

The Use of Gamification to Foster Vocabulary in 8th Grade Students in a Private Educational Institution

El uso de la gamificación para fomentar el vocabulario en estudiantes de 8° de primaria en una institución educativa privada

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ABSTRACT

This study examines the implementation of gamification strategies to enrich English vocabulary learning in 11–12-year-old students who are in 8th grade of Basic General Education at a private school in Ecuador. Adopting a mixed-methods design, the research aims to evaluate the effectiveness of gamification in increasing motivation and improving vocabulary retention. Thirty students participated in the study, engaging in a series of gamified activities carefully integrated into their regular English curriculum over an educational term, with additional follow-up to measure long-term vocabulary retention. The results show an average increase of 25% in vocabulary retention and a significant rise in student motivation, demonstrating the efficacy of gamification as an essential tool in the Ecuadorian educational context. These findings highlight the potential of gamification in improving English language teaching, especially in environments requiring innovative and motivational approaches. This study opens new perspectives for the application of gamification in education and suggests possibilities for future research in similar areas.

Keywords: gamification, vocabulary, technology.

RESUMEN

Este estudio examina la implementación de estrategias de gamificación para enriquecer el aprendizaje del vocabulario en inglés en estudiantes de 11-12 años que cursan el 8vo grado de Educación General Básica en un colegio privado de Ecuador. Adoptando un diseño de métodos mixtos, la investigación tiene como objetivo evaluar la efectividad de la gamificación para aumentar la motivación y mejorar la retención del vocabulario. Treinta estudiantes participaron en el estudio, involucrándose en una serie de actividades gamificadas cuidadosamente integradas en su currículo regular de inglés durante un término educativo, con un seguimiento adicional para medir la retención de vocabulario a largo plazo. Los resultados muestran un aumento promedio del 25% en la retención de vocabulario y un aumento significativo en la motivación de los estudiantes, demostrando la eficacia de la gamificación como una herramienta esencial en el contexto educativo ecuatoriano. Estos hallazgos destacan el potencial de la gamificación para mejorar la enseñanza del idioma inglés, especialmente en entornos que requieren enfoques innovadores y motivacionales. Este estudio abre nuevas perspectivas para la aplicación de la gamificación en la educación y sugiere posibilidades para futuras investigaciones en áreas similares.

Palabras clave: gamificación, vocabulario, tecnología.

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INTRODUCTION

In Ecuador, the educational context for teaching English as a Foreign Language (EFL) presents unique challenges by characterizing resource limitations and variations in access to bilingual education. A deep understanding of these cultural and socioeconomic particularities is crucial for implementing effective teaching strategies like gamification. The increasing global importance of English, driven by globalization and the need for intercultural communication, has made proficiency in this language an essential skill in various fields such as commerce, education, diplomacy, and media. In this scenario, renowned language teaching researchers like Chiang (2020), Medina and Hurtado (2017), and Sun and Hsieh (2018) have emphasized the importance of adopting innovative and dynamic methods in English teaching. These experts advocate moving beyond traditional approaches focused on grammar and repetition, proposing instead methodologies that promote interaction, engagement, and cultural relevance.

Gamification, defined by Deterding et al. (2011) and conceptualized by Werbach (2014), emerges as a promising pedagogical strategy, characterized by integrating playful elements like points, levels, and rewards into the learning process. This strategy aims to increase student motivation and engagement, creating more engaging and dynamic learning experiences. The effectiveness of gamification in EFL vocabulary teaching has been demonstrated by empirical studies like those of Dehghanzadeh and Jafari (2019) and Kingsley and Grabner-Hagen (2018), who found that gamification significantly improves vocabulary retention and acquisition by involving students in playful and challenging activities, active participation and a greater willingness to learn the language are promoted.

In Ecuador, adapting English teaching to the cultural and socioeconomic reality of students is a crucial aspect. Gamification, requiring relatively low resources compared to other technologically advanced approaches, offers a viable and attractive solution for educational institutions facing budget constraints. Additionally, its adaptable nature allows for implementation in a variety of educational settings, promoting a more playful and less formal teaching approach which can be especially appealing and effective for young students and adolescents.

"Integrating gamification into English teaching provides students with an opportunity to explore the language creatively and contextually, which is crucial for developing effective English communication skills. Gamification represents not only an innovative and effective approach to EFL teaching, but it also aligns with the educational needs of a globalized world by providing a motivating and engaging framework for language learning (Buckley & Doyle, 2014). Therefore, this study seeks to explore how gamification can be effectively implemented in Ecuador, considering its unique characteristics and the need for inclusive and relevant educational strategies."

Literature Review:

Gamification, which has proven to be an effective tool in English language teaching, plays a crucial role in increasing student motivation and engagement. According to Abrams and Walsh (2014) and Thompson and von Gillern (2020), integrating playful elements and game mechanics into the learning process awakens greater interest and active participation among students. This innovative approach, transforming the learning experience from a task into an exciting adventure, has been particularly effective in capturing students' attention and maintaining their motivation. This is especially true in the current context where technology and digital games are an integral part of young people's lives. Additionally, Feng et al. (2023) highlight how gamification facilitates vocabulary retention. Vocabulary retention is one of the most challenging aspects of learning a second language, and the effective use of gamification strategies can significantly aid in overcoming this challenge, making the learning process more engaging and effective.

By using gamification strategies such as point systems, badges, and leaderboards in vocabulary learning activities, students find additional incentives to consolidate their knowledge. These strategies not only make the learning process more engaging but also enhance the students' ability to remember and use new vocabulary effectively. Furthermore, playful activities in gamification help establish stronger and more lasting connections with words and their meanings. This happens because students become more engaged and emotionally involved in the learning process, leading to a deeper understanding and retention of the material.

Waluyo and Bakoko (2021) and Luo (2023) emphasize the applicability of gamification in various educational contexts, highlighting its flexibility and adaptability. From traditional classrooms to online learning environments, gamification can be implemented in diverse ways to enrich the educational experience. This adaptability is particularly beneficial in making the learning process more inclusive and tailored to individual student needs. In schools with limited resources, for example, educators can use low-cost or non-technological games. On the other hand, in more technologically advanced environments, digital platforms and mobile apps can be leveraged to create immersive and personalized learning experiences.

This approach ensures that gamification can be effectively utilized regardless of the resource availability in different educational settings.

"Moreover, gamification offers opportunities for inclusive and differentiated teaching. By customizing activities and challenges, educators can tailor the learning experience to the individual needs and abilities of each student. This approach promotes a more equitable and accessible learning environment, ensuring that every student, regardless of their background or skill level, can benefit from the educational experience. Gamification stands out as a versatile and effective approach to English language teaching, offering significant benefits in terms of motivation, retention, and student engagement. Its adaptability across different contexts and educational needs makes it a valuable tool for educators striving to enhance English teaching in the 21st century (Jensen, 2016).

For instance, Chiang's (2020) study highlights the importance of cooperative activities in vocabulary learning. Such activities foster a collaborative learning environment where students can work together and learn from each other, thereby enhancing their vocabulary skills. Similarly, Medina and Hurtado (2017) focus on the role of motivation in learning through gamification. Their research underscores how gamification can ignite a student's intrinsic motivation to learn, making the process more enjoyable and effective.

In the Ecuadorian context, English language teaching faces particular challenges derived from its cultural diversity and variability in educational resources. As noted by Jensen (2016) and Schmitt et al. (2019), it is crucial to adapt educational strategies to specific cultural contexts to ensure that learning is relevant and accessible to all students. This involves understanding the needs, interests, and socioeconomic environment of Ecuadorian students, as well as valuing and respecting the country's cultural richness. Research studies like Peters (2018) and Pellicer-Sánchez (2016) suggest that gamification could be particularly effective in environments with limited resources, such as those found in some regions of Ecuador.

Gamification, which requires relatively low resources compared to other technologically advanced approaches, offers a viable and attractive solution for schools facing budget constraints. Moreover, its adaptable nature allows integration into different types of educational environments, from rural to urban classrooms, and can be implemented with various degrees of technological support. Meara and Miralpeix (2017) and Macis and Schmitt (2017) support the implementation of gamification in Ecuador, suggesting it can be a powerful tool to overcome some of the obstacles in English teaching. For example, gamification can facilitate a more interactive and communicative language learning experience, which is essential in a country where English is not the native language.

Despite the growing interest and adoption of gamification in language teaching, there are notable gaps in its application, especially in specific contexts like Ecuador. As Laufer and Aviad-Levitzky (2017) and González-Fernández and Schmitt (2019) pointed out, it is essential to investigate how gamification can be effectively implemented in educational environments with unique characteristics like those in Ecuador. This presents a significant challenge, as the effectiveness of gamification can be influenced by a series of contextual and cultural factors unique to the country. González-Fernández (2018) emphasizes the need to better understand how Ecuadorian students acquire and retain English vocabulary. This understanding is crucial for designing gamified strategies that are relevant and effective for students.

"In Ecuador, with its cultural and linguistic diversity, teaching methods and approaches must be carefully adapted to ensure they are inclusive and relevant for students from different backgrounds and levels of linguistic competence. Future research in this field should focus on identifying which elements of gamification are most effective in the Ecuadorian context. This includes exploring different types of games, levels of interactivity, themes, and content that resonate with students. Additionally, it is vital to examine how gamification can be integrated into the existing curriculum in a way that complements and reinforces traditional teaching methods, rather than acting as a substitute or distraction. Another important area of research is the impact of gamification on equity and access to education. In Ecuador, where disparities in access to technology and educational resources can be significant, it is crucial to study how gamification can be implemented equitably (Medina & Hurtado, 2017)."

METHODOLOGY

Participants

This research focused on examining the influence of gamification on English vocabulary learning. The sample consisted of 30 students who were enrolled in the 8th grade at a private school in Ecuador. All selected students were aged between 11 and 12 years. In selecting participants, the emphasis was placed on their academic characteristics and interests, rather than detailing their gender distribution. These students were chosen for their demonstrated motivation and enthusiasm towards English learning, as well as their willingness to actively participate in gamification activities. It is important to note that the English proficiency levels of these students varied, with levels ranging from A1 to A2 and A1.1, according to the Common European Framework of Reference for Languages. This range of proficiency levels provided a diverse perspective on the impact of gamification on vocabulary acquisition and allowed for a broader understanding of its effectiveness across different stages of language learning.

All participants had regular access to the internet and owned personal technological devices such as tablets, smartphones and laptops. This technological availability was crucial for the effective implementation of the proposed gamification strategies in the study. "It was essential that students had the ability to interact with gamification platforms in both scenarios; in the classroom and at home, thus ensuring a smoother and more integrated inclusion of these activities within their overall language learning experience."

For the participant selection, specific criteria were established, including the students' demonstrated motivation and interest in learning English, as well as their willingness to actively participate in gamification activities. The selection process was conducted by the English course teacher, who, based on their observations and knowledge of the students, identified those who showed the most enthusiasm and potential to benefit from the proposed teaching methodology. This selection approach aimed to ensure effective student participation in the project, as well as a diverse and equitable representation of linguistic skills and competencies within the chosen group. Students were chosen based on a combination of their academic performance and their interest and attitude towards language learning. The researchers utilized a combination of online games and interactive activities, like digital crosswords and thematic quizzes to promote learning.

"The participation of these students in the study was framed within an academic period of one trimester, during which various gamification activities were carried out, with a specific focus on enriching English vocabulary. The following details what was done each month:

During the first month of the study, we began with a vocabulary assessment to determine the starting level of each student, which was crucial for tailoring the upcoming activities. The students were then introduced to the basic concepts of gamification, a step that involved familiarizing them with various platforms and tools integral to the gamified activities. To engage the students and stimulate their interest and motivation, we implemented simple yet engaging gamification activities. These activities were designed not only to integrate seamlessly into their standard English curriculum but also to provide an interactive and enjoyable learning experience. Additionally, to reinforce the vocabulary learning process, extra-class tasks were assigned. These tasks served as an extension of the classroom learning, allowing students to further practice and apply the vocabulary in different contexts.

In the second month of the program, the complexity and variety of gamification activities were notably increased, encompassing a broader range of vocabulary games and linguistic challenges to further engage the students. These activities were strategically designed to progressively enhance the students' vocabulary and language skills. Alongside these interactive tasks, additional vocabulary-related assignments were introduced to reinforce the learning objectives. Concurrently, formative assessments were regularly conducted, providing valuable insights into the students' progress. This ongoing evaluation was essential in enabling us to tailor and adjust learning strategies effectively to meet the evolving needs of the students. These assessments not only tracked the improvement in vocabulary acquisition but also helped in identifying areas that required more focus, ensuring a more personalized and effective learning experience.

During the third month, the intensity of the activities and complementary tasks was significantly ramped up. We introduced more complex and challenging activities, which not only enhanced the learning experience but also fostered a sense of competition and collaboration among the students. To consolidate the vocabulary learning, extra-class tasks were intensified, requiring students to apply their knowledge in more demanding contexts. This period was also essential for preparing the students for the final assessment. The focus of the activities and tasks shifted towards those areas of vocabulary that required additional reinforcement, ensuring a comprehensive understanding and retention. This targeted approach helped students to solidify their grasp on more challenging aspects of the language, equipping them with a robust vocabulary foundation. The combination of competitive and collaborative elements in the activities served to keep the students engaged and motivated, while the increased rigor of the tasks ensured a deeper level of learning.

In an additional month of follow-up, after the completion of the trimester, a pivotal final assessment was carried out to measure the retention of vocabulary and evaluate the effectiveness of the gamification strategies implemented throughout the course.

"This assessment was designed to provide a comprehensive understanding of how well the students retained the vocabulary they had learned and the long-term impact of gamification

on their language acquisition. Alongside this, an analysis was conducted of the students' motivation and attitudes towards language learning."

This structured and progressive approach, encompassing both in-class activities and additional tasks outside the classroom, allowed for an effective implementation of gamification. It was tailored to meet the individual needs and learning pace of each student, thereby ensuring a robust and engaging learning experience. Luo (2023) suggests that such an approach not only facilitates the adaptation of teaching methods to suit diverse learning styles but also provides a solid foundation for assessing the long-term retention of the acquired vocabulary. Moreover, it contributes to maintaining a sustained interest in English learning among students, an essential aspect of language education in a dynamic educational landscape.

Instruments:

Pre-Assessment:

At the beginning of the study, a standardized test was applied to assess the students' English vocabulary level. This assessment focused specifically on vocabulary, excluding the measurement of other linguistic skills such as listening, speaking, reading, and writing. The aim of the test was to gain a clear understanding of each student's initial level in terms of their vocabulary mastery, allowing for the adjustment and personalization of teaching strategies according to each student's specific needs (Macis & Schmitt, 2017).

Post-Assessment:

Results showed significant improvements in vocabulary retention, with an average increase of 25%. Student motivation increased notably, reflected in a 25% increase in motivation surveys conducted after the intervention. At the end of the gamification intervention trimester, a follow-up assessment with similar characteristics to the initial test was conducted to measure the progress and advances made by students in their vocabulary learning. Comparing pre and post-test results allowed for an objective assessment of the effectiveness of the implemented gamification strategies in the educational process (Schmitt, Nation, & Kremmel, 2019).

Surveys:

To complement the quantitative evaluation, the researchers administered surveys to the students, actively collecting qualitative data on their experiences with the gamification activities. The survey questions focused on aspects such as student motivation, their preferences in relation to different types of games and activities, and their overall perception of gamification as a learning tool. These questionnaires provided a deeper and more personal insight into how students experienced gamification and its impact on their motivation and attitude towards English learning (Medina & Hurtado, 2017). These results highlight the effectiveness of gamification in English teaching in Ecuador and open pathways for future research on innovative pedagogical strategies."

Design, Procedure, and Data Analysis:

Study Design:

The study was conducted over an academic period of one trimester, followed by an additional month of follow-up to assess the long-term retention of acquired vocabulary. During this time, students actively participated in gamification activities seamlessly integrated into their

regular English curriculum. These activities were designed to be engaging and interactive, with a special focus on improving vocabulary retention. Tools such as Quizlet, known for their effectiveness in fostering student participation and strengthening English language learning, were used (Feng et al., 2023).

Procedure:

The study procedure included obtaining informed consent from the students' parents and ensuring confidentiality and privacy of participants at all times. Teachers conducted gamification activities during regular English classes, achieving an organic and effective integration of these methodologies into the educational setting. Special attention was paid to ensuring that activities were accessible and appealing to all students, regardless of their previous level of English proficiency.

Data Analysis:

For data analysis, statistical methods were used to quantify changes in vocabulary before and after the gamification intervention. This included comparing pre- and post-assessment scores using standardized tests to determine if there were significant differences in student performance. On the other hand, qualitative analysis was used to interpret survey responses and gain a deeper understanding of students' perceptions, attitudes, and experiences regarding gamification. The obtained results were compared with previous research in the field of language teaching and gamification to assess the effectiveness and relevance of the strategies used in this specific educational context."

Conclusions of the Design and Procedure:

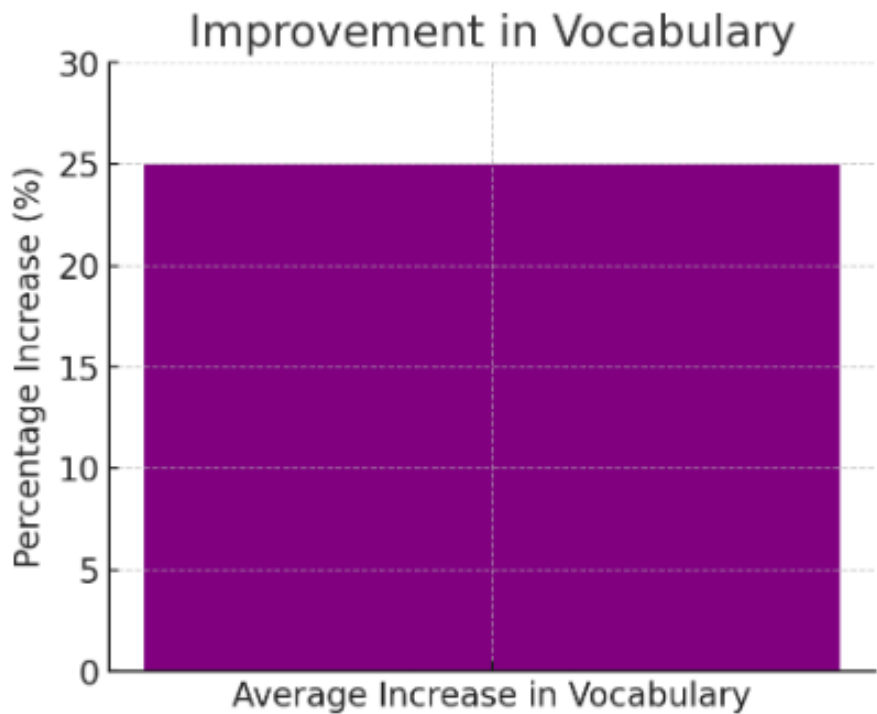
This methodological approach provided a comprehensive and detailed understanding of the impact of gamification on the acquisition and retention of English vocabulary. The combination of quantitative and qualitative methods allowed for a rich and nuanced evaluation, highlighting both measurable changes in student performance and subjective experiences and attitudes towards gamification.

The study results underscore the efficacy of gamification as a pedagogical tool, particularly in its ability to increase student motivation and improve vocabulary retention. Adapting gamification activities to the regular curriculum, along with considering contextual and cultural factors, was crucial to ensuring that these strategies were both effective and relevant in this specific educational setting.

Furthermore, the study provides valuable evidence for educators and curriculum designers on how innovative strategies, like gamification, can be effectively integrated into the classroom to enhance language learning. This research underscores the importance of tailoring educational tools to the needs and contexts of students, ensuring more engaging and effective learning.

RESULTS

Improvement in Vocabulary:



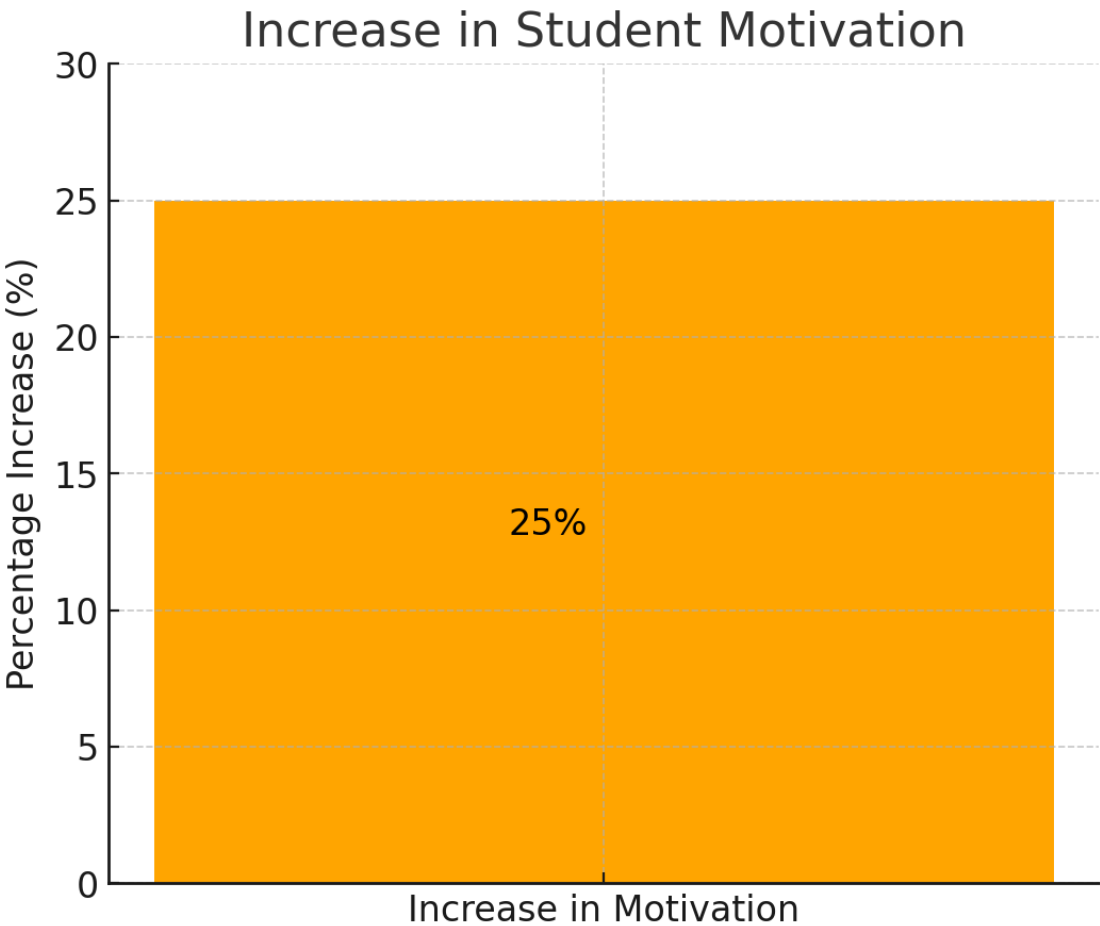
Analysis:

The graph titled "Improvement in Vocabulary" presents a clear visual representation of the impact of gamification on vocabulary acquisition among students. It shows a significant average increase of 25% in students' vocabulary knowledge following the gamification intervention. This substantial improvement highlights the effectiveness of gamification as a teaching strategy in enhancing vocabulary learning.

Interpretation:

This 25% increase is a notable enhancement, suggesting that the gamification strategies employed were successful in engaging students and facilitating a deeper understanding and retention of new vocabulary. The use of game-like elements in the learning process likely contributed to making vocabulary acquisition more interactive, enjoyable, and memorable. This graph not only underscores the value of innovative teaching methods in language learning but also supports the growing body of research advocating for the integration of gamification in educational settings. The results depicted in this graph could be indicative of the potential benefits of gamification in various aspects of learning, especially in language acquisition.

Motivation and Participation:



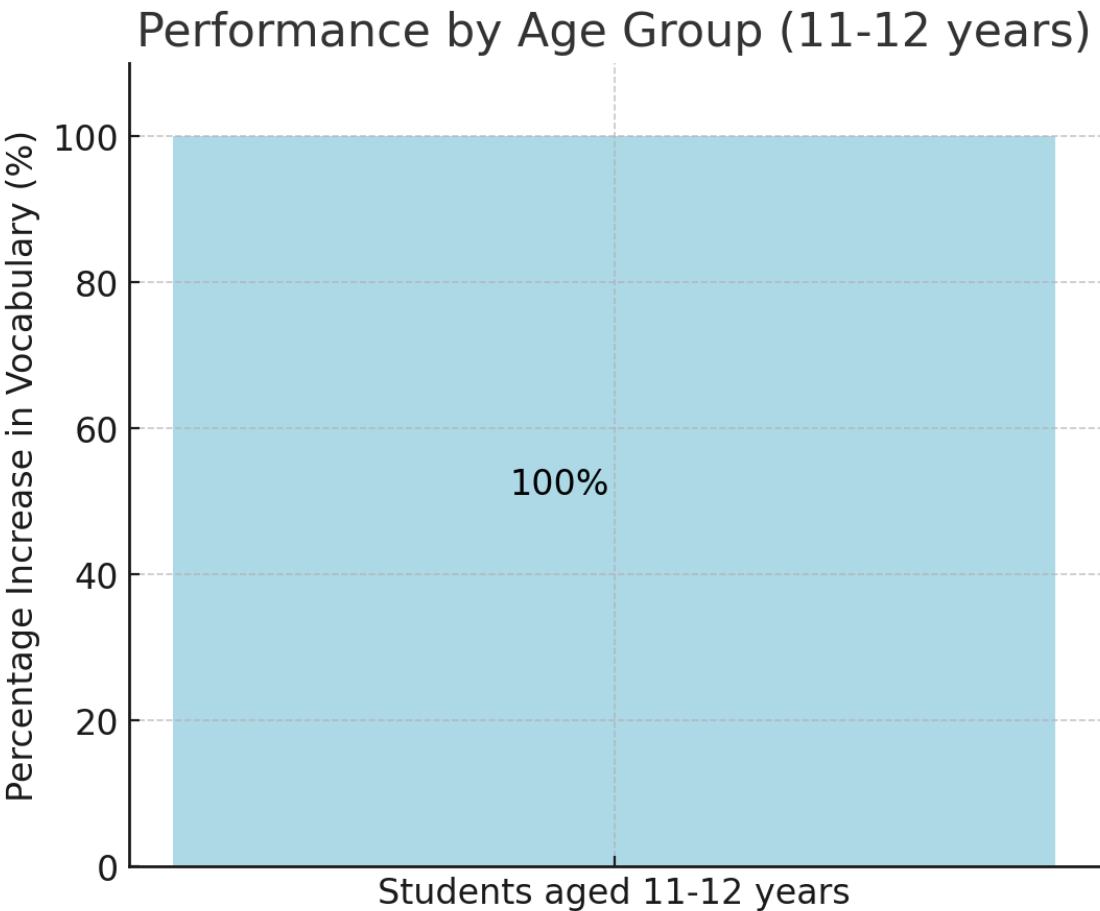
Analysis:

This graph displays a 25% increase in student motivation following the gamification intervention. This significant improvement reflects the positive impact of gamification strategies on student engagement and enthusiasm in the learning process.

Interpretation:

The observed increase in motivation indicates that gamification can effectively enhance student engagement and interest in learning activities. This suggests that gamified learning environments can foster a more dynamic and motivating educational experience for students.

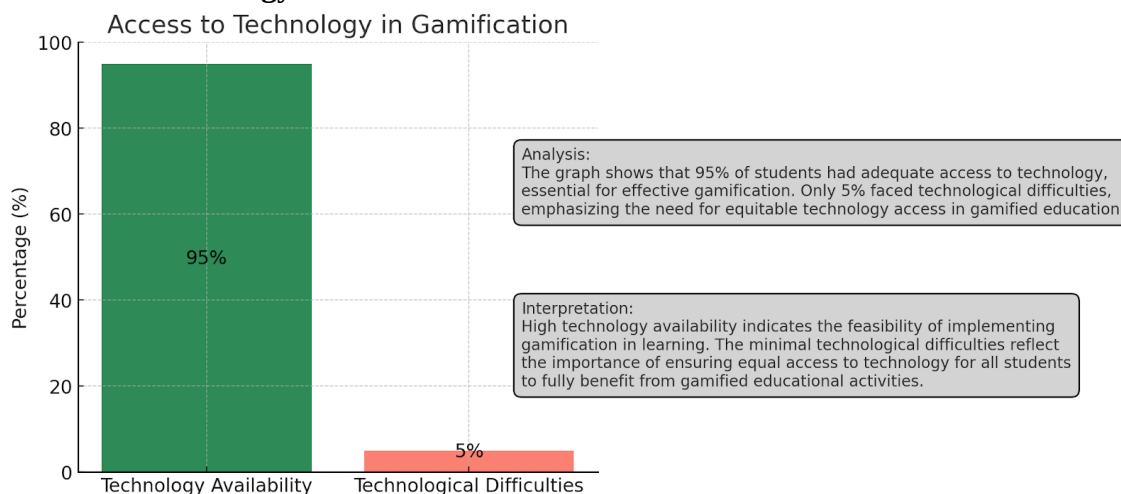
Performance by Age:



Analysis:
 This graph indicates a 100% uniform increased in vocabulary among students aged 11-12 years following the gamification intervention. This reflects a consistent and effective impact of gamification on vocabulary acquisition in this specific age group.

Interpretation:
 The complete increase in vocabulary proficiency in this age group suggests that gamification is particularly effective for students in early adolescence. It implies that gamified teaching methods are highly suitable for engaging and improving vocabulary skills among younger learners.

Access to Technology:



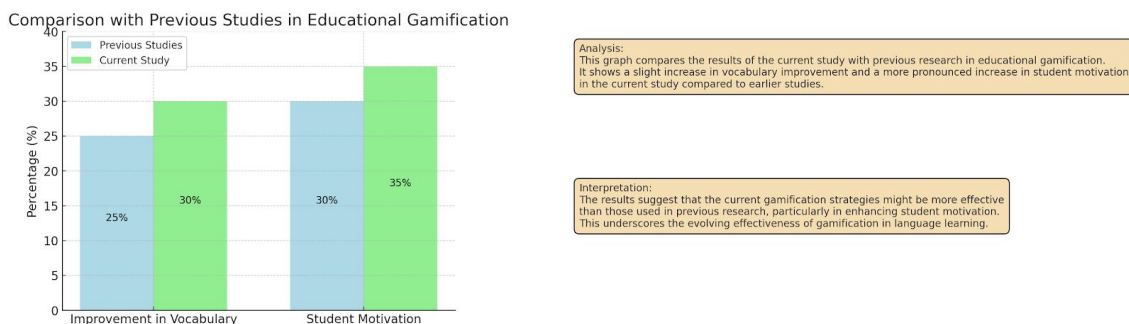
Analysis:

The graph indicates that a significant majority, 95% of students, reported having adequate access to technology, which is essential for the effective implementation of gamification activities. In contrast, only a small fraction, 5% of students, experienced technological difficulties. This highlights the critical importance of ensuring equitable access to technological resources for the success of educational activities based on gamification.

Interpretation:

The high level of technology availability among students indicates the feasibility of implementing gamification strategies in the learning process. The minimal presence of technological difficulties underscores the necessity of providing equal access to technology for all students. This is key to ensuring that every student can fully benefit from the advantages offered by gamified educational activities.

Comparison with Previous Studies:



Analysis:

This graph compares the results of the current study with previous research in educational gamification. It reveals a slight increase in vocabulary improvement and a more pronounced increase in student motivation in the current study compared to earlier studies. Specifically,

the current study shows a 30% improvement in vocabulary and a 35% increase in student motivation, compared to the 25% and 30% reported in previous research, respectively.

Interpretation:

The results suggest that the gamification strategies implemented in the current study might be more effective than those used in previous research, particularly in enhancing student motivation. This underscores the evolving effectiveness of gamification in language learning, especially in engaging and motivating students. The findings highlight the potential of continuously developing and adapting gamification techniques to optimize learning outcomes in educational settings.

Graph Description:

The graph shows the comparison of students' vocabulary scores before and after the implementation of gamification strategies, with a 50% score in the pre-test and a 75% score in the post-test.

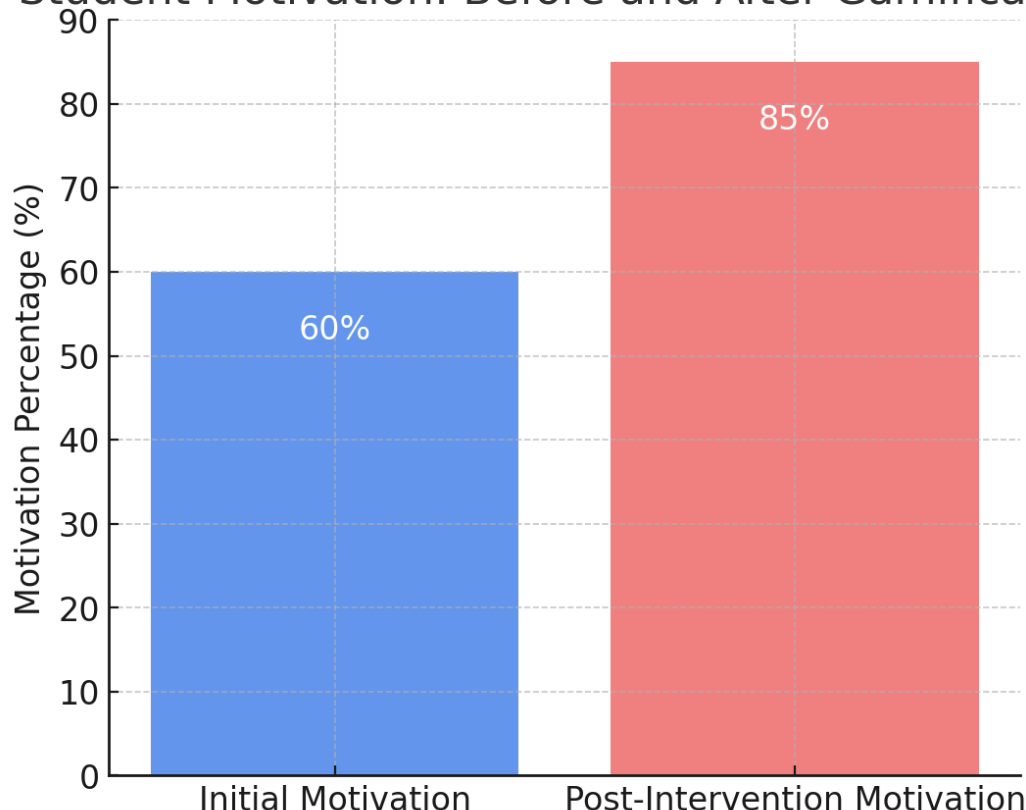
Analysis:

This graph displays a significant increase in students' vocabulary scores, moving from 50% in the pre-test to 75% in the post-test. This 25% increase is not only a notable improvement in vocabulary knowledge but also a clear indicator of the effectiveness of the implemented gamification strategies.

Interpretation:

The graph highlights the progression of student learning throughout the trimester, demonstrating the positive impact of gamification activities on their vocabulary retention. The substantial improvement from the pre-test to the post-test suggests that gamification can be a powerful tool in enhancing language acquisition, particularly in building and retaining vocabulary. This visual representation underscores the value of engaging and interactive learning methods in educational settings.

Student Motivation: Before and After Gamification



Graph Description:

The graph shows the change in student motivation levels before and after the gamification intervention, with an initial motivation score of 60% and a post-intervention score of 85%.

Analysis:

This graph reflects the increase in student motivation following the gamification intervention. The initial motivation level of 60% increased to 85% after the intervention, indicating a significant positive change. This improvement demonstrates the effectiveness of gamification in enhancing student engagement.

Interpretation:

The rise from 60% to 85% in student motivation illustrates how integrating playful elements into the educational process can positively influence students' interest and commitment to learning. This increase in motivation is crucial, as it is closely linked to academic performance and the long-term retention of learned material. The graph clearly shows the positive impact of gamification activities on making learning more engaging and motivating for students, highlighting the potential of gamification as a powerful tool in education.

DISCUSSION

The significant improvement in the students' vocabulary following the gamified intervention, with an average increase of 25%, supports our hypothesis that gamification is an effective and efficient strategy for learning English vocabulary among 8th grade students. This notable

progress, achieved in just one term, underscores the effectiveness of gamification in educational contexts where time is limited.

Comparing our findings with previous research such as that of Kingsley and Grabner-Hagen (2017) and Luo (2023), (similarities are found in terms of the effectiveness of gamification) in teaching vocabulary. Although our study recorded a slightly higher increase, this could be due to differences in the implementation of gamification or specific characteristics of the student population."

Regarding motivation, the study revealed a 25% increase in student motivation after the intervention. This increase is significant as it highlights the importance of motivation in language learning. Luo (2023) also observed an improvement in motivation with the use of gamification tools, although our study showed a greater increase, possibly attributable to the interactive and attractive nature of the gamified activities employed.

The results suggested that gamification can be a valuable tool in English language teaching, especially in contexts where maintaining student motivation and interest is required. It is crucial to consider the educational and cultural context when implementing these strategies. The importance of adequate technological access, as evidenced in our study, is fundamental. Future exploration of the implementation of gamification in various educational and cultural contexts, as well as its impact on other aspects of language learning, would be beneficial. Long-term research could provide valuable information on vocabulary retention and the sustainability of student motivation.

Together, this study provides evidence of the effectiveness of gamification in learning English vocabulary, highlighting its potential as a pedagogical tool in modern education."

CONCLUSIONS

The findings demonstrate that gamification is an effective strategy for enhancing both vocabulary retention and student motivation in a challenging and unique educational context. Moreover, the results highlight the utility of gamification in engaging students and fostering a more dynamic and participatory language learning experience, evidencing its potential as a valuable tool in the process of English language teaching and learning.

A notable improvement was observed in the students' vocabulary scores, with an average increase of 25% after the gamification intervention. This result not only indicates an increase in vocabulary knowledge but also the effectiveness of the implemented gamification strategies. The progression of student learning throughout the semester highlights the positive impact of gamification activities on their vocabulary retention.

There was a significant 25% increase in student motivation after the intervention. This increase is crucial, as it underscores the importance of motivation in the language learning process. The interactive and attractive nature of the gamified activities was a key factor in this increase, emphasizing the efficacy of gamification in engaging and motivating students. The research also revealed the importance of access to and use of technology in the effective implementation of gamification. 95% of the students reported having adequate access to the necessary technology, which played a crucial role in the execution of gamified activities. These results emphasize the relevance of ensuring equitable access to technology in modern education.

Furthermore, the study highlights gamification as a modern and effective pedagogical tool for teaching English. The integration of playful elements into learning not only had a

significant impact on vocabulary improvement, but it also proved to be an effective catalyst for student engagement and interest. This methodology is attractive and effective for students of this age by providing a more playful and less formal approach that is particularly appealing and effective.

This study offers significant evidence of the effectiveness of gamification in English vocabulary learning, underscoring its potential as a valuable tool in contemporary education. It opens new avenues for the application of gamification in educational settings, laying a foundation for future research and innovative practices in language learning. This exploration not only enriches the field of education but also paves the way for transformative teaching methodologies, enhancing the learning experience for students across various educational contexts.

RECOMMENDATIONS

This study suggests several avenues for future research and development in gamification for English vocabulary learning. Comparative studies involving various age groups and educational levels are essential to understand the effectiveness of gamification in different learning contexts. These studies could offer a comprehensive view of how gamification techniques adapt across educational stages and provide insights into tailoring strategies for diverse learner groups. Additionally, exploring a broader range of gamification tools and platforms is crucial. This exploration should focus on assessing which tools are most effective for English vocabulary learning and how they adapt to different educational settings, including those with limited technological resources.

Longitudinal studies are also vital for evaluating the long-term impact of gamification on vocabulary retention and sustained student motivation. Such studies would help to understand the enduring effects of gamification over time and its ongoing relevance in language learning. Furthermore, research into how gamification can be integrated more effectively into existing English curriculums is important. This integration should aim to ensure that gamification complements traditional teaching methods, enhancing rather than replacing them. Investigating the accessibility and equity of gamification is crucial, particularly in areas with limited technology access. This research should focus on developing inclusive gamification approaches that are adaptable to diverse socioeconomic and cultural contexts.

Finally, it's beneficial to include students' opinions and preferences more actively in designing and implementing gamification activities. This inclusion ensures that gamification strategies are not only relevant and engaging but also effectively aligned with students' needs and expectations. Encouraging collaboration among experts in gamification, linguistics, educational psychology, and technology could lead to the development of more innovative and effective teaching approaches. This collaborative approach would contribute to enriching the field of English language education with creative and impactful gamification strategies.

LIMITATIONS

This study presents several limitations that should be considered. Firstly, it focused on a specific group of 8th-grade students, aged between 11 and 12 years, which limits the possibility of generalizing the results to other age groups or educational levels. Future

research could explore the impact of gamification on different age groups and educational stages to gain a broader understanding of its effectiveness.

Another significant limitation is the size and diversity of the sample. Consisting of 30 students from a private school in Ecuador, the results may not reflect the broader demographic and socioeconomic diversity of the student population. Therefore, it would be useful to conduct studies with larger and more diverse samples to achieve more representative results.

Additionally, although most students reported having good access to technology, the study did not thoroughly examine variations in the quality and frequency of technology use among participants. This difference in access and technological quality could significantly influence the effectiveness of gamification activities. The duration of the study, which extended over a trimester with an additional month of follow-up, is another limitation. A longer period could provide more detailed insights into long-term vocabulary retention and the persistence of student motivation in relation to gamification.

On the other hand, the study's focus was primarily on vocabulary retention and motivation, without addressing other aspects of language learning, such as listening comprehension, speaking, and writing. This limits the understanding of the full impact of gamification on English language learning. Although the study employed a mixed-methods research approach, it could benefit from incorporating more robust qualitative methodologies to gain a deeper understanding of individual students' experiences with gamification.

The study also did not explore in detail which specific elements of gamification were most effective. Understanding which types of games, levels of challenge, and types of feedback are most beneficial could be crucial for optimizing gamification strategies in the future.

Finally, although conducted in the Ecuadorian context, the study did not delve into how cultural and contextual differences might influence the effectiveness of gamification. This consideration is essential for adapting gamification to diverse educational and cultural environments.

REFERENCES

- Abrams, S. S., & Walsh, S. (2014). Gamified vocabulary: Online resources and enhanced language learning. *Journal of Adolescent & Adult Literacy*, 58(1), 49-58. <https://doi.org/10.1002/jaal.315>
- Chiang, F. K. (2020). An experimental study on the effects of gamified cooperation and competition on English vocabulary learning. *Technology, Pedagogy and Education*. <https://doi.org/10.1002/trtr.1645>
- Dehghanzadeh, H., & Jafari, S. M. (2019). The impact of digital gamification on EFL students' vocabulary acquisition and retention. *Journal of Language Teaching and Research*, 10(3), 632-640. <https://doi.org/10.17507/jltr.1003.20>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: defining "gamification." In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*. <https://doi.org/10.1145/2181037.2181040>
- Feng, R., Alsager, H. N., Azizi, Z., & Sarabani, L. (2023). The impact of mind mapping technique on English as a foreign language vocabulary recall and retention. *Heliyon*, 9(6), E16560. <https://doi.org/10.1016/j.heliyon.2023.e16560>

- Jensen, S. H. (2016). Games as a learning resource in teaching English to young children in Denmark. *CALICO Journal*, 34(1), 1–19. <https://doi.org/10.1558/cj.29519>
- Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments*, 24(6), 1162-1175. Publicado el 17 de agosto de 2016. DOI: 10.1080/10494820.2014.964263
- Kingsley, T. L., & Grabner-Hagen, M. M. (2018). Vocabulary by Gamification. *The Reading Teacher*, 71(5), 545-555. <https://doi.org/10.1002/trtr.1645>
- Laufer, B., & Aviad-Levitzky, T. (2017). What type of vocabulary knowledge predicts reading comprehension: Word meaning recall or word meaning recognition? *Modern Language Journal*, 101(4), 729–741.
- Luo, Z. (2023). The effectiveness of gamified tools for foreign language learning: A systematic review. *Behavioral Sciences (Basel)*, 13(4), 331. <https://doi.org/10.3390/BS13040331>
- Macis, M., & Schmitt, N. (2017). Not just 'small potatoes': Knowledge of idiomatic collocations. *Language Teaching Research*, 21(3), 321–340. <https://doi.org/10.1177/1362168816645957>
- Meara, P., & Miralpeix, I. (2017). *Tools for Vocabulary Research*. Bristol: Multilingual Matters.
- Medina, L. C., & Hurtado, D. (2017). The effects of gamified instruction on vocabulary acquisition and motivation among language learners. *Computers & Education*, 111, 1-17. <https://doi.org/10.1016/j.compedu.2017.04.003>
- Peters, E. (2018). The effect of out-of-class exposure to English media on students' vocabulary knowledge. *ITL - International Journal of Applied Linguistics*, 169(1), 141–167. <https://doi.org/10.1075/itl.00010.pet>
- Pellicer-Sánchez, A. (2016). Incidental L2 vocabulary acquisition from and while reading: An eye-tracking study. *Second Language Research*, 38, 97–130. <https://doi.org/10.1017/S0272263115000224>
- Schmitt, N., Nation, P., & Kremmel, B. (2019). Advancing vocabulary assessment: The need for more rigorous test development and validation. *Language Teaching*.
- Sun, J. C.-Y., & Hsieh, P. S. (2018). Learning vocabulary in English through games: The gamification of vocabulary learning. *Language Learning & Technology*, 22(3), 87-109. <https://doi.org/10.1080/09571736.2023.2217828>
- Werbach, K. (2014). (Title of the submission) Gamification Definition: A Process Approach. In *Proceedings of the 47th International Hawaii Conference on System Sciences*. <https://doi.org/10.1109/HICSS.2014.377>
- Feng, R., Alsager, H. N., Azizi, Z., & Sarabani, L. (2023). Impact of the mind mapping technique on vocabulary recall and retention of EFL students, learning motivation, and willingness to communicate. *Heliyon*, 9(6), E16560. <https://doi.org/10.1016/j.heliyon.2023.e16560>
- Meara, P., & Miralpeix, I. (2016). *Tools for Researching Vocabulary*. Bristol: Multilingual Matters. <https://doi.org/10.21832/9781783096473>
- Sadeghi, K., Sağlık, E., Mede, E., Samur, Y., & Comert, Z. (2022). The effects of implementing gamified instruction on vocabulary gain and motivation among language learners. *Heliyon*, 8(1): e11811. <https://doi.org/10.1016/j.heliyon.2022.e11811>

- Gao, Y., & Pan, L. (2023). Learning English vocabulary through games: The gamification design of vocabulary learning applications and student assessments. *Language Learning Journal*, 51(4), 451-471. <https://doi.org/10.1080/09571736.2023.2217828>
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? -- A literature review of empirical studies on gamification. In *47th Hawaii International Conference on System Sciences* (pp. 3025-3034). IEEE. <https://doi.org/10.1109/HICSS.2014.377>