International Journal of Innovative Studies in Humanities and Social Studies
ISSN: 3067-7319 | Volume 1, Issue 4, 2025
www.aytinpublications.com

Research Article

Gamified Literary Quizzes and their Effect on Vocabulary Acquisition in Japanese Senior High School EFL Classroom

Dominic Bryan San Jose, EdD[1]*, Rosbe Colina[2], Jeanson Conde[3], Efren Leo John Aribal[4], Margaret Condes[5]

[1]*GLP International School, Japan*
[2]*Osaka City Board of Education, Japan*
[3]*Seien Girls Junior and Senior High School, Japan*
[4]*Imabari City Board of Education, Japan*
[5]*Cosmo Global Communication, Japan*

*Corresponding Author: Dominic Bryan San Jose, EdD, GLP International School, Japan

Abstract

Traditional vocabulary instruction in Japanese senior high school often favors rote memorization of word lists, translation drills, and vocabulary meanings that are artificial and lifeless. Consequently, the majority of the students have a rich English vocabulary reservoir, but typically underutilized in actual spoken communication. Hence, the purpose of this study is to evaluate the impact of gamified literary quizzes on vocabulary acquisition and student engagement in Japanese EFL classrooms. It adopts an embedded mixed-methods design in which quantitative data on vocabulary gains form the core, supported by qualitative data exploring learner experiences. The quantitative findings revealed that students in the experimental group—who engaged with gamified quizzes based on literary texts—had significantly higher gains in vocabulary and stronger long-term retention ($t(71) = 6.23$, $p < .001$; Cohen's $d = 1.45$) of that vocabulary than their counterparts (control group) in the traditional instruction group. The qualitative component allowed for a comprehensive understanding of how and why this method of gamification in the classroom was effective. There was an increased level of motivation, enjoyment, and engagement reported by the students along with an increase in the rate of learning. These results affirm the effectiveness of integrating digital game elements into vocabulary instruction. For those designing curricula and making educational policy, this study emphasizes the necessity of training teachers in digital literacy, the modular inclusion of gamified vocabulary tools in textbooks, and the provision of open-access, gamified corpora (i.e., a large and structured set of texts and/or speech) that are aligned with national educational standards (e.g., MEXT in Japan).

Keywords: Gamification, gamified literary quiz, Japanese senior high school, embedded mixed-method, Japan.

Article Information

Received: 21 July 2025

Accepted: 06 August 2025

Published: 09 August 2025

Cite this article as:

Dominic Bryan San Jose, EdD, Rosbe Colina, Jeanson Conde, *et al.* Gamified Literary Quizzes and their Effect on Vocabulary Acquisition in Japanese Senior High School EFL Classroom. International Journal of Innovative Studies in Humanities and Social Studies, 2025: 1(4); 41-50.

https://doi.org/10.71123/3067-7319.010405

Introduction

The acquisition of vocabulary is central to learning a second language (Brooks et al., 2023). Vocabulary provides the foundation upon which other skills, such as listening, speaking, reading, and writing, are built. In Japan, English as a Foreign Language (EFL) learners often perform well on reading comprehension tests. However, these students stumble when it comes to using English vocabulary actively and appropriately in day-to-day situations (Koizumi et al., 2022). Traditional vocabulary instruction in Japan often favors rote memorization of word lists, translation drills, and vocabulary meanings that are artificial and lifeless (Refareal et al., 2025). Hence, the majority of the students

have a rich English vocabulary reservoir, but typically underutilized in actual spoken communication.

To fill this gap, language educators and researchers have turned increasingly toward engaging approaches that are centered on students, promote deeper cognitive processing, and keep learners motivated. One of the innovations in this area is gamification, which means integrating game-like elements into educational contexts. Learning environments that are gamified have been shown to draw learners in and sustain their attention, give instant feedback that helps learners know how they are doing, and keep the learners involved long enough to hope that what they are doing will somehow become habitual (Aguilos & Fuchs, 2022). One particular way to gamify is to create quizzes that one can use "with and against" the text. These quizzes are pen-and-paper extensions of the sorts of questions a teacher might ask during a read-aloud or after students have finished reading a passage.

This study is needed to fill several gaps in the literature. First, research has affirmed the value of gamification in EFL settings. However, few studies have focused specifically on gamified quizzes based on literature, which combines the motivational advantages of gamification with the cognitive richness of reading authentic texts. Second, the Japanese senior high school EFL classroom context is underrepresented in gamification research. Pedagogical norms in Japan are often conservative and teacher-centered, and it is unclear how students might respond to more interactive, game-based options in reading-based learning environments. Finally, existing research often focuses either on quantitative outcomes (e.g., test scores) (Lafleur, 2024) or qualitative reflections (e.g., motivation) alone (Mitchell & Shum, 2025). A mixed-methods approach is needed to understand both how much vocabulary students are gaining as a result of reading and to better grasp the nature of the learning experience itself. This study uses a mixed-methods embedded design to hold some of these variables constant while still pursuing useful inquiries that address these existing gaps.

Hence, the purpose of this study is to evaluate the impact of gamified literary quizzes on vocabulary acquisition and student engagement in Japanese EFL classrooms. It employs an embedded mixed-methods design, in which quantitative data on vocabulary gains form the core, supported by qualitative data that explore learner experiences. The quantitative research questions are: 1) To what extent do gamified literary quizzes improve students' vocabulary acquisition compared to traditional literary instruction?; and 2) Is there a statistically significant difference in vocabulary retention between students exposed to gamified quizzes and those who are not? The qualitative sub-question is: How do students perceive and experience gamified literary quizzes in relation to their vocabulary learning and engagement?

Theoretical Framework

The Cognitive Theory of Multimedia Learning (CTML) and Self-Determination Theory (SDT) are utilized as the study's theoretical anchors. According to CTML (Mayer, 2024), learning is better when learners work with content presented through several channels—visual, auditory, and kinesthetic, and especially when they can do so without being overwhelmed. Well-designed, gamified quizzes can prompt learners to do a deeper processing of vocabulary. They recall and apply the words in context. They perform at a higher level than when they are trying to remember isolated words. On the other hand, the theory of self-determination (Ryan & Deci, 2024) says that it is when the needs for autonomy, competence, and relatedness are satisfied that learners are more motivated. Thus, for this motivational model, it is essential to pay attention to the environment in which learning takes place. These needs can be supported by gamification through the following: autonomy through choice, feedback that fosters competence, competitive or collaborative elements that enhance social learning.

Methodology

Research Design

This study utilized an embedded mixed-method design, in which the quantitative component was dominant and the qualitative data provided explanatory insights into the students' experiences and engagement (Creswell et al., 2003). In that component, the qualitative data served a secondary and supportive role. The primary aim was to assess the effectiveness of gamified literary quizzes on vocabulary acquisition and to gain a deeper understanding of the learners' perceptions and affective responses to the intervention. The pretest-posttest control group design used in the larger quantitative study allowed us to measure not just the vocabulary gains but also the extent to which those gains were retained. The smaller qualitative study involved semi-structured interviews with some of the students after the intervention. We wanted to probe more deeply into their experiences with the gamified learning process and how they perceived it in contrast to the more traditional practices in which they had been previously engaged.

Quantitative Strand (Dominant)

Participants

The sample was made up of 73 mandatory English communication third-year high school students from a

private high school (intact classes) in Nagoya City, Japan, enrolled in the academic year 2024-2025. The control group had 35 students, while the experimental group had 38 students. Despite the non-random method of selection, the sample (using a convenience sampling method) reflects reasonable external validity, as the use of intact classes mirrors authentic classroom conditions.

Instrument

A vocabulary test, developed by the researchers, containing 40 items, was administered to assess not only receptive but also productive vocabulary knowledge. The test was based on vocabulary found in the literary texts (The Giver, Harry Potter, Anne of Green Gables) used during the standards-based intervention. It included multiple-choice (20 points), fill-in-the-blank (10 points), and matching items (10 points). Before it was piloted to a group of 32 students, the instrument's validity was assessed by three EFL experts. Cronbach's alpha ($\alpha = 0.84$) indicates the test has a good level of reliability. For the Gamified Quizzes, the experimental group used an interactive quiz platform (e.g., Quizizz or Kahoot!) tailored to literary passages. Every quiz had 15 to 20 items that provided immediate feedback. There were also time limits and leaderboards to encourage students to engage fully with the material. Variations were done through individual and group competitions. The students in the control group read the same literary texts and vocabulary items as the others, but did not play quizzes. They worked with comprehension and vocabulary worksheets instead, worksheets that did not have any of the gamification features just mentioned.

Data Collection Procedures

Quantitative data were collected over ten weeks, divided into three stages. In phase 1: Pretest (Week 1), all students took a vocabulary test assessing baseline knowledge of the target items. In phase 2 Intervention (Weeks 2–7), students read the same literary texts (short stories and excerpts from the literary materials). The experimental group completed gamified quizzes after each reading, while the control group completed paper-based vocabulary worksheets. In phase 3: Posttest & Delayed Posttest (Week 8-10), the same vocabulary test, slightly reordered, was administered to measure immediate learning gains. A Delayed Posttest was conducted in Week 10 as a final test that assessed vocabulary retention.

Table 1. *Design Structure and Timing*

Phase	Activity	Method	Timing
Phase 1	Pretest on vocabulary	Quantitative	Week 1
Phase 2	Intervention (4 weeks)	Quantitative	Weeks 2–7
Phase 3	Posttest and delayed posttest (Week 6, 8)	Quantitative	Weeks 8 & 10
Phase 1	Interviews with selected students	Qualitative	Weeks 8-10
Integration	Interpretation and cross-analysis	Mixed	Post-data collection

Qualitative Strand (Embedded)

Participants

The qualitative strand involved 12 students purposefully selected from the experimental group based on two inclusion criteria: Participation consistency: They had completed at least 80% of the gamified quizzes. Expressive capacity: They had sufficient English proficiency to participate in semi-structured interviews in English or a mix of English and Japanese. Maximum variation sampling was applied to ensure a range of gender, performance levels, and attitudes were represented.

Data Source

The qualitative data were collected via semi-structured interviews conducted individually. Each interview lasted approximately 20 to 30 minutes and was audio-recorded and transcribed. The questions focused on learners' perceptions of the gamified quizzes, how the experience compared to traditional vocabulary learning, perceived effects on vocabulary learning, motivation, and classroom engagement. Sample questions included: "How did the gamified quizzes help you learn new vocabulary?" "Did you feel more or less motivated compared to usual classes?" "What challenges did you face when using the quizzes?"

Rationale for Embedding

The qualitative strand was embedded to explain and contextualize the results of the quantitative strand. Specifically, it aimed to explore why the gamified quizzes might have had an impact (or not) and how learners experienced the intervention in terms of motivation, attention, and perceived learning value. These insights are essential for understanding the practical and affective implications of gamification in classroom instruction.

Data Collection Procedure

The interviews were conducted in Weeks 8 to 10, right after the posttest, to get unclouded impressions and to permit the students to reflect on the whole intervention before being interviewed. They were held in a nearly soundproof room of the interviewers' choosing on campus. They were transcribed verbatim. The responses in Japanese were translated into English by the researchers, who are bilingual.

Data Analysis Procedures

Quantitative Analysis

SPSS was used to perform statistical analyses on the test scores of the vocabulary tests. The vocabulary test scores were static in nature; thus, they were summarized and described using the simplest of descriptive statistical methods. For each group, means, standard deviations, and simple gain scores from pretest to posttest were calculated using the Descriptive Stats command in SPSS. Inferential statistics was then used to compare the control and experimental groups. First, independent samples t-tests were used to compare the posttest and delayed posttest scores for both groups. Then, paired t-tests were conducted within each group to assess improvement from pretest to posttest. Effect sizes (Cohen's d) were also calculated to give some indication of practical significance. Finally, alpha was set at .05. Assumptions of normality and homogeneity of variances were tested and met.

Qualitative Analysis

Thematic analysis (Braun & Clarke, 2006) was used to analyze the qualitative data. The process is best described in four phases: familiarization, initial coding, theme development, and review and refinement. In the familiarization phase, the transcribed data were read several times. In the Initial coding phase, manual coding was done on the significant statements that were highlighted. In the theme development phase, codes were grouped into themes and subthemes that captured the essence of the gamified learning experience and the essence of the learning experience altogether. In the review and refinement phase, the themes and subthemes were reviewed and revised until their emergence made good sense.

Integration Strategy

Integration occurred at the interpretation phase, where qualitative findings were used to explain, expand, and contextualize the quantitative results. For example, if students showed higher vocabulary gains in the experimental group, interview data were examined to explore whether increased motivation or engagement played a role. A joint display table was created in the discussion section to compare and connect quantitative outcomes with qualitative themes.

Ethical Considerations

Approval from school administrators was obtained for this study. All participants were made aware of the study's objectives, procedures, and their right to discontinue participation at any time. For both test participation and interviews, written consent was acquired from parents or guardians. Pseudonyms were used in all discussions of the study's findings to maintain confidentiality. Data were kept on a secure computer, only accessible to the researchers. Every effort was made to avoid coercing students into participating in interviews; they were told repeatedly that opting to participate would not affect their grades.

RESULTS

Quantitative Findings

Data Collection. A study was conducted with a total of 73 third-year high school students from Japan. The participants were enrolled in mandatory communication classes conducted in the English language at a private high school located in Nagoya City. Two intact classes were used in the study; one class, consisting of 38 students, was designated as the experimental group and received a gamified intervention. The other intact class, with 35 students, was used as the control group. Both classes used the same literary texts, but the control group received traditional instruction in the form of printed vocabulary worksheets.

Table 2 shows the average and standard deviation for vocabulary test scores taken at three different times: pretest (Week 1), posttest (Week 8), and delayed posttest (Week 10). It shows that both groups improved over time, but the experimental group demonstrated substantially higher vocabulary gains and better retention.

Table 2. *Mean Vocabulary Test Scores (Out of 40)*

Group	Pretest Mean (SD)	Posttest Mean (SD)	Delayed Posttest Mean (SD)
Experimental (n=38)	17.26 (3.21)	30.03 (3.98)	28.39 (4.07)
Control (n=35)	16.94 (3.36)	23.84 (4.68)	21.21 (4.97)

Vocabulary Gains (Pretest to Posttest)

We compared posttest scores between the two groups with an independent samples t-test. The results indicated a statistically significant difference in vocabulary acquisition between the two groups this time: $t(71) = 6.23$, $p < .001$; Cohen's $d = 1.45$ (large effect size). The same result suggests that the students in the gamified condition learned more vocabulary than those in the traditional group.

Within-Group Comparisons (Posttest to Delayed Posttest)

Retention was examined using another independent samples t-test that compared the delayed posttest scores. This time, the difference between the two groups was statistically significant: $t(71) = 5.91$, $p < .001$; Cohen's $d = 1.37$ (large effect size). Thus, it can be concluded that the experimental group retained significantly more vocabulary

than the control group over the two-week interval following the intervention.

Within-Group Comparisons.

Paired samples t-tests were conducted for each group to evaluate the change from pretest to posttest and from posttest to delayed posttest. In the experimental group (n = 38), the results of Pretest to Posttest are the following: $t(37) = 16.85$, $p < .001$; for Posttest to Delayed Posttest, $t(37) = 2.51$, $p = .017$. The results indicate significant improvement, with only a small decline in retention. In the control group (n = 35), the results of Pretest to Posttest are the following: $t(34) = 8.64$, $p < .001$; for Posttest to Delayed Posttest: $t(34) = 4.39$, $p < .001$. The results indicate significant gains followed by a sharper drop in retention.

Figure 1 shows the vocabulary test score progression by group showing the upward trends in both groups. As seen in the graph, the experimental group exhibits a steeper increase from pretest to posttest and a flatter decline to delayed posttest, indicating greater vocabulary gains and stronger retention compared to control group.

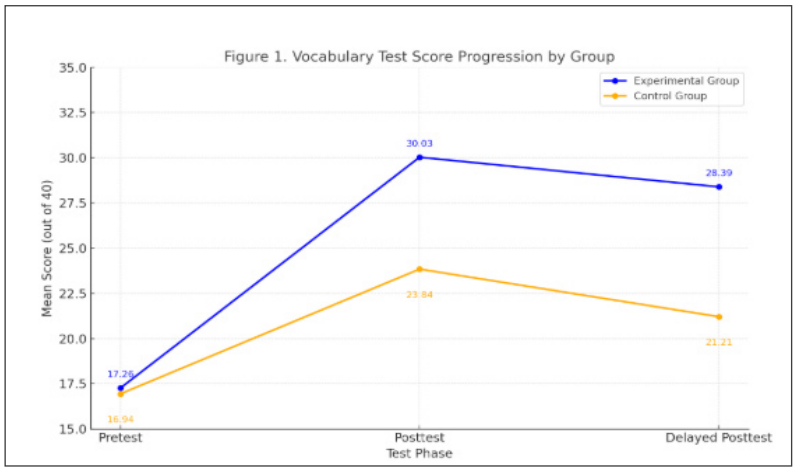

Figure 1. *Vocabulary test score progression by group*

Qualitative Findings (Embedded)

We carried out semi-structured interviews with 12 students from the experimental group to learn about their experiences using gamified literary quizzes. In the interviews, we asked the students to tell us about their use of the quizzes and how they felt about them, with the aim of better understanding the game-based approach in terms of its ability to influence vocabulary learning, as well as the engagement and attitudes of the students who used it. Three themes emerged from the data: enhanced motivation and engagement, deepened contextual understanding of vocabulary, and challenges and learning strategies.

Theme 1: Enhanced Motivation and Engagement

Every participant stated that they found quiz-based games to be a more enjoyable and competitive. When asked to individualize their responses, participants frequently cited time limits, instant feedback, visual cues, and leaderboards as features that made them more focused and motivated during the activity.

> "*I tend to feel sleepy in my reading class, yet the quizzes have managed to revive me. Each time, I have been determined to beat my score from the last time.*" — Participant 4

> "*It was fun! I paid more attention to the story because I knew something was going to happen that I would be asked about later.*" — Participant 7

Most of the participants conveyed that they were considerably more engaged and involved in the lessons relative to their experiences with traditional vocabulary drills.

> "*It felt like a game, even though it was a quiz. I got excited when I got a high score or when my name was on the leaderboard.*" — Participant 6

> "*Competing with my classmates was the best part. It didn't feel like studying, but I realized I was more engaged and learning more than ever.*" — Participant 10

The game-like atmosphere was cited as the factor that was most helpful in reducing academic pressure while keeping the students focused and interested. In this context, students mentioned that their fun was in no way diminished, despite the learning that was taking place. Several participants noted that the development of that delicate balance between fun and learning was a key thing that contributed to their increased retention of vocabulary learned in this particular class, and also to their increased participation in that class.

Theme 2: Deepened Contextual Understanding of Vocabulary

Most of the students said that the vocabulary they were learning was easier to understand and remember because it was embedded in the literary stories they were reading.

This helped them form mental associations with the plot events, characters, or emotional scenes that were in the stories.

> "*I remember the words easily because I can imagine the story. For example, 'grotesque' — I still remember that scene!*" — Participant 2

> "*There were pictures and silly sentences for the words. It was not simply a matter of memorizing, translating, and repeating.*" — Participant 11.

Students reported that the quizzes used illustrations, story-based sentences, and humor, which made the vocabulary feel less abstract and more alive.

> "*When I saw the word in the quiz, I could picture the scene from the book. It helped me understand how to use the word, not just its meaning*." — Participant 8

> "*I usually forget words quickly, but when I learn them from a character or a situation, they stay longer in my mind*." — Participant 1

This method was often contrasted by the students with rote memorization, which, they felt, was more tedious and less effective.

Theme 3: Challenges and Learning Strategies

Although the overall commentary was positive, a small number of participants mentioned some difficulties with the gamified design, specifically concerning these aspects: time pressure, concentrating while under stress, a fast-paced flow of questions.

> "*Seeing the correct answer right away sometimes helped me learn, but it was the panic from the timer that taught me to learn better under pressure.*" — Participant 9

Most students enjoyed the instant feedback feature of the quizzes despite the challenges posed by the quizzes themselves. The reason for this was quite simple. Quizzes give instant feedback, allowing students to immediately identify and correct misunderstandings. Some students even used quiz errors as personal study prompts after class.

> "*If I wrote something wrong, I would note it down and go over it at home. I'm the type that preferred not to miss anything the next time it was asked.*" — Participant 12

> "*I verify the words I got wrong, and I research them after class or while I'm on the train. The quiz helped me to achieve a higher level.*" — Participant 5

These answers point to a spillover effect of gamification, whereby students took it upon themselves to review vocabulary, check their understanding of it, and track their progress with it in some manner. The unintended effect here seems to be that the students are now doing a bit of the "self-regulated learning" that we, as teachers, always hope for—but just a bit more outside of class.

Integration of Results

The comprehensive understanding afforded by the integration of the quantitative and qualitative strands enables a clear view of how gamified literary quizzes influenced vocabulary acquisition in the Japanese EFL classroom. The mechanisms and learner experiences that can now be articulated (because of the embedded qualitative data) help explain the experimental group's significant gains and impressive retention of vocabulary, as demonstrated by their test scores.

The experimental group's posttest scores were not only better than the control group's but also showed that the experimental group had greater retention of the learned material when tested again later. Those gains in learning were shown not just in the numbers (like the average scores shown in the table 3 below) but also in what the participants told the researchers. They indicated that they were more motivated and engaged with the learning activities when they were designed as games. They also felt that it was easier to learn and remember the material when it was presented through the lens of a game.

Table 3. *Integration of Quantitative and Qualitative Findings*

Quantitative Result	Supporting Qualitative Theme	Illustrative Quote
Experimental group's significantly higher posttest scores than control ($p < .001$)	Enhanced Motivation and Engagement	"*I wanted to beat my score each time*." (P4)
Experimental group's retained vocabulary significantly better after two weeks ($p < .001$)	Deepened Contextual Understanding	"*I can imagine the story, so I remembered the words better*." (P2)
Control group showed larger drop in retention	Traditional learning lacked engagement	"*It's not just memorize-translate-repeat*." (P11)
Students used quizzes to guide post-class study (spillover effect)	Challenges and Learning Strategies	"*I checked the words I missed and looked them up after class*." (P5)
Large effect sizes ($d > 1.3$) indicate substantial instructional impact	Intrinsic Motivation through Gamification	"*It didn't feel like studying, but I realized I was learning more*." (P10)

Although achievement is an important educational outcome, it is far from the only one. Students spend a significant amount of their time in classroom contexts, and it seems essential to consider how they experience these contexts.

Furthermore, this research demonstrates the value of the embedded design, where the qualitative component not only supplements the quantitative findings but also helps interpret and humanize the quantitative outcomes. We hear from students not only about what worked in their classrooms but also about why and how it worked. This mixed-methods study reaffirms the notion that the successful teaching of vocabulary is not just a function of excellent instructional content but also of what we are calling learner engagement outcomes.

Ultimately, the evidence and occurrences derived from the findings render a convincing argument for the viability and efficacy of gamified literary quizzes as not just effective, but also scalable, tools for EFL vocabulary instruction.

Discussion

This study investigated how gamified literary quizzes affected vocabulary learning among senior high school EFL learners in Japan. It was motivated by the observation that real-world literacy engagement remains elusive for many Japanese EFL learners despite the advent of technology. We aimed to design a low-stakes, game-like literary activity and use it to investigate the effects it might have on vocabulary acquisition and, ultimately, retention. Quantitative data indicated our participants made significant gains in both acquisition and retention of the target language when compared to a control group that had taken a similar, but ungamified, literary quiz. These quantitative achievements were complemented by embedded qualitative evidence that highlighted the factors contributing to enhanced learning. Student narratives identified three core factors underpinning this engagement: (1) enhanced motivation and engagement, (2) deepened contextual understanding of vocabulary, and (3) challenges and learning strategies.

Convergence, Divergence, Expansion

The qualitative and quantitative strands demonstrated notable convergence: large vocabulary gains in the experimental group were underpinned by learner reports of heightened motivation and deeper contextual processing. This aligns with Dumas Reyssier et al. (2024) and Liu et al. (2022), who emphasized the role of competitive and cooperative game elements in sustaining learner motivation over time. It also echoes the findings of Salemink et al. (2022) and Waluyo and Balazon (2024) who emphasize that gamified learning can increase engagement and enjoyment.

A minor divergence emerged regarding the timed quiz mechanism. Several students reported mild anxiety due to time pressure—confirming findings reported in the studies of Salemink et al. (2022) and Waluyo and Balazon (2024)—but nonetheless credited the immediate feedback with helping them learn. This suggests that while time constraints can cause stress, well-designed scaffolding and instant feedback can mitigate negative effects and preserve learning outcomes (Chien et al., 2025; Kuo et al., 2023; Malak, 2024).

Our study also made an important expansion of existing literature. Beyond motivation and short-term performance, we observed a spillover effect: students systematically reviewed their missed vocabulary items outside class, demonstrating increased self-regulated learning. This expands on findings from Cigdem et al. (2024) and Kim et al. (2024), which reported positive correlations between asynchronous gamified quiz use and outside-class performance, and emphasizes how gamified tools can catalyze autonomous study behaviors.

Theoretical Implications: CTML and SDT

Our findings provide strong support for Mayer's Cognitive Theory of Multimedia Learning (CTML), which holds that more effective learning occurs when individuals receive dual-channel input (visual and verbal), when that input is presented in a meaningful context, and when the presentation itself is coherent. The gamified quizzes combined narrative contexts (with auditory and visual elements) and textual sentences, all known to be conducive to more effective cognitive processing and memory encoding. The students' ability to associate the words "grotesque" and "solemn" with vivid contexts from the stories confirms that they are using dual-code processing to enhance retention. Immediate feedback, controlled pacing, and segmented content are all inherent features of the quizzes known to reduce cognitive load, which is a central (and very well supported) aspect of CTML.

The study extends SDT by demonstrating that gamified learning can fulfill learners' basic psychological needs: competence, autonomy, and relatedness. Students felt capable and motivated as they improved quiz performance and saw their names on leaderboards. Several participants described a newfound interest in vocabulary and engaged in self-study; this reflects the shift from extrinsic to intrinsic motivation as advocated by SDT. Social interaction—through competition and peer visibility—also satisfied the need for relatedness, fostering a positive learning environment. These observations resonate with Zhang and Huang (2024) who found that gamification enhances intrinsic motivation and competence in EFL learners.

Critiques of gamification often express concerns about it encouraging too much focus on external rewards. This is something that Dah et al. (2024) critique quite well. They point out that attributes like points, types of badges, leaderboards, and the increasing amount of praise that students receive when they do well often signal an extrinsic focus that is detrimental to a student's self-determination. They put this in the context of a student not truly being intrinsically motivated when their motivation is more or less contingent upon the types of rewards they receive.

Main Contribution

The main contribution of this study is the way that gamification and narrative context work together to create substantial and long-lasting vocabulary gains in a high-stakes Japanese EFL setting. This interaction also boosts motivation and self-directed learning. Beyond immediate benefits, our study documents students' psychological and behavioural involvement and tracks the subsequent impacts on their vocabulary usage outside of the classroom. This comprehensive perspective offers a model for embedding gamified language tools within rigorous curricular frameworks while supporting self-regulated learning trends highlighted in recent educational research.

Practical And Policy Implications

Academic rigor is balanced by real-world impact: EFL teachers can encourage autonomous vocabulary learning via playful digital quizzes. The authors have selected a few examples from their own experience, but the number of possible adaptations is virtually limitless. With nearly any text, teachers can use the platforms Quizizz and Kahoot! to create comprehension checks that are simultaneously formative assessments and highly motivating, gamified learning experiences.

For those designing curricula and making educational policy, this study emphasizes the necessity of training teachers in digital literacy, the modular inclusion of gamified vocabulary tools in textbooks, and the provision of open-access, gamified corpora (i.e., a large and structured set of texts and/or speech) that are aligned with national educational standards (e.g., MEXT in Japan). Both the design of the corpora and the way teachers are trained to use them need to consider the strategic use of quizzes. Quizzes should be designed to motivate learners, without causing the kind of stress that could lead to dropouts.

Limitations And Future Research

Even with strong findings, limitations still exist. They include a sample of convenience that is not randomized, and a two-week delay that may not truly reflect retention over the long haul. Further studies could use a longer follow-up period, during which all subjects would be re- tested. They could also use more sophisticated quiz features that would reinforce the testing effect and gamification. Finally, the true effect of gamification on different groups of students—those who have a high or low level of proficiency, for example—remains to be seen.

Conclusion

This study aimed to examine the effects of gamified literary quizzes on vocabulary acquisition and retention among Japanese high school EFL learners. It employed an Embedded Mixed Methods Design to capture both measurable learning outcomes and learner perspectives. The quantitative findings revealed that students in the experimental group—who engaged with gamified quizzes based on literary texts—had significantly higher gains in vocabulary and stronger long-term retention of that vocabulary than their counterparts in the traditional instruction group. These results affirm the effectiveness of integrating digital game elements into vocabulary instruction.

The qualitative component allowed for a comprehensive understanding of how and why this method of gamification in the classroom was effective. There was an increased level of motivation, enjoyment, and engagement reported by the students along with an increase in the rate of learning. Specific reasons for this were common among most students, such as the competitive nature of the class with its ranks and timers, the immediate feedback that one could get after a quiz, and the overall enjoyment of taking quizzes that had narratives woven in.

This study demonstrated the value of the Embedded Design. Quantitative data confirmed that the gamified tools used in this study had an instructional impact. But the added, qualitative data made the interpretation of the impact much richer. It illuminated the many dimensions of learning—especially cognitive, emotional, and motivational. The dual-layered approach allowed for not only a more rigorous understanding of the impact but also a more human-centered one.

The research further bolstered two essential pedagogical theories: the Cognitive Theory of Multimedia Learning (CTML) and Self-Determination Theory (SDT). The CTML states that people learn better with multimedia than with words alone or pictures alone, and gamified quizzes aligned with that theory by using both verbal and visual modes in the meaningful contexts required for deep cognitive processing. Also, per Self-Determination Theory, the core needs for autonomy, competence, and relatedness lead to intrinsic motivation and academic persistence. And in this research, gamified quizzes hit those targets, too.

Lastly, this work contributes not only empirical evidence but also pedagogical insight to the very literature of gamified education and EFL education that it targets. It serves to comment on a literature that is still emerging, especially in the relatively underpopulated niche of gamification in English language teaching (ELT) in Japanese senior high school classroom. The evidence offered in this work is not only in favor of this new movement but is also targeted in such a way as to offer a basic critique of some predominant ideas in the present state of the literature.

Acknowledgment

We, the authors, would like to express our gratitude to the administrators and teachers at the private high school in Nagoya City, Japan, for allowing us to accomplish this study. We are also grateful to the students who participated in this study.

REFERENCES

1. Aguilos, V., & Fuchs, K. (2022, July). The perceived usefulness of gamified e-learning: A study of undergraduate students with implications for higher education. In *Frontiers in Education* (Vol. 7, p. 945536). Frontiers Media SA. https://doi.org/10.3389/feduc.2022.945536
2. Brooks, G., Clenton, J., & Fraser, S. (2023). Exploring the Importance of vocabulary for English as an additional language learners' reading comprehension. In *EAL Research for the Classroom* (pp. 35-58). Routledge.
3. Chien, C.C., Chan, H.Y., & Hou, H.T. (2025). Learning by playing with generative AI: Design and evaluation of a role-playing educational game with generative AI as scaffolding for instant feedback interaction. *Journal of Research on Technology in Education, 57*(4), 894-913. https://doi.org/10.1080/15391523.2024.2338085
4. Cigdem, H., Ozturk, M., Karabacak, Y., Atik, N., Gürkan, S., & Aldemir, M.H. (2024). Unlocking student engagement and achievement: The impact of leaderboard gamification in online formative assessment for engineering education. *Education and Information Technologies, 29*(18), 24835-24860. https://doi.org/10.1007/s10639-024-12845-2
5. Creswell, J.W., Plano Clark, V.L., Gutmann, M.L., & Hanson, W.E. (2003). Advanced mixed methods research designs. *Handbook of mixed methods in social and behavioral research, 209*(240), 209-240.
6. Dah, J., Hussin, N., Zaini, M. K., Isaac Helda, L., Senanu Ametefe, D., & Adozuka Aliu, A. (2024). Gamification is not Working: Why? *Games and Culture, 0*(0). https://doi.org/10.1177/15554120241228125
7. Dumas Reyssier, S., Serna, A., Hallifax, S., Marty, JC, Simonian, S., & Lavoué, E. (2024). How does adaptive gamification impact different types of student motivation over time? *Interactive Learning Environments, 32*(10), 6043-6062. https://doi.org/10.1080/10494820.2023.2248220
8. Kim, K.A., Bagci, F.S., & Ho, A. (2024). Using a Partially Flipped Classroom and Gamification to Improve Student Performance in a First-Year Electronic Circuits Course. *IEEE Transactions on Education, 67*(5), 758-766. https://doi.org/10.1109/TE.2024.3422017
9. Koizumi, R., Agawa, T., Asano, K., & In'nami, Y. (2022). Skill profiles of Japanese English learners and reasons for uneven patterns. *Language Testing in Asia, 12*(1), 53. https://doi.org/10.1186/s40468-022-00203-3
10. Kuo, C.H., Chen, M.J., Nababan, R., & She, H.C. (2023). Space adventure game-based learning: How games and scaffolds affect eighth graders' physics learning and game immersion. *IEEE Transactions on Learning Technologies, 17*, 229-240. https://doi.org/0.1109/TLT.2023.3288879
11. Lafleur, L. (2024). The effects of gamified daily awards on digital vocabulary flashcard learning: A case study. *Technology in Language Teaching & Learning, 6*(2), 1195. https://doi.org/10.29140/tltl.v6n2.1195
12. Liu, Y.J., Zhou, Y.G., Li, Q.L., & Ye, X.D. (2022). Impact study of the learning effects and motivation of competitive modes in gamified learning. *Sustainability, 14*(11), 6626. https://doi.org/10.3390/su14116626
13. Malak, M.Z. (2024). Effect of using gamification of "Kahoot!" as a learning method on stress symptoms, anxiety symptoms, self-efficacy, and academic achievement among university students. *Learning and Motivation, 87*, 101993. https://doi.org/10.1016/j.lmot.2024.101993
14. Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review, 36*(1), 8. https://doi.org/10.1007/s10648-023-09842-1
15. Mitchell, T., & Shum, D. (2025). The Effects of Gamification on Japanese English Language Learner's Motivation Through Classcraft. *Language Education and Research Center Journal, 20*, 55-77.
16. http://repository.kyusan-u.ac.jp/dspace/bitstream/11178/8548/1/LERC_20-03.pdf
17. Refareal, A., Angeles, M.A., Ratunil, M.L., Selgas, W., & San Jose, D.B. (2025). Japanese SHS English Teacher's Implementation of MEXT's Communicative Approach. *International Journal of Innovative Studies in Humanities and Social Studies, 1*(3); 01-10. https://doi.org/10.71123/3067-7319.010301

18. Ryan, R. M., & Deci, E. L. (2024). Self-determination theory. In *Encyclopedia of quality of life and well-being research* (pp. 6229-6235). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-17299-1_2630

19. Salemink, E., de Jong, S. R., Notebaert, L., MacLeod, C., & Van Bockstaele, B. (2022). Gamification of cognitive bias modification for interpretations in anxiety increases training engagement and enjoyment. *Journal of Behavior Therapy and Experimental Psychiatry, 76*, 101727. https://doi.org/10.1016/j.jbtep.2022.101727

20. Waluyo, B., & Balazon, F. G. (2024). Exploring the impact of gamified learning on positive psychology in CALL environments: A mixed-methods study with Thai university students. *Acta Psychologica, 251*, 104638. https://doi.org/10.1016/j.actpsy.2024.104638

21. Zhang, Z., & Huang, X. (2024). Exploring the impact of the adaptive gamified assessment on learners in blended learning. *Education and Information Technologies, 29*(16), 21869-21889. https://doi.org/10.1007/s10639-024-12708-w