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## Project-based learning in teaching speaking to young learners: Is it effective?

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### Abstract

*Students' disfluency in speaking is caused by limited practice, incorrect pronunciation, and inappropriate learning methods. That of the last point drove this research in finding out the effectiveness of using Project-based Learning (PBL) to improve students' speaking skills. The study participants were 59 students of the seventh graders of SMP Muhammadiyah 1 Kudus, divided into the experimental and the control classes using a quasi-experimental research design. The data were obtained from the pre-test and the post-test. The results showed that the students' speaking ability mean scores in both classes were higher in the post-test than in the pre-test. In addition, the independent sample t-test supported the result in the hypothesis testing. It means that project-based learning applied had a significant difference or effective to improve young-learner students' speaking skills. To conclude, using this method created more fun, active, and interactive speaking class atmosphere for young learners.*

**Keywords:** *project-based learning; young learners; speaking skill*

### INTRODUCTION

In Indonesia, the English teaching process does not include various activities, especially speaking. Teachers do not encourage interaction and communication but only focus on reading comprehension and drilling grammar (Fitria, 2013). Besides those incomplete skills and elements of language teaching, teachers also use monotonous methods, which make students become bored and have a low interest in the English subject. Students have English speaking problems, and their abilities are still low because they rarely practice and speak actively in class (Riswandi, 2018). Besides, students cannot express their ideas because they are unconfident to practice and are hampered by the learning process. Moreover, if teachers do not support students continuously to speak, students are unwilling to participate actively, and the learning goal cannot be realized.

Regarding the fact, the students of the seventh graders in SMP Muhammadiyah 1 Kudus had not spoken English fluently. There were some reasons why they had low ability in speaking English. The problems were caused by the lack of practice, incorrect pronunciation, and inappropriate learning methods. In responding to those problems, this study dealt with PBL as a method in teaching speaking skills. Therefore, the research question focused on whether or not the PBL was significantly beneficial for improving students' speaking skills.

### **Teaching speaking for young learners**

Teachers need to know and understand their students' characteristics while teaching junior high school students in formal operational stages (10-15 years old). Young learners have differences from adults in some aspects of learning. Therefore, teachers need to consider their teaching style, methods, learning materials, lesson plan, and the way they are getting on them. In learning language, young learners also have differences, such as responding to the meaning, focusing on the situation of the design lesson, having all five senses stimulated, and having short attention (Juhana, 2014). It means that junior high school teachers are responsible for making their students enjoy the learning process.

In speaking English, we have to realize the speaking aspects during its process. According to Mora (2014), there are five speaking aspects: comprehension, fluency, grammar, vocabulary, and pronunciation. Speaking can be claimed as one of the core problems in learning English. Students think that this skill is complicated and hard to learn. Inhibition, lack of topical knowledge, low participation, and mother tongue usage are parts of problems in speaking (Tuan & Mai, 2015). Inhibition might be found in the language classroom (Littlewood, 2007). Lack of topical knowledge is another problem that students complain about when they cannot express themselves freely.

Harmer (1991) stated that there are causes why students use their mother tongue in the class. For those who are talking with their mother tongue spontaneously, the use of mother tongue will automatically be used by students to explain something to their classmates if teachers do not urge them to speak English, being comfortable if a teacher uses mother tongue in class. The use of native local languages, somehow, made it difficult for EFL students to have English communication in class (Nikmah & Anwar, 2021). It can be concluded that the use of mother tongue is more accessible than English in which students are more able to prompt themselves and more comfortable when learning speaking in the classroom.

Moreover, low participation might happen when there is a limited impulse in the class. In this situation, each student will have a slight chance to speak because only one student talks, and then others will try to listen to what he or she says (Leong & Ahmadi, 2017). Those problematic situations above will disappear if teachers can manage speaking class in a good atmosphere.

### **Project-based learning**

Project-based learning (PBL) is a learning method that includes student-centered through problem-solving experience that has the output as a product. The output of this method can be in the form of presentation, performance, and other projects. Using this method, students can improve their knowledge and motivation in learning, have effective problem-solving skills, learn self-directed, and be effective on collaboration skills (Dewi, 2016) as well as for the enhancement of young learners' speaking skills (Anwar, 2016; Anwar & Pratama; 2016). This method has four stages; speculating, designing, commanding, and conducting (Fauziati, 2014). In the speculating stage, teachers present a topic list to their students and invite students to have discussions. Designing entails forming the group, allocating roles, and selecting a methodology. In the commanding stage, teachers ask students to plan and organize a project. In conducting stage, students present their final products to the class. Hence, PBL makes students more creative to arrange a plan and design a project to improve their motivation to learn and practice speaking.

According to Patton (2012), this method makes students design projects and plan what they need to do. It means that students try to make a concept for their projects and arrange some steps about what they will do. This method also permits students to learn through projects and to combine their ideas with teachers' help (Riswandi, 2018). Using this method, students can design projects and arrange plans to improve their spoken communication. Hence, it makes them actively learn in the teaching and learning process.

Actually, studies about the use of project-based learning in improving students' speaking skills had been done by other researchers. Maulany (2013) conducted a study about the use of project-based learning in improving the students' speaking skills. The post-test result showed that the effect of project-based learning was significant in improving the participants' speaking scores. The second was a study by Dewi (2016), who investigated project-based learning techniques to improve speaking skills. The result revealed that the students' reaction to using PBL was positive. In line with those studies, Riswandi (2018) analyzed the implementation of project-based learning to improve students' speaking skills. The result was that the students had improved in intensive and extensive speaking performance. However, those three studies were conducted by using classroom action research and the subjects of the study were not young learners while this study was conducted by experimental research design and applied to young learners in a junior high school.

### **METHOD**

In this study, the researchers employed a quasi-experimental design as the research method. The objective of a quasi-experimental study is to detect a specific effect under controlled conditions (Sugiyono, 2013). As a result, this method manipulates the research object in order to determine whether or not the group receiving the treatment has a cause-effect relationship.

## **Respondents**

The study participants were the students of the seventh graders from one of the Islamic private schools in Kudus. Based on an agreement with the school, the researchers took three classes; 7A as the non-sample class, 7B as the experimental class, and 7C as the control class. The try-out class had 32 students, 29 students in the experimental class, and 31 students in the control class. The participants were 11 to 13 years old. It means that the study participants were in the formal operational stages of young learners.

## **Instruments**

In conducting the study, the researchers used tests as the instruments. It aimed to assemble the data of the study. The tests were used to determine the students' ability, especially in four aspects of speaking: fluency, grammar, vocabulary, and pronunciation. The tests consisted of two questions based on the topic in the syllabus. They were self-introduction and family introduction. There were two raters in scoring the result of the tests.

## **Procedures**

Before giving the tests to the experimental and the control classes, the try-out test was conducted on the non-sample class to measure its validity and its reliability. The test was rated by two raters. After the valid and reliable data were obtained, the pre-tests were given to the experimental and the control classes. It aimed to determine the result of homogeneity and normality before applying treatments. Then, the experimental class was treated by using the project-based learning method. On the other hand, the control class was treated using the conventional method. After three meetings in the treatment step, the researchers finally conducted the post-test on those classes to find out the significance of PBL for students speaking skills.

## **Data analysis**

After the researchers had collected the required data, the data were calculated in SPSS (Statistical Package for the Social Sciences) version 16 as part of the statistical data process. The researchers employed statistical computation and data analysis in the study. Those processes identified the different results between two classes: the experimental and the control classes. These classes were examined, and the post-test results were compared using a t-test.

## **RESULT AND DISCUSSION**

The section explains the results of the study. Furthermore, the discussion is elaborated by relating the research result with the related theories and previous studies.

### **Validity and reliability**

Validity is a test that determines an instrument's validity level (Arikunto, 2010). In this research, the validity test was conducted toward the non-sample class, to see whether the try-out test was valid or not. The data are valid if the r-value is greater than the r-table with the  $df = n-2$ , in which n is the sample (Ghozali, 2011). The following tables show the validity of questions 1 and 2 from rater 1 and rater 2.

Table 1. The validity of question 1 from rater 1

Aspects	r-value	r-table 5% (30)	Description
Fluency	0.914	0.361	Valid
Grammar	0.905	0.361	Valid
Vocabulary	0.803	0.361	Valid
Pronunciation	0.887	0.361	Valid

Table 2. The validity of question 1 from rater 2

Aspects	r-value	r-table 5% (30)	Description
Fluency	0.877	0.361	Valid
Grammar	0.809	0.361	Valid
Vocabulary	0.705	0.361	Valid
Pronunciation	0.751	0.361	Valid

Table 3. The validity of question 2 from rater 1

Aspects	r-value	r-table 5% (30)	Description
Fluency	0.862	0.361	Valid
Grammar	0.788	0.361	Valid
Vocabulary	0.801	0.361	Valid
Pronunciation	0.871	0.361	Valid

Table 4. The validity of question 2 from rater 2

Aspects	r-value	r-table 5% (30)	Description
Fluency	0.883	0.361	Valid
Grammar	0.771	0.361	Valid
Vocabulary	0.701	0.361	Valid
Pronunciation	0.767	0.361	Valid

Based on the tables above, the first rater and the second-rater gave different scores regarding the first and the second questions. The data validity was determined by r-value, which is higher than r-table (r-table at  $df = 32 - 2 = 30$  is 0.361). Moreover, the r-value had exceeded the r-table in the first and the second questions. The four aspects were higher than 0.361. Therefore, the first and the second questions were valid and could be used in the pre-test.

After determining the data validity, the data reliability was determined. Reliability is a test used in a study to assess the consistency of instruments' measurement and determine whether they are reliable or consistent (Dewi, 2018). The data were taken from the non-sample class after calculating the data validity. Cronbach Alpha was used to calculate the data, which is reliable if the r-value is greater than r-table (Widiyanto, 2010). The data reliability is presented in the tables below.

Table 5. The data reliability for question 1

Rater	r-value	r table 5% (32)	Description
Rater 1	0.555	0.349	Reliable
Rater 2	0.553	0.349	Reliable

Table 6. The data reliability for question 2

Rater	r-value	r table 5% (32)	Description
Rater 1	0.554	0.349	Reliable
Rater 2	0.553	0.349	Reliable

Based on the data in the tables above, the r-value from the two raters for the first and second questions was different. The values for the first question were 0.555 and 0.553, respectively. The r-values for the second question were 0.554 and 0.553. It was 0.349 in the cases where each r-value was higher than the r-table with the df of 32. Based on the data analysis, it can be concluded that the first and the second questions were reliable or consistent.

### Normality and homogeneity

Normality test aims to determine whether or not the variable is normal. The data were analyzed using the One-Sample Kolmogorov-Smirnov test—a general significance data level of more than 0.05 used in this analysis. The data are normal if Sig. >0.05 or higher than 0.05, then the data is stated vice versa if the Sig. <0.05 or lower than 0.05. The results of the normality test are as follows:

Table 7. The result of normality for question 1

	Pre-experimental	Pre-control
N	29	30
Normal Parameters	Mean	65.167
		68.966
Std. Deviation	10.8668	9.0003
Most Extreme Differences Absolute	.174	.150
Positive	.174	.150
Negative	-.101	-.096
Kolmogorov-Smirnov Z	.939	.821
Asymp. Sig. (2-tailed)	.341	.511

Table 8. The result of normality for question 2

	Pre-experimental	Pre-control
N	29	30
Normal Parameters	Mean	63.667
		68.707
Std. Deviation	10.3644	8.2716
Most Extreme Differences Absolute	.140	.205
Positive	.140	.205
Negative	-.105	-.095
Kolmogorov-Smirnov Z	.754	1.120
Asymp. Sig. (2-tailed)	.620	.162

Based on the tables above, the normality test on the experimental class got Sig. (2-tailed) 0.34 for the first question and 0.62 for the second question. Next, the control class got Sig. (2-tailed) 0.51 for the first question and 0.16 for

the second question. It can be determined that the data were higher than 0.05. Moreover, the data were normal and could be used for the homogeneity test.

Concerning the following test, the next step was analyzing the homogeneity. It aimed at determining how homogenous the data were. It should consider the needs in order to determine whether the data are homogenous or not. The data are homogenous if Sig. >0.05 or more than 0.05, the data are heterogeneous if Sig. <0.05 or lower than 0.05. Below are the results of the homogeneity test:

Table 9. The homogeneity of question 1

Levene Statistic	df1	df2	Sig.
.933	1	57	.338

Table 10. The homogeneity of question 2

Levene Statistic	df1	df2	Sig.
1.026	1	57	.315

Based on the tables above, the value of Sig. for the first question from the experimental and the control classes was 0.34 above. The homogeneity data for the second question was 0.32. The outcomes of the data met the criteria for a Sig. Value of higher than 0.05. It can be declared that both of the questions were homogenous.

The t-test is used to evaluate the difference in the mean among the independent data after the two terms are obtained. The researchers employed an independent sample t-test which determines the differences in average score between the experimental and the control groups. This test has the rules if the Sig. value (2-tailed) >0.05, the  $H_0$  is accepted, and  $H_1$  is rejected. Meanwhile, if the Sig. value (2-tailed) is <0.05, the  $H_0$  is rejected, and  $H_1$  is approved (Sujarweni, 2014). The following points can be used to understand the statistical test results:

- The null hypothesis ( $H_0$ ) is rejected if Sig. (2-tailed) >0.05. It means that Project Based Learning has no significant difference toward the seventh grade students' speaking skills at SMP Muhammadiyah 1 Kudus
- The null hypothesis ( $H_1$ ) is accepted if Sig. (2-tailed) <0.05. It means that Project-Based Learning has a significant difference toward the seventh grade students' speaking skills of SMP Muhammadiyah 1 Kudus

The results of the t-test data were the Sig. value (2-tailed) for each question was lower than 0.05, as shown in the results for the first and the second questions. The Sig. on the first question was 0.013 < 0.05, and the second question was 0.004 < 0.05. It means that employing project-based learning to teach speaking had a significant difference. The null hypothesis ( $H_0$ ) was rejected, while the alternative hypothesis ( $H_1$ ) was accepted.

### **Students' speaking skill**

In this study, the researchers used four speaking aspects to determine students' speaking ability. They were fluency, grammar, pronunciation, and vocabulary.

### **Fluency**

Fluency is one of the critical aspects of speaking. Sometimes, students' speaking was not fluent because they wanted to avoid mistakes. According to Littlewood (2007), students might get stuck expressing their opinions. It means that the lack of fluency in speaking can occur because of confusion in expressing ideas, as shown in the following extract.

*"I study in SMP Muhammadiyah one Kudus. I seven grade. My hobby is ... umm ... watching Youtube. And my favourite colour is black. My favourite food is ... umm ... noodle. I like noodle because that is ... aaa ... delicious food."*

The extract above shows that the student experienced low fluency, such as pausing and thinking about what was said. It shows that speaking was initially low in the pre-test, although the post-test increased on this aspect.

### **Grammar**

Grammar is one of the most crucial aspects of speaking English. If there is an error in selecting a structure, it can alter the meaning. In this study, grammar was assessed as an aspect of the test. It used the simple present tense for delivering self-introduction as the topic. The results showed that the pre-test result was lower than the post-test result. Students made some grammatical errors, such as the use of word orders, inversion, pronouns, articles, regular and irregular words, and countable nouns. Below are examples of the grammatical errors:

Table 11. The list of grammatical errors

Grammatical error	Grammatically correct
I have four uncles.	I have four uncles.
I seventh grade.	I <u>am</u> seventh grade.
I have a mother, he is a housewife.	I have a mother, <u>she</u> is a housewife.
My mother like cooking.	My mother <u>likes</u> cooking.

According to Leong & Ahmadi (2017), students were often confused and doubtful, and they did not realize that they made grammatical errors when speaking. Then, the researchers treated the students for this aspect, which aimed to minimize the frequency of grammatical errors.

### **Pronunciation**

Pronunciation is important in assembling how to deliver spoken language. The researchers found that the students' pronunciation result was low in the pre-test. It caused a lack of clarity in speaking or mispronunciation. According to Harmer (1991), this aspect has three causes: influence of the mother tongue, diction, and unfamiliar words. Below are the examples of the mispronunciations:

Table 12. The list of mispronunciations

Vocabulary	Mispronunciation	Correct pronunciation
my	/mi/	/maɪ/
live	/laɪf/	/lɪv/
birth	/brɪð/	/bɜ:θ/
family	/famili/	/'fæməli/
child	/chil/	/tʃaɪld/



In overcoming students' mispronunciation, the researchers treated how to pronounce correctly in order that the students could improve their pronunciation.

### **Vocabulary**

Vocabulary is a primary aspect of language. If there is no vocabulary uttered, the communication will not occur. In this study, the researchers found the students who were still having low lexical density. According to Harmer (1991), the nature applied in the mother tongue is used by the students. Moreover, they frequently used their mother tongue if they did not know English vocabulary.

Table 13. The list of improper vocabulary

Improper vocabulary	Accepted vocabulary
My date of birth is <i>delapan belas Juli dua ribu delapan</i> .	My date of birth was eighteen July, two thousand and eight.
My date of birth twenty-three, address Prambatan Lor.	My date of birth was twenty-three January, two thousand and nine. I live in Prambatan Lor.

Data in the table above show that the students used improper vocabulary when speaking. It happened because of two factors, namely, using the mother tongue and using unfamiliar vocabulary. Moreover, confusion and anxiety also became additional factors.

### **Project-based learning**

The researchers used project-based learning as the learning method, with the projects as the learning output. Learning speaking by using this method can help students overcome misunderstandings, broaden knowledge, and increase motivation in learning (Dewi, 2016). When this method was applied, the students were very engaged in the learning process. The students could improve their creativity by producing a project. Furthermore, this method was more enjoyable than the conventional method.

Based on the findings of the study, teaching speaking using the project-based learning method improved students' speaking skills. The results of the pre-test showed total scores of 68.97 and 68.71, respectively, and increased in the post-test data, which showed scores of 77.07 and 77.24. Furthermore, the experimental class, treated using the PBL, got a higher score than the control class, treated using a conventional method. The post-test scores in the experimental class were 77.07 and 77.24, while the post-test scores in the control class were 69.42 and 68.50.

The null hypothesis was rejected based on the test results. There was a significant difference between the experimental and the control classes. Therefore, this method was proven to be effective as a learning method in teaching speaking for the seventh-grade students of SMP Muhammadiyah 1 Kudus.

## CONCLUSION

Based on the data analysis results, there was a significant difference in students' speaking abilities after project-based learning was implemented. The post-test result revealed that the experimental class, treated using PBL, got higher scores (77.07 and 77.24) than the control class, treated using a conventional method (69.42 and 68.50). Project-based learning could improve students' enthusiasm, creativity, and motivation in learning English. Considering these research results, English teachers are encouraged to employ this method to enhance students' creativity in the speaking learning process. Finally, for the next researchers, they can continue this study by involving more students with various topics.

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