

DIFFERENCES IN PJBL MODEL WITH PBL ON SELF-EFFICACY OF GRADE V ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

The study aims to reveal the differences in the Project Based Learning Model with the Problem Based Learning Model of Self Efficacy in fifth grade students of SD Kartika 1-11 Padang Timur District. The type of research used is quasi experiment with the design of the static group comparison design. The population in this study were all fifth grade students of SD Kartika 1-11 Padang Timur District with sample VE class as experimental class 1 and VE as experimental class 2. Sampling was done by probability sampling technique with the type of proportionate stratified random sampling. Data analysis techniques through the students' pretest and posttest Self Efficacy abilities. The hypothesis is proposed using the t test formula. The results showed that there were differences in the Self Efficacy of students in the experimental group 1 who took science learning using the Project Based Learning model for the experimental group 2 students taking science learning using the Problem Based Learning model with the average Self Efficacy questionnaire in the experimental class 1 at 72.92 posttest 87.58 and the average Self Efficacy questionnaire for the experimental class 2 students was pretest 63.13 posttest 71.04.

Keywords : PjBL, PBL, Self Efficacy

INTRODUCTION

Education in Indonesia continues to be comprehensive in all fields. For example, in the field of curriculum in accordance with the times, the curriculum as the main guideline for education changes periodically to achieve perfection until now, the 2013 curriculum is implemented. The 2013 curriculum in its planning uses an integrated thematic approach, and its implementation uses a scientific approach, according to

regulations. Minister of Education and Culture (Permendikbud) Number 81A of 2013 concerning Implementation of the Curriculum.

In elementary schools, the implementation of the 2013 curriculum in Elementary Schools (SD) has always undergone a change towards perfection. Lastly regulated by Permendikbud 2016 Number 20 concerning Competency Standards for Graduates, Number of 21 concerning Standard Content, Number of 22 concerning Standard Processes, Number of 23 concerning Standard Assessment, Number of 24 concerning Core Competencies and Basic Competencies. In Permendikbud Number of 22 Year 2016 mandates that the implementation of learning in SD is strengthened by the application of Project-Based Learning (PjBL) learning models, Problem-Based Learning (PBL) and Discovery / Inquiry Learning (DL / IL) (Permendikbud, 2016),

PBL has a learning process by raising problems with students. This is in accordance with the understanding of PBL, namely a learning model that uses problems as a basis in developing new knowledge of students (Moutinho, Torres, Fernandes, & Vasconcelos, 2015). The main purpose of the PBL model is the development of critical-thinking skills and problem-solving abilities, as well as the ability of students who actively build their own knowledge (Pharisees, Hamid, & Melvin, 2017). In achieving these goals, the learning process starts from studying the problem, learning based on complex real-world situations; students work in groups, do not provide some information needed to solve problems; learners identify, find and use appropriate resources, learn actively, integrated and interconnected (Sani, 2015). With the PBL model, student competencies can improve in several ways, namely transferring concepts to new problems, integrating concepts, increasing interest in learning, learning with their own direction, and improving learning skills (Sani, 2015).

PjBL is a learning model that produces a product. This is similar to Sani's explanation (2015) that PjBL is a learning model that has long-term activities by involving students in designing, making and displaying products to overcome real-world problems so as to develop students' abilities in planning, communicating solving problems and making decisions. The goal introduced from project-based learning is that students are able to design and create a work with high creativity (Amini, 2015). Therefore, learning activities are adapted to the characteristics of the PjBL, which

focuses on important concepts, learner-centered learning, realistic projects, constructive investigations, producing products, related real problems, and inquiry processes (Sani, 2015). In the end, PjBL can develop students' scientific attitudes

Self-Efficacy is a belief that is owned by someone about his ability and ability to be able to do something or face a situation, and get the desired results. Self Efficacy encourages a person to do a job he believes will succeed, rather than a job he feels is unable to do it. This is in accordance with Bili's (2014) statement that Self-Efficacy is a perception of a dynamic nature of one's ability (competence) in carrying out tasks / work carried out (Bili, 2014).

Referring to the opinion of Ifdil, Apriani, Yendi, & Rangka (2016) about the level of Self-Efficacy of students by sex, stating that Self-Efficacy of female students is categorized as high, Self-Efficacy of male students is categorized as moderate, and there are differences in average independence students both on female and male students. While the results of Hardianto's research, Erlamsyah, Nurfarhanah (2013) entitled The Relationship between Academic, Self-Efficacy and Student Learning Outcomes are students of Solok Selatan 2 High schools have high levels of academic Self-Efficacy, students of South Solok 2 High schools have been learning outcomes that high, and there is a significant relationship between Self-Efficacy academic with student learning outcomes in Solok Selatan 2 High schools, which has a moderate level of relationship.

METHOD

The type of research used is quasi experiment with the design of the static group component design. The populations in this study were all fifth-grade students of SD Kartika 1-11 Padang Timur Subdistrict with samples of VE class as experimental class 1 and VB as experimental class 2. Sampling was done by probability sampling technique of the type of proportionate stratified random sampling. The research data was collected through the students' Self-Efficacy pretest and posttest abilities. The hypothesis is proposed using the t test formula.

RESULTS AND DISCUSSION

The results of this study will describe the description of the data "Differences in Project-Based Learning Models with Problem-Based Learning on Self-Efficacy of Grade V Elementary School Students. The Self Efficacy questionnaire data from the two-sample classes was obtained before and after learning using the Project Based Learning model and the Problem-Based Learning Model. In the experimental class, 1 student who took part in the questionnaire amounted to 20 students, and the experimental class 2 numbered 20 students. It was found that the mean Self Efficacy questionnaire of experimental class 1 student was higher than the mean Self Efficacy questionnaire of experimental class 2. The mean Self Efficacy questionnaire of the experimental class 1 student was a pretest, 72.92 posttest 87.58 and the mean questionnaire Self-Efficacy of students in the experimental class 2 was a pretest 63.13 posttest 71.04 with the difference between pretest 9.79 and posttest 16.54. The maximum score of the results of the Self Efficacy questionnaire of students in the experimental class 1 was a pretest, 90 posttes 100 and the maximum score of the Self Efficacy questionnaire in the experimental class 2 were the pretest 80 posttes 90. The minimum score of the Self Efficacy questionnaire in the experimental class 1 was a pretest, 50 posttes 70 and the minimum score of the Self Efficacy questionnaire of students in the experimental class 2 were the pretest 45 posttes 40.

The requirements analysis test was conducted to see conclusions about the data obtained from Self-Efficacy of fifth-grade science learning in both sample classes. Before conducting a hypothesis test, the data normality test is done manually first. Testing the first hypothesis in this study uses the t-test. From the distribution list t with a 0.05 significance level and 2-tailed 0.000. Based on the above calculations it turns out that the sign value. <0.05 , then H_0 is rejected H_1 is accepted. It can be concluded that there are differences in the Self-Efficacy of students in the experimental group 1 who attended science learning using the Project-Based Learning Model for Experimental group 2 students following science learning using the Problem-Based Learning Model.

Based on the results of the study, it can be seen that the Self-Efficacy of students in the experimental class 1 taught using the Project-Based Learning model is

higher than the Self-Efficacy of the experimental class 2 students taught by the Problem-Based Learning model. This can be seen from the results of data analysis reinforced by the results of testing the first hypothesis using the t test obtained by the combined variance of the two samples is 179,322 for the real level $\alpha = 0.05$ dk 40, so that the resulting tcount is 4.503. While the table obtained is 2.086. Because tcount is greater than t table, then H_0 is rejected and H_1 is accepted. This means that the Self-Efficacy of students taught with the Project-Based Learning model is better than the Self-Efficacy of students taught with the Problem-Based Learning model.

This study has revealed that the Project-Based Learning model has a large positive effect on students' Self Efficacy. The application of the Project-Based Learning model in science learning in real terms researchers see students' interest in science learning can be generated and students' Self-Efficacy of learning given by the teacher also looks good. Students also have more confidence in learning. The fact that the implementation of the Project-Based Learning model is more successful in influencing students' Self-Efficacy in learning science compared to the Problem-Based Learning model. This is because, this model has been learning steps that can create fun learning for students so that it evokes confidence. This model in its implementation can be applied to SD with steps, namely: 1) obtaining ideas; 2) designing the project; 3) adjust the project; 4) make a project; 5) show off projects (Sani, 2015).

The idea of making a project can be obtained from discussing with colleagues, but must remain related to the curriculum set. The teacher determines what students must learn by working on the project. The teacher presents a project development plan, introduces the project, discussion for clarification. The teacher sets the desired expectations for the project made. The teacher needs to set the time to carry out product exhibitions that have been made by students. Not only from the implementation, proving that the Project-Based Learning model can influence students' Self Efficacy can also be seen from the advantages they have. Suparmin, Nuraini, & Estikarini (2016) describes the advantages of the PjBL learning model as follows: 1) Creating a fun learning atmosphere, 2) Developing problem-solving skills, 3) Providing complex learning experiences and developing according to the real world, 4) Developing communication skills, 5) Developing resource management capabilities, 6) Creating an

experience in managing projects, time allocation, and resources to complete tasks, 7) Making students more active and successful in solving complex problems, 8) Participating students to learn to collect information, processing according to the knowledge that is owned and then implementing in the real world, increasing the motivation to learn student learning.

Unlike the Project-Based Learning model, the Problem-Based Learning model uses problems as a basis for developing students' knowledge, and learning activities for students' thinking abilities are more optimized with group work or teamwork, so that the problem can be solved properly. Based on the description above, from the results of the research findings and data analysis that had been carried out, it can be concluded that there are differences in the Self-Efficacy of students taught using the Project-Based Learning model with the Problem-Based Learning model.

CONCLUSION

There are differences in Self-Efficacy of students in the experimental group 1 who took science learning using the Project-Based Learning model for students in the experimental group 2 following science learning using the Problem-Based Learning model. Based on the conclusions above, some suggestions can be made to improve learning outcomes, including: (1) for teachers to be able to use the Project-Based Learning model in the fifth-grade science learning process in elementary schools, because the application of science-based learning projects can improve students' Self-Efficacy, (2) for the principal as information in the coach of the teacher personnel in making a positive contribution to the improvement of the learning process and (3) for other interested researchers who are expected to conduct further research by being able to anticipate the obstacles that occur.

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