

EXAMINING THE EFFICACY OF PROJECT-BASED LEARNING AMONG UNIVERSITY STUDENTS

Oleh:

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Abstrak

Learning is an active process that involves many components that determine learning achievement. One aspect that can turn into measurement indicator of success are learning method and the students themselves. Nevertheless, students are performers as well as determinants of the learning achievement. Student involvement in learning is a necessity, both in the form of attention and producing a product. Especially in online learning during the pandemic, students are required to have more engagement in seeking an understanding of learning. Furthermore, Project-Based Learning (PBL) is one of the alternative solutions that was conducted in this research. PBL is one of the teaching methods that is considered the most ideal to be applied in productive skills courses. As well to facilitating evaluation, PBL will also be able to support the needs of students to "bound" to produce products and maintain engagement with courses during the lecture period. The data shows that PBL is effective to improve students' learning achievement.

Keywords: Efficacy; Project-Based Learning; University Students

1. INTRODUCTION

English in foreign language learning has its own challenges in implementing learning, especially in pandemic conditions that obstruct direct face-to-face interaction in learning. An appropriate media and methods are needed to get better learning outcomes.

Learning English as a foreign language is divided into 2 main skills called receptive skills and productive skills. The categorization is divided into Reading and listening involve receiving information and so they are called the receptive skills. Speaking and writing are known as the productive skills because they involve producing words, phrases, sentences and paragraphs.

In this study, researchers tried to focus on research in English learning on productive skills subject or well-known as active skills that require students to be actively involved or produce a 'product' of the subject.

As we realize, learning during the covid-19 pandemic through the process of drastic change from face-to-face learning to online learning, adaptation is required to begin with the use of media, time allocation, appropriate learning methods that are believed as the most needed for each learning achievement planned in each subject. There is a transition period needed in this phase, before finally finding the best learning pattern.

Students, beyond basic subject-area knowledge, need a set of skills which are often called "twenty-first century skills" which make teaching and learning more connected to the real world in the new era (Larmer, Mergendoller, & Boss, 2015). Students need to find ways to navigate through learning

activities and solve problems as the learning experience unfolds (Abuhmaid, 2020; Achmad, 2021). Thus, in order to become effective 21st century learners, students should develop, side by side the content, competencies and skills including critical thinking, problem solving, collaboration, and making presentations in order to move beyond simple content area knowledge and skills to tackle more complex issues (Binkley, Erstad, Herman, Raizen, Ripley, Miller-Ricci, & Rumble, 2012; Larmer, Mergendoller, & Boss, 2015; Piirto, 2011; Aminah & Nugraha, 2021).

Project-based learning, as well its name, uses projects for teaching and learning. Projects provide students with opportunities to be central in their learning, work autonomously over a given period of time with facilitation from the teacher, collaborate and cooperate to research and create projects, and reflect on their learning individually and as teams (Bell, 2010; Blumenfeld et al., 1991; Thomas, 2000). Learning is grounded in explicit educational goals (Moursund, 1999), often including lifelong learning (Diehl et al., 1999).

1. Project-Based Learning

Project-Based Learning for productive skill subject helps student to keep engage, set goals and motivate to get better achievement for the subject. Project-based learning (PBL) involves organizing learning around projects in which learn-ers construct knowledge and skills that are new to them (Thomas 2000). PBL has been shown to produce a better attitude towards learning and higher academic achievement (Baş, 2011; C. Chen & Yang, 2019) compared to traditional instruction and textbook-based teaching. Students are motivated to pursue

nontrivial problems by genuinely engaging with them (Blumenfeld et al., 1991). Ideally, PBL in practice is scaffolded to meet appropriate learner goals, supports teachers and students to enact effective teaching and learning, includes formative reflective and peer evaluations, promotes both collaborative work and individual student ownership and agency (B. J. S. Barron et al., 1998; Kokotsaki et al., 2016; Svihla & Reeve, 2016). PBL places student autonomy and agency at the center of the learning process, takes place in socially connected settings, develops individual students' abilities and skills, and the projects are relevant and interesting to the students (Hira & Anderson, 2021).

Project-based learning does not only enhance students' motivation to learn, but also it fosters their cognitive engagement, and when students are motivated and cognitively engaged, they are more likely to learn and remember better (Moursund, 1999). In addition, teachers in project-based learning teach in a more satisfying way (Larmer, Mergendoller, & Boss, 2015) allowing them to activate students' role in the learning process and to focus on higher order skills (Moursund, 1999).

According to (Martínez, Herrero, and de Pablo, 2011) considered PBL part of cooperative learning methodologies that include advantages over traditional teaching approaches such as the promotion and development of:

- a. active involvement of students in the learning process;
- b. independent learning and teamwork;
- c. knowledge and skills integration in several areas;
- d. students' autonomy and awareness;
- e. critical thinking processes;
- f. a positive attitude toward the subject of study;
- g. student satisfaction.

During project-based learning, students resolve issues or dilemmas by designing, critiquing, and evaluating concrete artefacts or products (Blumenfeld et al., 1991; Howard, 2002). This method embodies John Dewey's conception of "learning by doing" (Barron et al., 1998), as students are responsible for planning and implementing their ideas and solutions. It engages them to ask questions, search for information, brainstorm, design, and test alternative solutions (Blumenfeld et al. 1991), which, as hypothesized by Garrison (2007), are activities that could help them better construct knowledge. Online Learning

Online learning or distance learning means Education in which instruction and content are delivered primarily over the Internet. (Watson & Kalmon, 2005).

Distance learning: A formal educational process using technological delivery in which instruction occurs where students and instructors are not in the same place. Instruction may be synchronous or asynchronous. Distance education may use audio, video, or computer technologies.

Distance education, distance learning, and eLearning are recognized by the Commission as being synonymous terms. Academic courses or programs are considered to be distance education entities when over 50 percent of the content is delivered through distance education modes.

According to (Keegan, 1980) analyzes four definitions and offers "a comprehensive definition" for distance education (p. 6). The main elements of a definition of distance education are:

- the separation of teacher and learner which distinguishes it from face-to-face (F2F) lecturing
- the influence of an educational organization which distinguishes it from private study
- the use of technical media, usually print, to unite teacher and learner and carry the educational content of the course
- the provision of two-way communication so that the student may benefit from or even initiate dialogue
- the possibility of occasional meetings for both didactic and socialization purposes
- the participation in an industrialized form of education (Keegan, 1980, p. 6).

Thus (Saykili, 2018) Distance education is a form of education which brings together the physically-distant learner(s) and the facilitator(s) of the learning activity around planned and structured learning experiences via various two or multi-way mediated media channels that allow interactions between/among learners, facilitators as well as between learners and educational resources.

Moreover (Watson & Gemin, 2008) Online learning offers the advantage of personalization, allowing individualized attention and support when students need it most. It provides the very best educational opportunities to all students, regardless of their zip code, with highly qualified teachers delivering instruction using the Internet and a vast array of digital resources and content.

2. RESEARCH METHOD

a. Time and place of the research

This research has been conducted in a private university in Subang.

b. Research Method

The researcher has been executed the research by *true experiment method* using *One Grup Pretest-Posttest Design* by Cohen (2007). The design as follow:



One Grup Pretest-Posttest Design

Sumber: (Cohen, 2007)

Notes:

O₁ = Pretest

X = Treatment

O₂ = Posttest

c. Population and Sample

The participants of this research are the students of private university students. There were 30 students as a sample for this research. This research has been conducted by Cluster Random Sampling. As Margono (2004), states *teknik ini digunakan bilamana populasi tidak terdiri dari individu-individu, melainkan terdiri dari kelompok-kelompok individu atau cluster.*

d. Research Procedure

This research has been conducted using Zoom Application, and Learning Management System because in pandemic situation teaching-learning process are conducted by online learning. The primary ones are pre-test and post-test, while the secondary ones are classroom observation, interview and learning as well as teaching English.

1) Classroom Observation

One way to minimize problems related to having no control or comparison group is to measure the same dependent variable in one group of participants before (pretest) and after (posttest) a treatment. We measure scores before and again following a treatment, then compare the difference between pretest and posttest scores.

2) Pretest

Pretest helps measure students learning over a period of time. The pretest marks a student's level of understanding before instruction while a final assessment or post-test measures students learning. A comparison of pretest and post-test can provide a teacher with an opportunity to track student progress in a period of research.

3) Treatment

Students which are chosen to be sample for the research has been completed treatment from the researcher. They gave material as a standard at school, but they will be given different treatment to enhance their learning achievement.

4) Post-test

Post-test are given after completion an instructional program. Post-test is needed to measure student English ability after the treatment. Post-test is form is an exercise that students should try to handle about kinds of material that given by the researcher.

e. Research Instrument

The *research* was conducted by several instruments. The primary ones are pre-test and post-test, while the secondary ones are classroom observation and interview.

3. RESULT AND DISCUSSION

A. Result

a. Findings of Pre-test and Post Test

Table 1: Paired Sample Statistics

Paired Samples Statistics	Mean	N	Std. Deviation	Std. Error Mean
Pre Test	50.00	30	11.105	2.027
Post Test	71.80	30	8.798	1.606

Pair 1	Pre Test				
	50.00	30	11.105		2.027
	Post Test	71.80	30	8.798	1.606

Table above shows statistical description about, mean score pretest is 50.00 and mean score post test 71.80, moreover it means Project-Based Learning raise students' score about 21.8%.

Table 2: Paired Samples test

Paired Samples Test

	Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
					Pair 1 Pre Test - Post Test	-21.800			

Table *paired samples test* consist the result of t test. There are any differences between mean before and after treatment about 21.8, with the value of std. deviation 5.027 and std. error 0.918.

Value of t count is 23.753 and df=29 so we have sig (2 tailed) or p-value is 0. P-value score is lower than alfa value (0.025). it means there is any differences between the result of mean pre-test and post test.

Value of t count if higher than t table (2.045), so Ho rejected. It means there is any differences mean score of pre-test and pot test.

B. Discussion

Based on the result of the analysis, the researcher consider that students' learning achievement were increased after conducted learning through project. It's clearly seen on the table 1: Paired Sample Statistics, the table describe the improvement of students average score. On the pre-test their score is 50, it is not enough to pass minimum criteria to pass the subject. Moreover, after treatment during a semester their mean score increase to 71.8. It means Project-Based Learning raise students' score about 21.8%. it may happen because Project based-learning facilitate students and teacher to create ideal atmosphere to learn. Moreover, PBL in practice is scaffolded to meet appropriate learner goals, supports teachers and students to enact effective teaching and learning, includes formative reflective and peer evaluations, promotes both collaborative work and individual student ownership and agency (B. J. S. Barron et al., 1998; Kokotsaki et al., 2016; Svihla& Reeve, 2016).

4. CONCLUSION

Based on result and discussion above, the researcher concluded that project-based learning effective for teaching in online learning. This method spare time for student to explore their subject, improve their learning aoutonomy, work in group effectively, because during the project the students ahuld be able on designing, critiquing, and evaluating

the project. All those process bring the students get deeper understanding about the subject.

Moreover, The data shows that there is significant effect of Project-Based Learning toward student English learning achievement. The effect is about 21.8%. it means students' project during teaching learning process help them increase their knowledge and skill in productive skill subject.

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