

## **Gamification in Language Learning: The Effect of Using Wayground on Students' Understanding of the Simple Past Tense**

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### **ABSTRACT**

Mastering the simple past tense is a significant challenge for English as a Foreign Language (EFL) learners, often due to the limitations of traditional, teacher-centered instructional methods. This study investigates the effect of Wayground, the latest evolution of the Quizizz platform, as a digital learning medium to improve students' understanding of the simple past tense. A quasi-experimental design was employed with 65 tenth-grade students, who were divided into an experimental group ( $n = 35$ ) and a control group ( $n = 30$ ). Data were collected through pre- and post-tests and analyzed using nonparametric statistical measures: the Wilcoxon signed-rank test and the Mann–Whitney U test. The results revealed a statistically significant difference in learning outcomes favoring the gamified intervention ( $p = 0.000$ ). Despite individual learning variances, the findings confirm that Wayground fosters a highly interactive and motivating environment that significantly accelerates grammatical competence. These results suggest that integrating modern gamification tools can effectively overcome learning constraints and substantially improve structural grammar pedagogy in English as a Foreign Language (EFL) context.

**Keywords:** EFL Learners; Gamification; Grammar Mastery; Simple Past Tense; Wayground

### **INTRODUCTION**

Foreign languages function as a primary bridge for international interaction, enabling individuals to collaborate and participate actively within the global community. In an increasingly interconnected society, the mastery of English has emerged as a fundamental necessity rather than a mere academic elective (Fatah, 2025). Its position as a global lingua franca across education, technology, and economics allows individuals to access a vast repository of information and secure broader career opportunities in a competitive digital landscape (Listia & Febriyanti, 2020). Consequently, proficiency in English represents one of the most vital competencies for the contemporary workforce.

Effective communication in English, however, extends beyond lexical acquisition and pronunciation to encompass a structural understanding of grammar. As the central framework of language, grammar governs the patterns required for coherent discourse (Dewi et al., 2020). It serves as a regulatory system that facilitates the organization of words into meaningful phrases and sentences, ensuring clarity in formal contexts (Pawlak, 2024). Inaccurate grammatical application often obstructs the intended message, whereas the correct utilization of these rules enables learners to produce linguistically acceptable and professional utterances (Arisman, 2023).

A pivotal component of grammatical accuracy is the tense system, which indicates the temporal reference of an action through specific verb modifications (Azar, 2003). Tenses assist learners in organizing events chronologically, which is essential for clear and meaningful exchange. Among these temporal structures, the simple past tense is fundamental at the secondary education level, as it is utilized to describe actions completed at a specific point in the past (Harmer, 1998). Mastery of this tense is indispensable for producing narrative and recount texts, where students must document experiences or historical events in a precise sequence.

Despite its necessity, students frequently perceive the simple past tense as a significant academic hurdle. Challenges often arise from the morphological complexity of regular and irregular verbs, as well as the structural requirements of affirmative, negative, and interrogative sentence structures. At the institutional level, a preliminary investigation revealed a significant discrepancy between curriculum standards and student achievement. The study found that 59% of tenth-grade students did not meet the minimum mastery criterion (KKM) of 75%. To contextualize these figures, qualitative diagnostic interviews and classroom observations were conducted with the institutional English pedagogy practitioner.

The resulting insights revealed that the widespread struggle with grammatical accuracy stems from passive learning habits acquired in lower secondary education. In this stage, learners approach grammar through rote memorization of abstract formulas rather than developing a conceptual understanding of functional predicate alterations. Furthermore, the empirical observations revealed critical engagement barriers caused by vocation-specific constraints. Due to rigorous, physically demanding laboratory and practical workshop schedules, vocational students often begin English instruction periods with profound physical and mental fatigue, which greatly reduces their cognitive attention span. This suggests that the primary issue is not the absence of technology, but rather the need for a rigorous, structured digital strategy to mitigate learning-induced fatigue and optimize the grammatical competence of vocational school learners.

Gamification offers a viable alternative by integrating game design elements to transform repetitive exercises into engaging challenges (Fatah, 2025). Features such as real-time feedback and interactive rewards create a low-stakes environment that reduces language anxiety. In this context, the study introduces Wayground,

reflecting a significant corporate and pedagogical transformation from the initial Quizizz platform. This evolution marks a shift from a basic formative assessment tool to a multifaceted, AI-supported supplemental learning platform (Kelly, 2025). Driven by a decade of educator feedback, this shift deliberately addresses the limitations documented in previous Quizizz-based studies, in which rigid, individual countdown timers frequently induced cognitive anxiety and led to arbitrary guessing. In contrast, Wayground introduces flexible learning formats and an AI-powered generation hub that enables critical student accommodations, such as real-time difficulty adjustments, language translations, and specialized accessibility features. These advanced mechanics decouple gameplay from time-pressured evaluation, providing the immediate, tailored reinforcement necessary for learners to internalize linguistic patterns without overloading their working memory (Nurhalyza, 2024). Due to the lack of empirical research on the impact of this evolved, AI-enhanced platform in vocational school settings, this study aims to investigate its effect on mastering the simple past tense at SMK SMTI Bandar Lampung. The study aims to provide a framework for using gamified platforms as effective instructional tools in modern EFL classrooms.

## LITERATURE REVIEW

### Previous Studies on Gamification in English Language Learning

Recent academic literature extensively documents the integration of gamified digital platforms in English language teaching, demonstrating a collective consensus on their pedagogical efficacy. Several researchers have successfully explored how these interactive tools optimize various linguistic competencies. For example, a foundational study by (Dewi et al., 2020) showed that a Mobile-Assisted Language Learning (MALL) strategy implemented through gamified applications significantly improved grammar mastery among university students by fostering a highly collaborative and engaging learning environment. This positive trajectory is also evident in secondary education; (Nurhalyza, 2024) found that interactive digital media substantially improved tenth-grade students' grammatical accuracy by facilitating better syntactic monitoring during paragraph writing tasks. Additionally, (Bangsawan, 2023) validated the adaptability of this technology across specific vocational sectors, confirming that web-based student engagement tools positively impact the mastery of complex verbal structures, such as the present perfect tense, among vocational school learners.

Beyond isolated structural grammar improvements, the academic discourse expands to include the broader psychological and administrative benefits of gamification. (Handoko et al., 2021) broadened the scope of these platforms' functionality, emphasizing that using them as formative assessment tools optimizes student engagement and streamlines classroom diagnostics by providing teachers with immediate, data-driven analytical insights. Building on this, (Capuno, 2023) found that the continuous feedback loops and interactive rewards in gamified

systems promote self-regulated learning (SRL) and strengthen student autonomy in various scientific disciplines.

Synthesizing these findings shows that, although gamification's fundamental mechanics uniformly support language acquisition, existing studies have primarily evaluated these outcomes within standard, speed-oriented quiz frameworks. Consequently, there is a valuable academic opportunity to explore how the structural rebranding and technological evolution of this ecosystem specifically its transition into an AI-supported learning environment can be operationalized effectively. The current study builds on this robust literature by investigating the efficacy of Wayground's updated adaptive gamification framework in resolving simple past tense morphological complexities. This extends the empirical discourse to the context of vocational secondary school learners.

### **Theoretical Foundations of Gamification in Learning**

Understanding the mechanisms enabling these platforms to drive significant linguistic and behavioral improvements requires examining the core theoretical architecture of digital game-based learning. Central to this pedagogical shift is the concept of gamification, which is defined as the strategic use of game-design elements within non-game contexts to boost user engagement and motivation. According to (Deterding et al., 2011), gamification does not necessitate the creation of a full-scale game but rather involves the integration of selected elements like points, badges, levels, and leaderboards into instructional activities. From a broader service-oriented perspective, gamification acts as a rules-based system that enhances the core educational experience by providing structured interaction mechanisms (Huotari & Hamari, 2011). In the context of language acquisition, this approach creates a playful yet rigorous environment that encourages persistence and sustained engagement over time. By redesigning student-material interactions, gamification moves beyond simple rewards to systematically improve overall academic performance and student participation.

In an educational setting, gamification transforms the way students interact with curriculum content through three key dimensions: game dynamics, mechanics, and components (Zhang & Hasim, 2023). In the context of formal syntax acquisition, these structural dimensions directly influence grammar learning outcomes by altering the processing of linguistic rules. As (Zhang & Hasim, 2023) explain, game dynamics include competition and collaboration, while mechanics involve technical challenges and leaderboards that drive the learning process. Game components, such as points, feedback bars, and badges, serve as visible markers of progress that support psychological drives such as curiosity and the desire for achievement. Immediate feedback is perhaps the most crucial element for language learners because it allows them to monitor their performance in real time and adjust their strategies accordingly (Marisa et al., 2020). Theoretically, this immediate feedback loop acts as a real-time cognitive corrective mechanism during grammar drills. When learners encounter morphosyntactic challenges, such as identifying irregular

past tense verbs, the instant reinforcement enables them to recognize the discrepancy between their interlanguage errors and the correct target forms. This accelerated error-correction cycle operationalizes behavioral reinforcement theories, wherein continuous interaction with game mechanics enhances structural retention, lowers affective filters, and ultimately results in higher grammatical accuracy and academic achievement.

### **Wayground as a Gamified Learning Platform**

The specific digital medium utilized in this study, Wayground, represents the evolution of interactive learning platforms into an integrated ecosystem for exercises and assessments. Originally founded in 2015 as Quizizz, the platform rebranded to Wayground in 2024 with a vision of promoting inclusive and collaborative learning where every student can find their own path to mastery. It functions as a unique educational tool that can be applied to group projects, pre-test reviews, and unit exams, allowing students to compete independently while remaining part of a shared classroom activity (Aziz et al., 2021). By employing a quiz-based method, Wayground enables teachers to design diverse question formats, including multiple-choice and short-answer items, which students complete with the same enthusiasm typically reserved for entertainment-based games (Nurhalyza, 2024).

The advantages of Wayground in a language learning context are multifaceted, ranging from technical efficiency to psychological support. Its multiplayer functions, coupled with the use of avatars, memes, and upbeat music, keep students focused and excited about tasks that might otherwise be perceived as tedious. Furthermore, the platform's quick feedback system provides teachers with detailed analytical reports to track individual student progress and identify specific areas of weakness. For students, the anonymous participation mechanism is particularly beneficial as it reduces the fear of public failure, thereby boosting confidence and participation among less-active learners. However, despite these benefits, the platform's dependence on a stable internet connection and compatible hardware remains a significant challenge that requires careful logistical planning by the instructor.

### **Grammar Mastery and the Simple Past Tense**

To understand the impact of such tools on language learning, it is essential to define the role of grammar as the foundational structure of communication. Grammar describes the principles governing how linguistic elements, such as words and phrases, are arranged to form meaningful expressions (Harmer, 2012). As the study of possible language structures, grammar serves as the mechanism by which speakers organize their thoughts for both oral and written interaction (Brown, 2007). Within the broader scope of English grammar, tenses occupy a vital position because they indicate the time reference of an action, allowing language users to distinguish between the present, past, and future (Azar, 2003). Mastery of these

time-related changes in verb forms is crucial for learners to convey ideas accurately and to interpret messages correctly in various social and academic contexts.

This research focuses specifically on the simple past tense, a fundamental grammatical form used to denote actions or situations that began and ended at a specific point in the past. By utilizing Wayground, this study aims to investigate the effect of using Wayground as digital learning media significantly affect students' understanding of the simple past tense. Ultimately, understanding the simple past tense allows students to produce logically sequenced narratives, which is a core requirement of the English curriculum for secondary school students.

## **METHOD**

### **Design and Samples**

This study utilized a quasi-experimental design featuring a non-equivalent control group structure. This design was adopted due to the utilization of intact, pre-existing classroom groups rather than individual random assignment. This is a standard and widely accepted practice in educational settings, where it would be impractical to disrupt established school schedules (Creswell & Creswell, 2018). The research was situated at SMK SMTI Bandar Lampung during the even semester of the 2025/2026 academic year. The target population encompassed all tenth-grade students at the institution. The sampling frameworks outlined by (Creswell & Creswell, 2018) were followed, a cluster random sampling technique, executed via a lottery method, was employed to select two representative classes. The experimental group received instructional intervention through the Wayground platform, while the control group was instructed using conventional pedagogical methods.

### **Instruments and Procedures**

The primary research instrument consisted of a structured grammar assessment specifically engineered to evaluate simple past tense mastery. The assessment focused on four core indicators: regular and irregular verb morphology, sentence syntax (affirmative, negative, and interrogative). During the development phase, a 100-item, multiple-choice trial instrument was administered to a non-sampled cohort of tenth-grade students. Item validity was computed quantitatively in SPSS using the corrected item-total correlation. Furthermore, items were evaluated using the split-half reliability framework in SPSS. The instrument demonstrated robust internal consistency, yielding Guttman split-half and Spearman-Brown coefficients of 0.856 and 0.864, respectively. These values safely exceeded the standard academic reliability threshold of 0.70 required for quantitative measurements (Pallant, 2020).

The research was conducted using a three-phase procedural framework: planning, implementation, and reporting. During the planning phase, lesson plans,

Wayground instructional modules, and validated testing instruments were developed. The implementation phase began with administering a 25-item pretest to both cohorts simultaneously to establish a baseline of proficiency. After the pretest, the treatment period consisted of three instructional sessions. While the control group received traditional, teacher-centered instruction with whiteboard explanations and textbook drills, the experimental group received systematic, gamified grammar instruction via the Wayground platform. Leveraging game design elements to enhance structural engagement in language learning (Deterding et al., 2011). Specifically, the first session focused on morphological recognition. Students independently accessed Wayground to complete exercises identifying regular and irregular verb morphology. The second session shifted to syntactic mastery of nominal structures. The final session covered complex syntax, interrogative sentences, and past temporal markers. The experimental process concluded with a 25-item post-test administered to both study groups to measure final learning outcomes.

### **Data Analysis**

Quantitative data from pre-test and post-test scores were analyzed statistically using SPSS. To determine the appropriate inferential framework, the dataset underwent prerequisite tests, specifically normality and homogeneity assessments, at a significance level of  $\alpha = 0.05$ . As the assumptions of normality and homogeneity were violated, it was not possible to proceed with parametric metrics for hypothesis testing; instead, robust non-parametric alternatives were used (Pallant, 2020). The Mann-Whitney U test was employed to compare significant differences in grammatical understanding between the experimental and control groups. Additionally, the Wilcoxon signed-rank test was used to evaluate internal improvements within each cohort from pre-test to post-test, in line with (Pallant, 2020) step-by-step non-parametric analysis guidelines. The statistical decision was based on a  $p$ -value  $< 0.05$ , which would indicate a significant effect of the Wayground platform on students' mastery of the simple past tense.

## **RESULT AND DISCUSSION**

### **Prerequisite Test Analysis**

Before conducting hypothesis testing, the data underwent normality and homogeneity tests to ensure statistical validity. The normality test utilizing the Shapiro-Wilk method indicated that the pre-test scores of the experimental group reached a significance value of 0.001, which is below the critical value of 0.05 and thus indicates that the data were not normally distributed. However, the homogeneity test yielded a significance value of 0.163, greater than 0.05, confirming that the samples originated from a population with equal variance. Consequently, the researcher proceeded with nonparametric statistical analyses using the Wilcoxon signed-rank test and Mann–Whitney U test.

### Hypothesis Testing on Students' Grammar Mastery

A Wilcoxon Signed-Ranks Test was conducted to assess the internal progress within each group. Table 1 shows the statistical analysis of the pre- and post-test scores for the experimental and control groups.

*Table 1. Wilcoxon Signed Ranks Test Results*

		N	Asymp. Sig (2 tailed)
Post-Test Experimental Pre-Test Experimental	Negative Ranks	2	0.000
	Positive Ranks	31	
	Ties	2	
	Total	35	
Post-Test Control Pre-Test Control	Negative Ranks	9	0.006
	Positive Ranks	19	
	Ties	2	
	Total	30	

*(Data from SPSS Version 25, 2026)*

The Wilcoxon signed-rank test of the experimental group revealed that two subjects experienced a decrease in value from pre-test to post-test (negative ranks), two subjects had the same value (ties) and 31 subjects experienced an increase in value (positive ranks). The statistical test results show the Asymp. Sig. (2-tailed) was 0.000. As this is smaller than the determined significance level (0.05), the decision is to reject  $H_0$  and accept  $H_1$ . This indicates that there is a significant statistical difference between the pre-test and post-test values in the experimental group. The fact that more subjects experienced an increase in their scores (positive ranks) suggests that the intervention or treatment provided to the experimental group was effective in significantly improving performance.

Meanwhile, the test results for the control group showed that nine subjects experienced a decline in scores (negative ranks), two subjects had unchanged scores (ties) and 19 subjects showed improvement (positive ranks) from the pre-test to the post-test. The Asymp. Sig. (2-tailed) value obtained for the control group was 0.006. As this is less than 0.05,  $H_0$  is rejected and  $H_1$  is accepted. These results indicate a significant difference between the control group's pre-test and post-test scores. While the control group also experienced significant improvement without special treatment, this improvement was less consistent than that observed in the experimental group, as evidenced by the fact that nine subjects experienced a decrease in scores.

Overall, both groups showed significant changes between the pre- and post-tests ( $p < 0.05$ ), but the experimental group demonstrated far better results. The improvement in the experimental group was far more consistent, with 88.57% of subjects showing improvement (31 out of 35 subjects), compared to 63.33% in the control group (19 out of 30 subjects). Furthermore, the level of significance in the experimental group ( $p = 0.000$ ) was much stronger than in the control group ( $p =$

0.006). These results confirm that the treatment method applied to the experimental group produced more consistent and substantial improvements than the conventional method used in the control group.

*Table 2. Mann-Whitney U Test Ranks*

<b>Class</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
Experimental	35	41.33	1446.50
Control	30	23.28	698.50

(Data from SPSS Version 25, 2026)

The experimental group comprised 35 students, while the control group comprised 30. Furthermore, the mean rank of the experimental group's post-test was significantly higher than that of the control group, at 41.33 and 23.28 respectively. Given this significant difference in mean rank scores, it can be concluded that using Wayground led to better results in improving understanding of the simple past tense material.

*Table 3. Test Statistics of Mann-Whitney U*

Mann-Whitney U	233.500
Wilcoxon W	698.500
Z	-3.851
Asymp. Sig (2-tailed)	0.000

The table above shows a Mann-Whitney U value of 233.500 and a Z-score of -3.851, which indicates a significant difference between the two groups. Furthermore, the Asymp. Sig (2-tailed) of 0.000 is less than the critical value of 0.05, so H<sub>0</sub> is rejected and H<sub>1</sub> is accepted. Consequently, there is a statistically significant difference in the understanding of the simple past tense between students in the experimental posttest group and the control posttest group.

Furthermore, this study primarily aimed to evaluate the effectiveness of Wayground as a digital learning ecosystem for teaching the simple past tense to tenth-grade vocational school students. Statistical evidence confirmed that students instructed via Wayground performed significantly better on the post-test than those exposed to conventional methods. Wayground is an updated version of Quizizz. Therefore, the significant p-value of 0.000 established in this study corroborates and extends the empirical boundaries of prior English Language Teaching (ELT) gamification literature regarding its predecessor. Similar to (Fatah, 2025) findings, Wayground's interactive framework satisfies core self-determination needs, particularly those of competence and autonomy. This significant pedagogical outcome is driven by Wayground's real-time feedback loops. When vocational learners encounter morphosyntactic challenges, such as differentiating between regular and irregular past-tense inflections, the immediate corrective display enables them to notice the gap in their structural mastery instantly and recalibrate their cognitive hypothesis of grammar rules. Furthermore, multimedia features, including digital badges and interactive visuals, lower learners' affective filters, systematically reducing foreign

language learning anxiety and transforming grammar drills into active, low-stakes engagements.

However, a critical anomaly in the empirical data requires further scientific investigation: the Wilcoxon signed-rank test revealed that 11 students had negative ranks, indicating a quantifiable decline in their post-test grammar scores compared to their pre-test scores. Since both the pre- and post-tests were administered using conventional paper-based instruments without digital media, this regression does not negate Wayground's classical efficacy. Rather, it reflects the heterogeneity of students' cognitive responses to gamified media. This illustrates that a short-term digital intervention (three sessions) does not inherently guarantee uniform academic success for all learners.

According to Cognitive Load Theory (Sweller, 1988), internalizing complex morphosyntactic rules, such as past tense constructions with "was/were," demands substantial working memory capacity. During the three instructional sessions, Wayground's highly stimulating environment, characterized by time-constrained mechanics and shifting leaderboards, likely generated excessive extraneous cognitive load for these 11 learners. According to (Mayer & Moreno, 2016), when working memory is overloaded by interface aesthetics and speed pressures during the learning phase, the formation of stable cognitive schemas in long-term memory is severely hindered. Consequently, rather than consolidating grammatical knowledge during the treatment, these students experienced cognitive fragmentation. Later, when evaluated via the paper-based post-test, they lacked the mature, reflective schemata required to process the syntax in their long-term memory, which ultimately led to their academic underperformance.

## CONCLUSION

Based on the empirical findings, this study concludes that integrating Wayground as an updated, gamified learning platform significantly improves vocational high school students' mastery of the simple past tense. The platform's gamified design transforms syntax exercises into an interactive environment, lowering students' affective filters and supporting structural language acquisition. However, the study also reveals that short-term digital drills do not guarantee academic success for all learners. Some students may experience cognitive regression due to the fast-paced, high-sensory nature of digital leaderboards and countdown timers. Therefore, while Wayground is a powerful catalyst for collective grammar instruction, careful instructional adjustments are required to support learners facing sensory-cognitive barriers.

To optimize Wayground's instructional efficacy in grammar pedagogy, several practical recommendations are proposed for educators. First, teachers should provide explicit explanations of morphosyntactic rules before introducing digital sessions to ensure that students establish a baseline linguistic schema in long-term memory. Additionally, during the formative learning phase, instructors should use

differentiated game mechanics by deactivating or extending countdown timers and reducing the visual emphasis on live leaderboards. This minimizes extraneous cognitive load for lower-proficiency learners. Finally, educators must use Wayground's real-time analytical reports to provide targeted remediation, using post-game feedback to clarify specific structural misconceptions before students advance to more complex grammatical topics.

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