

GAMIFICATION STRATEGIES FOR ENHANCING VOCABULARY RECALL AND RETENTION AMONG GRADE 10 ESL LEARNERS

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Abstract

This study examined the effectiveness of gamification strategies in enhancing vocabulary recall and retention among 30 Grade 10 ESL learners from the Special Program in Sports at Col. Lauro D. Dizon Memorial Integrated High School. Using a one-group pretest–posttest pre-experimental design, students participated in gamified vocabulary activities, including Vocabulary Bingo, Points and Leaderboards, and Boss Battle. A researcher-made vocabulary test was administered as a pre-test, post-test, and delayed post-test. Data were analyzed using Mean, Standard Deviation, Paired Sample T-test, and Pearson r. Results showed significant improvements in students' vocabulary recall and retention, as evidenced by higher post-test and delayed post-test scores compared to pre-test scores. The findings indicate that gamification strategies effectively enhanced vocabulary learning outcomes. Based on these results, English teachers are encouraged to integrate gamification into vocabulary instruction, while future studies may explore its effectiveness with larger samples, different grade levels, or other language skills.

Keywords: Gamification Strategies, Vocabulary Recall, Vocabulary Retention, ESL Learners, Experimental Design

1. Introduction

Reading comprehension plays an important part in learning English and achieving high academic performance in school. One common factor that contributes to lower reading comprehension of students is their vocabulary knowledge. When students encounter too many unfamiliar words in a text, they may have difficulty comprehending the meaning, which can lead to confusion and less interest in reading.

In many ESL countries, like the Philippines, where English is not the first language, many continue to face challenges in reading comprehension. Both national and international assessments have shown that many Filipino learners struggle with reading comprehension. In the 2018 PISA results, the Philippines ranked among the lowest-performing countries in reading literacy, and the 2022 EF English Proficiency Index also showed a decline in the country's English proficiency ranking. These prove why many students have difficulty understanding written texts and still struggle with vocabulary, reading fluency, and overall English skills, which greatly affects their academic performance.

Vocabulary recall and vocabulary retention are two important factors to consider in improving reading comprehension. According to Akbar (2025), vocabulary mastery is a key factor in learning the English language, but many learners find it difficult. This shows how important it is to improve vocabulary recall and retention, as these help learners fully understand the meaning of words while reading to comprehend.

Vocabulary recall refers to the ability of the learners to remember words, while retention means storing and using words over time. Studies show that having a limited vocabulary makes it hard for learners to understand text, do well in school, and communicate. Effective vocabulary teaching should focus on both remembering words right away and keeping them in long-term memory because short-term learning alone limits the language

skills (Nation, 2017; Schmitt, 2020). Students who can remember and apply vocabulary effectively are more likely to connect ideas from the text and understand it, which leads to learning new information. The traditional teaching methods, such as memorization and drills, are often not enough to help students retain vocabulary for a long time. Because of this, students may know the words for a short period only and struggle to use them in actual reading activities in the long run.

Teachers have started exploring innovative strategies to address this problem in reading. And one promising strategy to use is gamification, according to Ananda (2024), gamification makes use of game elements like points, badges, leaderboards, and challenges in a setting that is non-game. This approach gives students repeated exposure to vocabulary words, encourages them to participate actively during classroom discussions, and helps them improve their vocabulary recall and retention.

Several studies supported that gamification strategies are effective in improving vocabulary recall and retention. Dehghanzadeh, Fardanesh, Hatami, Talae, and Noroozi (2021) found that students who learned vocabulary using gamified activities remembered words better than those who used traditional teaching methods. The use of points, challenges, and feedback encouraged the students to review vocabulary more often, helping them remember words for a longer time. The study also showed that gamification made learning more enjoyable and encouraged students to practice, which helped improve long-term vocabulary retention.

Moreover, González-Calvo et al. (2022) studied the use of digital gamification platforms like Kahoot! And Quizlet with Spanish secondary students and revealed that when learners are exposed to these gamified applications, they achieve stronger vocabulary recall and retention than in non-gamified classrooms. The immediate feedback that these gamified applications provide also helps learners to instantly correct misunderstandings. Its competitive side also makes students more motivated to join in, giving them repeated practice that helps them remember better.

Similarly, Loewen et al. (2020) explored the impact of Duolingo over 12 weeks using a mixed-methods approach. The results of this study showed improvements in the retention of the students. Learners found joining in gamified activities less intimidating and more motivating. The challenge levels and rewards encouraged them to practice regularly.

Also, Sailer and Homner (2020) found that the use of digital and non-digital gamification strategies showed consistent improvement in the vocabulary recall and retention of the students. The vocabulary activities used in their study include word puzzles, role playing, and the use of flashcards. These activities helped learners think more than just memorizing. This suggests that gamification improves vocabulary retention by encouraging meaningful interaction instead of just passive learning.

Non-digital gamification strategies have similarly proven to be effective in situations where there are limited technological resources. The experimental study of Rahman and Yunus (2022) among Malaysian secondary ESL learners revealed that the use of non-digital activities like word bingo, flashcards, and classroom competitions resulted in higher scores in vocabulary recall and retention of students than the use of traditional drills. Students also reported that they enjoyed the activities more and worked better together, showing that being engaged helped support memory retention.

Gortaire Díaz, Cevallos, and Saltos (2022) studied the use of non-digital gamification strategies such as vocabulary board games and role play among Ecuadorian high school students and revealed that learners who participated in active and social games recorded a high level of recall and retention. They argued that learning by doing and working together helped students understand and remember words more easily. Cruz and Santos (2022) found similar results in the Philippines; they showed that the use of simple non-digital games helped Grade 10 ESL learners keep vocabulary and stay interested.

In this study, the researcher examined how gamification strategies can help ESL learners to improve their vocabulary recall and retention, which may eventually lead to the improvement of their reading comprehension.

1.1 Background of the Study

This study emerged from the researcher's experiences in teaching English as a Second Language to Grade 10 students of Col. Lauro D. Dizon Memorial Integrated High School. It was observed that in many reading activities, students showed difficulty in understanding texts because of limited vocabulary knowledge. Although some students can read the passages aloud, many still struggled to explain the meaning of what they read, answer comprehension questions correctly, or participate actively during classroom discussions, especially when unfamiliar words were encountered in the text.

The researcher also observed that the students had problems with recalling and retaining newly learned words. This was more noticeable during discussions when the vocabulary words were taught using traditional methods like memorization and drills. In many instances, students easily forgot previously taught words and continued to rely on their understanding of teacher explanations during reading lessons. Because of this, some learners lost interest and did not participate much during reading activities. These classroom experiences showed that it is important to focus equally on helping students remember and understand vocabulary to improve their reading and learning.

These observations were similar to the findings of national and international assessments such as the Programme for International Assessment (PISA) and the Education First English Proficiency Index (EF EPI). These reports show that many Filipino students face challenges in reading comprehension and English proficiency. These also suggest that one of the major factors affecting students' academic performance is their limited vocabulary knowledge.

These classroom challenges motivated the researcher to explore more engaging and effective teaching strategies and identified the use of gamification strategies such as Vocabulary Bingo, Points and Leaderboards, and Boss Battle as a possible solution to address the vocabulary difficulties of the students. In quasi-experimental research of Sadeghi, Sağlık, Mede, Samur, and Cömert (2022), gamified features such as progress badges, point accumulation, and leaderboard rankings provided during vocabulary instruction contribute to gaining vocabulary scores. They emphasized that the use of well-planned gamification activities and not just simple game elements is important for improving both immediate recall and long-term retention.

In addition, social interaction is also important for retention to occur. Studies show that working together or competing in games helps students talk, give feedback, and share ideas. This helps them understand words better. Kohnke (2019) and Lee & Lin (2022) said that students who work together in games remember vocabulary better than those who study alone without interaction with others.

Akdogan (2018) found that gamified teaching in Turkish elementary ESL classrooms not only improved vocabulary recall but also made students more excited about learning new words. Using fun and interactive learning helps learners practice vocabulary, which is important for secondary ESL students because their motivation often drops.

The use of gamified teaching helped students use words in real-life situations that need understanding and not just memorizing. It also shows that learning words in meaningful situations helps students remember them longer. This also helps them make stronger connections and remember words over time. Studies of Reinhardt & Sykes (2019) and Chen, Liu, & Huang (2021) revealed that students do better after learning vocabulary this way.

In ESL classes where students are not exposed to much English outside school, gamification helps a lot. It lets the learners practice more and feel less worried. This helps in long-term remembering. (Hamari & Koivisto, 2015; Huang, Hew, & Lo, 2019) implied that by making boring tasks fun, gamification helps learners keep coming back to vocabulary without getting bored. With the use of these gamification strategies in classroom instruction, students are given more opportunities to practice and use vocabulary words in context through repeated exposure and active participation. Gamification may also help improve the students' motivation, vocabulary recall, and long-term retention as compared to the use of traditional teaching methods. This research aimed to contribute to the improvement of vocabulary and language skills by examining the use of gamification in vocabulary instruction.

Methodology

This chapter presents the research design, respondents of the study, population, sampling technique

research procedure, research instrument, and statistical treatment used in the study.

1.2 Research Design

This study used a pre-experimental research design, specifically the use of a one-group pre-test post-test design to examine the effects of gamification strategies on vocabulary recall and retention of Grade 10 ESL learners. All participants experienced the same gamification intervention, which included Vocabulary Bingo, Points and Leaderboards, and Boss Battle. These selected strategies were implemented together as one instructional approach. A pre-test was administered before the implementation of the gamification strategies to determine the baseline vocabulary of the students. After the intervention, an immediate post-test was conducted to measure vocabulary recall, which refers to the student's ability to remember words right after instruction. After three weeks, a delayed post-test was then administered to measure the vocabulary retention and determine whether students were able to keep and use vocabulary over time. This design allowed comparison of vocabulary performance before and after the intervention to evaluate its effectiveness.

1.3 Respondents of the Study

This study involved 30 Grade 10 students from the Special Program in Sports Section of Col. Lauro D. Dizon Memorial Integrated High School. The class was selected as a single intact group and served as the experimental group of the study.

1.4 Population and Sampling Technique

In this study, the researcher employed a purposive sampling technique in selecting the 30 respondents of the study ensuring participants shared similar characteristics and learning environments. This facilitated the one-group pre-test post-test design, allowing fair comparison of vocabulary performance before and after the intervention and ensuring consistent instruction. This approach helped assess the impact of gamification on vocabulary recall and retention.

1.5 Data Gathering Procedures

Data were gathered systematically for accuracy. The researcher secured permits and validated the instruments with experts. A pre-test with multiple-choice vocabulary questions was given to 30 Grade 10 Sports students to measure baseline knowledge. After the pre-test, the lesson focused on 20 vocabulary words, followed by gamified activities: Vocabulary Bingo, Points and Leaderboards, and Boss Battle. Students worked in teams to encourage collaboration and friendly competition. Vocabulary Bingo involved marking words based on definitions. Points and Leaderboards tracked group progress to motivate students. Boss Battle included tasks like making sentences and giving synonyms. A post-test was given immediately after instruction, and a delayed post-test after three weeks to measure retention. The three-week gap minimized short-term memory effects and assessed long-term learning. All activities and tests were done in a controlled classroom setting to ensure fairness. The researcher recorded responses carefully and maintained data confidentiality.

1.6 Research Instrument

The main instrument was a researcher-made vocabulary test with 20 multiple-choice questions aligned with the Grade 10 English third-quarter competencies. Experts validated the test for clarity and relevance. A pre-test was used to measure baseline vocabulary before the intervention, while the immediate post-test was utilized to assess vocabulary recall after the gamified lesson, and the delayed post-test was given three weeks later with the same questions to measure vocabulary retention over time.

1.7 Statistical Treatment of Data

Data were analyzed using quantitative statistical method to determine the effectiveness of gamification strategies on vocabulary recall and retention. Descriptive statistics, including Mean, Standard Deviations, and Frequency Distributions were used to summarize the Pre-Test, Post-Test, and Delayed Post-Test results. Inferential statistics, including Paired Sample T-test were used to examine significant changes in the vocabulary performance of the students after, and Pearson r was used to measure relationship between vocabulary recall and

retention.

2. Results and Discussion

This section presents the results of the study including the illustrative table and their corresponding analysis as well as the interpretation derived from the statistical treatment.

Table 1
Pre-test Scores of Students in Vocabulary Learning

Score	f	%	Vocabulary Level
18-20	8	26.67	Advanced
17	4	13.33	Proficient
16	4	13.33	Approaching Proficiency
15	0	0.00	Developing
0-14	14	46.67	Beginning
Total	30	100.00	
Mean	14.4		Beginning
Standard Deviation	4.35		

Table 1 shows the pre-test outcomes of students in vocabulary acquisition, which relates to their ability to acquire, understand, remember, and successfully employ words in both receptive and productive contexts.

The results show that the respondents had a small amount of vocabulary knowledge before their recall and retention were tested, with an average score of 14.4 and a standard deviation of 4.35. This average falls in the Beginning level (0-14), meaning most students have limited vocabulary and are still learning to understand and use words. Students at this level are also struggling to recognize, understand, and use words. Only a few reached the Advanced level, showing strong vocabulary skills and the ability to use many words correctly.

It also shows that 8 out of 30 respondents fall into the Approaching level and Proficient level, which means that students under this level are becoming better at learning vocabulary but still need guidance to fully understand the meaning of words.

The high standard deviation of 4.35 means students have different levels of vocabulary knowledge, so the group is mixed in terms of their skills. Most students scored at the Beginning level, showing they have limited ability to learn, understand, and use words in real situations. Students at this level mostly recognize basic words, but they often struggle in understanding their meanings and using them correctly in conversation. Recent studies show that students with small vocabularies have trouble understanding and expressing ideas because they don't know enough words (Webb & Nation, 2017; Schmitt, 2019)

Students at the Beginning level have trouble understanding subtle meanings, using words in different situations, and handling word forms like grammar, spelling, and pronunciation. Schmitt (2019) explains that knowing vocabulary means understanding the word form, meaning, and use because, without these, communication is limited. Students in the Approaching Proficiency and Proficient groups are improving in terms of their vocabulary. They can understand common words and start using them in actual situations, but still make mistakes when it comes to accuracy and flexibility. This matches Webb's (2020) idea that learners get better with practice and exposure. Meanwhile, Advanced students are skilled at learning, understanding, and using words in reading, writing, speaking, and listening. They can use words in many ways and understand meanings clearly. Nation (2022) says advanced learners have large vocabularies and use words precisely and smoothly.

Table 2
Post-test Scores Indicating the Level of Vocabulary Recall of Students

Score	f	%	Vocabulary Level
18-20	27	90.00	Advanced
17	1	3.33	Proficient
16	2	6.67	Approaching Proficiency
15	0	0.00	Developing
0-14	0	0.00	Beginning
Total	30	100.00	
Mean	19.5		Advanced
Standard Deviation	1.17		

Table 2 shows the post-test results of the students, which show how well they remembered vocabulary right after learning it.

The results show that most students have strong vocabulary recall with a mean score of 19.5, placing them in the Advanced level (18-20). This means most students could remember and use words correctly after the lesson. The small standard deviation of 1.17 shows that their scores were very close to each other, meaning most of the students performed similarly well.

The distribution also shows that most of the students, or 27 out of 30, scored between 18 and 20, putting them in the Advanced category. The remaining 3 students were in the Proficient and Approaching proficiency category.

The advanced students show they can quickly recall vocabulary words right after learning them. They understand the words and give correct answers easily, which means their memory works well. Webb and Nation (2017) say focused teaching and seeing words often help learners remember words quickly and correctly.

Students in the Proficient and Approaching levels can remember words but not always perfectly. They usually recall words after learning but may need more time and help to use them correctly. Schmitt (2019) says vocabulary recall improves as learners see and practice words more.

The results show that students are very good at tasks that ask them to remember words right away, like understanding new words, repeating meanings after lessons, and recognizing correct words in exercises. This means they can quickly recall vocabulary, especially when tasks are similar to what they just learned. Nation (2022) says strong recall shows good initial learning and memory when students get clear and repeated practice with words.

Table 3
Delayed Post-test Scores Indicating the Level of Vocabulary Retention of Students

Score	f	%	Vocabulary Level
18-20	30	100.00	Advanced
17	0	0.00	Proficient
16	0	0.00	Approaching Proficiency
15	0	0.00	Developing
0-14	0	0.00	Beginning
Total	30	100.00	
Mean	19.9		Advanced
Standard Deviation	0.305		

Table 3 shows the delayed post-test scores, which present the vocabulary retention or the ability of the students to keep and remember their learned vocabulary over time.

The results show a very high level of vocabulary retention with a mean score of 19.9, placing all the students in the Advanced level (18-20). This shows that pupils were able to remember and find lexical words after a delay. The standard deviation of 0.305 shows that the responses were very similar, which means that the level of competence was very stable.

Most of the students (90%) got a perfect score of 20, placing them in the Advanced category. The other 10% scored 19, which is also Advanced. No students scored below the Advanced level, showing that all of them are good at remembering vocabulary.

The results also show that the students were able to keep their vocabulary knowledge over time with accuracy and consistency. Advanced students can remember and use words well even after a long time, meaning they have a strong and lasting vocabulary knowledge. They can remember word meanings and forms correctly without needing to see them again. This supports Webb's (2020) idea that repeated and meaningful practice helps keep vocabulary in long-term memory.

The high scores of the students also show that they mastered word knowledge and not just learned it. This shows that the students can still remember and use words correctly even after the delay because they can already understand connections between word form, meaning, and use. Students do well on tasks that require long-term memory, like recalling words learned earlier, getting meanings and forms right even without recent practice, and keeping their word use accurate over time. They have shown that they can keep vocabulary knowledge consistently and remember it reliably, which means they have learned many words over time. These findings show clear progress in their retention.

Table 4
Correlation Between Vocabulary Recall and Vocabulary Retention of Students

Variables	r-value	Significance Level	Interpretation
Vocabulary Recall and Vocabulary Retention	0.242	$p < 0.01$	Significant

Legend: $p < 0.05$, significant
 $p > 0.05$, not significant

Table 4 shows the relationship between vocabulary recall and vocabulary retention of the students. Vocabulary recall is the ability of the students to remember vocabulary words immediately after instruction, while vocabulary retention is the ability of the students to remember and use vocabulary words after a period of time. This helps determine whether students who perform well in immediate recall can also retain vocabulary over time.

The results show a positive but low link between vocabulary recall and retention ($r=0.242$, $p<0.01$), meaning the two are significantly connected. This means that the students who did better at remembering words right after learning were more likely to remember those words later. Even though the connection is small, it still shows that good recall helps keep vocabulary over time.

This connection was also seen in the classroom performance of the students during the study. The researcher observed that before using gamification, many students had trouble remembering vocabulary that they had learned before and often needed help. Their answers were slow and unsure, showing weak memory of the words. But after the implementation of gamification strategies like Vocabulary Bingo, Points and Leaderboards, and Boss Battle, students could already recall words faster and more accurately. More importantly, many students could still recognize and use words in later activities, showing memory retention.

This illustrates how vocabulary recall and retention work together in learning. Immediate recall strengthens connections between word forms, meanings, and usage. The significant relationship between recall and retention suggests that activities encouraging repeated word retrieval also enhance long-term memory. According to Webb and Nation (2017), frequent exposure and recall reinforce vocabulary retention. Gamified activities provided enjoyable opportunities for repeated recall, likely improving both recall and retention.

Table 5
Paired Comparison Between Vocabulary Recall and Vocabulary Retention After Exposure to Gamification Strategies

Variable	Mean	SD	t-value	p-value	Interpretation
Recall (Post-test)	19.50	1.17	0.063	0.108	Not Significant
Retention (Delayed Post-test)	19.90	0.31			

Legend: $p < 0.05$, significant

$p > 0.05$, not significant

Table 5 shows the paired comparison between vocabulary recall and vocabulary retention of the students after exposure to gamification strategies. This comparison is important to see not just how the intervention works right away, but also how well it helps the learners keep the vocabulary over time, giving a fuller picture of how gamification affects vocabulary learning.

The results show that the mean score for vocabulary recall was 19.50 (SD=1.17) and the average score for vocabulary retention was a little higher at 19.90 (SD=0.31). The comparison gave a p-value of 0.108, which means there is no significant difference between the two tests. This shows that most of the learned vocabulary of the students was retained until the later test.

Even if the delayed post-test is a little higher than the immediate post-test, it shows that the difference is not significant. This small change might be because students kept hearing or thinking about the vocabulary during regular activities. More importantly, the results show that students kept their vocabulary stable over time instead of losing knowledge after learning.

The three-week interval between tests was chosen to balance measuring long-term vocabulary retention while minimizing outside influences. This period effectively distinguishes lasting knowledge from short-term memory.

Classroom observations during this time support the results. Even though the specific vocabulary was not formally reviewed by the teacher, the students sometimes recognized and used the words in later English activities. It was also observed that during regular class, the students hesitated less and showed better understanding of word meaning after the intervention. It was also noticed that students remembered words better if they saw or used them more often in the gamified activities.

Overall, the stable performance seen in this study suggests that the gamification strategies used helped move vocabulary knowledge into long-term memory by giving students repeated practice, involvement, and meaningful exposure. This means that vocabulary learned through gamified instruction wasn't just remembered for a short time but kept for a longer period, showing that gamification is effective in helping students learn vocabulary that lasts.

Table 6
Paired Comparison of Vocabulary Learning Before and After Exposure to Gamification Strategies

Comparison	t-value	df	p-value	Mean Difference	SE Difference	Interpretation
Pre-test vs Post-test	-6.79	29	<0.001	-5.067	0.746	Significant improvement in vocabulary learning
Post-test vs Delayed	-1.93	29	0.063	-0.4	0.207	No significant difference; retention maintained
Pre-test vs Delayed	-6.78	29	<0.001	-5.467	0.806	Significant improvement in vocabulary learning and retention

Legend: $p < 0.05$, significant

$p > 0.05$, not significant

Table 6 shows the analysis of vocabulary learning of the students before and after exposure to gamification strategies, namely Vocabulary Bingo, Points and Leaderboard, and Boss Battle.

Before the implementation of the study, many students hesitated when answering vocabulary tasks and took less part in class discussions. Their answers were usually short, and only a few students tried to remember or use new words. This matched their low vocabulary scores in the pre-test.

The results showed a significant improvement between the pre-test and post-test ($t=-6.79$, $p<0.001$), meaning gamification strategies greatly helped students improve their vocabulary, especially in recalling words. The students became more active, joined group talks more, and felt more confident answering vocabulary questions after using the gamification strategies. Many remembered and used words more accurately and quickly during activities and tests. This supports Seppo et al. (2017), who said that gamification increases engagement and participation, which helps improve immediate recall.

The results showed no significant difference between the post-test and delayed post-test scores ($t=-1.93$, $p=0.063$), meaning students kept their vocabulary knowledge over three weeks. The stable performance of the students shows that the intervention helped improve their vocabulary retention. Classroom observations also showed that students could still recognize and remember words even after the delay, with a very little decrease in their performance. This means that seeing words often, actively taking part, and using vocabulary during activities can help them learn better.

Also, the comparison between the pre-test and delayed post-test showed a significant improvement ($t=-6.78$, $p<0.001$), meaning the students learned a lot more vocabulary and kept it over time, showing that their vocabulary was still much better than at the start. This shows that the learning from gamification wasn't just quick but lasted.

The use of three gamification strategies, namely Vocabulary Bingo, Points and Leaderboard, and Boss Battle, helped enhance vocabulary learning. Vocabulary Bingo improved recall by encouraging group discussion and repeated exposure to words, helping students remember meanings faster. Points and Leaderboard increased motivation and engagement through friendly competition, which encouraged even less active students to participate and strive for accuracy. Boss Battle promoted deeper understanding and long-term retention by requiring students to apply and combine vocabulary knowledge in complex tasks. Together, these strategies boosted vocabulary recall, sustained retention, and fostered active participation, confidence, and motivation among students.

The significant improvement from pre-test to delayed post-test shows that gamification strategies enhanced both immediate vocabulary recall and long-term retention. The gamified activities provided meaningful learning experiences that reinforced understanding and memory. Increased student participation, confidence, motivation, and interest further demonstrate gamification's effectiveness in creating an engaging, supportive learning environment. These results highlight gamification's role in making vocabulary learning enjoyable, promoting learner autonomy, and fostering active participation, ultimately supporting better language development.

3. Conclusion and Recommendations

This section includes the conclusions and recommendations based on the given problems and objectives of this study. Based on the findings, the following conclusions were drawn: 1. The implementation of gamification strategies showed great improvement in vocabulary recall of the students, supporting that the use of gamification activities helps students in remembering newly learned words; 2. The results of the study also showed that the students were able to retain the learned vocabulary words over time, implying that gamification strategies also enhance vocabulary retention; 3. A significant relationship between vocabulary recall and vocabulary retention confirmed that higher performance of students in vocabulary recall is associated with long-term retention of vocabulary; 4. The analysis, which revealed that there is no significant difference between vocabulary recall and retention, supports that the vocabulary knowledge learned through gamification strategies lasted over time; and lastly, 5. Overall, these findings confirm that the use of gamification strategies in teaching vocabulary is effective in enhancing vocabulary recall and vocabulary retention among Grade 10 ESL learners.

Meanwhile, based on the findings and conclusions of this study, the following recommendations are proposed: 1. English teachers may consider the use of gamification strategies like Vocabulary Bingo, Points and Leaderboards, and Boss Battle in vocabulary instruction to increase the motivation of students and enhance vocabulary recall and retention; 2. Students may consider participating in gamified learning activities to improve their vocabulary learning, especially their recall and retention; 3. School Administrators may support the use of other innovative teaching approaches, like the gamification strategies presented in the study, by encouraging teachers to apply engaging activities in the classroom; 4. Curriculum Developers may integrate gamified activities in crafting to make learning more meaningful and enjoyable for the learners; and lastly, 5. Future researchers may conduct similar studies with larger samples, different grade levels, or other language skills to further examine the effectiveness of gamification.

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References

- Akbar, F. F. (2025). Meningkatkan Kemampuan Vocabulary Siswa Melalui Flashcard Key Holder Di Smp Tunas Baru Jin Seung Batam. *Jurnal Pengabdian Ibnu Sina*, 4(1), 36-43.
- Akdogan, A. (2018). Digital games and vocabulary acquisition in elementary classrooms. *Journal of Educational Technology & Society*, 21(2), 45-57.
- Ananda, N. P. (2024). Using gamification in education: Strategies and impact. *Hipkin Journal of Educational Research*, 1(1), 1-12.
- Dehghanzadeh, S., Fardanesh, H., Hatami, M., Talaei, F., & Noroozi, O. (2021). Gamified vocabulary practice in Iranian ESL classrooms. *Language Learning & Technology*, 25(1), 58-75.*
- Gortaire Díaz, P., Cevallos, A., & Saltos, L. (2022). Non-digital gamification and vocabulary recall in Ecuadorian high schools. *Journal of Language Teaching and Learning*, 12(3), 75-89.*
- González-Calvo, G., Martínez-Sánchez, F., & Fernández-López, Á. (2022). Gamification in digital vocabulary learning apps: Impacts on engagement and retention. *Computers & Education*, 179, 104412.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? A literature review of empirical studies on gamification. In *Proceedings of the 47th Hawaii International Conference on System Sciences* (pp. 3025-3034). IEEE.
<https://doi.org/10.1109/HICSS.2014.377>
- Kohnke, L. (2019). The role of peer collaboration in gamified ESL vocabulary learning. *TESOL Quarterly*, 53(2), 357-366.
- Loewen, S., Isbell, D., & Sporn, Z. (2020). Duolingo and vocabulary learning: Effects on retention and engagement. *Language Learning & Technology*, 24(2), 1-20.*
- Nation, I. S. P. (2017). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press.
- Reinhardt, J., & Sykes, J. M. (2021). *Gameful second and foreign language teaching and learning: Theory, research, and practice*. Palgrave Macmillan.
- Sadeghi, K., Sağlık, E., Mede, E., Samur, Y., & Cömert, Z. (2022). The effects of implementing gamified instruction on vocabulary gain and motivation among language learners. *Heliyon*, 8(11), e11811.* <https://doi.org/10.1016/j.heliyon.2022.e11811>
- Sailer, M., & Homner, L. (2020). The gamification of learning: A meta-analysis. *Educational Psychology Review*, 32, 77-112.*
- Cruz, L. M., & Santos, J. P. (2022). Enhancing ESL learners' vocabulary retention through non-digital gamification strategies. *Philippine ESL Journal*, 29(2), 112-127.*