



The Effectiveness of Gamification Tools (Quizlet and Wayground) in Teaching English Vocabulary to Young Learners: Evidence from a Vietnamese English Education Center

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ABSTRACT: This article examined the effectiveness of two gamification tools, Quizlet and Wayground, in teaching English vocabulary to young learners at an English education center in Ho Chi Minh City, Vietnam. Employing an explanatory sequential mixed-methods design, the article addressed three research questions concerning the benefits of Quizlet and Wayground, their capacity to engage students' motivation and interest and their effect on young learners' memory of vocabulary meaning. Thirty students aged 10 to 11, enrolled in a Cambridge Flyers preparation course, were divided into an experimental group taught using Quizlet and Wayground and a control group taught using traditional methods over a six-week period. Data were collected through a vocabulary pre-test and post-test, twelve periods of classroom observation and semi-structured interviews with five English teachers. Quantitative data were analyzed using independent-samples and paired-samples t-tests, while qualitative data were analyzed thematically. The results indicated that teachers perceived Quizlet and Wayground as beneficial for presenting, practicing and reviewing vocabulary through varied game modes. Both interview and observation data showed that the tools substantially increased students' motivation and interest in the classroom. Furthermore, although the two groups did not differ significantly on the pre-test ($p = .653$), the experimental group significantly outperformed the control group on the post-test ($p = .035$), and only the experimental group showed a statistically significant pre-to-post-test improvement ($p < .001$) with mean scores rising from 6.940 to 7.920. These findings suggest that gamification tools such as Quizlet and Wayground can meaningfully enhance vocabulary retention and classroom engagement among young EFL learners, offering practical implications for vocabulary instruction in similar educational contexts.

KEYWORDS: gamification, quizlet, vocabulary teaching, wayground, young EFL learners

1. INTRODUCTION

English has long been regarded as an international language and has become a compulsory subject in educational systems worldwide with children in many countries beginning to learn it at a young age (Ilyosovna, 2020). Because vocabulary constitutes the building blocks of communication and underpins the development of the other language skills (Mukoroli, 2011), it should be introduced to learners as early as possible, and instruction should be adapted to learners' age and cognitive maturity (Permana, 2020). Permana's (2020) study confirmed that vocabulary plays a fundamental role in the language-learning process and recommended that teachers employ varied strategies such as visual aids, games and songs to sustain learners' motivation. Teachers are therefore expected not merely to transmit knowledge but to inspire learners and cultivate their interest in the target language (Archana & Rani, 2017).

The rapid development of technology has substantially reshaped English language teaching. Digital tools are considered to enhance learners' critical thinking, imagination and overall learning skills to a greater extent than traditional instruction (Ahmed, 2021), and teachers are increasingly expected to integrate innovative strategies to prepare students for the demands of the twenty-first century (Galindez, 2021). Among these innovative strategies, gamification, broadly defined as the use of game elements and mechanics in non-game contexts, has attracted considerable pedagogical attention since it first emerged in the early 2000s (Ravn, 2021). Within second language education specifically, gamification is highly valued for its capacity to promote a competitive yet enjoyable learning environment, foster learner-centeredness and increase learners' active participation (Ravn, 2021; Galindez, 2021; Navarro Henares, 2020; Ahmed, 2021; Meşe & Dursun, 2018).

Despite this growing international interest, English vocabulary instruction in Vietnam continues to rely predominantly on traditional, teacher-centered methods, owing to constraints related to training programs, time and facilities. Although gamification



is not entirely unfamiliar to Vietnamese teachers and a number of international schools and English education centers have begun encouraging teachers to adopt innovative tools, research specifically examining the effectiveness of gamification tools such as Quizlet and Wayground for teaching vocabulary to young learners, particularly within English education centers, remains scarce. This gap is especially notable given that young learners' engagement and retention are closely tied to whether instruction sustains their interest. Learners who find lessons uninteresting are prone to boredom and reduced concentration regardless of teachers' skill or training (Ahmed, 2021).

To address this gap, the article investigated the use of Quizlet and Wayground, two widely used gamification platforms, in teaching English vocabulary to young learners at an English education center in Ho Chi Minh City, Vietnam. Specifically, it pursued three objectives: (a) to identify the benefits of using Quizlet and Wayground in teaching English vocabulary to young learners; (b) to examine whether these tools engage learners' motivation and interest; and (c) to determine whether they enhance young learners' memory of vocabulary meaning relative to traditional instruction. These objectives were pursued through the following three research questions:

RQ1: What are the benefits of using Quizlet and Wayground in teaching English vocabulary to young learners?

RQ2: Does gamification engage students' motivation and interest in learning English vocabulary in the classroom?

RQ3: Does using gamification to practice vocabulary meaning increase young learners' memory ability?

Addressing these questions is timely and significant for several reasons. First, although Quizlet and Wayground are widely used in Vietnamese classrooms, limited empirical research has specifically examined their effectiveness for teaching vocabulary to young learners in English education centers, as opposed to school settings. Second, understanding how young learners respond to gamified instruction can inform teachers' pedagogical decisions and help them design more engaging vocabulary lessons. Finally, the findings are expected to benefit not only the researcher but also English language teachers seeking evidence-based guidance on integrating gamification into instructional practice, thereby contributing to the broader transition from traditional to digital, learner-centered classrooms in Vietnamese English education.

This article contributes to the literature in three ways. Theoretically, it extends the application of Mayer's (2024) cognitive theory of multimedia learning to the domain of gamified vocabulary instruction for young EFL learners, a population that has received comparatively limited empirical attention relative to secondary and tertiary learners. Methodologically, it combines a quasi-experimental pre-test/post-test design with classroom observation and teacher interviews within an explanatory sequential framework, allowing the quantitative effect of gamification on vocabulary achievement to be interpreted in light of teachers' own pedagogical experience. Practically, the findings are intended to inform English teachers and curriculum designers at English education centers seeking to integrate gamification tools into vocabulary instruction for young learners. The remainder of this article reviews the relevant theoretical and empirical literature, describes the study's mixed-methods design, reports the findings in relation to each research question and discusses their implications for English vocabulary pedagogy and future research.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Vocabulary and gamification

Vocabulary has been defined as a set of words that function as the basic building blocks used in the generation and understanding of sentences (Miller, 1999, as cited in Mukoroli, 2011). It comprises the lexicon of a language including its individual words and their associated expressions (Taylor, 1990, as cited in Mukoroli, 2011). Mukoroli (2011) further characterized vocabulary as the foundation of communication, underpinning the development of the other language skills. Without adequate vocabulary knowledge, learners are unable to produce or comprehend language effectively. The improvement of vocabulary knowledge is therefore widely regarded as fundamental to the broader process of English language learning.

Gamification, meanwhile, has been discussed and adapted within educational contexts for nearly two decades (Ravn, 2021). According to Kawattipa and Tangkiengsirisin (2023), the concept was initially clarified by Nick Pelling who emphasized learner interaction through game-like engagement. Although gamification shares fundamental features with games such as rules, goals and rewards, the two constructs are not fully aligned in purpose. The Cambridge Advanced Learner's Dictionary defines gamification as the practice of making activities more like games in order to make them more interesting or enjoyable (Cambridge University Press, n.d.). Galindez (2021) further distinguished games from gamification according to objectives, players, focus, creation and cost, noting that whereas games are created primarily for entertainment, gamification is deliberately structured



around educational principles and a clear learning purpose. It uses game-like context, themes, and ideas to encourage students within a learning environment rather than purely for enjoyment (Ahmed, 2021).

2.2. The role of vocabulary in second language learning

Beyond its definitional importance, vocabulary is widely regarded as a prerequisite for the development of communicative competence. Schmitt (2000, as cited in Susanto, 2017) found that vocabulary plays a significant role in facilitating second language acquisition and communication, and Susanto (2017) similarly reported that limited lexical knowledge can impede both language acquisition and communicative competence more broadly. This view is often summarized through the observation that learners can convey meaning to some extent even without complete command of grammar, yet cannot convey meaning at all without vocabulary (Wilkins, as cited in Sultan et al., 2024). Consistent with this position, Mukoroli (2011) emphasized that learners can not produce language effectively without adequate vocabulary knowledge. Olinghouse and Wilson (2013) further linked vocabulary knowledge to writing quality, reinforcing the view that vocabulary functions as a foundational element for expressing ideas, opinions and emotions across multiple modes of communication (Mukoroli, 2011; Olinghouse & Wilson, 2013; Permana, 2020; Sultan et al., 2024).

2.3. Vocabulary teaching in the Vietnamese context

Although vocabulary is widely recognized as essential to second language learning, English vocabulary instruction in Vietnam has traditionally relied on comparatively passive techniques. Nguyen and Khuat (2003) observed that many Vietnamese students learn vocabulary primarily through Vietnamese translation, memorized pronunciation or repetition after the teacher, an approach that often results in students recognizing words in text or audio without being able to use them appropriately in context or pronounce them correctly. In some cases, students are required to copy new words repeatedly until they are memorized, with limited opportunity to practice the words in authentic communicative situations. Pham and Nguyen (2018) similarly found that many English teachers in Vietnam rely on blackboards and translation to teach vocabulary, a pattern often attributed to limited access to technology and insufficient training in current pedagogical techniques, while Vu and Peters (2021) identified translation, code-switching and storytelling as among the most common vocabulary-teaching techniques used in Vietnamese classrooms, noting that vocabulary is typically written on the board with its Vietnamese equivalent, modeled by the teacher, and subsequently tested through recall in a following lesson. As Nguyen and Khuat (2003) cautioned, however, rote memorization alone is not considered an effective approach to second language vocabulary learning.

These constraints have been attributed in part to broader structural features of the Vietnamese education system including large class sizes, limited equipment, outdated teaching materials and grammar-focused government examinations, all of which continue to shape classroom practice despite considerable recent change (Le, 2011). Within this context, English vocabulary instruction has often prioritized reading and grammar over the communicative use of vocabulary, and traditional methods, while not necessarily ineffective, have shown clear limitations in terms of learner engagement, motivation and long-term vocabulary retention. It is against this backdrop of persistent, largely translation-based and repetition-based vocabulary instruction that gamification tools such as Quizlet and Wayground offer a potentially valuable pedagogical alternative, one that this study specifically investigates within the under-researched context of a Vietnamese English education center serving young learners.

2.4. Gamification in English language teaching

Within educational settings, gamification is considered a teaching strategy that attracts learners and fosters interaction between teachers and students (De La Cruz et al., 2023). Gamification is understood to enhance enthusiasm and participation through the integration of game context, sound, visual elements, competition scores and ranking boards (Educause, 2011, as cited in Kawattipa & Tangkiengsirisin, 2023). Consistent with this view, Thiagarajah et al. (2022) reported that gamification fosters learning in ESL classrooms by motivating and engaging learners to participate in classroom activities, while Samson and Karthiga (2020) similarly characterized gamification as a useful and effective tool for English language teaching and learning based on their review of the relevant literature.

A number of empirical studies have examined the effectiveness of gamification across diverse English-teaching contexts. Li and Liu (2022) found that gamification facilitates learners' curiosity and thinking, encourages students to strive toward rewards, and is particularly well-suited to young learners given their general characteristics. Vathanalaoha (2022) reported that gamification boosted learners' motivation and participation among Thai EFL students with pretest-posttest comparisons indicating



improved outcomes and increased learner autonomy. Zhang and Hasim (2023), through a systematic review of forty related articles, found that gamification improves learners' English proficiency, increases motivation and fosters a friendly learning environment. Aayushi and Kamboj (2024) examined the integration of gamification and serious games among 54 university students and found that gamification enhanced motivation, reduced stress and fostered engagement, while also improving vocabulary acquisition. Safeer et al. (2024), employing a mixed-methods design across learners of varying ages over a twelve-week period, similarly concluded that gamification boosts learners' engagement, interest and performance. Ramos Idrovo et al. (2025) reported comparable findings among 100 university students and Díaz et al. (2023) found that gamification contributed to English language teaching and collaborative learning among Chilean university students using a qualitative design. Smith (2023) further catalogued the benefits of gamification across listening, speaking and vocabulary instruction as well as its contribution to teamwork, interaction and critical thinking, while Mujiarni et al. (2025) found through an in-depth literature review that gamification tools improve learners' language proficiency, interest and engagement.

2.5. Quizlet and Wayground as gamification tools

Quizlet is an online learning platform originally developed by an American education technology company and released in 2007 (Wikipedia contributors, n.d.-a). It enables teachers to create modules, classrooms and tasks, and to manage learners' progress through their learning and participation (Navarro Henares, 2020). According to Sanosi (2018), Quizlet can be used to evaluate learners' competence through automatically generated tests across a variety of topics. Teachers need only enter a lexical item, and the platform automatically retrieves definitions and images, while also generating flashcards, tasks, quizzes and games. Quizlet offers multiple learning modes including Learn, Flashcard, Write, Spell, Test, Match, Gravity and Live (Sanosi, 2018), and numerous studies have found that it improves learners' motivation and engagement through flashcards, tasks, games and quizzes (Kannan & Munday, 2018; Montaner-Villalba, 2019). At the same time, some researchers have noted limitations, particularly for learners who are unfamiliar with technology or in classrooms with reduced teacher-student interaction (Navarro Henares, 2020).

Wayground, formerly known as Quizizz, was released in 2015 by an Indian educational technology company to promote game-like learning (Wikipedia contributors, n.d.-b). The platform was subsequently renamed Wayground to reflect its mission of helping students find common ground in their own way in the classroom. Wayground allows teachers to convert quizzes into competitive, time-limited activities rather than traditional paper-based tests, thereby encouraging learner interaction and motivation. Students can access the platform via smartphone, tablet or laptop, typically joining a quiz through a website or QR code and a class code (Zhao, 2019). The platform offers several playing modes, including teacher-paced, classic, test, paper, team, and mastery modes, and provides immediate, often humorous feedback intended to keep students relaxed and engaged (Zhao, 2019). Teachers can subsequently review students' results and performance analytics through statistical charts (Nabangi, 2021). Sihombing et al. (2022) found that Wayground (then Quizizz) improved teacher-student interaction and created an exciting learning environment for teaching reading comprehension among tenth-grade students, while Salim et al. (2025), examining 25 junior high school students in Yogyakarta, similarly found a considerable improvement in reading comprehension following the use of gamified quizzes.

2.6. Gamification in vocabulary teaching

A growing body of research has examined the specific application of gamification to vocabulary instruction. Thiagarajah et al. (2022) found that gamification tools, particularly Kahoot, were more effective than traditional strategies for teaching vocabulary to 60 students in a home-school ESL setting. Sultan et al. (2024) similarly employed a quasi-experimental design comprising a pretest, treatment and posttest, and concluded that gamification effectively enhanced students' English vocabulary. Beyond direct vocabulary gains, gamification has been associated with broader improvements in learning outcomes, including critical thinking, participation, motivation, satisfaction and argumentation (Noorozi & Talee, 2016, as cited in Ahmed, 2021). Cigerci et al. (2025) reported that gamification not only enhances vocabulary learning motivation and engagement within a friendly learning environment but also aligns with the broader shift toward digital education, while Aisyah et al. (2024), using a qualitative descriptive design, found that gamification increased eleventh-grade students' English vocabulary while making the learning process more enjoyable.



Other studies have examined the practical challenges associated with implementing gamification. Demirbilek et al. (2022), through interviews with sixteen teachers, found that although gamification is generally effective, it can be time-consuming to prepare and may create negative competitive dynamics, and its implementation is often constrained by limited class time and technical issues such as insufficient devices or unreliable internet connections. Panmei and Waluyo (2022), employing a quasi-experimental design, found that gamified vocabulary instruction using Quizizz enhanced students' interest and motivated them to engage with vocabulary tasks more frequently, further underscoring the pedagogical value of gamification despite its practical constraints.

2.7. Theoretical framework

The theoretical foundation of this article draws primarily on Mayer's (2024) cognitive theory of multimedia learning (CTML), which explains how learners acquire and retain information through the coordinated processing of verbal and pictorial material. According to this theory, learners construct meaning by receiving information through multiple sensory channels and connecting new input with prior knowledge, a process that facilitates the consolidation of long-term memory. Because gamification tools such as Quizlet and Wayground integrate images, sounds and interactive game elements into vocabulary instruction, they are well positioned to activate the dual coding processes described by CTML, thereby supporting deeper and more durable vocabulary retention among young learners.

This theoretical position is further supported by research on young learners' cognitive and social characteristics. Teachers can employ a variety of techniques, including demonstration and explicit word explanation, to introduce new vocabulary to young learners (Nation, 1990, as cited in Szpotowicz, 2009), and offering multiple instructional strategies, rather than relying on a single approach, provides learners with more opportunities to achieve their learning goals (Ahmed, 1989, as cited in Sitompul, 2020). Young learners are generally more engaged when instruction incorporates varied and enjoyable approaches rather than traditional repetition alone. Consistent with this view, McGlothin (1997) argued that placing young learners under excessive pressure impedes effective teaching, while Sitompul (2020) found that children learn most successfully through playful, demonstrative activities and that curiosity plays an essential role in sustaining engagement. Vygotsky's (1978, as cited in Li & Liu, 2022) sociocultural perspective further suggests that young learners develop understanding through interaction with others, a view echoed by Halliwell (1993, as cited in Sitompul, 2020), who observed that children are particularly excited to learn vocabulary through imaginative play and peer communication. Taken together, these perspectives suggest that gamification tools, by combining multimedia stimulation with interactive and socially engaging activities, are theoretically well suited to supporting young learners' vocabulary acquisition.

2.8. Empirical research on gamification and vocabulary among young learners

Several Vietnamese and international studies have examined teachers' perspectives on gamification. Pham (2022) explored teachers' attitudes toward gamification tools including Kahoot, Quizlet and Quizizz among 60 teachers at an upper-secondary school in Quang Tri Province, finding that while gamification benefited student motivation, some teachers considered its preparation time-consuming and occasionally confusing to implement. Demirbilek et al. (2022) similarly identified time constraints, technical limitations and competitive dynamics as key challenges, while Zahra and Alqurashi (2024), surveying 278 English teachers, identified reliance on technology, limited devices and school-level constraints as recurring barriers to effective implementation.

Other studies have focused specifically on vocabulary instruction. Tran (2016) examined the use of Quizlet combined with Facebook among 21 Vietnamese university students, finding a positive perspective toward mobile-assisted vocabulary learning both inside and outside the classroom. Neirokh (2022) surveyed 102 English teachers across 18 Jordanian secondary schools and found that gamification effectively promoted vocabulary learning, motivation and collaboration. Ain and Ahmad (2024), employing a quasi-experimental design with fifty undergraduate students in Lahore, similarly found that gamification enhanced vocabulary proficiency and retention relative to traditional instruction.

A smaller number of studies have focused specifically on young learners. Luzardo et al. (2024) examined how gamification supported vocabulary motivation among fourteen children aged eight to nine in community development centers, finding that gamified software promoted vocabulary acquisition and engagement. Gunawan (2025), reviewing recent literature from 2020 to 2025, concluded that gamification represents a significant contemporary trend in teaching English to young learners, while Giray



Jr and Ballado (2025) similarly found that gamification improved elementary students' English proficiency and classroom collaboration, despite noting time constraints associated with its regular implementation.

2.9. Research gap

Taken together, this body of literature establishes that gamification is widely regarded as an effective strategy for enhancing motivation, engagement and vocabulary acquisition across a range of English-teaching contexts, and that tools such as Quizlet and Wayground are theoretically well aligned with the cognitive and social characteristics of young learners. However, prior Vietnamese research on gamification and vocabulary has predominantly focused on secondary school, high school or university learners (Pham, 2022; Demirbilek et al., 2022; Zahra & Alqurashi, 2024; Tran, 2016; Neirokh, 2022; Ain & Ahmad, 2024), leaving the specific effectiveness of gamification tools for young learners, particularly within the English education center context that serves a substantial proportion of young Vietnamese EFL learners, comparatively unexamined. This article addresses that gap by investigating how Quizlet and Wayground function in teaching English vocabulary to young learners at a Vietnamese English education center, combining quantitative measurement of vocabulary achievement with qualitative insight into teachers' pedagogical experience.

3. METHODOLOGY

3.1. Research design

This article employed an explanatory sequential mixed-methods design (Creswell & Creswell, 2017), in which a quasi-experimental quantitative phase, comprising a vocabulary pre-test and post-test, served as the primary data-collection method, followed by qualitative classroom observation and semi-structured teacher interviews intended to explain and enrich the quantitative results. This design was selected because it allows the effect of gamification on young learners' vocabulary achievement to be established quantitatively, while the subsequent qualitative phase provides insight into the classroom mechanisms and teacher perspectives underlying that effect. Because correlational and comparative statistics alone cannot reveal why particular gains occur or through what classroom experiences they are produced, the qualitative observation and interviews were deliberately designed around the same three research questions addressed by the quantitative phase, allowing the two strands of data to be integrated at the level of specific findings.

3.2. Research context and participants

The article was conducted at an English education center in Ho Chi Minh City, Vietnam, which offers English courses for learners ranging from young children to adults, including international examination preparation, communicative English and programs aligned with the Ministry of Education and Training curriculum. Children constitute the majority of learners at this center, and classes are small, typically comprising 10 to 15 students, and are equipped with technology such as projectors and smart televisions that facilitate the use of gamification tools.

Participants were selected using convenience sampling. Thirty students aged 10 to 11, enrolled in a Cambridge Flyers examination preparation course based on the coursebook *Get Ready for Flyers*, were divided into two intact classes of 15 students each including an experimental group taught using Quizlet and Wayground, and a control group taught using traditional vocabulary-teaching techniques. Both groups were taught by the same teacher and were at an equivalent proficiency level, differing only in their scheduled class days. In addition, five English teachers at the center, all of whom held a bachelor's degree in English and had between two and ten years of teaching experience, and all of whom regularly used Quizlet and Wayground in their lessons, were selected for semi-structured interviews. The experimental class was also observed across twelve vocabulary lessons to capture how gamification was implemented and how students responded in real time.

3.3. Research instruments

Three instruments were used to collect data: a vocabulary pre-test and post-test, classroom observation and semi-structured teacher interviews. The pre-test, administered before the treatment period, assessed vocabulary from Units 3 and 4 of *Get Ready for Flyers* ("Eating out" and "At school"), while the post-test, administered after six weeks of instruction, assessed vocabulary from Units 5 and 6 ("A day out" and "Dream job"). Both tests followed an identical structure comprising a picture- or word-labeling task and a multiple-choice task, were completed within 20 minutes, and were administered identically to both groups to allow a direct comparison of vocabulary achievement.



Classroom observation was conducted across twelve periods in the experimental group's vocabulary lessons, focusing on students' behavior, engagement and interaction when Quizlet and Wayground were used to present, practice or review vocabulary. Observations were recorded in a structured observation diary and were conducted by the researcher while the class remained under the regular instruction of its assigned teacher, thereby minimizing observer interference with normal classroom dynamics.

The semi-structured interview guide comprised ten open-ended questions exploring teachers' experiences of using Quizlet and Wayground, including their perceived benefits, their effects on student motivation and interest and their contribution to vocabulary retention. Interviews were conducted individually with each of the five participating teachers and were audio-recorded for subsequent transcription and analysis.

3.4. Validity, reliability and trustworthiness

The content validity of the test instrument was established by aligning items with the Flyers course curriculum and by having the researcher's supervisor, an experienced English language teaching professional, review the instrument for appropriateness. To enhance reliability, the pre-test was administered before the treatment period, and the post-test was administered after a six-week treatment period appropriate for measuring vocabulary achievement. In addition, the tests were implemented in two Flyers classes not directly taught by the researcher, reducing the likelihood of researcher-related bias. For the qualitative phase, trustworthiness was supported through a semi-structured interview protocol that ensured consistency in the topics discussed across teachers, verbatim recording and transcription of all interview responses, and classroom observation conducted in a class taught by another teacher which helped maintain the researcher's objectivity as an observer rather than an instructor.

3.5. Research procedures

Data collection proceeded in four stages. First, the researcher reviewed the relevant theoretical and empirical literature to identify the research gap and accordingly developed the pre-test, post-test, observation protocol and interview guide which were reviewed and refined with the supervisor's guidance. Second, the pre-test and post-test were administered to both groups over a six-week period, during which classroom observations of the experimental group were conducted concurrently. Teacher interviews were subsequently conducted over the course of one week. Third, the quantitative data were analyzed using SPSS, and the qualitative data were analyzed thematically. Finally, the results were interpreted in relation to each research question and integrated to produce the study's overall findings.

3.6. Data analysis

Quantitative data from the pre-test and post-test were entered into SPSS and analyzed descriptively (frequencies, percentages and means) as well as inferentially, using independent-samples t-tests to compare the experimental and control groups at each testing point and paired-samples t-tests to compare each group's own pre-test and post-test performance. Qualitative data from the observation diary and interview transcripts were analyzed thematically. Transcripts were coded inductively, recurring patterns were identified and codes were grouped into themes corresponding to each of the three research questions. Consistent with the logic of an explanatory sequential design, the qualitative themes were used to explain and enrich the quantitative results rather than to test an independent set of hypotheses.

4. RESULTS AND DISCUSSION

4.1. Benefits of using Quizlet and Wayground in teaching English vocabulary (RQ1)

Interview data from the five participating teachers converged on a consistent set of perceived benefits associated with Quizlet and Wayground. Teachers reported using Quizlet primarily to present new vocabulary through its Flashcard mode which conveys word meaning through images, sounds and text simultaneously, and subsequently to review and test vocabulary using its Learn, Test, and Match modes. Several teachers also highlighted Quizlet Live as a means of organizing collaborative vocabulary games for the whole class. Wayground, meanwhile, was consistently described as a tool for transforming vocabulary review into competitive quiz-based activities and mini-games that could be completed individually or in groups.

Teachers emphasized that these tools allow students to engage with vocabulary through multiple modalities such as matching words with pictures, typing words based on visual prompts or selecting correct answers within a game format, rather than through repetitive copying alone. As one teacher explained, Quizlet's combination of pictures, sounds and automatically generated exercises made it easier for students to become familiar with new words, while Wayground's game-based quizzes allowed



students to review vocabulary individually or in groups using electronic devices. Collectively, these accounts indicate that Quizlet and Wayground function as complementary tools. Quizlet is primarily used for presenting and consolidating vocabulary, while Wayground is used to transform vocabulary review into an engaging, game-like activity, together offering teachers a varied and flexible set of options for vocabulary instruction.

4.2. Engaging students' motivation and interest (RQ2)

Both interview and observation data indicated that Quizlet and Wayground substantially increased students' motivation and interest in the classroom. Teachers reported that students were visibly more engaged and energetic when playing games through these platforms compared with traditional instruction, participated more actively in lessons, and found the classroom atmosphere livelier, particularly during competitive activities. Teachers further noted that gamification appeared to reduce the pressure students associated with memorizing new words, allowing them to learn and retain vocabulary more effortlessly through play, and that most students had regular opportunities to participate actively rather than simply receiving information passively.

Classroom observation across twelve vocabulary lessons corroborated these interview accounts. Quizlet and Wayground were typically used for 15 to 30 minutes at the beginning of each lesson, with Quizlet employed to present, review or test vocabulary and Wayground employed to organize live, competitive games. Students consistently volunteered to participate, responded frequently during games and collaborated with peers to complete quizzes and tasks. Over the course of the observation period, students appeared to grow increasingly familiar with the gamified format and correspondingly more active in later sessions. Group-based Wayground quizzes, in particular, appeared to increase collaboration and teamwork relative to individual, paper-based exercises, as students supported one another in completing tasks. Observation data further suggested that the anonymity typically afforded by these platforms, in which incorrect answers are not attributed to individual students by name, allowed students to participate with less fear of embarrassment, further sustaining their engagement. Taken together, these findings indicate that gamification helped students remain engaged and motivated to learn vocabulary consistently across lessons, corroborating the interview data and reinforcing the perception that gamified instruction reduces the affective barriers commonly associated with traditional vocabulary drills.

4.3. Effects on young learners' vocabulary memory (RQ3)

Pre-test results are clearly analyzed. Before the treatment period, both groups completed an equivalent vocabulary pre-test to establish baseline comparability. An independent-samples t-test indicated no statistically significant difference between the experimental and control groups on the pre-test, $t(28) = 0.454$, $p = .653$, confirming that the two groups' vocabulary levels were equivalent prior to the intervention. Descriptively, the two groups showed a broadly similar distribution of scores, with 13.3% of students in each group scoring between 9 and 10 points, and no more than 20% of students in either group scoring below 5 points.

Post-test results are also clearly analyzed. Following the six-week treatment period, both groups completed an equivalent post-test. An independent-samples t-test revealed a statistically significant difference between the groups, $t(28) = 2.213$, $p = .035$, indicating that the post-test scores differed substantially between the experimental and control groups. Descriptively, the proportion of students scoring below 5 points was considerably lower in the experimental group (6.7%) than in the control group (20%), while the proportion scoring between 9 and 10 points was more than twice as high in the experimental group (33.3%) as in the control group (13.3%). The number of low-scoring students decreased and the number of high-scoring students increased in the experimental group between the pre-test and post-test, whereas the distribution of scores in the control group remained comparatively stable.

Within-group comparisons are then illustrated. A paired-samples t-test comparing the experimental group's own pre-test and post-test scores revealed a statistically significant improvement, with the mean score rising from 6.940 ($SD = 1.735$) on the pre-test to 7.920 ($SD = 1.593$) on the post-test, $t(14) = -4.976$, $p < .001$. By contrast, the equivalent paired-samples t-test for the control group revealed no statistically significant change, with the mean score decreasing marginally from 6.647 ($SD = 1.800$) to 6.540 ($SD = 1.816$), $t(14) = 0.457$, $p = .655$. These results indicate that only the group taught using Quizlet and Wayground demonstrated a statistically significant improvement in vocabulary achievement over the six-week period, whereas the group taught using traditional methods showed no meaningful change.

Interview data provided a plausible explanation for this pattern. Teachers consistently reported that combining traditional vocabulary-learning techniques such as repetition or translation with gamified practice on Quizlet and Wayground helped students



remember new words more effectively than traditional techniques alone, attributing this benefit to the repeated exposure to demonstrative pictures, sounds and simplified definitions that these platforms provide. Teachers further noted that gamification made lessons more engaging and thereby indirectly supported retention by sustaining students' attention during vocabulary practice. Taken together, the quantitative and qualitative findings converge on the conclusion that gamification tools such as Quizlet and Wayground meaningfully enhanced young learners' vocabulary memory over the six-week study period, corroborating prior findings that gamification supports vocabulary acquisition and retention (Ain & Ahmad, 2024; Sanosi, 2018; Sultan et al., 2024).

4.4. Discussion

Taken together, these findings support three broader aspects. First, in response to RQ1, Quizlet and Wayground were consistently perceived by teachers as complementary tools that broaden the range of available vocabulary-teaching techniques, moving instruction away from repetitive, teacher-centered drills toward more varied, multimodal presentation and practice. This finding is consistent with prior research describing gamification as a useful and effective tool for English language teaching (Samson & Karthiga, 2020; Li & Liu, 2022) and extends this literature by detailing the specific pedagogical functions, presentation via Quizlet's Flashcard and Learn modes, and review and competitive practice via Wayground's quiz-based games, that teachers of young learners found most valuable.

Second, in response to RQ2, the convergence of interview and observation data indicates that gamification substantially increased students' motivation and interest, a finding consistent with the broader literature associating gamification with increased engagement, reduced pressure and a more positive classroom atmosphere (Ravn, 2021; Galindez, 2021; Panmei & Waluyo, 2022; Aisyah et al., 2024). The observation data additionally suggest a mechanism, namely the anonymity and low-stakes nature of gamified error correction, through which gamification may reduce the affective barriers that otherwise inhibit young learners' willingness to participate in vocabulary practice.

Third, in response to RQ3, the statistically significant improvement observed only in the gamification taught group provides empirical support for the theoretical proposition that multimedia, game-based vocabulary instruction enhances retention beyond what traditional methods achieve (Mayer, 2024). This finding aligns with Cognitive Theory of Multimedia Learning's emphasis on the value of integrating visual and verbal information, and with prior empirical work reporting vocabulary gains associated with gamification (Thiagarajah et al., 2022; Sultan et al., 2024; Cigerci et al., 2025). Because the present study is among the first to document this effect specifically for young learners within a Vietnamese English education center, it extends this literature to a population and context that has received comparatively limited prior research attention.

Nonetheless, the findings should be interpreted alongside the practical challenges documented elsewhere in the gamification literature including the time required for lesson preparation and the technical constraints that may limit implementation in less well-resourced classrooms (Demirbilek et al., 2022; Zahra & Alqurashi, 2024; Giray Jr & Ballado, 2025). The English education center in this study was well equipped with the technological infrastructure needed to support gamification, and the observed benefits may accordingly be somewhat context-dependent, underscoring the importance of adequate resourcing when implementing gamification tools such as Quizlet and Wayground for young learners.

4.5. Pedagogical implications

The findings of this study carry several practical implications for teachers and English education centers seeking to integrate gamification into vocabulary instruction for young learners. First, because teachers in this study consistently distinguished between Quizlet's role in presenting and consolidating vocabulary and Wayground's role in competitive review, centers may benefit from training teachers to use these two tools in a complementary, rather than interchangeable, manner within a single lesson cycle. Second, given that observation data indicated an increase in student engagement over the course of the twelve observed periods, teachers introducing gamification tools to a new class should anticipate a period of familiarization during which engagement may continue to build gradually rather than reaching its peak immediately. Third, because the anonymity afforded by tools such as Wayground appeared to reduce students' fear of making mistakes, teachers may wish to deliberately preserve this



feature, for example, by avoiding the public identification of individual students' incorrect answers, in order to sustain the psychologically safe environment that appeared to support young learners' willingness to participate.

At the institutional level, the significant vocabulary gains observed in the experimental group suggest that investment in the technological infrastructure necessary to support gamification including devices, stable internet connectivity and teacher training may yield measurable benefits for young learners' vocabulary achievement. This is particularly relevant for English education centers operating in contexts where traditional, translation-based vocabulary instruction remains the norm (Nguyen & Khuat, 2003; Pham & Nguyen, 2018; Vu & Peters, 2021), as the present findings suggest that a comparatively modest six-week intervention using freely available tools such as Quizlet and Wayground can produce a statistically significant improvement in vocabulary achievement without requiring wholesale curricular redesign.

4.6. Summary of findings in relation to the research questions

Considered together, the findings address each of the three research questions in a complementary manner.

In response to RQ1, teachers consistently identified Quizlet and Wayground as offering distinct but complementary functions, with Quizlet primarily supporting the presentation and consolidation of new vocabulary and Wayground primarily supporting competitive, game-based review. In response to RQ2, both interview and observation data converged on the conclusion that gamification substantially increased young learners' motivation, participation and willingness to engage with vocabulary tasks, with observation data further suggesting that engagement built gradually as students became more familiar with the gamified format. In response to RQ3, the quantitative results demonstrated that only the group taught using Quizlet and Wayground achieved a statistically significant improvement in vocabulary scores over the six-week period, a pattern corroborated by teachers' qualitative accounts of enhanced retention through repeated multimodal exposure to target vocabulary. Taken as a whole, these findings converge on the overarching conclusion that gamification tools such as Quizlet and Wayground offer young EFL learners a pedagogically valuable alternative to traditional vocabulary instruction, one that simultaneously addresses the affective dimension of learner engagement and the cognitive dimension of vocabulary retention.

5. CONCLUSION

This article examined the effectiveness of Quizlet and Wayground in teaching English vocabulary to young learners at an English education center in Ho Chi Minh City, Vietnam, using an explanatory sequential mixed-methods design that combined a quasi-experimental pre-test/post-test comparison with classroom observation and teacher interviews. The findings indicate that teachers perceived Quizlet and Wayground as complementary, beneficial tools for presenting, practicing and reviewing vocabulary. The findings also indicate that these tools substantially increased young learners' motivation and interest in the classroom, as evidenced by converging interview and observation data and they also reveals that students taught using Quizlet and Wayground achieved a statistically significant improvement in vocabulary scores over a six-week period, whereas students taught using traditional methods did not.

These findings carry several implications. Theoretically, they extend Mayer's (2024) cognitive theory of multimedia learning to the domain of gamified vocabulary instruction for young EFL learners in a Vietnamese English education center, a population and context that has received comparatively limited prior empirical attention. Pedagogically, they suggest that integrating gamification tools such as Quizlet and Wayground into vocabulary lessons, particularly for young learners, can enhance both engagement and retention relative to traditional teaching methods alone. Practically, the findings offer English teachers and center administrators evidence-based support for investing in gamification tools and the technological infrastructure required to implement them effectively.

This study is not without limitations. The sample was drawn from a single English education center using convenience sampling, comprising 30 students and 5 teachers which may limit the generalizability of the findings to other institutional contexts or larger populations. The quasi-experimental design, while suitable for establishing pre-to-post-test change, can not fully rule out the influence of extraneous factors over the six-week treatment period, and the study did not track learners' vocabulary retention beyond the immediate post-test. In addition, the qualitative data relied on teachers' perspectives and classroom observation rather than direct measures of individual students' cognitive or affective experiences.

Future research could usefully extend this study through longitudinal designs that track vocabulary retention over a longer period, larger and more diverse samples spanning multiple English education centers, and comparative designs that examine the



relative contribution of Quizlet and Wayground individually rather than in combination. Future studies might also incorporate direct measures of student perceptions and expand the scope of assessment beyond vocabulary to other language skills such as listening and speaking to develop a more comprehensive understanding of how gamification supports young learners' English language development. Despite these limitations, the present findings offer empirically grounded support for the use of Quizlet and Wayground as effective tools for enhancing young learners' English vocabulary motivation, engagement and retention within Vietnamese English education centers.

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