Journal of Innovation in Teaching and Instructional Media
Volume 6 (1) 2025, 479-490
E-ISSN 2746-3583, P-ISSN 2775-4537

The Effect of Project-Based Learning on Speaking Skills: A Quasi-Experimental Study in a Sports-Talent High School

Muhammad Faqih Al Farisi[1], Ferri Susanto[1], Anita[1]
[1]Universitas Islam Negeri Fatmawati Sukarno Bengkulu, Bengkulu, Indonesia

Corresponding author e-mail: farisfaris384@gmail.com

Article History: Received on 29 May 2025, Revised on 9 December 2025, Published on 15 December 2025

Abstract: This study examined the effect of Project-Based Learning (PjBL) on the speaking skills of eleventh-grade students at SMAN Keberbakatan Olahraga Kota Bengkulu. A quasi-experimental design with a quantitative approach was employed. The study was conducted from August to September 2025 and involved an experimental class taught using PjBL and a control class taught using a conventional method. Students' speaking skills were measured through pre-test and post-test assessments, and data were analyzed using t-tests and F-tests. Results showed that students taught using PjBL experienced an improvement in speaking skills, with mean scores increasing from 21.95 to 36.4. However, the control class showed a greater improvement, with mean scores rising from 28.85 to 68.8. Statistical analysis indicated a significant difference between the two groups, favoring the conventional method. The findings suggest that conventional teaching methods may be more effective in contexts where students are more familiar with direct instruction. This study provides context-based evidence that PjBL is not always more effective than conventional methods in improving speaking skills.

Keywords: English Speaking Skills, Project-Based Learning, Quasi-Experimental Study, Teaching English

A. 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 students' 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 (Leong & Ahmadi, 2017). This condition affects students' confidence and their ability to express ideas, opinions, and thoughts orally in English (Puli Quito, 2023).

Based on the initial observation, SMAN Keberbakatan Olahraga Kota Bengkulu is a senior high school with special characteristics, where most of the students 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 students' 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 PjBL on the improvement of speaking skills of eleventh-grade students 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 students' needs, especially in the context of a sports-based school. Through the implementation of PjBL, students 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 (Shi et al., 2024), PjBL with presentations proved effective in improving EFL students' 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 PjBL method has been empirically proven to make a significant contribution to improving students' 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 students 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 students' self-confidence and intrinsic motivation in communication (Cournia, 2025; Purnami & Widiadnya, 2024; Tia & Wangid, 2024). 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 students' needs in developing speaking skills due to limited active student engagement and insufficient opportunities for real communicative practice (Ruziyeva & Elboyeva, 2025). PjBL emerges as a pedagogical solution that offers project-based learning experiences, emphasizing active student involvement in every stage of the learning process. This allows students to build vocabulary, improve fluency, and refine grammatical structures through repeated practice in authentic situations (Maros et al., 2023; Pozo Flores, 2025). 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 students' speaking

skills (Mayekti et al., 2025; Sanabria Marín & Vallejo Arismendi, 2024; Sánchez-García & Reyes-de-Cózar, 2025).

Based on various previous research findings, the PjBL method has been proven effective in improving the speaking skills of English as a Foreign Language (EFL) students. 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 students' 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 PjBL Method on Improving Students' Speaking Skills at SMAN Keberbakatan Olahraga Kota Bengkulu as an innovative effort to enhance the effectiveness of English language learning at the school. So, the research question is "Does Project-Based Learning significantly improve speaking skills compared to conventional teaching in a sports-talent high school context?"

B. Methods

The research processes have become integrated with digital systems and modern statistical applications, while still using the classic formulas as their foundation (Susanto & Jaya, 2023). This type of research is quasi-experimental with a quantitative approach. The quasi-experimental design allows researchers to conduct causal analysis even without random assignment, as long as threats to validity can be identified and controlled (Campbell & Riecken, 1968).

Table 1. The Experiment and Control of the Research

Experiment	O_1	x	O_2
Control	O_3	-	O_4

(Source: Sugiyono, 2011)

Description:

E : Experimental group
K : Control group
X : Application Media
O_1 : Pretest in experimental class
O_2 : Post test on the experimental class
O_3 : Pretest in control class
O_4 : Post test on control class

This research was conducted on 11th grade students of SMAN Keberbakatan Olahraga in Bengkulu City for the 2025/2026 academic year, located in Bengkulu City.

Table 2. The Populations of the Research

No.	Class	Total Number of Students
1.	XI.1	20
2.	XI.2	20
3.	XI.3	20
	Total	60

(Source: SMAN Keberbakatan Olahraga Kota Bengkulu, 2025)

The selected class consists of 40 students, based on the following considerations: 1) The alignment of the class schedule with the research needs; 2) The homogeneity of students' speaking skills as determined through discussions with the English teacher; and 3) Accessibility and ease of coordination for conducting the study.

Table 3. The Sample of the Research

No.	Class	Total Number of Students
1.	XI.1 (Experiment Class)	20
2.	XI.2 (Control Class)	20
	Total	40

(Source: SMAN Keberbakatan Olahraga Kota Bengkulu, 2025)

The following action were taken by the research to gather the data: a) Test: Pre-Test, Treatment, the post-test; b) Try out; c) Project-Based Learning; d) Speaking Skill; and e) Documentation. Data Analysis Technique with SPSS verse 23.0

Table 4. The Grid of Speaking Skill Test Instrument Validity

No.	Aspect of Variable	Indicator	Item Number
1	Pronunciation	Students pronounce words clearly and correctly in giving opinion dialogues.	2, 5, 6, 7, 8, 9, 11, 14, 18, 20
2	Vocabulary	Students use appropriate and context-relevant vocabulary in their responses.	2, 4, 5, 6, 8, 9, 11, 13, 14, 15, 18, 19, 20
3	Grammar	Students apply correct grammar structures in speaking.	2, 4, 5, 6, 9, 11, 13, 14, 15, 17, 18, 19
4	Fluency	Students speak smoothly with minimal pauses or hesitation.	2, 4, 5, 6, 8, 9, 11, 13, 14, 15, 17, 19
5	Comprehension	Students understand and respond appropriately to opinions given.	4, 6, 9, 11, 13, 14, 15, 17, 18, 19, 20

(Source: Managed, 2025)

C. Results and Discussion

Results

The data in this study were obtained through research activities carried out by researchers on July 18, 2025 to August 18, 2025. The research was conducted in two classes, namely XI.1 and XI.2 classes at SMAN Keberbakatan Olahraga Kota Bengkulu. The total number of students involved in this study was 40 people, consisting of 20 students in class XI.1 and 20 students in class XI.2. This study aims to present data on the effect of using the project-based learning (PjBL) method on improving students' speaking skills. The sampling technique used was purposive sampling, which is the selection of samples based on certain objectives. In this case, class XI.1 was determined as the experimental class that used the treatment Project-Based Learning method, while class XI.2 became the control class that did not use the treatment.

The first step that the researcher did was submitting a permission request to the principal of SMAN Keberbakatan Olahraga Kota Bengkulu on July 1st, 2025. The request aimed to get permission to conduct the research in the school environment. With the permission obtained, the research activities were carried out according to the procedures that had been designed before in the experimental class and the control class.

The research was conducted from July 18th to August 18th, 2025 and involved four meetings with the experimental group that was given treatment using the PjBL method. The first meeting was held on July 22nd, 2025 with the topic "Asking and Giving Opinions." The second meeting on July 29th, 2025 discussed "How to ask for an opinion." The third meeting, held on August 5th, 2025, focused on "How to give an opinion," while the fourth meeting on August 12th, 2025 discussed "Practice of asking and giving opinions".

Before the treatment was given, the students in the experimental group took a pre-test on July 18th, 2025 to measure their initial ability in mastering Speaking Skills. After the four meetings were finished, the students took a post-test on August 12th, 2025 to measure their mastery of Speaking Skills.

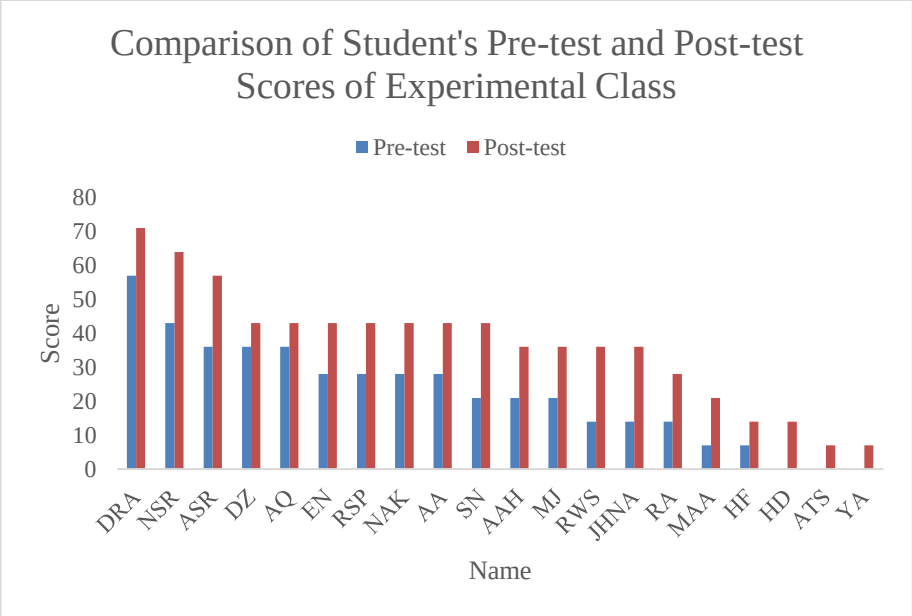

Figure 1. Bar Chart of Pre-test and Post-test Scores of Experimental Class

Based on the Figure 1, it was seen that almost all students experienced an increase in scores from the pre-test to the post-test. The red bars, which showed the post-test results, were generally higher than the blue bars representing the pre-test scores. Some students such as DRA, NSR, ASR, DZ, AQ, EN, and RSP showed a significant improvement, with a clear increase compared to their initial results. Meanwhile, some students such as RA, MAA, HF, HD, ATS, and YA also improved, but the increase was relatively small and their final scores were still in the low category compared to other students. Overall, this chart showed that the learning given had a positive impact on improving students' learning outcomes, although the level of improvement was different for each individual.

Table 5. Test of Normality Control Class

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pretest control	.188	20	.062	.954	20	.430
posttest control	.234	20	.005	.914	20	.077
a. Lilliefors Significance Correction						

Based on the results of the normality test using Shapiro-Wilk, the significance value for the pre-test data in the control class was 0.430, and for the post-test data in the control class was 0.077. Since both values were greater than 0.05, it means there was no significant difference between the data and a normal distribution. Therefore, it can be concluded that the pre-test and post-test data in the control class were normally distributed.

After confirming that the data from both the experimental and control groups were normally distributed and homogeneous, the researchers proceeded to perform statistical analysis using the t-test. This test is commonly applied to compare two groups in this case, to determine whether the learning outcomes of students in the experimental class were higher than those in the control class. The analysis was carried out using the SPSS statistical software, focusing on the post-test scores of both classes after the learning treatment had been administered.

Table 6. The T-Test Result

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	posttest control	68.80	20	14.025	3.136
	posttest experiment	36.40	20	17.364	3.883

Table 7. The Independent Samples Test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post Test	Equal variances assumed	.253	.618	6.492	38	.000	32.400	4.991	22.296	42.504
	Equal variances not assumed			6.492	36.389	.000	32.400	4.991	22.281	42.519

Tables 6 and 7 presents the results of the post-test, which aimed to identify the difference in learning outcomes between the experimental and control classes after the treatment was administered. According to the data in the *Independent Samples Test* table, the mean post-test score of the experimental class was 36.40 with a standard deviation of 17.364, while the control class obtained a mean score of 68.80 with a standard deviation of 14.025. The mean difference between the two groups was 32.40, indicating that the experimental class achieved better learning outcomes after receiving treatment through the PjBL Method. To determine whether this difference was statistically significant, an *Independent Samples T-Test* was conducted. The analysis results showed that the calculated t value was 6.492 with a significance level (Sig. 2-tailed) of 0.000. Meanwhile, the t table value at the 5% significance level was 1.734. Since the calculated t value exceeded the t table value (6.492 > 1.734) and the significance level was lower than 0.05 (0.000 < 0.05), it can be concluded that there was a significant difference between the post-test scores of the two classes. Therefore, the treatment using the PjBL Method in the experimental class was proven effective in enhancing students' speaking skill.

Table 8. Between-Subjects Factors

Between-Subjects Factors		
	Value Label	N
Kelas	1Experiment class	20
	2 Control class	20

Table 9. Tests of Between-Subjects Effects

Tests of Between-Subjects Effects					
Dependent Variable: posttest scores					
Source	Type III Sum of Squares	df	Mean Square	F	Sig. Partial Eta Squared
Corrected Model	15968.505[a]	2	7984.252	73.945	.000.800
Intercept	8402.959	1	8402.959	77.823	.000.678
pretest	5470.905	1	5470.905	50.668	.000.578
kelas	6576.964	1	6576.964	60.912	.000.622
Error	3995.095	37	107.976		
Total	130634.000	40			
Corrected Total	19963.600	39			
a. R Squared = .800 (Adjusted R Squared = .789)					

Based on the results of the F test in this study, the calculated F value is 73.945, while the F table value is 4.38. Since the calculated F value (73.945) is higher than the F table value (4.38), it can be concluded that Ho is rejected and Ha is accepted. This means that the PJBL method has a significant effect on improving students' speaking skills. Furthermore, the Partial Eta Squared value of 0.800 shows that learning with the PJBL method gives an 80% influence on improving students' vocabulary mastery. This percentage comes from multiplying the Partial Eta Squared value (0.800) by 100. Based on the effect size interpretation, this value is considered a very strong effect.

Discussion

Based on the research results presented, it could be seen that the use of PjBL contributed to improving students' speaking skills, although the improvement was not higher than that of the control class that used conventional methods. In the experimental class, the average pre-test score of 21.95 increased to 36.4 on the post-test. This increase showed that project-based learning could help students develop their speaking skills through practical activities and group work, although the level of improvement was not uniform. Some students experienced a significant increase, but others only experienced minor improvements, resulting in a wide range of scores. This showed that the PjBL method required active involvement and readiness on the part of students in order for the implementation of learning to produce optimal results. In contrast to the experimental class, the control class showed a more significant increase. The average pre-test score of 28.85 increased to 68.8 on the post-test, with the highest score reaching 93. This improvement showed that the conventional method used by teachers was capable of producing higher learning outcomes compared to the PjBL method in the context of this study (Somani & Rizvi, 2018; Zhang & Ma, 2023). One possible reason for this was that students were more familiar with the direct learning

model, which enabled them to understand the material more quickly and in a more focused manner. In addition, teacher control in conventional learning also tended to be stronger so that the process of material transmission was more effective and systematic.

Statistical analysis results reinforced these findings. Normality and homogeneity tests showed that the data from both classes were normally distributed and had homogeneous variance, making them suitable for analysis using the t-test. The results of the Independent Sample t-test showed a t-value of 6.492 > t-table 1.734 with a significance value of 0.000 < 0.05. This meant that there was a significant difference between the post-test results of the experimental class and the control class. Interestingly, even though the control class had a higher average score, the test results still showed that the PjBL method had a significant effect on improving students' speaking skills (Dewi, 2016), only that the effect was not as great as that of the conventional method in this study.

Furthermore, the F-test showed the strong role of learning methods in improving learning outcomes. The F-count value of 73.945 was greater than the F-table value of 4.38, indicating that the treatment variable had a significant effect on students' post-test scores. A partial eta squared value of 0.800 indicated that the learning method, especially PjBL, contributed 80% to the improvement in language skills, including speaking skills. Although the improvement in the experimental class was not as high as in the control class, this value showed that PjBL had great potential to improve language skills when applied consistently and with the right accompanying strategies. Overall, the results of this study revealed that both learning methods improved students' speaking skills, but their effectiveness depended on learning conditions and student characteristics. For further research, the application of PjBL could be strengthened with more structured guidance, proportional task distribution, and more varied learning media support. With proper development, this method had the potential to produce higher and more equitable improvements in speaking skills among all students.

D. Conclusions

The PjBL method proved to have an effect on improving students' speaking skills. This could be seen from the increase in the average pre-test score of the experimental class from 21.95 to 36.4 on the post-test. Although the improvement was not equal for all students, PjBL helped most of the students improve their speaking skills through collaborative activities, language practice, and project completion that required direct language use in real contexts. The control class that used the conventional method showed a more significant improvement compared to the experimental class. The average pre-test score of the control class was 28.85 and increased to 68.8 on the post-test. The statistical tests (t-test and F-test) also proved that there was a significant difference between the two classes. This indicated that, in the context of this study, the

conventional method was more effective in improving students' speaking skills than PjBL, because the students were more familiar with direct learning, so the delivery of the material happened in a more focused and systematic way. It was recommended that teachers optimized the use of the PjBL method with more structured project planning and intensive guidance during the learning process. The implementation could be varied with activities such as presentations, role-play, and discussions so that students had more opportunities to practice speaking. In addition, the learning time should have been extended because PjBL required a gradual process before producing maximum improvement. Regular evaluations also needed to be done so that students' progress could be monitored well. For future research, it was recommended to increase the number of samples and expand the learning material so that the research results became more representative. The conventional method could still be used as an alternative for learning because it proved to give a more significant improvement in students' speaking skills. However, it was better if this method was combined with the PjBL approach so that the learning process stayed active, varied, and not only teacher-centered. Further research also needed to be done to find out the factors that made the conventional method more effective in this study. In addition, speaking practice could be improved through activities such as question-and-answer sessions, pair conversations, or drilling. More varied assessment instruments were also recommended for the next research so that the results became more accurate.

E. Acknowledgement

We thank all parties in Universitas Islam Negeri Fatmawati Sukarno who helped us in this paper.

References

Campbell, D. T., & Riecken, H. W. (1968). Quasi-experimental design. *International Encyclopedia of the Social Sciences*, *5*(3), 259–263. http://www.asasrms.org/Proceedings/y1965/Quasi-Experimental Design.pdf

Cournia, A. (2025). *The Impact of Project Based Learning on Student Motivation*. https://red.mnstate.edu/thesis/1030/

Dewi, H. (2016). Project based learning techniques to improve speaking skills. *English Education Journal*, *7*(3), 341–359. http://download.garuda.kemdikbud.go.id/article.php?article=1564544&val=3924&title=Project Based Learning Techniques to improve speaking skills

Firdaus, F., & Septiady, A. (2023). The effect of project-based learning on the students' speaking ability. *Journal on Education*, *5*(3), 10105–10112. https://doi.org/https://doi.org/10.31004/joe.v5i3.1900

Leong, L. M., & Ahmadi, S. M. (2017). *An Analysis of Factors Influencing Learners'english Speaking Skill*. https://www.sid.ir/en/VEWSSID/J_pdf/57002920170104.pdf

Maros, M., Korenkova, M., Fila, M., Levicky, M., & Schoberova, M. (2023). Project-based learning and its effectiveness: evidence from Slovakia. *Interactive Learning*

Environments, *31*(7), 4147–4155. https://doi.org/10.1080/10494820.2021.1954036

Mayekti, M. H., Faiza, D., & Bestari, A. C. Y. (2025). Improving Interpersonal Speaking Learning Outcomes and Students' Confidence as Well as Exploring Students' Responses through Project-Based Learning. *EJI (English Journal of Indragiri): Studies in Education, Literature, and Linguistics*, *9*(1), 109–121. https://doi.org/10.61672/eji.v9i1.2879

Pozo Flores, A. B. (2025). *Project-Based Learning (PBL) for the Development of English Language Speaking Skills.*

Puli Quito, F. E. (2023). *Self-confidence and its Relationship with the Development of English Oral Communication Competence*. Riobamba. http://dspace.unach.edu.ec/handle/51000/10423

Purnami, I. A. O., & Widiadnya, I. G. N. B. Y. (2024). The Role of Project-Based Learning in Boosting Student Communication Confidence. *Jurnal Pendidikan Bahasa Inggris Undiksha*, *12*(3), 334–341. https://doi.org/10.23887/jpbi.v12i3.91586

Ruziyeva, S., & Elboyeva, M. (2025). Classroom Strategies and Student Engagement In Using Interactive Methods for Teaching Speaking Skills. *International Journal of Artificial Intelligence*, *1*(3), 1694–1697. https://inlibrary.uz/index.php/ijai/article/view/89055

Sanabria Marín, K. A., & Vallejo Arismendi, B. S. (2024). *The integration of project based learning and translanguaging to enhance english oral production of tenth graders of a private school*. https://hdl.handle.net/11059/15624

Sánchez-García, R., & Reyes-de-Cózar, S. (2025). Enhancing Project-Based Learning: A Framework for Optimizing Structural Design and Implementation—A Systematic Review with a Sustainable Focus. *Sustainability (2071-1050)*, *17*(11). https://doi.org/10.3390/su17114978

Shi, J., Sitthiworachart, J., & Hong, J.-C. (2024). Supporting project-based learning for students' oral English skill and engagement with immersive virtual reality. *Education and Information Technologies*, *29*(11), 14127–14150. https://doi.org/10.1007/s10639-023-12433-w

Somani, R., & Rizvi, M. (2018). Project based learning over traditional method of language teaching: A quasi experiment design in EFL classrooms. *Literacy Information and Computer Education Journal (LICEJ)*, *9*(2), 2895–2904. https://infonomics-society.org/wp-content/uploads/licej/published-papers/volume-9-2018/Project-Based-Learning-over-Traditional-Method-of-Language-Teaching.pdf

Susanto, F., & Jaya, S. (2023). *Basic Statistical Calculations Correlation of Three Variables*. Rena Cipta Mandiri. https://books.google.com/books?hl=id&lr=&id=-diyEAAAQBAJ&oi=fnd&pg=PA1&dq=Susanto,+F.,+%26+Jaya,+S.+(2023).+Basic+Statistical+Calculations+Correlation+of+Three+Variables.+Rena+Cipta+Mandiri.+&ots=vKB2ak77NW&sig=6fowkgf2yE9aoRR3w6c5A4qwvkg

Tia, J. N. A., & Wangid, M. N. (2024). Impact of project based learning (PjBL) on enhancing student self-confidence. *AL-ISHLAH: Jurnal Pendidikan*, *16*(3), 3684–3696. https://doi.org/10.35445/alishlah.v16i3.5425

Widiyati, E., & Pangesti, W. (2022). Project-based learning in teaching speaking to young learners: Is it effective? *EduLite: Journal of English Education, Literature and Culture*, *7*(1), 71–81. https://doi.org/10.30659/e.7.1.71-81

Zhang, L., & Ma, Y. (2023). A study of the impact of project-based learning on student learning effects: A meta-analysis study. *Frontiers in Psychology*, *14*, 1202728. https://doi.org/10.3389/fpsyg.2023.1202728