is equal to 63,676 and 83,382, higher than the results of learning the pretest and posttest students using discovery learning methods, which amounted to 40,454 and 70,606. Thus, the Test Result shows fcount is greater than ftable, which is $10.176 > 3.98856$, so H_0 is rejected and H_1 is accepted, meaning that it can be concluded that there is an interaction between the problem based learning model and the discovery learning model on student learning outcomes.

Keywords: Problem Based Learning, Discovery Learning, Integrated Thematic

INTRODUCTION

Changes in Curriculum 2013 or 2013 Curriculum development are expected to be able to encourage active and creative students to observe, ask, reason, and communicate (present) what is obtained or known after students receive learning

material. Through the development of the 2013 curriculum, students are expected to have a much better competence in attitudes, skills and knowledge. Students will be more creative, innovative, and more productive (Hermon, 2015). At least there are five entities, namely every student, educator and education staff, management of educational units, countries and nations, and the general public, which are expected to experience changes

There are several learning models that are suitable to be applied in the 2013 curriculum, including Project Based Learning, Discovery Learning, and Problem Based Learning. The selection of learning models is left to the teacher by adjusting to the characteristics of the teaching material. The field study was carried out through observations and interviews on 11 May 2018 in SDN 130 Pekanbaru, Tampan Subdistrict which had implemented the 2013 Curriculum, there were three domains of learning outcomes: attitudes, which in each semester the students' attitudes looked good there had not been any more well, then in the realm of knowledge student learning outcomes on daily tests are still relatively low and the realm of skills is also still relatively low students have not been able to solve concrete problems around it and have not become independent learners and students have not been able to do new discoveries in learning . In addition, the teacher has not seen using the appropriate learning model or approach, only using conventional learning.

METHOD

This research was conducted with experimental research methods with a comparative approach. This type of research is the same as post-facto research, ie data is collected after all phenomena or events under investigation take place or about things that happen so that nothing is controlled. According Yusuf (2014) the population planned in this study was all fourth grade students of SDN 187 Pekanbaru which consisted of 3 classes, each class totaling 35 students. Sampling from the population will be carried out by purposive sampling technique this technique is the determination of samples with certain considerations. The choice of a group of subjects is based on certain characteristics which are considered to have a close relationship with the characteristics of the population that have been previously known. (Sutrimo 2013) In

this study, there are two independent variables, which are independent variables, are Problem Based Learning (X1) and Discovery Learning models (X2), dependent variables are student learning outcomes.

RESULTS AND DISCUSSION

After testing the learning outcomes, then the data obtained is described first before data analysis. The results of the description of the experimental class I and experimental class II data are as follows. Percentage of student learning outcomes in the experimental class, namely, the results of the pretest students showed 23 people into the very less category, 1 person entered into the category of less, 2 people were in enough categories, 7 students were in good category and no student learning outcomes were entered into the very less category. After the learning method was implemented the posttest was 7 people in the excellent category, 15 people in the good category, 8 people in the sufficient category, 1 person in the less category, and 2 people in the very poor category.

The average score of learning outcomes of experimental class I students before being given treatment (pretest) was higher than the experimental class II. The average pretest score of experimental class I was 63.68 and the average pretest score of experimental class II was 40.45. The average learning outcomes of the experimental class I students after being given the posttest treatment were higher than the posttest average of the experimental class II which was 83.38 greater than 70.61. The average N-Gain score of the experimental class I is 0.52 and the experimental class II is 0.50.

The average pretest score of experimental class I was 32.79 and the average pretest score of experimental class II was 29.85. The average learning outcomes of the experimental class I students after being given the posttest treatment were higher than the posttest average of experiment class II which was 68.23 greater than 66.97. The average N-Gain score of the experimental class I is 0.56 and the experimental class II is 0.54.

From the results of the replicated data, it can be seen that the students' daily test results did not meet the KKM set by the school, namely 75 in the field. Learning was

still not emphasized on the discovery of concepts or principles independently for students, so the learning was less meaningful. Then, the learning provided also still does not involve real or real problems that exist around students. Learning also still uses the lecture method (teacher centered) while the demands in the 2013 curriculum are using the PBL model (Problem Based Learning), PjBL (Project Based Learning) and Discovery Learning which must apply student centered. Based on interviews with class IV teachers, there were 3 people said the learning process using PBL and DL models was quite complicated, caused by lack of learning facilities and infrastructure and time constraints. Problem based learning is also a learning approach that uses real world problems as a context for students to learn about critical thinking and problem solving skills, and to acquire essential knowledge and concepts from subject matter (Sofyan, 2016). Thus PBL is learning that is guided by problems where students were previously given problems. In this case new knowledge is needed to solve it. Discovery learning is a model used to solve problems intensively under the supervision of a teacher. In discovery learning, the teacher guides students to answer or solve a problem. Discovery learning is a cognitive learning method that requires teachers to be more creative in creating situations that can make active learning learners discover their own knowledge. Bruner in (Hadiono and Hidayati, 2016) suggests that students learn through their active involvement with concepts and principles that can add experience and lead to experimental activities. Teaching and learning activities using the discovery method are similar to inquiry. The difference lies in the role of the teacher. In the discovery method the teacher and students are equally active. Discovery is often applied to science experiments in laboratories that still need teacher assistance (Hadiono and Hidayati, 2016).

Discovery Learning is a learning theory that is defined as a learning process that occurs when students are not presented with lessons in their final form, but students are expected to organize themselves. As a learning strategy, Discovery Learning has the same principles as inquiry and Problem Solving. Operational Steps in discovery learning are: Stimulation (stimulation/giving stimulation); Problem statement (statement/problem identification); Data collection; Data Processing; Verification (Hermon and Dalim, 2005; Hermon and Dalim, 2006; Istiana *et al.*, 2015). Based on

the background of the problem above, problems can be identified as follows: (1) Student learning outcomes are still low, this can be seen from achievements that are not up to the specified KKM. learning is less meaningful (3) Students have difficulty in solving problems and have not been able to produce a project (4) Learning still uses the lecture method (teacher centered), while the demands of the 2013 curriculum are using student-centered learning models.

Learning outcomes of students who use the problem based learning model are higher than the student learning outcomes that use the discovery learning model in learning I. This can be seen from the average value of the pretest and posttest student learning outcomes using the proble based learning model that is equal to 63,676 and 83,382 , higher than the results of learning the pretest and posttest students use the discovery learning method, which is equal to 40,454 and 70,606. The results of the analysis are also strengthened by testing hypotheses using the t test, which is obtained by the combined variance values of the two sample classes of 0.03664 with a significant level of α (0.05) dk 65, so that the tcount of 2.59 is smaller than ttable which is equal to 1,997. Because the tcount is greater than ttable, Ho is rejected and Hi is accepted, meaning that there are differences in student learning outcomes using the problem based learning model with discovery learning models in learning I.

The average value of the pretest and posttest of student learning outcomes using the problem based learning model that is equal to 32,794 and 68,235, higher than the learning outcomes of the pretest and posttest students using the discovery learning method, which amounted to 29,848 and 66,969. The results of the analysis are also strengthened by testing hypotheses using the t test, which is obtained by the combined variance values of the two sample classes of 0.032535 with a significant level of α (0.05) dk 65, so that the tcount is 2.45 smaller than t table which is equal to 1,997. Because the tcount is greater than ttable, Ho is rejected and Hi is diteria, meaning that there are differences in student learning outcomes using the problem based learning model with discovery learning models in learning II.

See the interaction between the problem based learning model and the Discovery Learning Model conducted using the ANOVA Test. The ANOVA test was carried out using IBM software SPSS 25 for Windows software. Test results show Fcount is greater

than F_{table} , which is $10.176 > 3.98856$, so H_0 is rejected and H_1 is accepted, meaning that it can be concluded that there is an interaction between the problem based learning model and the discovery learning model on student learning outcomes.

CONCLUSION

Student learning outcomes on Theme 8 of Subtema 1 using the Problem Based Learning model is better than the Discovery Learning model. Problem Based Learning model teaches students to solve problems and reflect on their experiences in everyday life, based on the problem of personal experience of students learning is more inherent in students compared to Discovery Learning students feel difficulty in searching and investigating systematically, critically, logically and analysis of his findings. Student learning outcomes on Theme 8 of 1 using the Problem Based Learning model is better than the Discovery Learning model. Student learning outcomes on Theme 8 of Subtheme 1 using the Discovery Learning model lower than Problem Based Learning. There is an interaction between the Problem Based Learning model and the Discovery Learning model on student learning outcomes. This means that student learning outcomes on Theme 8 of theme 1 that use the Problem Based Learning model and student learning outcomes in theme 8 of theme 1 that use the discovery learning model do not have significant differences in statistical calculations. Thus it can be said that the Problem Based Learning model with the Discovery Learning model can affect student learning outcomes.

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