



# Evaluating the Efficacy of Project-Based Learning for Student-Athletes: A Comparative Analysis

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## Abstract

This research aimed to investigate the effect of implementing the Project-Based Learning (PjBL) method on the improvement of speaking skills among eleventh-grade athletes at SMAN Keberbakatan Olahraga Kota Bengkulu. The study employed a quasi-experimental design with a quantitative approach. Data collection was conducted from August 18th to September 18th, 2025. The results indicated that while the PjBL method contributed to an improvement in athletes' speaking skills as evidenced by the experimental class's mean score increase from 21.95 in the pre-test to 36.4 in the post-test, it was less effective than the conventional method. The control class, which utilized conventional instruction, showed a more significant improvement, with the mean pre-test score rising from 28.85 to 68.8 in the post-test. Statistical analyses confirmed a significant difference between the two groups. The findings suggest that, within this specific context, the conventional method proved more effective in enhancing speaking proficiency. This outcome is attributed to the athletes' familiarity with direct learning, which allowed for a more focused and systematic delivery of instructional material.

**Keywords:** *Project-Based Learning (PjBL), Speaking Skills, Student-Athletes, Conventional Method.*

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## Introduction

Speaking skill is one of the most important language skills in mastering English. It does not only function as a tool of communication but also serves as an indicator of athletes' success in applying the knowledge they have learned. However, in the real teaching practice at schools, speaking skill often receives less attention because the learning process is still more focused on reading and writing aspects. This condition affects athletes' confidence and their ability to express ideas, opinions, and thoughts orally in English.

Many athletes often experience high levels of anxiety when learning speaking skills. Shamsuri, Anita, Kamaruddin, and Azhan (2021) explain that this anxiety usually comes from low self-confidence, fear of making mistakes, lack of practice, and the pressure to speak spontaneously. These factors make it difficult for athletes to improve their speaking skills. However, there are several ways to reduce this excessive anxiety. According to Shamsuri, Anita, Kamaruddin, and Azhan (2021), a supportive classroom environment, opportunities given by the teacher, two-way communication, and constructive feedback can significantly help lower athletes' speaking anxiety.

Based on the initial observation, SMAN Keberbakatan Olahraga Kota Bengkulu is a senior high school with special characteristics, where most of the athletes focus on sports. This situation sometimes makes English learning considered less of a priority compared to other academic fields. In addition, the teachers in this school have not yet applied innovative teaching methods, especially Project-Based Learning (PjBL), in teaching English. In fact, Project-Based Learning can be an effective alternative to improve athletes' speaking skills because it provides opportunities for them to learn through real projects, work collaboratively, and

communicate their thoughts and creativity in spoken form.

Therefore, this research is conducted to examine the effect of using Project-Based Learning on the improvement of speaking skills of eleventh-grade athletes at SMAN Keberbakatan Olahraga Kota Bengkulu. This study is expected to contribute to the development of more varied and innovative English teaching methods that meet athletes' needs, especially in the context of a sports-based school. Through the implementation of Project-Based Learning, athletes are expected not only to improve their speaking ability but also to gain higher motivation in learning English as an essential skill in today's global era.

According to Sirisrimangkorn (2021), project-based learning (PjBL) with presentations proved effective in improving EFL athletes' speaking skills through presentation tasks, scaffolding activities, and integrated skill practice, as well as creating a supportive collaborative learning environment. However, the study also identified time constraints as a major challenge and recommended the integration of community-based contexts for more optimal results.

The Project-Based Learning (PjBL) method has been empirically proven to make a significant contribution to improving athletes' speaking skills in language learning, particularly in English. The implementation of PjBL not only focuses on final outcomes in the form of quantitative improvements in speaking ability, but also enhances the learning process through collaborative, participatory, and problem-solving-oriented approaches (Firdaus & Septiady, 2023; Widiyati & Pangesti, 2022). By involving athletes in real-world projects that require active and contextual language use, PjBL creates a more dynamic and enjoyable learning environment, thereby facilitating the development of athletes' self-confidence and intrinsic motivation in communication.



Furthermore, this approach fosters the development of 21st-century skills such as teamwork, creativity, and innovation, which are highly relevant to the needs of modern education. On the other hand, traditional teaching methods are considered less effective in addressing athletes' needs in developing speaking skills due to limited active athlete engagement and insufficient opportunities for real communicative practice. PjBL emerges as a pedagogical solution that offers project-based learning experiences, emphasizing active athlete involvement in every stage of the learning process. This allows athletes to build vocabulary, improve fluency, and refine grammatical structures through repeated practice in authentic situations (Maros et al., 2021). Nevertheless, the implementation of PjBL also faces several challenges, such as difficulties in time management, unequal distribution of roles within groups, and the need for intensive teacher facilitation. Therefore, further in-depth research is required to explore optimal strategies for the implementation of PjBL in order to fully maximize its potential in holistically improving athletes' speaking skills (Mayekti et al., 2025).

Based on various previous research findings, the Project-Based Learning (PjBL) method has been proven effective in improving the speaking skills of English as a Foreign Language (EFL) athletes. The implementation of PjBL not only has a positive impact on linguistic aspects such as fluency, vocabulary mastery, grammatical accuracy, and pronunciation, but also contributes to increased active participation, creativity, and athletes' positive attitudes in the speaking learning process. The effectiveness of this method is further strengthened through the integration of supporting strategies such as presentations, peer assessment, and the use of relevant community-based contexts. However, challenges such as limited time remain obstacles in optimizing the comprehensive implementation of PjBL. Based on preliminary observations, it has been identified that SMAN Keberbakatan Olahraga Kota Bengkulu has not yet implemented the PjBL method in its

teaching activities, particularly in the instruction of speaking skills. Therefore, the researcher is interested in further investigating The Effect of Using the Project-Based Learning (PjBL) Method on Improving Athletes' Speaking Skills at SMAN Keberbakatan Olahraga Kota Bengkulu as an innovative effort to enhance the effectiveness of English language learning at the school.

Speaking is a productive oral skill that consists of producing systematic verbal utterances to convey meaning. In the context of English as a Foreign Language (EFL), speaking is often considered the most challenging skill to master because it requires the simultaneous monitoring of multiple factors: vocabulary, grammar, pronunciation, and social context.

For athletes, speaking skill is not merely an academic requirement but a "survival tool" in the international sporting arena. Nunan (2015) defines speaking as the process of building and sharing meaning through the use of verbal and non-verbal symbols in a variety of contexts. For an athlete, this includes the ability to explain a physical injury to a medic, discuss tactics with a coach, or answer questions during a press conference.

According to Brown (2021), there are several components that determine the quality of an athlete's speaking ability: Fluency: The ability to keep going when speaking spontaneously. Comprehension: For oral communication, it certainly requires a subject to respond to speech as well as to initiate it. Grammar: The rules of structuring sentence correctly. Vocabulary: The breadth of word choice available to the speaker. Pronunciation: Producing clearer sounds to be understood by listeners.

Research shows that athletes often face higher levels of speaking anxiety compared to regular students. This is frequently due to their primary focus on physical excellence, which may lead to a lack of academic self-confidence in linguistic areas. Shamsuri et al. (2021) state that anxiety is a



psychological barrier that prevents athletes from performing at their best. In a sports-based school like SMANKO, athletes are trained to be "doers" rather than "speakers." When forced into a traditional classroom setting that requires them to speak a foreign language, they may experience "Foreign Language Anxiety." This anxiety is often exacerbated by: Fear of Negative Evaluation: Athletes, who are used to being critiqued on their physical performance, may be hypersensitive to being corrected on their grammar or accent. Performance Pressure: The competitive nature of athletes can sometimes backfire in language learning, where they feel they must be "perfect" or not speak at all.

## Method

This study employed a quantitative approach with a Quasi-Experimental Design. This design was selected because it was not possible to artificially create a new group for the study; instead, the researcher used existing classes of athletes at the school. Specifically, the researcher utilized the Non-equivalent Control Group Design, which involves two groups: an experimental group and a control group.

The experimental group received treatment using the Project-Based Learning (PjBL) method, while the control group was taught using the Conventional Method. Both groups underwent a pre-test to measure their initial speaking ability and a post-test to evaluate the improvement after the treatment.

The research was conducted at SMAN Keberbakatan Olahraga (SMANKO) Kota Bengkulu, located in Bengkulu City. The study took place from August 18th to September 18th, 2025. This school was chosen because of its unique characteristic as a specialized institution for athletes, where innovative methods like PjBL had not yet been implemented in English speaking instruction.

The population of this research consisted of all eleventh-grade athletes at SMAN Keberbakatan Olahraga Kota Bengkulu in the 2025/2026 academic year.

Purposive sampling was used to select the sample. Two classes were chosen: Class XI-A (Experimental Class): Consisting of 20 athletes who were taught using PjBL. Class XI-B (Control Class): Consisting of 20 athletes who were taught using the conventional method. The total number of participants in this study was 40 athletes.

There are two types of variables in this study: Independent Variable (X): The use of the Project-Based Learning (PjBL) method. Dependent Variable (Y): English speaking skills of the athletes.

The primary instrument used in this research was a Speaking Test. The test required athletes to perform oral communication tasks (such as describing a sports event or a project presentation). The speaking performance was evaluated based on the following criteria adapted from Brown (2004): Grammar: The accuracy of sentence structures used by the athletes. Vocabulary: The range and appropriateness of words chosen. Comprehension: The ability to understand and respond to the context. Fluency: The smoothness and rate of speech. Pronunciation: The clarity of sounds and intonation.

The data collection process was carried out in three main stages: Pre-test: Administered to both groups before the treatment to establish a baseline of the athletes' speaking proficiency. Treatment: \* In the experimental class, athletes were divided into groups to complete a specific project (e.g., creating a sports vlog or a presentation). In the control class, athletes followed the standard teacher-centered curriculum. Post-test: Administered after four weeks of treatment to measure the final speaking skills of the athletes.



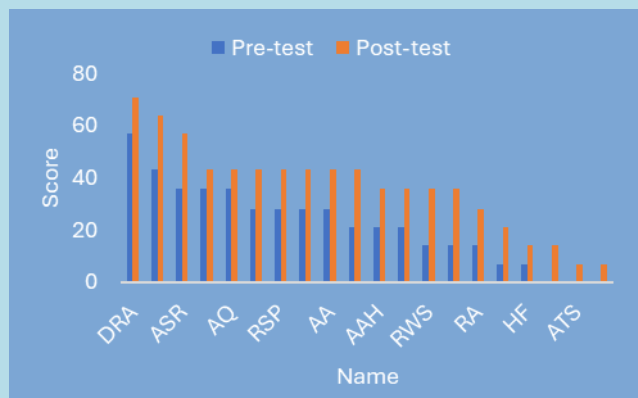
To analyze the quantitative data and test the hypothesis, the researcher utilized SPSS (Statistical Package for the Social Sciences). The following statistical tests were performed: Descriptive Statistics: To calculate the mean, standard deviation, and variance of the athletes' scores. Prerequisite Tests: Normality Test: To check if the data distribution was normal. Homogeneity Test (Levene's Test): To ensure the variance between the two classes was equal. Hypothesis Testing: T-test and F-test (ANOVA): To determine if there was a significant difference between the improvement in the experimental class and the control class. ANCOVA (Analysis of Covariance): To control for the influence of the pre-test scores on the post-test results.

**Result and Discussion**

**Descriptive Statistics of Student Athletes' Speaking Scores**

The data were collected from 40 athletes, divided into two groups: 20 athletes in the Experimental Class (PjBL) and 20 athletes in the Control Class (Conventional). Experimental Class (Project-Based Learning), based on the research, the athletes in the experimental class showed a slight improvement in their speaking skills.

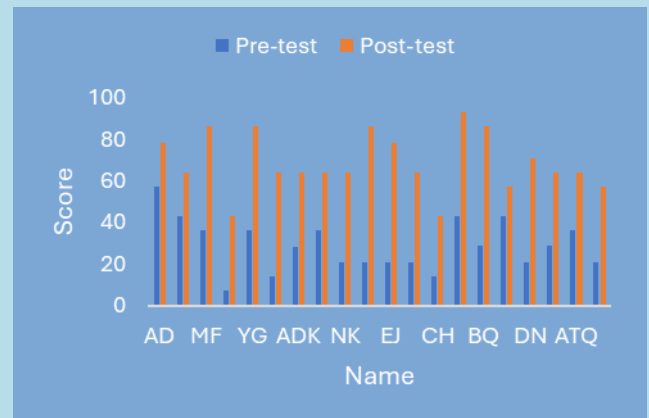
Figure 1 Bar Chart of Pre-test and Post-test Scores of Experimental Class



The pre-test mean score was 21.95, which increased to 36.40 in the post-test. Although there was an increase of 14.45 points, the final mean score remained below the expected mastery level. The standard deviation for the post-test was 17.364, indicating a wide spread of ability among the athletes in the PjBL group.

*Control Class (Conventional Method)*, in contrast, the athletes in the control class showed a very significant improvement.

Figure 2 Bar Chart of Pre-test and Post-test Scores of Control Class



The pre-test mean score started at 28.85 and rose sharply to 68.80 in the post-test. This represents an increase of 39.95 points. The standard deviation was 14.025, suggesting that the scores in this class were more consistently distributed compared to the experimental class.

**Prerequisite Tests**

Before testing the hypothesis, the researcher conducted normality and homogeneity tests. Normality Test: The data were analyzed using the Shapiro-Wilk or Kolmogorov-Smirnov test. The results indicated that the data from both the experimental and control classes were normally distributed ( $p > 0.05$ ).



Table 1 Test of Normality

	Tests of Normality					
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pre test eksperimen	.103	20	.200*	.956	20	.459
post test eksperimen	.202	20	.032	.930	20	.154
pre test control	.188	20	.062	.954	20	.430
post test control	.234	20	.005	.914	20	.077

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

**Homogeneity Test (Levene’s Test):** Based on the output of Levene's Test of Equality of Error Variances, the Significance value (*Sig.*) was .000, which is lower than 0.05. This indicates that the error variance of the dependent variable was not equal across groups. However, since the research design utilized ANCOVA and the group sizes were equal (N=20), the analysis proceeded with caution.

**Hypothesis Testing**

The researcher used the Analysis of Covariance (ANCOVA) to see the effect of the independent variable (Method) while controlling for the covariate (Pre-test).

**Effect of Pre-test:** The statistical output showed a *Sig.* value of .000 for the pre-test, with an F-value of 73.945. This means the initial speaking ability significantly influenced the final post-test scores.

**Effect of the Learning Method (Class):** The *Sig.* value for the Method was .000, which is much lower than 0.05. The F-value was 60.912. This leads to the rejection of the Null Hypothesis H0 and the acceptance of the Alternative Hypothesis Ha.

**Conclusion of Hypothesis Testing:** There is a significant difference in the speaking skill improvement between athletes taught using PjBL and those taught using the conventional method. However, based on the mean scores, the Conventional Method was significantly more effective than PjBL in this specific context.

**Discussion**

The results of this study indicate that while Project-Based Learning (PjBL) contributed to an improvement in speaking skills, the Conventional Method proved to be significantly more effective for athletes at SMAN Keberbakatan Olahraga Kota Bengkulu. To provide a comprehensive understanding of these findings, it is essential to compare them with previous research and theoretical frameworks.

The finding that PjBL was less effective than conventional methods was contradicts several prominent studies. For instance, Sirisrimangkorn (2021) reported that PjBL significantly enhanced EFL students' speaking skills through collaborative projects and oral presentations. In his research, students showed high engagement because they had sufficient time and linguistic resources to explore the project.

Similarly, Firdaus and Septiady (2023) argued that PjBL creates a dynamic and enjoyable environment that facilitates self-confidence. However, the contrast in this study’s results suggests that the "enjoyable environment" of PjBL might not be sufficient if the learners—specifically athletes—lack the foundational vocabulary or the cognitive energy required for self-directed project management after rigorous physical training. Unlike the subjects in Sirisrimangkorn’s study, the athletes in this research were more responsive to the "focused and systematic" nature of direct instruction.

The challenges observed in implementing PjBL in this study align with the findings of Mayekti et al. (2025), who identified time management as a major obstacle in project-based models. For athletes at SMANKO, whose schedules are tightly packed with sports practice, the multi-stage requirements of PjBL (planning, creating, and presenting) became a burden rather than a facilitator.

Furthermore, Maros et al. (2021) noted that for PjBL to be successful, students need "repeated



practice in authentic situations." In the context of this study, the four-week duration was perhaps too short for athletes to achieve fluency through PjBL. In contrast, the conventional method allowed for immediate "drilling" and direct feedback, which provided a faster route to speaking improvement within a limited timeframe.

A unique finding of this research is the compatibility of conventional methods with the athletes' psychological profile. Shamsuri, Anita, Kamaruddin, and Azhan (2021) explained that speaking anxiety often arises from a lack of practice and low self-confidence. In the conventional class, the teacher acted as a "coach," providing clear, direct instructions and instant corrections.

This mirrors the "Direct Coaching" model common in sports training. Athletes are conditioned to follow structured regimens. Therefore, the conventional method's systematic delivery felt more "authentic" to their daily habits than the open-ended nature of PjBL. This suggests that for specialized learners like athletes, the effectiveness of a teaching method is highly dependent on its alignment with their habitual learning styles.

While PjBL is widely praised in modern pedagogy, this study highlights a crucial caveat: Learner Context Matters. The significant gap between the post-test scores of the control class (68.80) and the experimental class (36.40) proves that for eleventh-grade athletes at SMANKO, a teacher-centered approach that focuses on direct communicative practice is more effective. This supports the notion that "innovative" does not always mean "better" if it does not match the students' immediate needs and environmental constraints.

## Conclusion

Based on the data analysis, research findings, and discussion presented in the previous chapter,

several conclusions can be drawn regarding the effect of the Project-Based Learning (PjBL) method on English Speaking Skills of eleventh-grade athletes at SMAN Keberbakatan Olahraga Kota Bengkulu:

**Improvement in Speaking Skills:** Both Project-Based Learning (PjBL) and the Conventional Method contributed to an improvement in the athletes' speaking scores. The experimental group (PjBL) increased from a mean of 21.95 to 36.40, while the control group (Conventional) increased from 28.85 to 68.80.

**Significant Difference:** Statistical testing using ANCOVA confirmed a significant difference between the two groups (Sig. .000 < 0.05). This indicates that the choice of teaching method significantly affects the speaking outcomes of the athletes.

**Superiority of the Conventional Method:** In the specific context of this research, the Conventional Method was significantly more effective than PjBL. This is attributed to the athletes' familiarity with direct, systematic, and focused instruction, which mirrors their daily sports coaching. The complexity and time demand of PjBL proved challenging for athletes with intensive training schedules and low initial language proficiency.

**Pedagogical Fit:** The research concludes that for athletes at SMANKO, a structured and teacher-guided approach provides more immediate linguistic support and reduces speaking anxiety more effectively than the autonomous, project-based approach within a short-term instructional period.

The first suggestion is directed toward English teachers, who are encouraged to adopt a more balanced and adaptive pedagogical approach. While Project-Based Learning (PjBL) is a highly regarded modern method, this study indicates that it should not be implemented in isolation, especially for athletes who are accustomed to structured environments. Teachers should



integrate the "Direct Coaching" model from the sports field into the classroom by providing clear, systematic instructions and foundational linguistic "drills" before introducing complex projects. By acting as a facilitator who provides high levels of scaffolding, teachers can help athletes build the necessary vocabulary and grammatical confidence required to succeed in more autonomous, project-based tasks.

Secondly, SMAN Keberbakatan Olahraga as an institution should consider developing a more specialized and flexible English curriculum that aligns with the unique professional needs and demanding schedules of athletes. Since athletes often prioritize physical excellence and face significant time constraints due to intensive training cycles, the school should provide instructional materials that are directly relevant to the international sporting world, such as sports commentary, interview simulations, and recovery management in English. Furthermore, the school is encouraged to enhance its facilities by providing multimedia tools and language laboratories that allow for "low-pressure" speaking practice, helping to reduce the speaking anxiety that often hinders athletes' oral performance.

Finally, for future researchers, it is suggested to explore the long-term impacts of PjBL through more extended longitudinal studies. Since this research was conducted over a one-month period, a longer duration might reveal whether athletes eventually develop the self-regulation skills needed to benefit more fully from project-based models. Future studies should also incorporate qualitative measures, such as interviews or focus group discussions, to gain a deeper psychological understanding of how athletes' kinesthetic identities influence their language acquisition. Investigating different proficiency levels would also be beneficial to determine if PjBL becomes more effective once an athlete has already achieved a solid

intermediate foundation through conventional instruction.

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### Declarations

#### Author Contribution Statement

MFF conceived and designed the study, coordinated the data collection at SMANKO Bengkulu, and wrote the initial draft. FS performed the statistical analysis using SPSS, prepared the data visualizations, and contributed to the interpretation of the findings. AN provided the theoretical framework, performed the final critical revision of the manuscript for intellectual content, and supervised the research process. All authors have read and approved the final version of the manuscript.

#### AI Disclosure Statement

The authors used Gemini AI during the preparation of this work for language polishing, structural refining, and ensuring academic tone. After using the tool, the authors thoroughly reviewed and edited the content as needed and takes full responsibility for the content of the publication. The authors declares that this research was prepared, researched, and written based on original experimental data, while AI was utilized solely as an editorial aid for clarity and flow.



## Conflicts of Interest

The authors confirm the absence of any potential conflicts of interest such as financial, institutional, or personal that could influence the conduct of this study, the analysis of data, the preparation of the manuscript, or its publication.

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