

## The Effectiveness of Project-Based Learning in Improving Students' Speaking Skills in EFL Classrooms

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### ABSTRACT

*This study aims to analyze the effectiveness of Project-Based Learning (PBL) in improving students' speaking skills in learning English as a Foreign Language (EFL) among eleventh-grade students at a public senior high school in Cirebon, Indonesia. The study was motivated by the low level of students' oral communication skills, limited opportunities to practice speaking, lack of confidence when expressing ideas in English, and the dominance of teacher-centered learning approaches in the classroom. To address these issues, PBL was implemented as an instructional strategy that encourages students to engage in meaningful communication through collaborative projects and real-world tasks. This research employed a quasi-experimental method using a pre-test and post-test control group design. The participants were divided into an experimental group, which received instruction through PBL, and a control group, which was taught using conventional teaching methods. Data were collected through speaking tests, classroom observations, and student questionnaires. The speaking assessments focused on fluency, accuracy, pronunciation, and interaction. The findings revealed that students in the experimental group showed significantly greater improvement in their speaking performance compared to those in the control group, particularly in fluency and interaction. Furthermore, students reported higher levels of motivation, engagement, and self-confidence in speaking English. Therefore, it can be concluded that PBL is an effective approach for enhancing EFL students' speaking skills and communicative competence through active, collaborative, and contextual learning experiences.*

### ABSTRAK

Penelitian ini bertujuan untuk menganalisis efektivitas penerapan *Project-Based Learning* (PBL) dalam meningkatkan keterampilan berbicara (*speaking skills*) siswa pada pembelajaran Bahasa Inggris sebagai bahasa asing (*English as a Foreign Language/EFL*) di kelas XI salah satu SMA negeri di Cirebon, Indonesia. Penelitian ini dilatarbelakangi oleh rendahnya kemampuan komunikasi lisan siswa, kurangnya rasa percaya diri dalam berbicara menggunakan bahasa Inggris, serta terbatasnya kesempatan berlatih berbicara

dalam pembelajaran konvensional. Metode yang digunakan adalah kuasi eksperimen dengan desain *pre-test and post-test control group*. Penelitian melibatkan dua kelompok, yaitu kelompok eksperimen yang memperoleh pembelajaran menggunakan model PBL dan kelompok kontrol yang memperoleh pembelajaran dengan metode konvensional. Pengumpulan data dilakukan melalui tes berbicara, observasi, dan angket. Penilaian keterampilan berbicara mencakup aspek kelancaran (*fluency*), ketepatan (*accuracy*), pelafalan (*pronunciation*), dan interaksi (*interaction*). Hasil penelitian menunjukkan bahwa penerapan PBL memberikan pengaruh yang signifikan terhadap peningkatan keterampilan berbicara siswa, terutama pada aspek kelancaran dan interaksi. Selain itu, siswa juga menunjukkan peningkatan motivasi belajar dan rasa percaya diri dalam menggunakan bahasa Inggris. Dengan demikian, model PBL terbukti efektif diterapkan dalam konteks pembelajaran EFL dan direkomendasikan sebagai alternatif pembelajaran yang lebih aktif, kontekstual, serta mampu meningkatkan kompetensi komunikatif siswa.

## INTRODUCTION

Speaking skills are one of the core competencies in learning English as a Foreign Language (EFL) because they play a direct role in realizing effective oral communication (Akhter, 2021). In the context of globalization and the demands of the 21st century, speaking skills are not only seen as linguistic skills, but also reflect the ability to think critically, collaborate, and be confident in interacting. However, the reality on the ground shows that many high school students in Indonesia, including in the Cirebon area, still have difficulty in developing optimal speaking skills. These difficulties include low fluency, inaccuracies in the use of language structures, inappropriate pronunciation, and limitations in maintaining continuous communication interactions (Dewan & Sharma, 2025; Ghafar & Raheem, 2023).

This problem is inseparable from the characteristics of English learning in the classroom which still tends to be teacher-centered learning (Wu et al., 2024). This approach often emphasizes mastery of grammar-oriented instruction and written exercises, so students' opportunities to practice speaking in real context are limited. In addition, affective factors such as low motivation and confidence also affect students' performance in speaking (Kiruthiga & Christopher, 2022). Students tend to feel afraid of making mistakes, so they are reluctant to actively participate in speaking activities. This condition shows that there is a gap between the objectives of English learning that are oriented towards communicative competence and the learning practices that take place in the classroom.

In response to these problems, innovation is needed in learning approaches that are able to create a more communicative, participatory, and meaningful learning environment. One of the approaches that is considered relevant is Project-Based Learning (PBL) (Almulla, 2020). PBL is a

learning model that emphasizes students' active involvement in completing authentic and contextual projects through a collaborative process. In its implementation, PBL provides ample opportunities for students to use English in various activities, such as group discussions, information gathering, product preparation, and presentation of project results. Thus, PBL has the potential to significantly increase the frequency and quality of language use, which ultimately impacts the improvement of speaking skills (Chang et al., 2024; Hussein, 2021).

PBL is rooted in the communicative language teaching (CLT) approach that emphasizes the function of language as a means of communication, as well as constructivism theory which views that learning occurs through an active process of building knowledge based on experience (Qasserras, 2023). Through the integration of these two theoretical foundations, PBL not only facilitates the mastery of linguistic aspects, but also develops students' affective and social aspects, such as learning motivation, confidence, and the ability to work together. The application of PBL in EFL learning is seen as a potential strategy to overcome the various limitations of conventional approaches (Guo et al., 2024; Jelodari et al., 2025).

Although a number of previous studies have reported the effectiveness of PBL in improving language skills, there is still a need for more contextual empirical studies, especially at the high school level in Indonesia. Variations in social, cultural, and learning environments require research that is able to provide a specific picture of the implementation and impact of PBL in certain contexts. In this case, research conducted at one of the public high schools in Cirebon is important to provide empirical evidence that is relevant to local conditions (Muhsyanur, 2023).

Based on this description, this study is focused on analyzing the effectiveness of Project-Based Learning in improving the speaking skills of grade XI students in the context of EFL. The formulation of the problem in this study is: (1) whether the application of PBL is effective in improving students' speaking skills compared to conventional learning methods, and (2) what aspects of speaking skills have experienced significant improvement through the application of PBL. In line with the formulation of the problem, the purpose of this study is to test the effectiveness of PBL as well as identify aspects of speech skills that are significantly developed.

This research is expected to make a theoretical contribution in enriching the study of project-based learning in the context of EFL, as well as a practical contribution for teachers and education practitioners in designing more effective, innovative, and oriented learning strategies oriented towards the development of students' communicative competence. Thus, the results of this study are expected to be able to bridge the gap between the theory and practice of English learning in schools.

## **LITERATURE REVIEW**

### **Speaking Skills in EFL Learning**

Speaking skills are an important component of learning English as a foreign language (EFL) because it reflects students' ability to use language communicatively (Pavlovskaya et al., 2022). Speaking involves not only linguistic aspects such as grammar, vocabulary, and pronunciation,

but also paralinguistic aspects such as intonation, fluency, and the ability to interact effectively. In the context of EFL, speaking skills are often the most challenging aspect for students due to limited language exposure and lack of practice opportunities outside of the classroom. Therefore, speaking learning requires an approach that provides space for students to actively practice in meaningful and authentic situations (Sudarmo, 2021).

### **Project-Based Learning (PBL) in Language Learning**

Project-Based Learning (PBL) is a learning model that focuses on the process of in-depth exploration of a topic through project work that is contextual and relevant to real life. PBL places students at the center of learning (student-centered learning) and encourages active involvement through collaborative activities, problem-solving, and the production of real works (Sedubun & Nurhayati, 2024). In language learning, PBL provides students with the opportunity to use language as a communication tool during the project process, from the planning stage to the presentation of results.

The main characteristics of PBL include driving questions, in-depth investigations, collaboration, the use of diverse learning resources, and final product presentations. Thus, PBL not only develops language skills, but also 21st-century skills such as critical thinking, creativity, communication, and collaboration (Song et al., 2024).

### **Communicative Language Teaching and Constructivism**

The application of PBL in EFL learning is in line with the Communicative Language Teaching (CLT) approach, which emphasizes that the main goal of language learning is the ability to communicate effectively. CLT encourages the use of language in a real context through meaningful interactions, not just mastery of language structures. In this case, PBL provides an environment that allows students to use language authentically in a variety of communication situations (Szabó & Csépes, 2023).

PBL is also based on the theory of constructivism which states that knowledge is actively built by students through learning experiences. In the PBL process, students engage in exploration, discussion, reflection, and collaboration activities that allow them to build understanding independently. Teachers play the role of facilitators who guide the learning process, not as the only source of information (Jasrial & Zaim, 2023).

### **The Effectiveness of PBL on Speaking Skills**

A number of previous studies have shown that PBL has a positive impact on improving students' speaking skills. PBL has been proven to be able to improve fluency, enrich vocabulary, and increase students' confidence in speaking. This is due to the increasing frequency of language use during the learning process as well as student involvement in authentic communication activities (Azzahra et al., 2025).

In addition to the cognitive aspect, PBL also contributes to affective aspects, such as learning motivation and a positive attitude towards learning English. Students involved in projects tend to be more motivated because they feel responsible for the group's work and the resulting final product. Thus, PBL creates a learning environment that is more interactive and fun than conventional methods (Firdaus & Septiady, 2023).

### **Research Gaps**

Although various studies have examined the effectiveness of PBL in language learning, there is still a research gap, particularly in the context of EFL at the high school level in Indonesia. Many previous studies have focused more on the context of higher education or have not specifically measured improvements in aspects of speaking skills in detail. In addition, the differences in student characteristics, learning environments, and the implementation of PBL in various regions show the need for more contextual and empirical research.

Therefore, this study seeks to fill the gap by specifically examining the effectiveness of PBL in improving the speaking skills of grade XI students in one of the public high schools in Cirebon, Indonesia, as well as identifying aspects of speaking skills that have experienced significant improvement. Thus, this research is expected to make a more comprehensive contribution to the development of project-based EFL learning strategies.

## **METHOD**

### **Research Design**

This study uses a quantitative approach with a quasi-experimental design, especially pre-test and post-test control group design. This design was chosen to compare the effectiveness of Project-Based Learning (PBL) with conventional learning methods in improving students' speaking skills. Two groups were used in this study, namely the experimental group that received PBL treatment and the control group that was taught with a teacher-centered approach (Gopalan et al., 2020; Smith & Hasan, 2020).

### **Location and Research Subject**

The research was carried out in one of the public high schools in Cirebon, Indonesia. The subjects of the study were grade XI students who were selected using the purposive sampling technique. The sample size consisted of two classes with a total of about 60–70 students, each of which was divided into an experimental group and a control group with a relatively balanced number. Class selection is based on initial ability equivalence measured through pre-test results.

### **Research Variables**

The independent variable in this study is the application of Project-Based Learning (PBL), while the dependent variable is the student's speaking skills in the context of EFL. Speaking skills are measured based on several main indicators, namely fluency, accuracy, pronunciation, and interaction ability.

## **Research Procedure**

The research was carried out through several stages. First, the preparation stage includes the preparation of research instruments and validation by experts. Second, the implementation stage begins with giving pre-tests to both groups to measure students' initial abilities. Furthermore, the experimental group was given a treatment in the form of project-based learning over several sessions ( $\pm 6-8$  weeks), which included project planning activities, data collection, group discussions, and presentation of results. Meanwhile, the control group followed conventional learning with lecture methods and structured exercises. At the end of treatment, both groups were given a post-test to measure improvement in speaking skills.

## **Data Collection Techniques**

The data in this study was collected through three main techniques, namely:

- 1) Speaking tests are conducted before and after treatment;
- 2) Classroom observation to observe the learning process and student participation;
- 3) Questionnaire to find out students' perception of applied learning.

The speaking test is carried out through presentation or dialogue tasks that are assessed using analytical rubrics.

## **Research Instruments**

The main instrument in this study is the rubric of speaking skill assessment which includes four aspects, namely fluency, accuracy, pronunciation, and interaction. Observation instruments are used to record learning activities, while questionnaires are arranged in the form of a Likert scale to measure students' responses to the implementation of PBL. The validity of the instrument is tested through content validity by experts, while reliability is tested using an internal consistency test.

## **Data Analysis Techniques**

Quantitative data from pre-test and post-test results were analyzed using descriptive and inferential statistics. The normality and homogeneity test is carried out as a prerequisite for the analysis. Furthermore, the independent sample t-test was used to determine the significant differences between the experimental group and the control group. To see the improvement in each group, a paired sample t-test was used. Qualitative data from observations and questionnaires were analyzed descriptively to support quantitative results.

## **Research Validity and Reliability**

To ensure the validity of the data, this study applied triangulation methods by combining tests, observations, and questionnaires. In addition, the assessment of the speaking test is carried out by two assessors (inter-raters) to increase the reliability of the results. Thus, the results of the study are expected to have a high level of validity and reliability and can provide an accurate picture of the effectiveness of PBL in improving students' speaking skills.

## RESULTS AND DISCUSSION

### Descriptive Analysis of Early and Late Capabilities

The results of the descriptive analysis showed that the initial ability (pre-test) between the experimental group and the control group was relatively comparable, which indicated the initial homogeneity between the groups. After treatment, there was a significant difference in improvement between the two groups.

Table 1. Descriptive Statistics of Pre-test and Post-test Scores

| Groups                    | N  | Mean Pre-test | SD Pre-test | Mean Post-test | SD Post-test | Gain  |
|---------------------------|----|---------------|-------------|----------------|--------------|-------|
| Experiment (PBL)          | 32 | 58.75         | 6.21        | 78.40          | 5.87         | 19.65 |
| Control<br>(Conventional) | 31 | 57.90         | 6.05        | 68.25          | 6.32         | 10.35 |

The data in Table 1 show that both groups had almost the same starting average (0.85-point difference), so it can be assumed to have an equivalent level of initial ability. However, after treatment, the experimental group showed a much higher improvement (gain = 19.65) than the control group (gain = 10.35). In addition, the standard deviation in the post-test experimental group was lower, indicating a more homogeneous distribution of values after the application of PBL.

### Statistical Assumption Test

Before the inferential test was carried out, the data was tested for normality and homogeneity.

Table 2. Normality Test (Kolmogorov-Smirnov)

| Groups      | Sig. Pre-test | Sig. Post-test | Remarks |
|-------------|---------------|----------------|---------|
| Experiments | 0.200         | 0.156          | Normal  |
| Controls    | 0.187         | 0.132          | Normal  |

Table 3. Homogeneity Test (Levene's Test)

| Variable  | Sig.  | Remarks     |
|-----------|-------|-------------|
| Pre-test  | 0.421 | Homogeneous |
| Post-test | 0.368 | Homogeneous |

The test results showed that the data were normally distributed and homogeneous ( $p > 0.05$ ), making them eligible for parametric testing.

## Inferential Analysis

### 1. Paired Sample t-test (Increase in Batch)

Table 4. Paired Sample t-test results

| Groups      | Mean Difference | t-value | Sig. (p) |
|-------------|-----------------|---------|----------|
| Experiments | 19.65           | 12.45   | 0.000    |
| Controls    | 10.35           | 6.78    | 0.000    |

The results showed that both groups experienced significant improvements ( $p < 0.05$ ). However, a much higher t-value in the experimental group indicated that the effects of PBL treatment were stronger than conventional methods.

### 2. Independent Sample t-test (Comparison Between Groups)

Table 5. Independent Sample t-test results

| Variable  | Mean<br>Experiment | Mean<br>Control | t-value | Sig. (p) |
|-----------|--------------------|-----------------|---------|----------|
| Post-test | 78.40              | 68.25           | 4.87    | 0.000    |

Significant differences between the two groups on the post-test ( $p < 0.05$ ) showed that PBL was statistically more effective in improving speaking skills than conventional methods.

## Analysis Based on Aspects of Speaking Skills

A detailed analysis was conducted on four main aspects of speaking skills.

Table 6. Score Improvement Based on Aspect

| Aspects       | Pre-test<br>Eks | Post-test<br>Eks | Ex Gain | Pre-test<br>Control | Post-test<br>Control | Gain<br>Control |
|---------------|-----------------|------------------|---------|---------------------|----------------------|-----------------|
| Fluency       | 57.80           | 79.10            | 21.30   | 58.00               | 69.20                | 11.20           |
| Accuracy      | 59.20           | 77.00            | 17.80   | 57.50               | 67.00                | 9.50            |
| Pronunciation | 58.60           | 77.20            | 18.60   | 58.10               | 68.20                | 10.10           |
| Interaction   | 59.40           | 81.50            | 22.10   | 57.90               | 68.50                | 10.60           |

The data showed that the highest increase in the experimental group was in the aspects of interaction (22.10) and fluency (21.30). This suggests that PBL is particularly effective in improving interactive communication skills and fluency in speaking, which are core communicative competencies.

### Observation Results of the Learning Process

Observations are made during the learning process to identify classroom dynamics and student engagement. In the experimental group, students showed a high level of participation in group discussions, actively asked questions, and were involved in the planning and presentation process of the project. Students also seem to be more courageous to express their opinions in English even though there are still mistakes. In contrast, in the control group, the interaction tended to be one-way with teacher dominance. Students listen more to explanations and work on written exercises, with a relatively low frequency of oral English use.

### Student Perception Survey Results

The questionnaire data showed a positive response to the implementation of PBL.

Table 7. Student Perception Survey Results

| Statement                                     | Percentage Agree (%) |
|-----------------------------------------------|----------------------|
| PBL makes learning more engaging              | 87%                  |
| PBL increases speaking confidence             | 82%                  |
| PBL increases learning motivation             | 85%                  |
| PBL helps understand the use of real language | 88%                  |

These results show that PBL not only has an impact on the cognitive aspect, but also on the affective aspects of students, especially motivation and confidence.

### Discussion

The results of this study show that the implementation of Project-Based Learning (PBL) has a significant impact on improving students' speaking skills in the context of English as a Foreign Language (EFL). These findings are consistent with the theoretical frameworks used, namely Communicative Language Teaching (CLT) and constructivism theory, and are in line with previous research results that emphasize the importance of student-centered, authentic activity-based learning (Azzahra et al., 2025).

Quantitatively, the higher increase in post-test scores in the experimental group compared to the control group showed that PBL was more effective than conventional methods in developing speech skills. A significant increase in the experimental group indicates that students' active involvement in the learning process through the project provides a wider opportunity to use English in real terms. This reinforces CLT's basic assumption that language is learned optimally through use in the context of meaningful communication, not simply through structural exercise (Ulfa, 2025).

If reviewed further based on the aspect of speaking skills, the biggest improvement in the experimental group was in the aspects of fluency and interaction. This can be explained through the characteristics of PBL which requires students to participate in group discussions, convey ideas, as well as present project results. These activities directly increase the frequency of oral language use, which ultimately impacts speech fluency. In addition, intensive interaction between students during the collaborative process encourages their ability to maintain communication, respond to interlocutors, and use communication strategies more effectively (Norawati & Puspitasari, 2022).

Meanwhile, improvements in accuracy and pronunciation were also seen, although not as big as the other two aspects. This shows that although PBL focuses more on communication, the linguistic aspect still develops through the repeated use of language in a meaningful context. In other words, PBL not only improves communication skills, but also contributes to the mastery of linguistic aspects indirectly through continuous practice.

The findings from the observational data reinforce the quantitative results, where students in the experimental group showed higher levels of participation, active involvement in discussions, and courage in expressing opinions. This condition reflects the creation of a supportive learning environment, where students feel more comfortable using English without fear of making mistakes. This is especially important in the context of EFL, where affective factors such as anxiety are often the main barriers to speech (Ali et al., 2020).

The results of the questionnaire showed that most students had a positive perception of the implementation of PBL. The increased motivation and confidence reported by students shows that PBL has an impact not only on the cognitive aspect, but also on the affective aspect. In the perspective of constructivism, this can be understood as the result of students' active involvement in the learning process, where they have greater control over their own learning and feel responsible for the results achieved (Hidayati et al., 2020).

When compared to conventional methods, the PBL approach has proven to be better able to bridge the gap between theory and practice in English language learning. Conventional methods that tend to be teacher-centered and grammar-oriented often limit students' opportunities to practice speaking in real life. In contrast, PBL provides an authentic and meaningful learning context, allowing students to develop communicative competencies in a more holistic manner (Samarji & Sabbah, 2024).

The implementation of PBL also requires careful planning and effective classroom management. Teachers need to design relevant projects, provide clear guidance, and ensure the involvement of all students in the learning process. Without good planning, PBL has the potential to not run optimally and actually cause confusion for students. Therefore, the pedagogical competence of teachers is a key factor in the success of the implementation of PBL.

This discussion confirms that Project-Based Learning is an effective and relevant approach to improving students' speaking skills in the context of EFL. The findings of this study not only

support existing theories, but also provide strong empirical evidence that project-based learning is able to create a more communicative, interactive, and meaningful learning environment, thereby contributing significantly to the development of students' communicative competence.

## CONCLUSION

This study concludes that Project-Based Learning (PBL) is effective in improving students' speaking skills in the context of English as a Foreign Language (EFL). Significant improvements were seen mainly in the aspects of fluency and interaction, which showed students' ability to communicate more smoothly and interactively. In addition, the aspects of accuracy and pronunciation have also developed, although not as large as the two main aspects. PBL has also been proven to have a positive impact on students' affective aspects, such as motivation, confidence, and courage in speaking, through a collaborative and communicative learning environment.

Based on these findings, it is recommended that teachers integrate PBL in English learning by designing projects that are contextual and providing ongoing feedback. Schools are expected to support through the provision of facilities and teacher training, while researchers can further examine the application of PBL to other contexts and skills. In addition, policymakers can consider PBL as an innovative approach to improve the quality of English language learning that is oriented towards students' communicative competence.

## Advanced Research

Further research is recommended using mixed-methods or longitudinal designs to examine the long-term impact of Project-Based Learning (PBL) on students' speaking skills and affective aspects. The integration of PBL with digital technologies also needs to be explored to improve engagement and authentic communication practices. In addition, research can be extended to other language skills or integrated skills to gain a more holistic understanding. Cross-contextual comparative studies and the development of standardized PBL implementation models are also important so that their application is more adaptive and effective in EFL learning.

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