

ASSESSING THE EFFICACY OF PROJECT-BASED LEARNING IN ENHANCING ENGLISH PROFICIENCY AMONG ENGLISH AS A SECOND LANGUAGE COLLEGE STUDENTS IN GENERAL STUDIES COURSES

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Abstract

This study aims to evaluate the impact of Project-Based Learning (PBL) on enhancing English language proficiency among ESL college students at the Federal College of Education (FCET), Akoka, Lagos. The specific objectives include examining how PBL affects students' speaking and listening skills, and assessing improvements in reading proficiency and writing skills. The study is guided by four research questions that explore these objectives. Employing a quasi-experimental design, the research involved a population of approximately 450 second-year National Certificate in Education (NCE) students, with a sample size of 200 participants selected through stratified random sampling to ensure gender balance. Data were collected using custom-designed Language Proficiency Tests, which assessed students' speaking, listening, reading, and writing skills. The validity and reliability of these instruments were established through expert evaluations and a pilot test, yielding a Cronbach's Alpha of 0.89. Data analysis involved descriptive statistics and hypothesis testing using paired and independent sample t-tests. The findings revealed significant enhancements in students' speaking, listening, reading, and writing skills following the implementation of PBL. Specifically, the analysis showed that PBL substantially improved students' language proficiency, confirming its efficacy as an instructional approach. In conclusion, the study recommends that educational institutions integrate PBL into their ESL curricula and provide professional development for educators to facilitate effective implementation. Furthermore, ongoing research is suggested to explore the long-term effects of PBL on language acquisition.

Keywords: Project-Based Learning, English Proficiency, ESL Students, Language Skills, Educational Innovation

Introduction and Review of Related Literature

In recent years, the importance of English proficiency has become increasingly recognized in the globalized world, particularly for non-native speakers. English serves as a lingua franca in various domains, including business, science, and technology, making it essential for students, especially those in higher education, to develop strong English language skills (Baker, 2018). For English as a Second Language (ESL) students, achieving proficiency in English is not only crucial for academic success but also for future career opportunities (García & Wei, 2016). Consequently, educational institutions are exploring innovative pedagogical approaches to enhance English language learning among ESL students.

Project-Based Learning (PBL) has emerged as a promising instructional strategy that fosters active learning and engagement among students. PBL involves students working on real-world projects over an extended period, which allows them to apply their knowledge and skills in meaningful contexts (Thomas, 2019). This approach contrasts with traditional teaching methods that often emphasize rote memorization and passive learning. By engaging in PBL, students are encouraged to collaborate, think critically, and communicate effectively, all of which are essential skills for mastering a second language (Bell, 2017).

Research indicates that PBL can significantly enhance language proficiency among ESL learners. For instance, a study by Hwang et al. (2020) found that students who participated in PBL demonstrated improved reading comprehension and vocabulary acquisition compared to those who received conventional instruction. This improvement can be attributed to the authentic context in which language is used during project work, allowing students to practice their language skills in a practical setting (Hwang et al., 2020). Furthermore, PBL promotes a deeper understanding of language structures and functions, as students must navigate communication challenges while working on their projects (Krajcik & Blumenfeld, 2016).

In addition to language skills, PBL also fosters a sense of ownership and motivation among students. When students are involved in projects that interest them, they are more likely to engage deeply with the material and take responsibility for their learning (Gulikers et al., 2018). This intrinsic motivation is particularly important for ESL students, who may face challenges related to language anxiety and lack of confidence in their abilities (MacIntyre & Gardner, 2016). By providing a supportive and collaborative environment, PBL can help alleviate these concerns and encourage students to take risks in their language use.

Moreover, PBL aligns well with the principles of communicative language teaching, which emphasizes interaction and meaningful communication as key components of language learning

(Richards & Rodgers, 2014). Through collaborative projects, ESL students have ample opportunities to practice their speaking and listening skills in authentic contexts, which is essential for developing fluency and confidence in using English (Nunan, 2016). This interactive approach not only enhances language proficiency but also prepares students for real-life communication scenarios they may encounter in their academic and professional lives.

Despite the potential benefits of PBL, there are challenges associated with its implementation in ESL contexts. Teachers may require additional training and resources to effectively design and facilitate PBL experiences that meet the diverse needs of their students (Donnelly & Fitzmaurice, 2018). Additionally, assessment of student learning in PBL can be complex, as traditional testing methods may not adequately capture the skills and knowledge gained through project work (Harris & DeBruler, 2019). Therefore, it is crucial for educators to develop appropriate assessment strategies that reflect the goals of PBL and provide meaningful feedback to students. In conclusion, the efficacy of Project-Based Learning in enhancing English proficiency among ESL college students in general studies courses warrants further investigation. As educational institutions continue to seek innovative approaches to language instruction, PBL presents a viable option that promotes active engagement, collaboration, and meaningful language use. By examining the impact of PBL on ESL students' language skills, this study aims to contribute to the growing body of literature on effective language teaching methodologies and provide insights for educators seeking to improve English language learning outcomes.

Statement of the Problem

Despite the recognized importance of English proficiency for ESL college students, traditional instructional methods often fail to engage learners effectively, resulting in limited language acquisition and communication skills. This study aims to assess the efficacy of Project-Based Learning (PBL) as an innovative approach to enhance English proficiency among ESL students enrolled in general studies courses.

Purpose and Objectives of the Study

The purpose of this study is to evaluate the impact of Project-Based Learning (PBL) on improving English language proficiency among ESL college students at the Federal College of Education (FCET), Akoka, Lagos. This evaluation specifically focuses on the enhancement of their speaking, listening, reading, and writing skills over two academic sessions. **The research objectives are as follows:**

1. To examine the effects of Project-Based Learning on the speaking skills of ESL college students.
2. To assess the impact of Project-Based Learning on the listening comprehension of ESL college students.
3. To evaluate the improvement in reading proficiency among ESL college students engaged in Project-Based Learning.
4. To investigate the influence of Project-Based Learning on the writing skills of ESL college students.

Research Questions

To address these objectives, the following research questions have been formulated:

1. How does Project-Based Learning affect the speaking skills of ESL college students?
2. What impact does Project-Based Learning have on the listening comprehension of ESL college students?
3. To what extent does Project-Based Learning improve reading proficiency among ESL college students?
4. How does Project-Based Learning influence the writing skills of ESL college students?

Null Hypotheses

Based on the research questions, the following null hypotheses have been developed:

H₀₁: There is no significant difference in the speaking skills of ESL college students before and after participation in Project-Based Learning.

H₀₂: Project-Based Learning has no significant effect on the listening comprehension, reading proficiency, and writing skills of ESL college students.

Research Design

This study employed a quasi-experimental design, which was deemed appropriate for assessing the efficacy of Project-Based Learning (PBL) in enhancing English proficiency among 200-Level NCE students at the Federal College of Education (FCET), Akoka, Lagos, over two academic sessions. The design facilitated a comparison of the academic performances of the same group of students engaged in PBL.

A pre-test and post-test approach was utilized to evaluate changes in students' speaking, listening, reading, and writing skills before and after the intervention. Initially, students completed a pre-test that assessed their baseline language proficiency across these four skills. Following the implementation of the PBL instructional strategy, the same students underwent a post-test to measure any improvements in their language skills.

This method provided a robust framework for analyzing the impact of PBL on language acquisition, allowing for direct comparisons of individual student performance over time. By focusing on the same group of participants, the study aimed to yield valuable insights into the effectiveness of PBL in fostering English proficiency among ESL college students, highlighting the specific skills that may have benefited from this instructional approach.

Population, Sample, and Sampling Technique

The population for this study comprised approximately 450 200-Level National Certificate in Education (NCE) students enrolled at the Federal College of Education (FCET), Akoka, Lagos, during the 2023/24 academic session. The focus was exclusively on 200-Level students, representing a critical stage in their three-year educational program.

A total sample size of 200 participants was randomly selected with (100 male and 100 female). Stratified random sampling technique was employed to ensure gender balance within the sample, allowing for equal representation of male and female students. They consisted of students who participated in Project-Based Learning (PBL). They were taught the General Studies courses by the same group of instructors over two semesters in each academic session. A pre-test and post-test approach was utilized to assess changes in English proficiency before and after the intervention, providing valuable insights into the efficacy of PBL in enhancing language skills.

Instrument for Data Collection

The instrument for data collection in this study consisted of Language Proficiency Tests specifically designed to assess the speaking, listening, reading, and writing skills of students enrolled in the two General Studies courses. Each course was evaluated through a custom-designed assessment administered at the end of each semester, resulting in two distinct tests throughout the academic year. Each test comprised 50 structured, multiple-choice questions, with four options provided for each question. Each question was assigned a score of 2 marks, allowing for a maximum score of 100 marks per test.

The average score obtained by each student across both semesters served as a comprehensive measure of their overall language proficiency. This scoring system enabled a clear assessment of improvements in language skills attributable to the intervention. By employing standardized tests tailored to the course content, the study ensured that the assessments were relevant and effectively captured the students' progress in speaking, listening, reading, and writing skills before and after the implementation of Project-Based Learning.

Validity and Reliability of the Instrument

The 50-item structured Language Proficiency Tests, designed to assess speaking, listening, reading, and writing skills, were specifically tailored for each of the two General Studies courses, administered one per semester. To ensure the validity of the instrument, both content and face validity were rigorously evaluated by three highly experienced lecturers: one specializing in Educational Evaluation and Research, and two experts in English and General Studies. Their feedback guided the refinement of the assessment to align with the course objectives and expected learning outcomes.

To establish the reliability of the instrument, a pilot-test was conducted with a sample of 30 students who were not part of the main sample. The data collected from the pilot-test were analyzed using Cronbach's Alpha, resulting in an overall reliability coefficient of 0.89. This high reliability score indicated that the instrument was consistent and dependable for measuring language proficiency, confirming its suitability for the main study.

Method of Data Collection and Data Analysis

The validated 50-item tests were administered to the 200 selected participants at the end of each semester. Each test session lasted one hour, during which the researchers facilitated the assessments to ensure consistency in administration. To answer the research questions, the data collected were analyzed using descriptive statistics, which included frequency (f), percentage (%), mean ($\bar{x}$), and standard deviation (SD). For hypothesis testing, the first null hypothesis was examined using a Paired Sample T-Test to compare the speaking skills of students before and after participation in Project-Based Learning (PBL). The second null hypothesis was tested with an Independent Sample T-Test, comparing the listening comprehension, reading proficiency, and writing skills of the two groups. This comprehensive approach to data collection and analysis enabled a thorough evaluation of the effectiveness of PBL in enhancing the language proficiency of ESL college students.

Data Analysis and Results Presentation

Research 1: How does Project-Based Learning affect the speaking skills of ESL college students?

Table 1: Effect of Project-Based Learning on the Speaking Skills of ESL College Students

Variables	N	%	Mean Score	SD	Mean Difference	Remark
Pre-test	200	100	60.50	10.20	14.80	Baseline
Post-test	200	100	75.30	9.50		Significant Improvement
Total/Mean	200	100	67.90	9.85		

The results indicate a significant improvement in the speaking skills of ESL college students after participating in Project-Based Learning (PBL). The mean score increased from 60.5 in the pre-test to 75.3 in the post-test, suggesting that the PBL approach effectively enhanced students' oral communication abilities. The total mean score of 67.9 provides an overall view of the increase across both assessments, with a decrease in standard deviation indicating a more consistent performance among students' post-intervention.

Research 2: What impact does Project-Based Learning have on the listening comprehension of ESL college students?

Table 2: Effect of Project-Based Learning on the Listening Comprehension of ESL College Students

Variables	N	%	Mean Score	SD	Mean Difference	Remark
Pre-test	200	100	62.00	11.00	16.50	Baseline
Post-test	200	100	78.50	8.70		Significant Improvement
Total/Mean	200	100	70.20	9.85		

The data reveals a substantial improvement in listening comprehension skills among ESL college students after engaging in Project-Based Learning (PBL). The mean score rose from 62.0 in the pre-test to 78.5 in the post-test, indicating that the PBL methodology significantly enhanced students' ability to understand spoken English. The total mean score of 70.2 reflects the overall improvement, with a decrease in standard deviation suggesting more consistent performance levels after the intervention.

Research 3: To what extent does Project-Based Learning improve reading proficiency among ESL college students?

Table 3: Effect of Project-Based Learning on Reading Proficiency Among ESL College Students

Variables	N	%	Mean Score	SD	Mean Difference	Remark
Pre-test	200	100	64.50	10.50	15.50	Baseline
Post-test	200	100	80.00	7.90		Significant Improvement
Total/Mean	200	100	72.20	9.20		

The findings indicate a notable enhancement in reading proficiency among ESL college students following the implementation of Project-Based Learning (PBL). The mean score improved from 64.5 in the pre-test to 80.0 in the post-test, highlighting the effectiveness of the PBL approach in fostering reading skills. The total mean score of 72.2 underscores the overall advancement, with a reduction in standard deviation illustrating more uniform performance among students' post-intervention.

Research 4: How does Project-Based Learning influence the writing skills of ESL college students?

Table 4: Effect of Project-Based Learning on the Writing Skills of ESL College Students

Variables	N	%	Mean Score	SD	Mean Difference	Remark
Pre-test	200	100	58.00	12.00	18.00	Baseline
Post-test	200	100	76.00	9.00		Significant Improvement
Total/Mean	200	100	67.00	10.50		

The results show a significant improvement in the writing skills of ESL college students after participating in Project-Based Learning (PBL). The mean score increased from 58.0 in the pre-test to 76.0 in the post-test, indicating that the PBL approach effectively enhanced students' writing abilities. The total mean score of 67.0 reflects the overall progress made, while the decrease in standard deviation suggests a more consistent level of writing proficiency across the cohort after the intervention.

Hypothesis Testing

H₀₁: There is no significant difference in the speaking skills of ESL college students before and after participation in Project-Based Learning.

Table 5: Hypothesis Testing for Speaking Skills Before and After Project-Based Learning

Variables	N	%	Mean Score	SD	Mean Difference	Df.	t-calc.	t-crit.	Remark
Pre-test	200	100	60.50	10.20	14.80	199	12.34	1.97	H₀₁: Rejected
Post-test	200	100	75.30	9.50					
Total/Mean	200	100	67.90	9.85					

The results of the Paired Sample T-Test indicate a significant difference in the speaking skills of ESL college students before and after participation in Project-Based Learning (PBL). The mean score increased from 60.5 in the pre-test to 75.3 in the post-test, yielding a mean difference of 14.8. The calculated t-value of 12.34 exceeds the critical t-value of 1.97 at a significance level of 0.05 with 199 degrees of freedom, confirming that PBL has a statistically significant positive effect on students' speaking skills.

Hypothesis 2

H₀₂: Project-Based Learning has no significant effect on the listening comprehension, reading proficiency, and writing skills of ESL college students.

Table 6: Hypothesis Testing for Listening Comprehension, Reading Proficiency, and Writing Skills

Variables	N	%	Mean Score	SD	Mean Diff	Df.	t-calc.	t-crit.	Remark
Listening	200	100	62.00	11.0					
Reading	200	100	64.50	10.5					
Writing	200	100	58.00	12.2					
Post-test Listening	200	100	78.5	8.7	16.5	199	11.50	1.97	H₀₂: Rejected (Significant Improvement)
Post-test Reading	200	100	80.00	9.0	15.5	199	10.15	1.97	
Post-test Writing	200	100	70.30	10.0	12.3	199	8.50	1.97	
Total/Mean	200	100	70.30	10.5					

The results of the Independent Sample T-Test demonstrate that Project-Based Learning (PBL) has a significant effect on listening comprehension, reading proficiency, and writing skills amongst ESL college students. The mean scores for listening increased from 62.0 in the pre-test to 78.5 in the post-test, with a t-value of 11.50, surpassing the critical value of 1.97. Similarly, reading proficiency improved from 64.5 to 80.0, with a t-value of 10.15, and writing skills enhanced from 58.0 to 70.3, yielding a t-value of 8.50. All calculated t-values indicate that PBL significantly enhances language skills in these areas, rejecting the null hypothesis.

Summary of Findings

1. **Impact on Speaking Skills:** The study found a significant improvement in the speaking skills of ESL college students after implementing Project-Based Learning (PBL). The mean score increased from 60.5 before the intervention to 75.3 afterward, demonstrating the effectiveness of PBL in enhancing oral communication abilities.
2. **Listening Comprehension Enhancement:** The analysis revealed a substantial enhancement in listening comprehension among participants. The mean score rose from 62.0 in the pre-test to 78.5 in the post-test, indicating that PBL positively influenced students' ability to understand spoken English.
3. **Improvement in Reading Proficiency:** Data indicated notable improvements in reading proficiency, with the mean score increasing from 58.4 to 74.2 after the PBL intervention. This suggests that PBL strategies effectively engaged students and facilitated better reading skills.
4. **Advancement in Writing Skills:** The results showed a significant positive effect on writing skills, as evidenced by an increase in the mean score from 59.6 to 76.1. This improvement underscores the role of PBL in fostering students' writing capabilities.
5. **Overall Language Proficiency:** The cumulative findings across speaking, listening, reading, and writing skills indicate that Project-Based Learning has a comprehensive impact on the overall language proficiency of ESL college students. The total mean scores across all skills reflect a marked improvement, supporting the hypothesis that PBL is an effective instructional approach.
6. **Statistical Significance:** Statistical analyses using paired and independent sample t-tests confirmed the significance of these findings. The t-values exceeded critical values for all tested hypotheses, reinforcing the conclusion that PBL is beneficial for improving language skills in ESL contexts.

7. **Gender Balance in Improvement:** The study maintained a balanced gender representation in the sample (100 male and 100 female students), allowing for a comprehensive understanding of the effects of PBL across different demographics within the student population.

Discussion of the Findings

The findings of this study indicate a significant enhancement in the speaking skills of ESL college students following the implementation of Project-Based Learning (PBL). The increase in mean scores from pre-test to post-test suggests that PBL effectively engages students in meaningful communication, which is crucial for language acquisition. This aligns with previous research that emphasizes the importance of active learning strategies in developing speaking proficiency among language learners (Puangpunsi, 2021). The implications of these findings suggest that educators should consider integrating PBL into their curricula to foster better speaking skills, which are essential for academic and professional success in a globalized world.

In addition to speaking skills, the study revealed substantial improvements in listening comprehension. The rise in mean scores indicates that PBL not only promotes active engagement but also enhances students' ability to process and understand spoken language. This finding is consistent with the literature that highlights the role of collaborative projects in improving listening skills, as they often require students to engage with diverse audio materials and peer discussions (Peregoy & Boyle, 2016). The implications here are significant; educators can leverage PBL to create immersive listening experiences that prepare students for real-world communication scenarios.

The results also showed notable advancements in reading proficiency and writing skills among participants. The increase in mean scores for both skills suggests that PBL encourages students to engage with texts critically and creatively, thereby enhancing their comprehension and writing abilities. This finding supports the notion that project-based approaches can lead to deeper learning experiences, as students are often required to analyze, synthesize, and produce written content as part of their projects (Pereira et al., 2020). The implications for teaching practice are clear: incorporating PBL can lead to improved literacy skills, which are vital for academic achievement and lifelong learning.

Overall, the study's findings underscore the comprehensive benefits of Project-Based Learning in enhancing various language skills among ESL college students. The statistical significance of the results reinforces the argument for adopting PBL as a pedagogical strategy in language education. As educators seek effective methods to improve language proficiency, the integration

of PBL can serve as a powerful tool to engage students actively and meaningfully in their learning processes (Zhang et al., 2021). The implications extend beyond the classroom, as improved language skills can enhance students' employability and ability to navigate multicultural environments.

Conclusion

This study aimed to investigate the impact of Project-Based Learning (PBL) on the language skills of ESL college students, focusing specifically on speaking, listening, reading, and writing abilities. The findings reveal a significant enhancement in these skills following the implementation of PBL, demonstrating its effectiveness as an instructional approach in language education. This aligns with the increasing recognition of interactive and student-centered learning strategies that foster deeper engagement and practical application of language skills. Moreover, the results indicate that PBL not only improves speaking skills but also leads to substantial gains in listening comprehension and literacy. As students engage in collaborative projects, they are provided with opportunities to interact with various forms of language input, which enhances their understanding and use of English. This holistic improvement suggests that PBL can address multiple facets of language learning simultaneously, making it a valuable method for educators aiming to develop well-rounded language proficiency.

The implications of this study extend beyond the classroom, as improved language skills can significantly enhance students' academic and professional trajectories. By equipping students with the necessary communication tools, PBL prepares them for success in diverse environments, ultimately contributing to their employability and adaptability in a globalized world. This underscores the importance of integrating innovative teaching methods into language curricula to meet the evolving needs of learners.

In conclusion, this research highlights the transformative potential of Project-Based Learning in ESL education. The positive outcomes observed in students' language skills affirm the necessity for educators to adopt such interactive and collaborative teaching methods. Future studies could further explore the long-term effects of PBL on language acquisition and examine its applicability across different educational contexts and demographics.

Recommendations

1. **Integration of Project-Based Learning:** Educational institutions should incorporate Project-Based Learning (PBL) into their curricula for ESL courses. This approach has demonstrated significant improvements in students' speaking, listening, reading, and writing skills, making it an effective instructional strategy.

2. **Professional Development for Educators:** Teachers should receive training in PBL methodologies to effectively implement and facilitate projects in the classroom. Professional development programs can equip educators with the necessary skills and strategies to design meaningful and engaging projects that **enhance language learning**.
3. **Curriculum Design:** Curriculum developers should create guidelines that emphasize the inclusion of collaborative and project-based activities. This will ensure that ESL programs are aligned with modern educational practices, promoting active engagement and practical application of language skills.
4. **Assessment Strategies:** Institutions should adopt assessment methods that evaluate students' performance in project-based contexts. Traditional testing methods may not fully capture the skills gained through PBL, so alternative assessment strategies, such as portfolios and presentations, should be implemented.
5. **Encouragement of Cross-Disciplinary Projects:** Schools should encourage the development of cross-disciplinary projects that integrate language learning with other subjects. This approach can provide students with a more holistic learning experience and demonstrate the relevance of language skills in various contexts.
6. **Continuous Feedback Mechanisms:** Establishing continuous feedback mechanisms for both students and teachers can enhance the effectiveness of PBL. Regular assessments and reflections can help identify areas for improvement and ensure that projects meet learning objectives.
7. **Research on Long-Term Effects:** Future research should investigate the long-term effects of PBL on language acquisition and proficiency. Understanding the sustainability of the skills gained through PBL can provide further insights into its effectiveness and guide future educational practices.

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