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The Effectiveness of Project Based Learning and Think Pair Share Learning Models for Improving The English Learning Outcomes

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Abstract

Indonesia has implemented student learning methods; it can affect student learning outcomes. This study aims to determine the effectiveness of project-based learning models and think pair share to improve the learning outcome of English learning at SMP IT AL-Madani Semarang. This study using Quasi-Experiment design, pre-test and post-test design. Sampling technique used was using cluster random sampling. The research data was analyzed by using independent sample t-test at $\alpha = 0.05$. The results showed that: (1) learning models using project-based learning on average 81.77 (2) learning models by using think pair share with an average of 74.56. (3) There are differences in cognitive learning outcomes between the project-based learning group and think pair share with a significance value of $0.002 < 0.05$. Meanwhile, the gain test concluded that there are differences between project-based learning and think pair share models in the moderate category. The conclusions showed that project-based learning model is more effective than think pair share model in improving students' cognitive learning outcomes. Meanwhile, think pair share model can be used as an alternative on English learning in the subject of "we love what we do". The benefits of this study is as a source of information in answering problems that occur in the learning process, particularly to improve the learning outcomes and are useful in the world of education, especially in the field of curriculum development science.

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INTRODUCTION

Education has a very strategic role in improving the quality of human resources and efforts to realize the ideals of the Indonesian people in realizing general welfare and educating the life of the nation in accordance with the law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System.

The results of observations at SMP IT AL-Madani Semarang in December 2017 on English Language teachers were known that student learning outcomes were not optimal, because there were still 20 students (58%) of 36 students who received grades below the graduation standard score of 65. English was still considered lesson students who are difficult. Students feel bored because they use a learning model that is not yet varied.

Teachers have not implemented cooperative learning and learning models that are recommended in the 2013 curriculum. Project-based learning and Think pair sharing models are used before by teachers in learning English in the classroom. This needs to get attention in relation to efforts to improve the learning process.

The 2013 curriculum focuses on the scientific approach; this is in accordance with Permendikbud No. 22 of 2016 concerning the Standards of Primary and Secondary Education Processes. Efforts to apply scientific or scientific approaches in the learning process are often referred to as distinctive features and become a separate force from the existence of the 2013 Curriculum, which is certainly interesting to learn (Kurniasih, 2013). The scientific approach consists of five stages, namely, observing, asking, collecting data, analyzing, and communicating.

Based on Permendikbud of the Republic of Indonesia Number 58 of 2014 regarding 2013 Junior High School/Madrasah Tsanawiyah curriculum contained in article 5, paragraphs 1 and 6, states English in general subjects of group A.

In this research, discusses the subject matter of we love what we do that plays a role in helping students to understand the various professions that exist. English emphasizes direct experience so that it can help students to gain a deeper understanding. Based on the research conducted by Utanto, Widhanarto & Maretta (2017) effective web-based portfolio model.

While the implications of the development of this model research, the next researcher is expected to be able to use the development model guidelines based on the research that has been done to be developed in other subjects. Therefore, researchers want to use learning models that are in accordance to the objectives of English learning, including a Project based learning and Think pair share models.

Project-based learning is the instructional strategy of empowering learners to pursue content knowledge on their own and demonstrate their new understanding through a variety of presentation (Fathurrohman, 2015). Project-based learning is a learning model that involves a project in the learning process.

Think pair share was developed by Frank Lyman and his colleagues at the University of Maryland. This model is intended as an alternative to traditional methods that are applied in class, such as lecture method, one-way question and answer, namely the teacher towards students is an effective way to change the atmosphere of the class discussion pattern (Thobroni & Mustofa, 2011).

Research conducted by Sultana & Sajida (2015) states that project based learning can be a good learning method in learning English. In line with Sucipto (2017) states that project based learning can increase student interest and learning outcomes.

Other findings from research conducted by Traverso-Ribon, et al. (2015) all prove that project based learning provides positive evidence for the field of web engineering that is supported by scrutiny.

Research conducted by Kormiana (2017) states that the application of think pair can improve students' English learning outcomes. In line with Ni'mah & Dwijananti (2014) stated that Think pair share can improve student learning outcomes and activities. Kartikawati & Purwanti (2015) stated that think pair share can improve

the quality of learning with the help of video media.

Based on the research conducted, this study there are differences. In this study analysed how students learn in English learning using project based learning and think pair share models.

The purpose of this research was to compare the effectiveness of project based learning and Think pair share models for improving the English learning outcomes. The benefits in this study were to analyze the synthesis of differences in the effectiveness of project based learning and Think pair share models for improving the English learning outcomes.

METHODS

This study was a quasi-experimental design with pretest-posttest using two classes as an experimental group. The experimental class of one student was given a treatment with the project based learning model and the experimental class two students were given treatment with Think pair share learning model.

The population in this study were all seventh grade students of SMP IT AL-Madani Semarang. Sampling was done by using cluster random sampling technique. As an independent variable was project based learning and think pair share models. The dependent variable was the learning outcomes which consist of affective, cognitive and skills.

Data collection techniques using tests and non-tests. Tests in the form of pretest and posttest were used to determine the cognitive learning outcomes of students, and non-tests was done by using questionnaires with questionnaire sheets used to see the students' affective and skills. Data analysis techniques was done by using prerequisite test (normality test, homogeneity test, and hypothesis test), and N-gain test.

RESULTS AND DISCUSSION

This research was conducted in December, 2017. Based on the research that has been done, the following results are obtained:

The Result of Cognitive Learning Outcome

The Score of Pre-test and Post-test of students

The average score of students is different after pre-test and post-test. The score of the pre-test and post-test results of the two experimental classes are presented in the following table 1.

Table 1. Pre-test and Post-test of Students Cognitive Learning Outcomes

Explanation	Experimental 1		Experimental 2	
	Pre-test	Post-test	Pre-test	Post-test
Number of students	18	18	18	18
Average	71.17	81.77	69.68	74.54
Min score	60.00	70.00	53.00	63.00
Max score	86.00	93.00	80.00	86.00

Based on table 1, it can be seen that the average pretest of experiment 1 was 71.17, and experiment 2 was 69.68, the pretest scores of the two groups were almost the same. At the average posttest value of experimental class 1 was 81.77 better than experimental class 2 of 74.54. The results of the research analysis, it is known that project based learning is more effective in improving student learning outcomes. This is indicated by the difference in the average cognitive learning outcomes of students. Supported by Hanafiah & Suhana (2009) the learning model of project based learning is a learning approach that allows students to work independently in constructing their learning and culminating in real products. This means that project based learning is a learning approach that facilitates students to work independently in building their knowledge. Meanwhile, according to Trianto (2014) project based learning is a model or innovative learning approach, which emphasizes contextual learning through complex activities.

Based on the condition, the students of SMP IT AL-Madani Semarang are conducive and able to perform complex activities as evidenced by the group's students being able to make project assignments in the form of posters. Project based learning models also train students to build their knowledge in groups and individuals. According to the findings study by Wiek, Xiong, Brundiers & Leeuw (2014) show the fact that the main impact on learning and student learning outcomes is achieved through

joint efforts by the organization as a whole. It is supported by Khoiri, Marinia & Kurniawan (2016) states that project based learning models can enhance student creativity and learning outcomes.

The result illustrated that Project based learning model can improve student activity in learning activities that have a positive correlation to learning outcomes. The positive correlation from student activity in English learning. Project based learning model is designed to contain complex tasks based on very advanced statements and problems, and requires students to design, solve problems, make decisions, conduct investigative activities, and provide opportunities for students to work independently. The purpose of the project work is so that students have independence in completing the task at hand. This proves that by using a project based learning model can improve students' cognitive learning outcomes.

The Average Different Test of The Effectiveness in Improving The Students Cognitive Learning Outcome

The effectiveness difference test was used to find out the significance different of the two classes. The test of the effectiveness difference was carried out at the post-test value. The results of the test of the effectiveness differences are presented in table 2.

Table 2. The Average Different Test of Post-test of Both Experimental Classes

	t	df	Sig. (2-tailed)	Mean difference	Std. error difference
Equal variances assumed	3.282	34	.002	7.22222	2.20038
Equal variances not assumed	3.282	33.592	.002	5.90909	2.20038

Table 2 shows that the results of the average analysis of post-test data obtained t = 3.282; df = 34; P = 0.002, $P_{value} < 0.05$, then H_0 is rejected. The results showed that there is differences significant student's ability between classes taught by Project based learning and Think pair share models.

The research analysis, it is known that project based learning model is better than Think pair share model in improving students' cognitive learning outcomes. These results are reinforced research conducted by Thahir (2017) which states that the application of project-based learning models is effectively applied in learning exposition text writing. Research conducted by Ardianti & Kurniasih (2017) states that the project-based learning model with a scientific approach can increase students' creativity.

The condition of students at SMP IT AL-Madani during the implementation of Project-based learning model of students looks enthusiastic and ready to take lessons, students form groups of five people. Students are able to develop ideas to make a project in the form of a poster. Project based learning model also makes students work together in a project in the form of posters. Project based learning model builds the creativity of students, this can be seen from the results of the projects being done.

Other findings from the research conducted by Hanipah, Florentinus & Rifai RC (2018) which states that problem based learning model is more effective in improving students 'cognitive learning outcomes compared to project based learning learning models, while for students' environmental care attitude there is no significant difference. This opinion is contradicted by the research that has been disputed by Susilowati, Iswari & Sukaesih (2013) which states that project-based learning has a positive effect on student learning outcomes. In line with research conducted by Munawaroh, Christijanti & Supriyanto. (2013) that the application of project-based learning models to the material of the human digestive system is able to improve student learning outcomes. This means that the project based learning model can be used to improve student learning outcomes.

N-gain test

The N-gain test is used to determine the improvement of students' cognitive learning

outcomes before and after the treatment is given. The results of the N-gain test are presented in table 3.

Table 3. The Improvement of N-Gain Score of Students Cognitive

Class	Number of students	Average	Criteria
Experiment 1	18	0.369	Moderate
Experiment 2	18	0.174	Low

Based on table 3, it can be seen that the increase in student learning outcomes in the experimental class one in the moderate criteria is 0.369. In the experimental class two, the average of student learning outcomes increase in the low criteria of 0.174. The improvement of the learning outcomes in the experimental class one is better than the experimental class two seen from the N-Gain criteria.

The Affective Learning Outcome

The data of affective learning outcomes in this research are spiritual attitudes and social attitudes of students obtained from the results of questionnaires. The results of students' spiritual attitudes and social attitudes are presented in table 4.

Table 4. The Data of Affective Learning Outcome

Explanation	Experiment 1	Criteria	Experiment 2	Criteria
Number of student	18		18	
Average	3.23	Excellent	3.52	Excellent
Min score	2.90		2.90	
Max score	3.81		4.00	

Based on table 4, it can be seen that the affective average of students in the experimental class one is 3.23 with very good criteria and the experimental class two is 3.52 with very good criteria.

According to Wena (2014) the learning model of project based learning is a learning model that provides opportunities for teachers to manage learning in class by involving project work. Project work is a form of work that contains complex tasks based on questions and problems that are very challenging and guide students to design, solve problems, make decisions, conduct investigative activities, and provide opportunities for students to work independently. Research conducted by Cho & Brown (2013) which states project based learning trains students in working together in a group. Research conducted by Chikita, Padmadewi & Suarnajaya (2013) stated that project based learning can improve students' disciplinary attitudes. This is in accordance with the learning process using the project based learning model, students complete the project on time and enter the class in a disciplined manner.

Think pair share gives students more time to think, respond, and work independently and help other friends positively to complete tasks Thobroni & Mustofa (2011). Social attitudes are shown by students by being honest when given assignments independently. Students also always enter on time in the learning process. Think pair share learning model also helps students to be responsible for what has been discussed with their partners and make students confident in the results that have been done in groups, proven by bravely presenting the results of the discussion in front of the class. This is consistent with the research conducted by Tiur (2013) states that think pair share not only improves their achievement in writing descriptive text but also increases cooperation, responsibility and confidence. This is in line with research conducted by Salam (2014) stating that think pair share can increase students' self-confidence. Research conducted by Apriliarini (2015) states that think pair share can increase students' confidence. Nurnawati, Yulianti, & Susanto (2012) stated that think pair share learning model shows cooperation and student learning outcomes have increased.

The condition of students in SMP IT AL-Madani Semarang showed that they were all actively involved in collaborating with groups, solving problems, making decisions, making projects until presenting the class. Therefore, this method guarantees the total involvement of all students and an excellent effort to increase the responsibility of each individual in the team work.

The Psychomotoric Learning Outcomes

Skills assessment was carried out by researchers. Skills assessment was obtained through performance appraisal consisting of (1) Practical Values, (2) Portfolio Values, (3) Project Values. Skill assessment is carried out at the end of completing one Basic Competency. In this research, the researcher used Portfolio Values by using a range of values such as knowledge assessment. From the results of the calculation of skills assessment, obtained skilled and highly skilled students in the learning process. The results of psychomotor assessment of students are presented in table 5.

Table 5. The Data of Psychomotoric Learning Outcome

Explanation	Experimental 1	Criteria	Experimental 2	Criteria
Number of students	18		18	
Average	3.00	Good	3.52	Good
Min score	2.50		2,50	
Max score	3.50		3.50	

Based on table 5, it can be seen that the average score of students psychomotor in the experimental class one is 3.00 with good criteria and the experimental class two 3.52 with good criteria. Project based learning and think pair share model used during this study are positive for students. This can be seen from the average value of students who are overall in good criteria.

Skills assessment was carried out by using an assessment sheet, which contains; presentation organization, presentation content, coherence and fluency in language, language, speech, grammar, vocabulary, and presentation (gaze, facial expressions, body language). This assessment was carried out when students present the results of the project in front of the class. The learning process uses a project-based learning model. Participants can create a useful product. Research conducted by Setyaningrum, Rahayu & Setiati (2015) states that project based learning can improve students' skills. Another research is Faizah (2016) which also states that project based learning with a scientific approach can improve learning outcomes and can improve skills. Furthermore, research conducted by Herawan & Rahayu (2016) states that the scientific-based project based learning model can influence student learning activities by using project-based learning models on student learning outcomes on cognitive and psychomotor aspects. Based on several opinions above, it is confirmed that Project based learning model and Think pair share can improve learning outcomes and can improve students' skills.

The condition of all students at SMP IT AL-Madani Semarang is actively involved in collaborating with groups, solving problems, making decisions, making projects until presenting the class. Therefore, this method can involve all students and excellent efforts to improve the skills of students.

CONCLUSION

The conclusions showed that project-based learning models more effective than Think pair share model in improving students' cognitive learning outcomes. Meanwhile, Think pair share learning model can be used as an alternative of learning English in the subject “we love what we do”.

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