The Influence of Creative and Fun Learning Models through Project Based Learning (PjBL) Methods on Increasing Student Achievement

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Abstract. This study discusses the effect of using creative and fun learning models through the Project Based Learning (PjBL) method on increasing student achievement. The problem in this study is the low learning achievement of fifth grade students in Indonesian subject matter at the Integrated Islamic Elementary School (SDIT) Insani City of Sukabumi. The research method used is a quasi-experimental research design with Non-Equivalent Pre-test - Post-Test Control Group Design. Based on the normality, homogeneity, and t-test data from the pretest posttest data for understanding the concepts of students in the experimental class and the control class. The use of the Project Based Learning (PjBl) method for fifth grade students is expected to improve student achievement in Indonesian subjects at SDIT Insani Sukabumi City, West Java – Indonesia.

Keywords: Creative and Fun Learning Models, Project-Based Learning, Student Achievement, Elementary School

INTRODUCTION ~ The low learning achievement of students in Indonesian language subjects in elementary schools is the focus of the study in this study, learning achievement can be interpreted whether during the teaching and learning process in class as expected.

Students as part of society which is the hope of the nation and state in the future, should be the pioneers in developing themselves in supporting sustainable development. With the provision of education obtained at school, graduates are expected to be able to develop themselves into people who have good character such as being independent, having far-sighted thinking (visionary) and as technical implementers who have strong abilities and enthusiasm for the achievement of superior human development through educational process (Indarti & Rostiani, 2008).

The teacher's role is very important in producing quality graduates. However, the problem that occurs until now is that there are still many teachers who use patterns or techniques and even traditional teaching methods, namely teaching using the lecture method and are one-way, namely the teacher only talks at length while the students are only assigned to listen. This makes students feel uncomfortable and boring in learning, it can even be said to be boring. So if it is linked in this case, the teacher's task is not only to convey learning material in the form of memorization and existing theories, but also to regulate the environment and learning strategies that allow students to learn to have a pleasant experience and understanding of the information obtained from the findings or experiments carried out by the teacher. Students do, so that students can improve

their abilities with the process of developing the abilities they observe, identify, and can solve problems and analyze (Mubiar Agustin, 2014).

Schools must be able to bring out the abilities of students so that students achieve maximum achievement. Thus our students are expected to be able to face competition in a very fast outside themselves. In this case, the problem is that many students who have a lazy nature do not have high motivation, then only rely on temporary abilities. This means that the ability only appears when students get something from the teacher or someone who is considered capable, then without being processed in such a way. Students only pour their work from what they get without wanting to give a little innovation and creativity that they actually have in themselves.

If you look at the benefits of students, who are able to improve their abilities and high achievements, they will have their own pride. The results of his abilities and achievements can give a plus to the school where he studies. Seeing from this phenomenon, it cannot also be the object of the low learning achievement of students, not only from the side of students. However, this is most likely due to the implementation of the learning system in schools that is less varied and enjoyable. So that students only get what is conveyed by the teacher. Why should it vary? Maybe that is the question in the minds of the teachers. Seeing from the current reality, what students do will be in accordance with what is ordered by the teacher. This kind of thing will make students not develop in terms of knowledge and in terms of creativity.

In addition, the result of the learning process is the result of an interaction between the act of learning by the students and the act of teaching the teacher. In this case, the teacher does not teach by ending with an evaluation process. However, for students, learning outcomes are the end of teaching from the top of the learning process. The learning outcomes carried out can represent students' achievements in various component indicators that become the benchmarks for assessment (Byrne, Flood, & Willis, 2002) and provide significant changes in the quality of students' self as a result of the learning experiences they have done (Watson, 2002).

Learning achievement continues to be in the spotlight in the world of education due to the benefits of the process to the resulting learning outcomes, namely for the accreditation of students in learning outside the classroom and in real life (Maher, 2004), revealing whether people with certain qualifications are able to know, understand and take action in accordance with their qualifications. The qualification here is the relationship between the level of knowledge developed during the learning process at school and the demands or expectations given by the world.

Related parties, in this case the government and educators, continue to seek creative and innovative ideas to improve the quality of learning for students to be able to compete in society. However, there are still many students who are not able to achieve the criteria that have been set as learning achievement standards that must be achieved by students. This phenomenon of course results in gaps in learning

achievement and shows that there are obstacles and problems in the learning process of students, both in the process at school and at home. Therefore, educators are expected to be able to provide encouragement and increase the motivation and enthusiasm of their students in learning and provide various alternative solutions in solving problems faced by students. (Riswanto & Aryani, 2017).

This condition must get more attention, because if it is ignored on an ongoing basis, it is possible that it can have a very bad impact on graduates, especially in elementary schools, which in turn will one day lead to complex difficulties and problems in the learning process at higher levels higher. These graduates will be considered as not having sufficient capacity or having very less competence. Therefore, learning achievement is useful for students and teachers as teachers to achieve educational goals, and in turn is useful for achieving national development goals, namely reducing the unemployment rate and can also alleviate the nation's poverty (Riswanto, 2016b).

Learning achievement is influenced by two factors, namely internal and external factors of students. Internal factors that influence student learning outcomes are student learning styles, self efficacy, student learning motivation (Hussey & Smith, 2010), student cognitive abilities and student expertise (Kraiger, Ford, & Salas, 1993). External factors that affect student learning outcomes are learning systems, teaching strategies, curriculum, learning models (Potter & Johnston, 2006), teacher teaching experience, curriculum, teachers and materials, teacher motivation in educating and the use of learning models (Riswanto, 2016a)

, interactions during the learning process, teaching technology and teaching methods (Young, Klemz, & Murphy, 2003), curriculum development and teacher pedagogic abilities (Maher, 2004), teaching approaches and gender (Byrne et al., 2002).

The results of the study found a similar phenomenon, learning seemed to be a accumulation of facts. Learning only delivers students to the level of "understanding", but not yet at the level of "applying" the knowledge they have acquired in the cases they face. As a result, students can only do as their teacher has exemplified. So that if the problems faced are different in presentation, students have difficulty in solving them (Lubis, A, R & Manurung, 2010). The constructivist approach reminds us that learning is not only an important theoretical idea. Constructivism provides opportunities for students to construct their own knowledge which means training students to think and be responsible for their thoughts (Trianto, 2015). More Sugilar, Hamdan, (2013) asserted that with the foundation of constructivism, students will be able to improve their learning achievement.

Project-based learning has the potential to provide an interesting and meaningful learning experience for students. The focus of learning lies in the principles and concepts of a scientific discipline, involving students in problem solving investigations and other meaningful tasks, providing opportunities for students to work autonomously in constructing knowledge and to produce products.

The Project Based Learning model requires students to produce products as

a solution to the problems that occur. Thus, students must first analyze the problems that occur around them. This will certainly increase the thinking power and abilities of students in class, such as the ability to analyze.

The Project Based Learning (PjBL) model is a learning based on constructivist theory (Chu, S. K., Chow, K. & Tse, 2011). Learners who participate in the PjBL model benefit from increased creative thinking and problem-solving skills (Tretten and Zachariou, 1995). PjBL learning model shows a positive effect on low-ability students, namely the increased use of skills including synthesis, evaluation, predicting, and reflecting back increased by 46% while high-ability students increased by 76% (Horan, Lavaroni, and Beldon, 1996)

Other research related to learning achievement, such as research on learning achievement caused by low motivation and learning style in students which results in low quality of learning (Zimmerman, Bandura, & Martinez-Pons, 1992) (Lim & Morris, 2009). These studies do contribute to the importance of internal factors that must be improved in students in the form of student motivation, but these studies are only limited to providing information that the motivation of students themselves must be improved in the learning process. The teacher competence and teacher quality are part of the external factors that affect learning outcomes. The studies that have been carried out have clearly only focused on one of the factors that affect learning outcomes and there is no collaboration between these two factors as the cause of low learning outcomes. This research focuses on external factors described by experts, it is suspected that the use of

learning models (DeLuca, Klinger, Pyper, & Woods, 2015; Guo, Zhu, & Renqiang Min, 2015; Liepe & Sakalas, 2008) is a factor that affects achievement. Learning and Researchers believe that the teacher's role will strengthen or weaken the relationship between the independent variable and the dependent variable (Adcock & Bolick, 2011; Coles, Owens, Serrano, Slavec, & Evans, 2015; Gunderson, Ramirez, Levine, & Beilock, 2012; Opfer, Pedder, & Lavicza, 2011; Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011).

In this study, the use of learning models is an external factor that affects learning achievement. The learning model used is Project Based Learning. There are so many learning models in academia, there are many theories, techniques, approaches created by learning model scholars to improve the efficiency and effectiveness of teaching and learning activities. However, not all are suitable for educators and students. For this reason, educators are given the opportunity to explore, try and then choose any learning method that fits the philosophy and teaching style of educators. There are four learning models suggested in the 2013 curriculum for use in correspondence and information subjects including Inquiry Based Learning, Discovery Based Learning, Project Based Learning, and Problem Based Learning (Kemendikbud, 2011).

Of the four suggested models, the project-based learning model is considered the most suitable for most Indonesian subjects, because Indonesian language subjects are mostly faced with various language subjects that require results in the form of products.

METHOD

Research methods can be interpreted as ways that can be used by researchers in conducting research so that research objectives can be achieved. This research uses descriptive and verification research types. The method in research is basically a scientific way to obtain data with the aim and use to solve a problem. Based on the variables studied, this type of research is verification research. According to Hasan (2009), "the verification method is testing the truth of something / knowledge in an existing field and is used to test hypotheses using statistical calculations". Verification research is basically testing the truth of a hypothesis which is carried out through data collection in the field.

Based on the objectives to be achieved, namely seeing the effect of Project Based Learning and Self-efficacy learning models on student learning outcomes, this study uses a modified experimental pretest-posttest equivalent-groups design (Best, 1978).

This research activity is intended for students who are divided into two classes, namely divided into two classes, namely the learning experiment class using the Project Based Learning learning model and the learning control class using the conventional learning model..

This learning model can be applied to Indonesian eyes by adopting steps from Santyasa (2006), as follows:

1. Set the project theme.
   The project theme should meet the following indicators: (a) contain general and original ideas, (b) important and interesting, (c) describe complex problems, (d) reflect the relationship of various ideas, (e) prioritize the solution of ill defined problems.

2. Establish the learning context.
   The learning context should meet the following indicators: (a) Project questions question real-world problems, (b) Prioritize learner autonomy, (c) Conduct inquiries in the community context, (d) Learners are able to manage time effectively and efficiently, (e) Learners learn fully with self-control, and (f) Simulate work in a professional manner

3. Plan activities.
   Learning experiences related to project planning are as follows: (a) reading, (b) researching, (c) observation, (d) interviews, (e) recording, (f) visiting project-related objects, (g) internet access .

4. Processing activities.
   The indicators for processing activities include, among others: (a) sketching, (b) describing analysis, (c) calculating, (d) generating, (e) developing prototypes.

5. Implementation of activities to complete the project.
   The steps taken are: (a) trying to work on a project based on a sketch, (b) testing the steps that have been done and the results obtained, (c) evaluating the results that have been obtained, (d) revising the results that have been obtained, (e) recycle other projects, (f) classify the best results.

RESULT

The data obtained in this study were in the form of learning achievement data consisting of pretest data, posttest data and learning implementation. Pretest data is data obtained before the class is

given treatment, while posttest data is data obtained after the class is given treatment. Learning outcomes data will be used to process data quantitatively in hypothesis testing. To make it easier to analyze the research results, a statistical analysis tool is used in the form of the SPSS version 26 program application, which can provide information automatically after going through several operations.

After determining the experimental class and the control class, the two classes were given the same pretest questions in the form of multiple choice questions. For the 1st pretest there are 20 questions, the 2nd pretest is 25 questions and the 3rd pretest is 25 questions.

In the first pretest of the experimental class with 23 students, the smallest score was 48 and the largest score was 81. The average score was 71.96 with a standard deviation of 8.33. In the first pretest control class with 25 students, the smallest score is 40, the largest value is 78. The average is 66.6 with a standard deviation of 10.33. The highest score of learning achievement for the Experimental Class on this 1st test is 81 or about 81% of the ideal value while the control class is 78, or 78% of the ideal value.

In the second pretest of the experimental class with 23 students, the smallest score was 49 and the largest score was 83. The average score was 73.83 with a standard deviation of 8.48. In the second pretest the control class with a total of 25 students, the smallest value is 41, the largest value is 79, the average is 67.92 with a standard deviation of 10.37. The highest score of Learning Outcomes for the Experimental Class on this 2nd test is

83 or about 83% of the ideal value while the control class is 79, or 79% of the ideal value.

In the 3rd pretest of the experimental class with 23 students, the smallest score was 52 and the largest score was 84. The average score was 75.91 with a standard deviation of 8.24. In the 3rd pretest the control class had 25 students, the smallest score was 43, the largest score was 80, the average was 69.08 with a standard deviation of 9.97. The highest score of Learning Outcomes for the Experimental Class on this 3rd test is 84 or about 84% of the ideal value while the control class is 80, or 780% of the ideal value.

To test the difference of the two averages between the experimental class and the control class by looking at the distribution of learning outcomes with the normality test and the homogeneity test required to meet the requirements for the two-average test using parametric statistical tests. If the test results are not normal and not homogeneous, a non-parametric test is performed.

To test the normality of the posttest data, the one-sample Kolmogorov-Smirnov statistical test was used at SPSS ver 26.00. the result is by comparing the probability of Assymp Sig (2-taled) with the value of alpha (α). The test criteria is if the probability of Asymp.Sig (sig 2-tailed) > alpha (α), then the test is said to be normally distributed. The normality test hypothesis is:

Ho : significant number (Sig) < 0.05 then the data is not normally distributed

H1: significance number (Sig) > 0.05, then the data is normally distributed.

From the results of the study, it can be seen and concluded that the experimental class that uses the cooperative learning model with the PjBL method shows the Kolmogorove-Smirnov sig number for the 1st posttest, both the experimental class sig. : 0.161 which is > 0.05 and as well as the control class, the sample comes from a normally distributed population because sig > 0.05 is 0.176. For the 2nd posttest the experimental class sig. : 0.20 which is > 0.05 and control class sig = 0.20 which is > 0.05., 3rd posttest both experimental class and control class, the sample comes from a normally distributed population because the sig for the experimental class is 0.065 which is > 0.05 and control class 0.20 > 0.05.

After the normality test, the next step is the homogeneity test. The homogeneity test criteria was carried out by comparing the significant figures. From the homogeneity test results, the sig 2-tailed significance number was obtained, at the 1st, 2nd and 3rd posttests of 0.169. Therefore, the significance is greater than 0.05 so it can be concluded that the variance of the Indonesian language learning achievement data in the experimental class and control class students is homogeneous.

After testing the normality and homogeneity of the posttest data of the experimental class and the control class, it turns out that the data of the two classes is normal but not homogeneous in learning achievement, so that the test of the difference in the average posttest data using non-parametric statistics, namely the t-test using Mann-Whitney the test at the significance level = 0.05 (two-party test) is accepted and H1 is rejected.

The results of the analysis (statistical test) in the Mann-Whitney test are known that the Asymp.Sig (2-tailed) value is 0.018 < 0.050. Therefore, it can be concluded that "Ha is accepted". Thus, it can be said that there are differences in learning achievement in Indonesian subjects between the Experiment Class and the Control Class. In other words, there is a significant effect of using the Project Based Learning method on Indonesian subjects in improving the learning achievement of elementary school students in Sukabumi City in 2021.

DISCUSSION
The results of the analysis obtained from this study include that there are differences in the results of both personal and average scores between the experimental class and the control class. The experimental class has a higher score than the control class. This is because the experimental class uses a cooperative learning method, namely the Project based learning approach. When viewed from the results of the verification test using the SPSS version 26 application which was carried out to test for differences in the results of the analysis or in this case the achievements of students from the two classes.

As stated in the research results section, the results of this study are able to prove that the use of cooperative learning methods with a project based learning approach can improve student achievement. This is in accordance with research which reveals that students' learning experiences and concepts are built based on the products produced in the project-based learning process, which will discuss Project Based Learning among many other learning models. The

application of project based learning (PjBL) in learning activities can improve cognitive learning outcomes (Baran and Maskan, 2010), form attitudes and behaviors that care about the environment (Kılıç, D. and Saglam, N. 2009: Tseng, et al, 2013), and effective learning (Cook et all, 2012: Movahedzadeh et all, 2012).

In addition, the Indonesian language subject that is used as the subject under study involves the process of reading and writing, as stated by Robert M. Capraro who explained that project-based learning is more suitable for interdisciplinary teaching because it naturally involves many academic skills that are needed. different subjects, such as reading, writing, and mathematics and are suitable for building conceptual understanding through the assimilation of different subjects (Robert M. Capraro et al, 2013).

CONCLUSION

The results of this study conclude that there is a positive influence on the implementa-tion of the Project Based Learning model on improving learning achievement in Indonesian subjects at the elementary school level. The effect can be seen from the increase in learning achievement between the experimental class and the control class, in other words the average learning achievement of students in the experimental class is higher than the control class. Likewise, the results of the verification test analysis that test the hypothesis can be concluded that H0 is rejected and H1 is accepted.

The conclusion from the results of this study cannot be generalized to all levels of education and all subjects, this is because this research is only limited to two small classes at the elementary school level. However, this can be an opportunity to continue research at higher education levels and other subjects and subjects, besides that, further researchers can use higher analysis, for example by using SEM analysis and creating research models.

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