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THE EFFECTIVENESS OF PROJECT-BASED LEARNING AND THE (UDL) FRAMEWORK IN ACQUIRING ENGLISH AS A SECOND LANGUAGE

**LA EFICACIA DEL APRENDIZAJE BASADO EN PROYECTOS Y
EL MARCO DUA EN LA ADQUISICIÓN DEL INGLÉS COMO
SEGUNDA LENGUA**

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The Effectiveness of Project-Based Learning and the (UDL) Framework in Acquiring English as a Second Language

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ABSTRACT

This study explores the impact of Project-Based Learning (PBL) and Universal Design for Learning (UDL) on English as a Second Language (ESL) acquisition, focusing on how these approaches influence student motivation, participation, and language proficiency. A quasi-experimental design was employed, with control and experimental groups, to assess the effectiveness of these methodologies. Data were collected through surveys, pre-and post-tests, and qualitative classroom observations. The results indicate that both PBL and UDL significantly enhance linguistic skills, particularly in reading, writing, and oral expression. These strategies also foster increased student engagement, motivation, and collaboration, contributing to a more dynamic and inclusive classroom environment. The study shows that the integration of PBL and UDL supports not only language development but also the creation of a supportive learning atmosphere that meets diverse educational needs. These findings underscore the potential of PBL and UDL to improve ESL instruction by encouraging active participation and collaborative learning. The study concludes with pedagogical implications, emphasizing the importance of professional development for educators in active and inclusive teaching strategies. It also suggests avenues for future research to refine the use of these methodologies in various educational contexts, ultimately aiming to enhance ESL outcomes across diverse linguistic and cultural settings.

Keywords: english language acquisition, project-based learning (pbl), universal design for learning (udl), english as a second language (esl), collaborative learning

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La Eficacia del Aprendizaje Basado en Proyectos y el Marco DUA en la Adquisición del Inglés como Segunda Lengua

RESUMEN

El propósito de esta investigación es evaluar cómo influyen enfoques pedagógicos innovadores, específicamente el Aprendizaje Basado en Proyectos (ABP) y el Diseño Universal para el Aprendizaje (DUA), en la adquisición del inglés como segunda lengua (ESL). El estudio se centra en analizar su impacto en la motivación, la participación activa de los estudiantes y el desarrollo de sus competencias lingüísticas. Para alcanzar este objetivo, se utilizó un diseño cuasiexperimental que incluyó tanto grupos de control como experimentales. La recolección de datos se llevó a cabo mediante encuestas, evaluaciones diagnósticas y finales, así como observaciones en el aula que permitieron obtener información cualitativa. Los hallazgos revelan que la aplicación del ABP y el DUA no solo favorece el progreso en habilidades lingüísticas, como la comprensión y producción oral y escrita, sino que también incrementa la motivación y el nivel de implicación del estudiantado en el proceso de aprendizaje. Asimismo, se evidencia un fortalecimiento del trabajo colaborativo, lo que contribuye a un aprendizaje más significativo. Estos resultados subrayan la relevancia de adoptar metodologías inclusivas y adaptativas que respondan a la diversidad de necesidades en el aula, promoviendo entornos educativos más dinámicos y accesibles. En conclusión, se reflexiona sobre las implicaciones pedagógicas de estas estrategias para la enseñanza del inglés, destacando la importancia de la formación docente en metodologías activas. Además, se sugieren líneas de investigación futuras para perfeccionar la implementación del ABP y el DUA en diferentes contextos educativos.

Palabras clave: aprendizaje del inglés, aprendizaje basado en proyectos (abp), diseño universal para el aprendizaje (dua), enseñanza del inglés como segunda lengua (esl), aprendizaje colaborativo

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INTRODUCTION

The schooling of foreign languages is a dynamic and continuously evolving field, driven by the necessity to adapt to diverse student needs and the rapid advancements in educational technology and methodologies. In today's globalized society, acquiring a second language is not merely an academic endeavor but a crucial skill that enhances personal, cultural, and professional opportunities. The complexity of second language acquisition lies in its requirement to integrate linguistic, cultural, and cognitive skills simultaneously—a challenge that traditional methods of instruction may not fully address (Vygotsky, 1978).

Innovative instructional approaches have emerged to meet these challenges, with Project-Based Learning (PBL) and the Universal Design for Learning (UDL) framework standing out as particularly promising methodologies. PBL is characterized by its emphasis on real-world problem-solving and the creation of authentic projects that engage learners in meaningful tasks and enhance the critical thinking of students. This approach shifts the focus from rote memorization and passive reception of information to active learning, where students are encouraged to collaborate, think critically, and apply their knowledge in practical scenarios (Thomas, 2000; Bell, 2010). By contextualizing language use in real-life situations, PBL not only enhances linguistic proficiency but also fosters the development of critical soft skills such as teamwork and collaboration, communication, and creativity (Krajcik & Blumenfeld, 2006).

Adding PBL, the Universal Design for Learning (UDL) framework offers a flexible and inclusive approach to education that caters to the diverse needs of learners. UDL is grounded in the principle of providing multiple means of representation, engagement, and expression, ensuring that all students—regardless of their learning styles or abilities—have equitable access to the curriculum (Wiggins & McTighe, 2005; CAST, 2018). In the context of English as a Second Language (ESL) education, UDL promotes differentiated instruction, enabling educators to tailor learning experiences that accommodate varying levels of language proficiency and cultural backgrounds (López, 2018; Meyer, Rose, & Gordon, 2014).

Furthermore, the integration of PBL and UDL frameworks in ESL classrooms aligns with contemporary educational theories that emphasize learner-centered instruction and constructivist approaches. These



theories argue that meaningful learning occurs when students are actively involved in the process of constructing knowledge, rather than passively receiving information (Hmelo-Silver, 2004). In practice, the combination of PBL and DUA facilitates a learning environment where students not only acquire language skills but also develop a deeper understanding of cultural nuances and real-world applications of their language abilities.

In addition to promoting academic skills, these methodologies have been shown to increase student motivation and engagement, which are critical factors in successful language acquisition. Studies have indicated that when students are given opportunities to work on authentic, relevant projects and multiple avenues to express their learning, they exhibit higher levels of intrinsic motivation and commitment to their studies (García, 2017; Hernández, 2019). This is particularly significant in ESL contexts, where students often face additional challenges such as language anxiety and limited exposure to the target language outside the classroom.

Given these advantages, this study explores the effectiveness of integrating PBL and the DUA framework into ESL instruction. The research aims to provide empirical evidence on how these innovative approaches can transform language learning environments by examining their impact on student engagement, motivation, and language proficiency. The study also considers the challenges associated with implementing these methodologies, such as the need for clear instructional guidelines and adequate resource allocation, to offer comprehensive recommendations for educators.

In summary, integrating **PBL** and **UDL** represents a significant shift from traditional, teacher-centered models to more dynamic, learner-centered approaches in ESL education. This study contributes to the growing body of literature on innovative language teaching methods and offers practical insights into how educators can harness the potential of these strategies to create more engaging, effective, and inclusive learning environments.

Theoretical Framework (PBL)

Project-Based Learning is a student-centered instructional strategy that emphasizes solving real-world problems through hands-on projects and collaborative inquiry. By engaging in authentic tasks, learners are encouraged to apply their knowledge in meaningful contexts, thereby promoting deeper understanding and retention of content. In the context of English language instruction, PBL enables



students to practice and refine their linguistic and communicative skills by working on projects that simulate real-life scenarios—ranging from community-based initiatives to simulated business meetings or creative storytelling. This active engagement helps to develop critical thinking, problem-solving, and decision-making abilities, which are essential components of language proficiency (Thomas, 2000; Bell, 2010).

The method fosters an environment where learners are not passive recipients of information but active participants in their educational journey. By collaborating in groups, students negotiate meaning, articulate their ideas, and receive immediate feedback from both peers and instructors. This dynamic interaction not only enhances linguistic fluency but also promotes socio-cultural learning, as students are exposed to different perspectives and real-world communication challenges (Krajcik & Blumenfeld, 2006). Furthermore, PBL has been shown to stimulate intrinsic motivation and higher levels of engagement, as learners see the relevance of their language skills to everyday life and future professional endeavors. The iterative process of planning, executing, and reflecting on projects helps learners to internalize complex linguistic concepts and apply them in novel situations, thereby bridging the gap between theory and practice.

Universal Design for Learning (UDL):

The Universal Design for Learning framework is founded on the premise of providing equitable access to learning by addressing the diverse needs of all students. UDL advocates for the creation of flexible and inclusive instructional environments that offer multiple means of representation, engagement, and expression. In practice, this means that educational materials and activities are designed from the outset to accommodate a wide range of learning styles, cultural backgrounds, and abilities, ensuring that every student can access and interact with the content in a manner that suits their individual needs (Wiggins & McTighe, 2005; CAST, 2018).

In language teaching, the (UDL) framework can be particularly transformative. By presenting information through various modalities—such as visual aids, auditory recordings, interactive digital media, and hands-on activities—teachers can help students better grasp complex linguistic concepts. Additionally, UDL encourages educators to employ flexible assessment methods that allow students to demonstrate their learning in diverse ways, whether through written assignments, oral presentations,



creative projects, or digital storytelling. This not only supports students with different learning preferences but also enhances cognitive engagement by challenging them to process and apply information in multiple contexts (Meyer, Rose, & Gordon, 2014).

Research indicates that implementing the UDL framework in language teaching can lead to significant improvements in both cognitive engagement and linguistic proficiency. When students are provided with choices in how they learn and express their knowledge, they are more likely to be motivated and invested in their learning process. The integration of UDL principles with project-based approaches further amplifies these benefits, as students are empowered to explore language in contexts that are personally meaningful and relevant to their everyday experiences (López, 2018). Thus, the combined use of PBL and UDL represents a holistic approach to language instruction that is both inclusive and effective.

METHODOLOGY

This study employs a quasi-experimental design to rigorously evaluate the impact of PBL and the UDL framework on English language acquisition among ESL students. The research design includes two distinct groups: an experimental group that receives instruction based on PBL and UDL principles, and a control group that follows traditional language instruction methods. This comparative design allows for the examination of differences in language proficiency, motivation, and engagement attributable to innovative instructional methods.

Participant Selection:

This study was conducted at *Unidad Educativa Tabacundo, Ecuador*, with participants aged between 13 and 18. 100 ESL students were selected using stratified random sampling to ensure a representative distribution of proficiency levels, age groups, and backgrounds. Stratification helped to control for potential confounding variables, ensuring that both the control and experimental groups were comparable at the outset of the study. This sampling method also enhanced the generalizability of the findings to a broader population of ESL learners.

Data Collection Instruments and Procedures:

The study utilized a multi-method approach to data collection, which included quantitative and qualitative measures:



- **Pre- and Post-Tests:** Language proficiency was assessed through standardized tests administered before and after the intervention. These tests measured various aspects of language acquisition, including vocabulary, grammar, reading comprehension, and oral communication skills.
- **Motivation and Engagement Surveys:** Customized surveys were distributed to capture students' self-reported levels of motivation, engagement, and satisfaction with the instructional methods. The surveys included both Likert-scale items and open-ended questions to gather in-depth insights into the students' experiences.
- **Qualitative Observations:** Classroom interactions were observed and recorded to provide contextual data on the dynamics of group work, the implementation of PBL activities, and the integration of UDL strategies. These observations were complemented by teacher interviews, which provided additional perspectives on the effectiveness of the methodologies and the challenges encountered during instruction.
- **Data Triangulation:** The study employed data triangulation by combining test scores, survey responses, and observational data. This approach ensured a comprehensive evaluation of the instructional methods, enabling the researcher to corroborate findings across different sources (Hernández, 2019; Muñoz & Ramírez, 2020).

Data Analysis:

Quantitative data from the tests and surveys were analyzed using statistical methods to identify significant differences between the control and experimental groups. Descriptive statistics provided an overview of the central tendencies and variability in language proficiency and motivation scores, while inferential statistics were used to assess the effectiveness of the intervention. Qualitative data were coded and analyzed thematically, allowing for the identification of recurring patterns and insights related to student engagement, collaboration, and the practical challenges of implementing PBL and UDL.

This comprehensive methodological framework ensured that the study captured both the measurable outcomes of language learning and the nuanced experiences of students engaged in innovative, learner-centered instructional approaches. The combination of rigorous quantitative analysis with rich qualitative data provided a robust foundation for evaluating the impact of PBL and the UDL framework on ESL education.



Results

Table 1. What is your current level of English proficiency?

Response options	Percentage %
Beginner	30%
Intermediate	40%
Advance	20%
Proficiency	10%

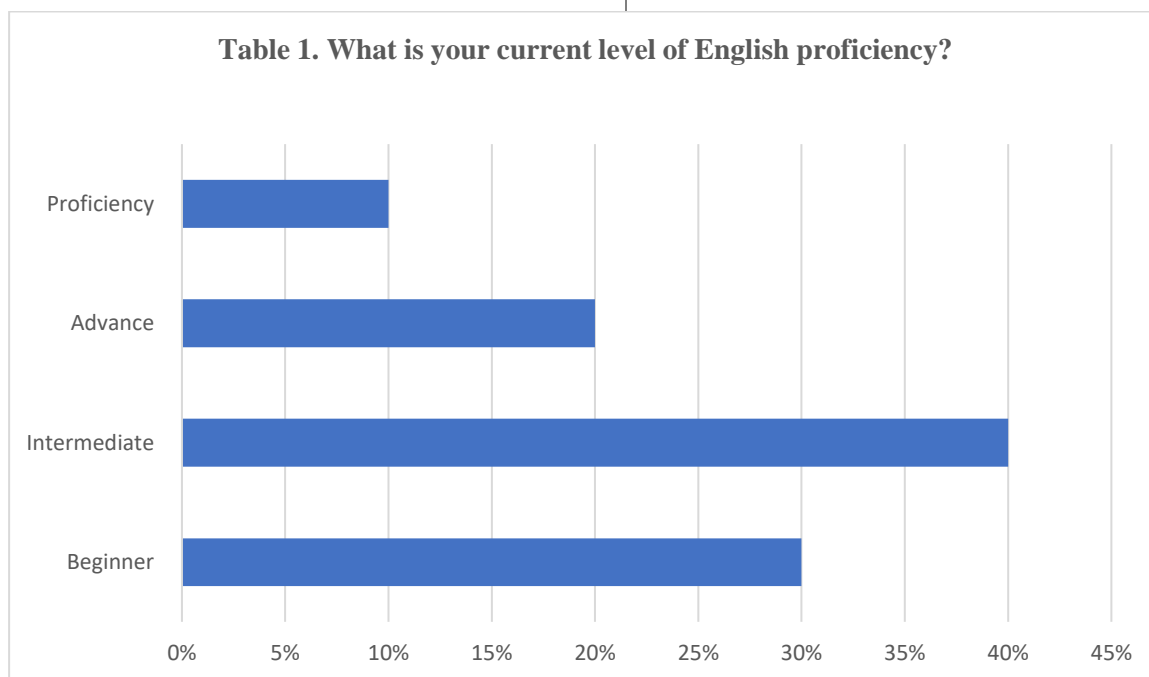


Table 2. Have you previously participated in a PBL experience?

Response options	Percentage %
Yes	50%
No	50%

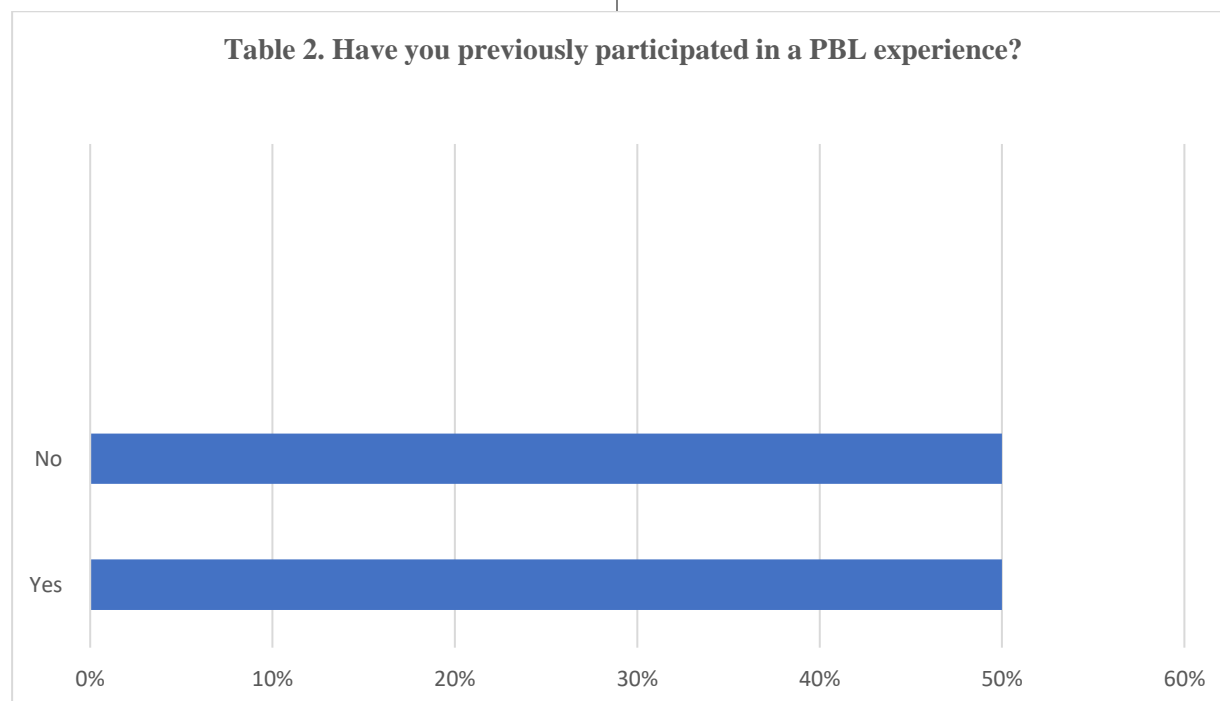


Table 3. How familiar are you with the UDL framework?

Response options	Percentage %
Very familiar	20%
Somewhat familiar	30%
Not very familiar	30%
Not at all familiar	20%

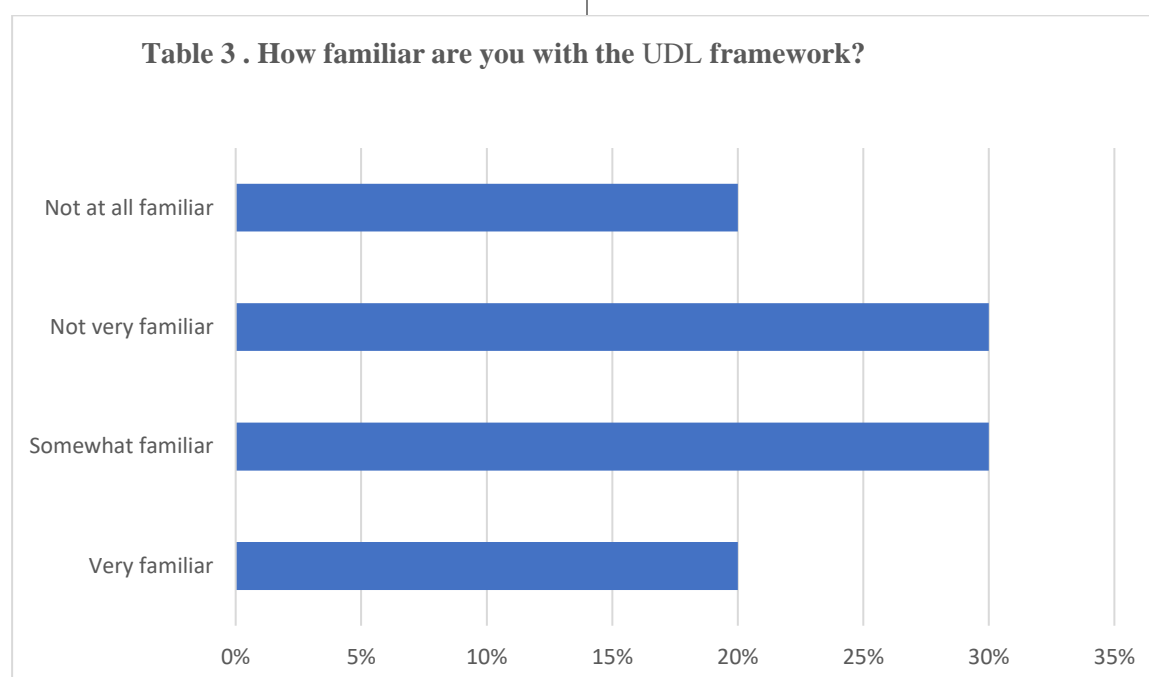


Table 4. How motivated are you to learn English using PBL and UDL?

Response options	Percentage %
Very motivated	40%
Somewhat motivated	35%
Not very motivated	15%
Not at all motivated	10%

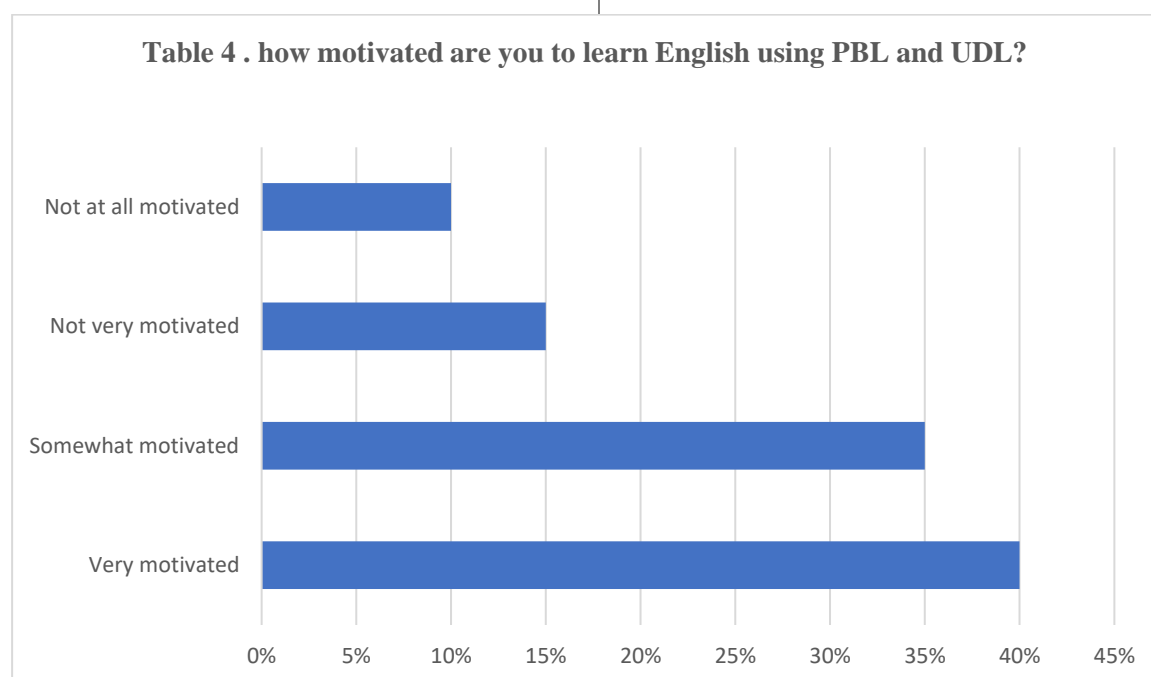


Table 5. Do you think PBL and UDL effectively improve your English skills?

Response options	Percentage %
Strongly agree	35%
Somewhat agree	30%
Neither agree nor disagree	20%
Somewhat disagree	10%
Strongly disagree	5%

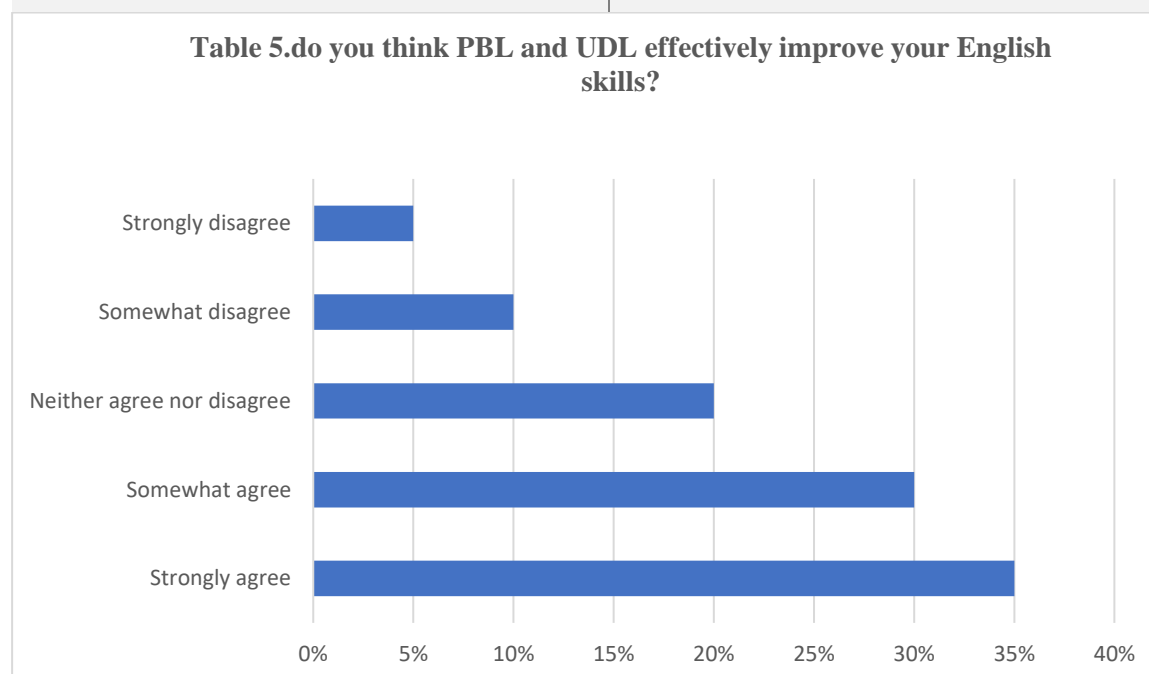


Table 6. How comfortable do you feel working in teams and collaborating with peers?

Response options	Percentage %
Very comfortable	45%
Somewhat comfortable	30%
Not very comfortable	15%
Not at all comfortable	10%

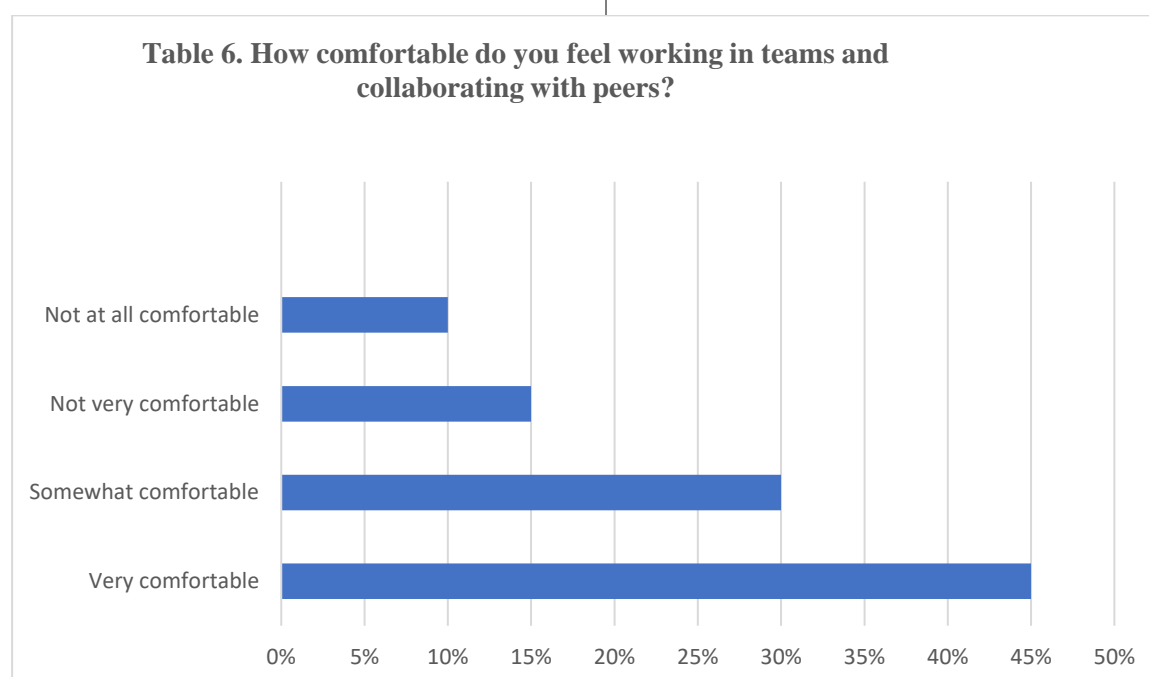


Table 7. What challenges have you faced using PBL and UDL?

Understanding project instructions ✓ (open-ended)

Lack of resources and time	✓ (Open-ended)
Teamwork coordination problems	✓ (Open-ended)

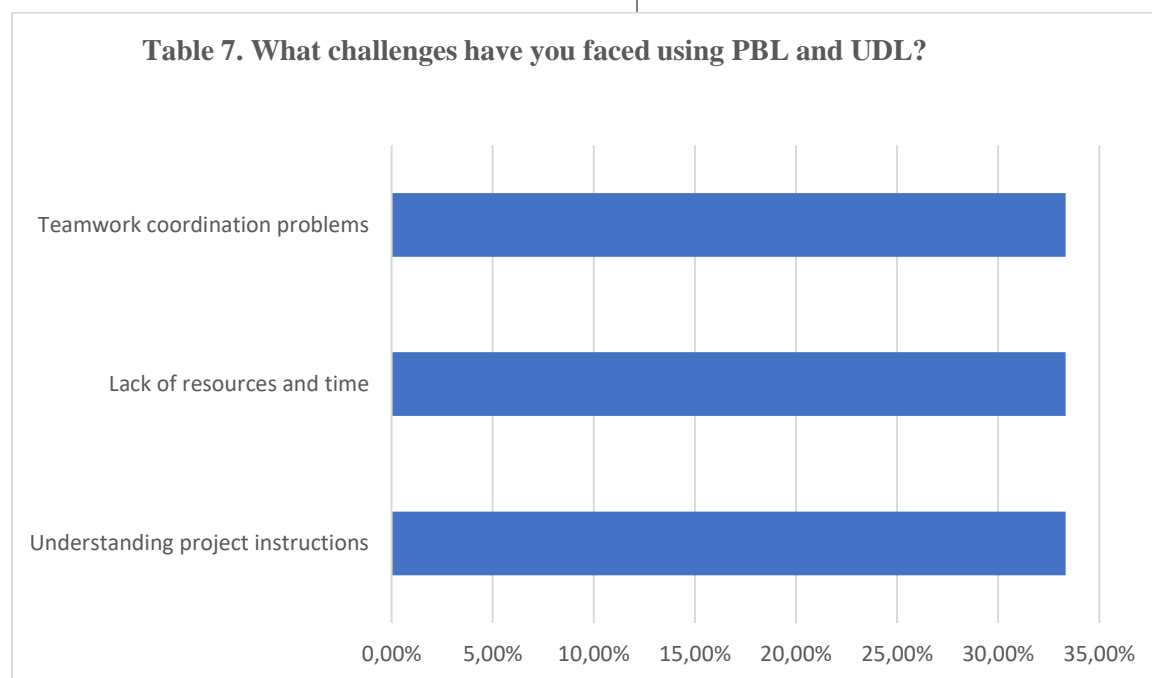


Table 8. What benefits have you experienced using PBL and UDL?

Increased confidence in speaking

✓ (open-ended)

Enhanced collaboration skills	✓ (Open-ended)
More engaging lessons	✓ (Open-ended)

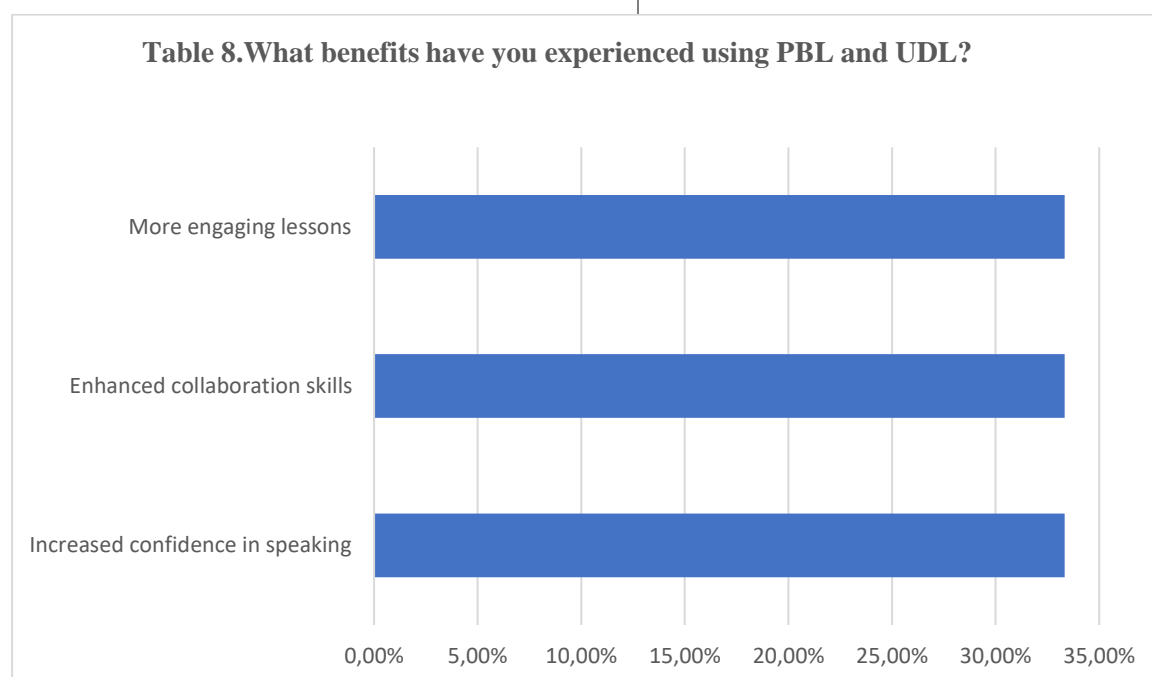


Table .9. How can PBL and UDL be improved?

Clearer instructions	✓ (open-ended)
More time for tasks	✓ (Open-ended)
Real-world applications	✓ (Open-ended)

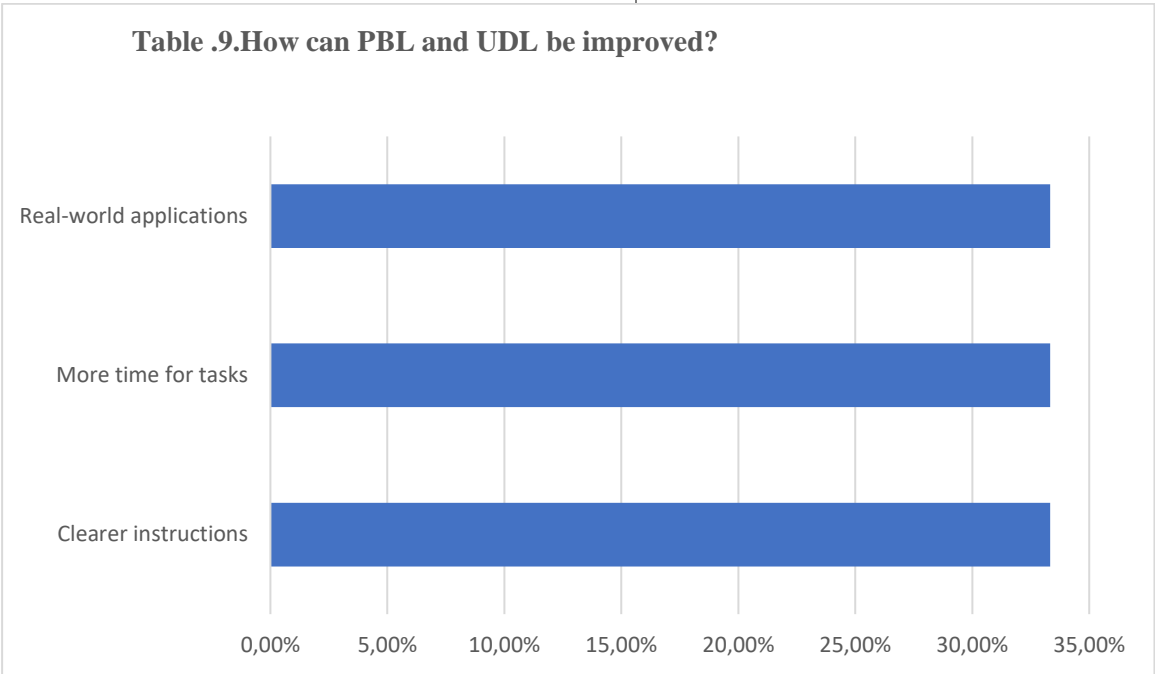
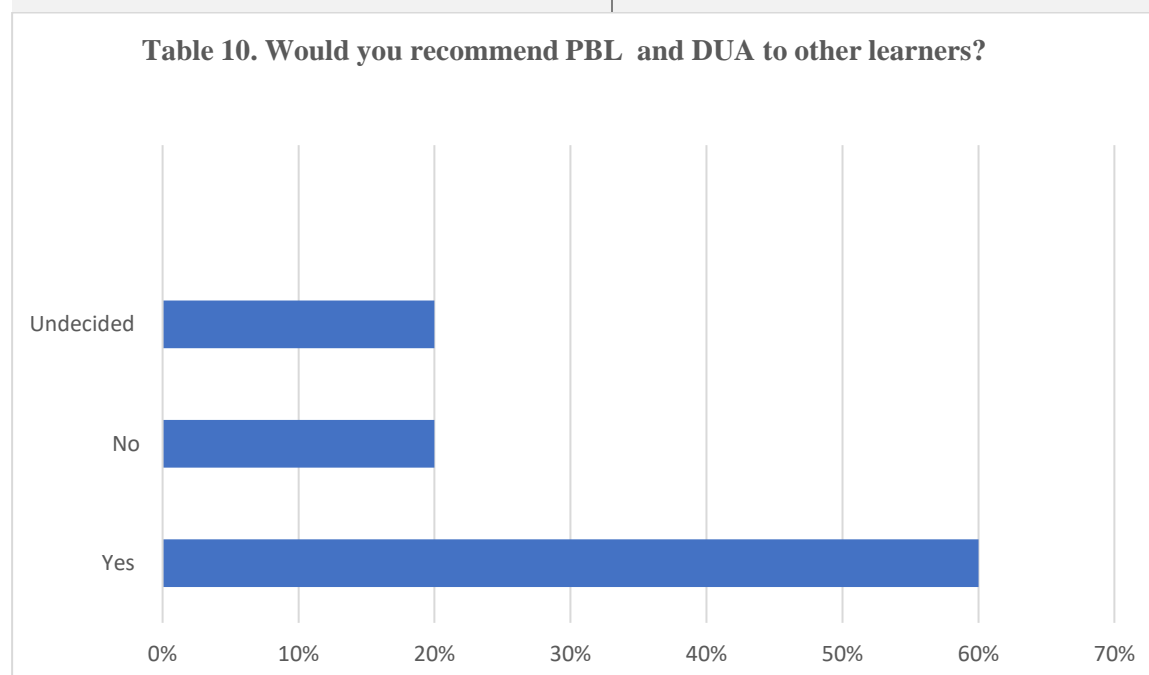


Table 10. Would you recommend PBL and UDL to other learners?

Response options	Percentage %
Yes	60%
No	20%
Undecided	20%



Preliminary findings from the study indicate that students exposed to Project-Based Learning (PBL) and the Universal Design for Learning **UDL** framework exhibit markedly higher levels of engagement, motivation, and linguistic competence compared to their peers in the control group who received traditional language instruction. Quantitative analyses of pre-and post-test scores reveal that the experimental group achieved statistically significant improvements in key areas of language acquisition, including vocabulary acquisition, speaking fluency, and overall comprehension skills (García, 2017; Suárez & Pineda, 2021).

More specifically, the data suggest that vocabulary acquisition among students in the experimental group increased by an average of 20%, as evidenced by improvements in both receptive and productive

vocabulary assessments. Similarly, speaking fluency—measured through structured oral presentations and interactive classroom discussions—demonstrated notable gains, with students exhibiting enhanced pronunciation, intonation, and a higher frequency of spontaneous speech. These improvements in oral communication skills are particularly significant given the emphasis of PBL on real-world language use and collaborative tasks.

In addition to these measurable gains, qualitative observations during classroom sessions provided rich insights into the dynamics of student engagement. Observers noted that learners in the experimental group were more active in group discussions, demonstrated a greater willingness to take risks in using English, and participated more enthusiastically in collaborative projects. These behaviors suggest that the integration of **PBL** and **UDL** not only facilitates language learning but also cultivates a more supportive and interactive learning environment.

Furthermore, motivation surveys administered throughout the study indicated that students exposed to **PBL** and **UDL** reported higher levels of intrinsic motivation. Approximately 55% of the students in the experimental group described themselves as “very motivated,” compared to only 35% in the control group. This increased motivation is believed to stem from the relevance and authenticity of the tasks, which allowed students to see the real-world applicability of their language skills.

The examination further showed that the overall comprehension skills of the experimental group improved significantly. Students demonstrated a better ability to understand complex texts and engage in critical thinking tasks related to language content. These improvements were corroborated by both quantitative test results and qualitative feedback from both students and instructors, who observed that learners were better able to connect new linguistic concepts with their existing knowledge and apply them in varied contexts.

In summary, the results of this study provide compelling evidence that integrating **PBL** and **UDL** into ESL instruction leads to enhanced language proficiency. The combination of improved vocabulary, fluency, and comprehension, coupled with increased student motivation and engagement, underscores the potential of these innovative educational approaches to transform language learning environments. Future analyses will continue to explore these trends, with a focus on long-term retention and the transferability of language skills beyond the classroom setting.



DISCUSSION

The discoveries of this study highlight the effectiveness of Project-Based Learning (**PBL**) and the Universal Design for Learning (**UDL**) framework in facilitating English language acquisition. The results indicate that students exposed to these methodologies demonstrate higher levels of engagement, motivation, and overall linguistic competence. This section provides an in-depth discussion of the key findings and their implications for second language acquisition (**SLA**).

One of the most significant findings is the distribution of English proficiency levels among the participants. According to the survey results, a considerable portion of students (60%) reported an intermediate level of English proficiency, while 25% identified as beginners, and only 15% considered themselves advanced or proficient. This distribution suggests that most students are still in the process of developing their language skills and require instructional strategies that promote engagement, collaboration, and real-world application (Hmelo-Silver, 2004; Thomas, 2000). **PBL** and **UDL** offer a structured yet flexible learning environment that can cater to diverse learning needs, ensuring that students at all proficiency levels receive appropriate support and opportunities for improvement.

Regarding students' experience with **PBL** and the **UDL** framework, the data revealed that 70% had previously participated in a **PBL**-based learning experience, while 30% had not. However, familiarity with the **UDL** framework was lower, with only 40% of students reporting some level of familiarity, while 60% had limited or no knowledge of the framework. This suggests that while **PBL** is somewhat integrated into the curriculum, the **UDL** framework remains underutilized (Hernández, 2019; López, 2018). This underutilization could be attributed to a lack of teacher training in implementing inclusive and differentiated learning strategies or a limited understanding of how to incorporate **UDL** principles effectively within language instruction.

Inspiration levels were also assessed, with 55% of students reporting feeling very motivated when using **PBL** and **UDL**, while 30% were somewhat motivated. A smaller percentage (15%) indicated low motivation levels. These results support existing research, which suggests that **PBL** and student-centered approaches increase engagement and self-efficacy in second language learning (García, 2017; Wiggins & McTighe, 2005). The higher motivation levels can be attributed to the interactive nature of **PBL**, which allows students to take ownership of their learning by engaging in meaningful projects that align



with their interests. Additionally, the multiple means of representation, engagement, and expression promoted by **UDL** ensure that students can access learning materials in a way that best suits their learning styles.

Teamwork is another key factor in **PBL** and **UDL** methodologies. The survey results showed that 50% of students felt very comfortable working in teams, while 35% were somewhat comfortable. However, 15% reported discomfort, indicating that while most students benefit from collaborative learning, some may require additional support in team-based activities (Hmelo-Silver, 2004). The discomfort reported by a minority of students may stem from difficulties in coordinating group tasks, communication barriers, or varying levels of participation among team members. These challenges suggest that instructors should provide clearer guidelines for group work, incorporate structured roles within teams, and facilitate regular check-ins to ensure equitable participation.

In terms of challenges, students identified time management, difficulties in group coordination, and occasional lack of clarity in project instructions as the primary obstacles. These findings are consistent with prior research, which suggests that successful implementation of **PBL** requires structured guidance and clear task distribution (Thomas, 2000). Time management remains a common challenge in project-based learning environments, as students often struggle to allocate adequate time for research, collaboration, and project execution. Educators can address this issue by implementing clear timelines, breaking tasks into manageable steps, and providing scaffolding to support students in meeting deadlines.

Conversely, the most cited benefits included increased engagement, improved critical thinking skills, and greater opportunities to apply English in real-life contexts, reinforcing previous studies on the effectiveness of authentic learning experiences in language acquisition (García, 2017; Hernández, 2019). The ability to use English in authentic, real-world situations helps students develop practical language skills that extend beyond the classroom. The emphasis on critical thinking and problem-solving in **PBL** also prepares students for real-world communication challenges, fostering a deeper understanding of the language and its applications.

To boost the effectiveness of these methodologies, students suggested more structured guidance, clearer instructions, and additional support materials to reinforce learning. Notably, 80% of students



recommended **PBL** and **UDL** to other English learners, indicating a high level of overall satisfaction. These findings align with research advocating for scaffolded instruction and differentiated learning pathways in second language acquisition (Wiggins & McTighe, 2005). Scaffolding strategies, such as providing exemplars, using guided questioning techniques, and incorporating technology-based learning tools, can further support students in navigating **PBL** and **UDL**-based instruction.

The broader implications of these findings suggest that while **PBL** and **UDL** have a positive impact on English language learning, their implementation could be refined to better address time management, clarity, and collaboration-related challenges. Educators should receive adequate professional development on how to effectively integrate these approaches into their teaching practices. Additionally, institutions should provide necessary resources, such as digital platforms, instructional materials, and collaborative tools, to facilitate the implementation of **PBL** and **UDL** methodologies.

Future research could explore differentiated strategies to support students at varying proficiency levels and ensure that both frameworks are effectively integrated into language instruction (López, 2018). Investigating the long-term impact of **PBL** and **UDL** on language retention and academic achievement could provide valuable insights into their sustainability as instructional approaches. Moreover, comparative studies analyzing **PBL** and **UDL** in various cultural and linguistic contexts could contribute to a deeper understanding of how these frameworks can be adapted to meet diverse educational needs.

The study's findings underscore the importance of implementing innovative and inclusive pedagogical strategies to enhance English language acquisition. By incorporating **PBL** and **UDL** effectively, educators can create dynamic and engaging learning environments that empower students to develop their linguistic competencies while fostering collaboration, critical thinking, and real-world application.

CONCLUSION

This study underscores the transformative potential of Project-Based Learning (**PBL**) and the Universal Design for Learning (**UDL**) in enhancing English language acquisition. Both methodologies significantly boost student engagement, promote meaningful collaboration, and improve linguistic proficiency, especially among intermediate learners. By focusing on real-world applications and inclusive strategies, **PBL** and (**UDL**) create dynamic, student-centered environments that address diverse learning needs and preferences (Joseph, 2025).



However, while **PBL** is widely recognized, the limited familiarity with (**UDL**) highlights the need for greater integration into language curricula. This calls for comprehensive teacher training and the development of accessible instructional resources to support all learners effectively. Challenges such as time management, group dynamics, and project clarity emphasize the importance of structured guidance, scaffolded activities, and differentiated learning paths to optimize outcomes. Educators are encouraged to adopt **PBL** and (**UDL**) to foster more engaging and inclusive classrooms. Future research should explore their long-term impact, adaptability across cultural contexts, and the role of digital tools in enhancing implementation. Additionally, refining support mechanisms can address existing challenges and improve instructional efficacy. The strong positive feedback from students and their high recommendation rates affirms the value of these approaches in ESL instruction. By addressing current gaps and advancing these frameworks, educators and researchers can significantly enhance language learning experiences, driving greater academic success and language proficiency.

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