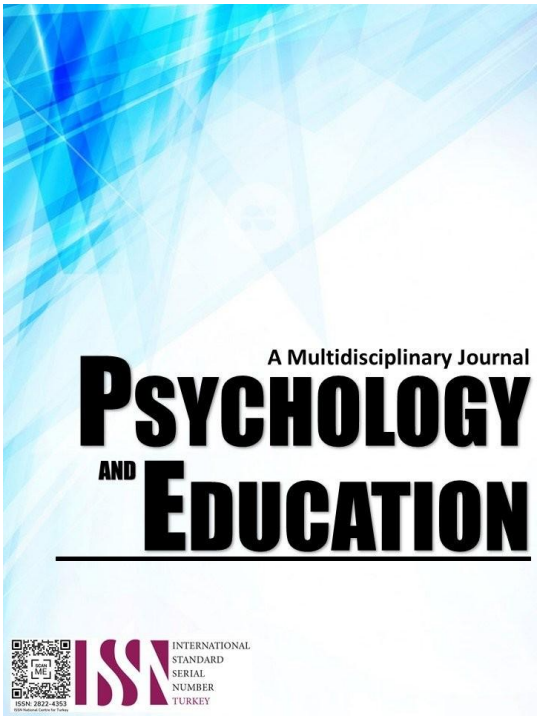
GAMIFICATION ON ENGLISH VOCABULARY ACQUISITION: A QUASI-EXPERIMENTAL STUDY



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Research Article

Gamification on English Vocabulary Acquisition: A Quasi-Experimental Study

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Abstract

English vocabulary acquisition is a critical foundation of second language learning, yet many urban public schools in the Philippines face challenges such as overcrowded classrooms, low student engagement, and limited instructional resources. This study examined the effect of gamification on English vocabulary acquisition among Grade 9 students in an urban public high school in Pagadian City. Using a quasi-experimental pretest–posttest control group design, 70 students were divided into an experimental group (n = 35) and a control group (n = 35). The experimental group received gamified vocabulary instruction using digital platforms such as Kahoot! and Quizizz, while the control group was taught using traditional methods. The intervention lasted for ten weeks. A 60-item Vocabulary Acquisition Test measuring receptive and productive skills (α = .90) was administered as a pre-test and a post-test. Results showed that both groups had comparable vocabulary levels before the intervention. After the treatment, the experimental group demonstrated a significant increase in overall vocabulary performance with a large effect size, while the control group showed only minimal improvement. Post-test comparisons revealed that students exposed to gamified instruction significantly outperformed those in the traditional group. Furthermore, gamification had strong positive effects on both receptive and productive vocabulary skills. The findings indicate that integrating game elements such as points, competition, and immediate feedback can greatly enhance student motivation, engagement, and vocabulary retention. Gamification, therefore, serves as an effective and practical strategy for improving English vocabulary learning in urban ESL classrooms. The study recommends the integration of gamified activities into regular English instruction and supports teacher training and policy initiatives that promote innovative, technology-based learning approaches.

Keywords: *gamification, vocabulary acquisition, ESL learners, quasi-experimental design, urban high school, Philippines, digital learning*

Introduction

English proficiency in the Philippine K–12 curriculum is anchored on learners' mastery of vocabulary, which serves as the foundation of listening, speaking, reading, and writing skills (Department of Education [DepEd], 2016). Without adequate vocabulary, students struggle to comprehend texts, express ideas clearly, and participate meaningfully in academic tasks. In urban public schools, however, vocabulary development is often hindered by overcrowded classrooms, limited instructional resources, and teaching approaches that rely heavily on rote memorization. These conditions weaken students' long-term retention and reduce their motivation to engage actively in English learning.

In cities such as Pagadian, public secondary schools accommodate large and diverse student populations drawn from different communities. Many classrooms exceed the ideal student–teacher ratio, making individualized instruction difficult to achieve. Teachers are often pressured to prioritize test-oriented instruction, leaving little room for interactive and learner-centered strategies. As a result, vocabulary instruction frequently becomes mechanical, focusing on memorization rather than meaningful use of words in context. This situation contributes to low retention rates and limited communicative competence among learners.

Recent educational reforms emphasize the integration of technology and innovative strategies to address learning gaps, especially in the post-pandemic period. DepEd has encouraged blended and flexible learning approaches that combine traditional instruction with digital tools (DepEd, 2024). At the same time, global reports show that the Philippines performs only at an average level in English proficiency, highlighting the need for more engaging and effective teaching methods (Education First, 2024). These conditions call for instructional approaches that can increase motivation, participation, and retention, particularly in challenging urban school environments.

One promising approach is gamification, which involves integrating game elements—such as points, badges, competition, and immediate feedback—into the learning process. Studies have shown that gamification increases student engagement, motivation, and knowledge retention by making learning more interactive and enjoyable (Zhang & Hasim, 2023). Digital platforms like Kahoot! and Quizizz allow teachers to design competitive and collaborative activities that transform routine vocabulary drills into meaningful learning experiences. In line with UNESCO's (2024) recommendation for interactive digital tools, gamification offers a practical way to modernize vocabulary instruction in ESL classrooms.

Given these conditions, this study aimed to examine the effect of gamification on English vocabulary acquisition among Grade 9 students in an urban public high school in Pagadian City. Specifically, it sought to compare the pre-test and post-test performance of students exposed to gamified instruction and those taught using traditional methods, analyze improvements in receptive and productive

vocabulary skills, and identify challenges in implementing gamification in an urban school setting. By focusing on a localized context, the study hopes to contribute evidence-based insights that can guide teachers and policymakers in improving vocabulary instruction in urban Philippine ESL classrooms.

Research Questions

This study aimed to determine the effect of gamification on English vocabulary acquisition among Grade 9 students in an urban public high school in Pagadian City, particularly in terms of overall vocabulary performance, receptive, and productive vocabulary skills. Specifically, it sought to answer the following questions:

1. Is there a significant difference in the overall English vocabulary performance of students taught through gamified instruction and those taught through traditional methods, as reflected in their pre-test and post-test scores?
2. Is there a significant difference in the receptive and productive vocabulary skills of students exposed to gamified instruction compared to those taught using traditional methods?

Methodology

Research Design

The study employed a quasi-experimental pretest–posttest control group design, following the framework of Creswell and Creswell (2018). This design was chosen because random assignment of students was not feasible in a real school setting where classes are already organized into intact sections. Instead, two existing Grade 9 sections with comparable academic profiles were selected and assigned as the experimental and control groups. The design allowed the researchers to measure changes in vocabulary performance before and after the intervention and to compare learning gains between groups. The 10-week duration in 2025 was considered sufficient to observe meaningful changes in vocabulary acquisition while still fitting within the school's academic calendar.

Respondents

The respondents consisted of 70 Grade 9 students, with 35 students in the experimental group and 35 in the control group. The groups were comparable in terms of gender distribution and had a mean age of 15.1 years. Only students with regular attendance and below-proficient vocabulary levels, based on school records and initial screening, were included in the study to ensure that the intervention targeted learners who most needed vocabulary support. Two sections were chosen from the Grade 9 population because they had similar academic standing and classroom conditions, reducing the risk of bias. A power analysis confirmed that a sample size of 70 was adequate to detect statistically significant differences between groups. Selected from the Grade 9 population; two sections for similarity. Power analysis confirmed N=70.

Instrument

To measure vocabulary acquisition, the researchers used a Vocabulary Acquisition Test (VAT) consisting of 60 items that assessed both receptive and productive vocabulary skills. The test was developed based on the Grade 9 English curriculum and validated through expert review. Reliability testing yielded a high Cronbach's alpha value of .90, indicating strong internal consistency. In the experimental group, vocabulary instruction was delivered through gamified activities using Kahoot! and Quizizz, which included features such as points, rankings, and immediate feedback. These platforms were selected because they are widely accessible, easy to use, and suitable for large classes.

Procedure

The procedure of the study followed a clear and structured timeline. During Week 1, both groups took the pre-test to establish baseline vocabulary levels. From Weeks 2 to 9, the experimental group participated in gamified vocabulary sessions integrated into their regular English classes, while the control group received traditional instruction using textbooks, lectures, and written exercises. In Week 10, both groups took the post-test to measure learning gains. This parallel implementation ensured that both groups covered the same content, with the only difference being the method of instruction.

Data Analysis

For data analysis, the researchers used SPSS to process and interpret the results. Paired-sample t-tests were used to determine whether there were significant differences between pre-test and post-test scores within each group. Independent-sample t-tests were used to compare the post-test scores of the experimental and control groups. In addition, ANCOVA was applied to control for possible pre-test differences and to strengthen the validity of the findings. All statistical tests were conducted at a significance level of $\alpha = .05$.

Ethical Considerations

Ethical considerations were carefully observed throughout the study. Approval was obtained from school authorities before data collection began. Informed consent was secured from students and their parents or guardians, clearly explaining the purpose of the study, the procedures involved, and the voluntary nature of participation. Students were assured that their responses would be kept confidential and used only for research purposes. To protect privacy, codes were used instead of names in all data files and reports,

ensuring anonymity and ethical integrity of the research process.

Results and Discussion

Pre- and Post-Test Means, Standard Deviations, and t-Test Results for Overall Vocabulary

Table 1. *Pre- and Post-Test Means, Standard Deviations, and t-Test Results for Overall Vocabulary*

Group	*Pre-Test M (SD)*	*Post-Test M (SD)*	*Change Score M (SD)*	*t (df)*	*p*	*Cohen's d*
Control	31.76 (5.98)	35.41 (6.45)	3.65 (3.21)	2.01 (34)	.052	0.38
Experimental	32.18 (6.12)	45.67 (6.89)	13.49 (4.12)	7.45 (34)	<.001	1.52

Table 1 shows that both groups started at almost the same level in vocabulary knowledge, with the control group having a pre-test mean of 31.76 and the experimental group having a pre-test mean of 32.18. This indicates that the two groups were comparable before the intervention. After ten weeks of instruction, however, clear differences emerged. The experimental group, which received gamified instruction, increased its mean score to 45.67, while the control group, which received traditional instruction, only increased to 35.41.

The improvement of the experimental group was statistically significant, with a large effect size ($d = 1.52$), showing that gamification had a strong impact on vocabulary acquisition. In contrast, the control group showed only a small and statistically non-significant improvement ($p = .052$, $d = 0.38$). This suggests that traditional, rote-based methods were not enough to produce meaningful gains in vocabulary learning within the same period.

The between-group comparison further confirms this result. The post-test scores differed significantly in favor of the experimental group ($t(68) = 6.89$, $p < .001$, $d = 1.41$). This means that students who experienced gamified learning clearly outperformed those who followed traditional instruction. The use of game elements such as points, competition, and instant feedback likely increased students' motivation and engagement, which helped them remember and use new vocabulary more effectively.

Overall, Table 1 demonstrates that gamification is a more effective strategy than traditional teaching methods for improving overall English vocabulary performance among Grade 9 students in an urban public school setting.

Skill-Specific Post-Test Scores for Receptive and Productive Vocabulary

Table 2. *Skill-Specific Post-Test Scores: Means, Standard Deviations, and Between-Group t-Test Results*

Sub-Skill	Control M (SD)	Experimental M (SD)	Mean Difference	t (68)	p	Cohen's d
Receptive	19.2 (3.4)	24.8 (3.7)	5.6	6.12	<.001	1.38
Productive	16.2 (3.1)	20.9 (3.5)	4.7	5.89	<.001	1.35

Table 2 presents the post-test results for receptive and productive vocabulary skills. For receptive vocabulary, the experimental group obtained a mean score of 24.8, which is much higher than the control group's mean of 19.2. The difference of 5.6 points was statistically significant ($p < .001$) with a large effect size ($d = 1.38$). This shows that gamification greatly improved students' ability to recognize and understand words when reading or listening.

For productive vocabulary, the experimental group again outperformed the control group, with mean scores of 20.9 and 16.2, respectively. The mean difference of 4.7 points was also statistically significant ($p < .001$) with a large effect size ($d = 1.35$). This indicates that gamified instruction not only helped students recognize words but also helped them use vocabulary correctly in speaking and writing.

These results suggest that gamification supports both receptive and productive aspects of vocabulary learning. The interactive nature of platforms like Kahoot! and Quizizz likely provided repeated exposure to words in meaningful contexts, which helped students remember them better. The competitive and enjoyable environment may also have reduced anxiety and encouraged students to participate more actively, leading to better vocabulary use.

In summary, Table 2 shows that gamification is effective in improving both receptive and productive vocabulary skills, making it a balanced and powerful approach for vocabulary instruction in urban ESL classrooms.

Conclusions

This study confirmed that gamification is an effective strategy for improving English vocabulary acquisition among Grade 9 students in an urban public high school in Pagadian City. The findings showed that students exposed to gamified instruction achieved significantly higher gains in overall vocabulary performance compared to those taught through traditional methods. The large effect sizes observed in the experimental group indicate that integrating game elements such as points, competition, and instant feedback can strongly enhance learning outcomes in ESL classrooms.

The results also revealed that gamification positively affects both receptive and productive vocabulary skills. Students in the gamified group performed better in understanding and recognizing words, as well as in using them correctly in speaking and writing tasks. This suggests that gamification supports balanced language development by combining enjoyment with meaningful practice. The interactive and engaging nature of digital tools like Kahoot! and Quizizz appears to reduce boredom and anxiety, encouraging learners to

participate more actively in vocabulary learning.

Based on these findings, it is recommended that English teachers in urban schools integrate gamified activities into their regular vocabulary instruction. Simple and accessible platforms can be used even in limited-resource settings, provided that teachers are trained to design meaningful and curriculum-aligned activities. School administrators should support this integration by providing basic technological resources and encouraging teachers to experiment with innovative teaching strategies.

At the policy level, the Department of Education may consider including gamification as part of its learning recovery and digital integration programs. Training workshops, teaching guides, and resource development focused on gamified instruction can help teachers implement this approach effectively. Future research should examine the long-term effects of gamification on vocabulary retention and explore its impact in other grade levels and learning contexts to strengthen its use as a sustainable instructional strategy.

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