A multiple case study of Vietnamese university students' perceptions of Quizlet in IELTS vocabulary learning

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ABSTRACT

Over the past decade, vocabulary learning has shifted from traditional paper-based methods to digital flashcards with gamification features to enhance engagement. While many studies have investigated the general benefits of digital tools such as Quizlet and Kahoot, few studies have explored students' perceptions of these tools in Vietnam, especially in IELTS preparation classes. Thus, this study examines the perspectives of three Vietnamese university students from different majors who attended an IELTS class incorporating Quizlet. Findings revealed that Quizlet enhanced learners' English vocabulary acquisition by promoting autonomy, competence, and relatedness. To effectively integrate Quizlet into Vietnamese universities, participants recommended early exposure, structured digital storage, and assessment via automated feedback to optimize learning outcomes. This study provides insights into the role of technology in vocabulary acquisition and offers practical recommendations for incorporating digital tools into English education in Vietnam.

1. Introduction

Vocabulary knowledge is a fundamental component of language development, as it significantly influences reading comprehension, writing accuracy, and overall communication skills (Hunt & Beglar, 2005; Schmitt, 2008). However, mastering word meanings and applying them accurately across diverse contexts remains a persistent challenge for many learners. In response, researchers have increasingly examined the role of Artificial Intelligence (AI) in facilitating vocabulary acquisition. The integration of AI has notably transformed English as a Foreign Language (EFL) education. Tools such as QuillBot, Grammarly, and ChatGPT offer real-time feedback, supporting students in improving their writing, grammar, and vocabulary skills (Ariyanti, 2021; Kacena et al., 2024; Marzuki et al., 2023). These AI-powered applications enhance vocabulary learning by delivering interactive experiences, promoting learner autonomy, and enabling users to identify and correct errors independently. Furthermore, AI-mediated instruction has been shown to boost student motivation, foster self-regulated learning, and improve overall language proficiency (Wei, 2023).

Within the framework of Education 4.0, gamification tools such as Quizlet provide innovative solutions to contemporary teaching and learning challenges, particularly in vocabulary acquisition. Research indicates that Quizlet's use of spaced repetition, flashcard-based learning, and gamified features enhances vocabulary retention, learner engagement, and

overall effectiveness due to its accessibility and ease of use (Al-Malki, 2020; Zhang et al., 2025). Similarly, gamified learning environments have been shown to facilitate vocabulary development by making the learning process more interactive and enjoyable (Waluyo & Bucol, 2021). In line with these findings, studies by Abu Qbeita (2024), Jomaa et al. (2024), and Xodabande et al. (2022) demonstrate that digital vocabulary training platforms significantly improve student motivation and academic performance. These findings highlight the critical role of gamification and digital technologies in enhancing vocabulary learning within modern, learner-centered educational paradigms.

Despite the growing global adoption of AI-assisted vocabulary learning, there remains a significant gap in understanding how students - actual users- perceive the practical effectiveness of these digital tools across various cultural and educational settings. While AI-powered applications like Quizlet have grown in popularity worldwide, previous research frequently lacks the qualitative insights required to understand how students perceive and engage with these tools in real-world educational contexts. While studies have looked at the success of Quizlet (e.g., Al-Malki, 2020; Zhang et al., 2025), there is still a need to go beyond simple performance measures and investigate the students' voices, perceptions, motivation, difficulties, and integration recommendations.

Research into using Quizlet in teaching and learning English vocabulary in Vietnam remains underexplored. While several local studies, such as those by Nguyen (2024), Tran and Nguyen (2023), have reported positive results regarding Quizlet's effectiveness, most have primarily focused on usability and learning outcomes. There is a need for more in-depth, theory-informed investigations that examine how learners perceive and engage with such digital tools. Drawing on Deci and Ryan's (1985) Self-Determination Theory (SDT), this study aims to explore students' perceptions of Quizlet's role in fostering English vocabulary acquisition and to gain insights into its potential integration into university curricula. Guided by SDT, the research particularly seeks to understand how Quizlet supports learners' autonomy, competence, and relatedness in vocabulary learning. Specifically, the study aims to address the following research questions:

Research question 1: How do the participants perceive Quizlet's role in enhancing English vocabulary acquisition?

Research question 2: What recommendations do participants have for integrating Quizlet into the English language curricula at the university?

2. Literature review

2.1. Studies on Quizlet in English language education

Many educators advocate Quizlet as an effective gamified learning tool, particularly for vocabulary acquisition and exam preparation. A broad range of studies report positive outcomes, including improved test scores, higher learner satisfaction, and increased engagement compared with traditional methods. However, a critical review reveals two persistent limitations: (a) most studies document what Quizlet achieves but rarely explain why it motivates learners; and (b) relatively few have situated Quizlet research within high-stakes testing contexts such as IELTS, especially in Vietnam.

Ali et al. (2024) positively view AI's role in enhancing ESL vocabulary learning through Technology-Assisted Language Learning (TALL). While the authors convincingly argue that AI can bridge the gap between pedagogy and practice, the study does not deeply address

potential limitations, such as learners' digital literacy, contextual challenges, or long-term retention. Similarly, Bueno-Alastuey and Nemeth (2020) found that students regarded Quizlet as effective and enjoyable. Still, the lack of a guiding framework limited their ability to explain why students experienced heightened motivation.

Other research has produced nuanced or mixed findings. Chaikovska and Zbaravska (2020) compared Quizlet with paper-based vocabulary notebooks among A2-level Ukrainian students in extracurricular EFL courses. While Quizlet users outperformed their peers, the advantage was insufficient to conclude that digital tools are inherently superior. This suggests that Quizlet's effectiveness may depend on contextual variables such as student background, course intensity, or instructional design.

Large-scale studies reinforce the long-term potential of gamification. Putz et al. (2020) showed that gamified approaches enhanced retention and soft skills, while Whitman et al. (2019) reported improved recall of pharmaceutical terminology with Quizlet. Still, these studies overlooked individual learner differences and failed to examine how digital gamification promotes autonomy and competence over time. Importantly, Suharno et al. (2023) addressed this limitation by showing that teacher presence in a long-term Quizlet-based listening course was essential for maintaining student motivation and performance. Their findings underscore that gamification should complement rather than replace pedagogy and that instructor involvement remains decisive.

Several smaller-scale investigations have examined Quizlet's role in extending learning beyond the classroom. Waluyo and Bucol (2021), Nguyen and Le (2022) highlight its potential for self-directed vocabulary learning, emphasizing the importance of task diversity and progress monitoring. Studies have also shown that learners perceive Quizlet as engaging and supportive of memorization (e.g., Aprilani & Suryaman, 2021; Tran & Nguyen, 2021). Other studies in EMI contexts (e.g., Trinh & Ho, 2023) demonstrated benefits for content comprehension. Suharno et al. (2023) emphasized the role of teacher presence in sustaining motivation within gamified environments. In addition, Mohammadi et al. (2024) revealed that digital flashcards significantly outperformed paper flashcards and word lists in supporting Iranian EFL students' receptive and productive vocabulary development. Their findings demonstrate how mobile-assisted gamification tools, like Quizlet, can advance academic literacy more effectively than traditional methods.

Moreover, research has considered external factors such as gender and blended learning design. Almusharraf et al. (2023) found that motivation for Kahoot! was not gender-specific in Saudi EFL classes, suggesting that learner engagement with gamified tools transcends gender differences. While not directly tied to Quizlet, the study adds weight to claims that digital game-based learning generally fosters equitable motivation. On the other hand, Tosun (2015) reported that a blended learning approach incorporating digital tools did not significantly improve vocabulary outcomes unless learners were self-motivated to study outside class. This suggests that Quizlet's effectiveness, like other gamified platforms, depends not only on tool design but also on learner autonomy and sustained engagement.

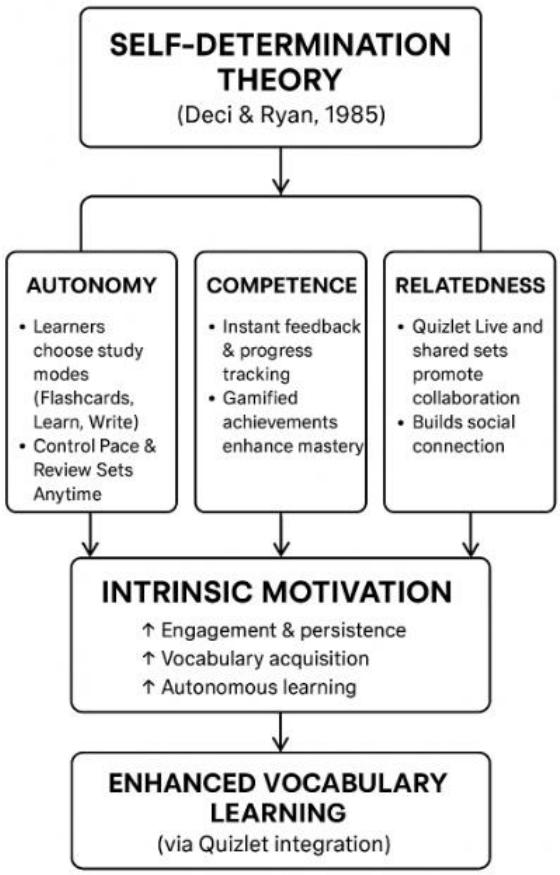
These findings illustrate Quizlet's value for vocabulary learning across diverse contexts. Nevertheless, they share two gaps. First, few studies investigate its use in IELTS preparation, where vocabulary breadth and retention are crucial for success. Second, most research lacks a theoretical grounding that can explain why learners find Quizlet motivating. This absence prevents a deeper understanding of the psychological and pedagogical processes underlying its effectiveness.

2.2. Theoretical framework

The present study adopts Self-Determination Theory (SDT) (Deci & Ryan, 1985) as its theoretical lens to address this gap. SDT posits that motivation is fostered when three basic psychological needs are satisfied: autonomy, competence, and relatedness. First, regarding autonomy, Quizlet allows learners to select study modes (e.g., Flashcards, Learn, Write), control their pace, and revisit sets as needed. This flexibility supports a sense of ownership over learning. Next, regarding competence, instant feedback, progress tracking, and gamified achievements enhance students' feelings of mastery and capability. Finally, regarding relatedness, collaborative features such as Quizlet Live foster teamwork, social interaction, and shared learning experiences. Figure 1 shows the theoretical framework of the study.

Figure 1

The Theoretical Framework of the Study



Note. The data are from "Intrinsic motivation and self-determination in human behavior" by E. L. Deci, and R. M. Ryan, 1985, Springer

While Self-Determination Theory (Deci & Ryan, 1985) provides a solid foundation for understanding learners' motives through autonomy, competence, and relatedness, it is fruitful to consider how gamified features in vocabulary learning tools interact with motivational and cognitive processes. Empirical studies in gamified instruction and digital game-based language learning offer valuable insights into these dynamics. For example, Sadeghi et al. (2022) compare gamified and non-gamified vocabulary instruction, finding that the gamified group achieved significantly greater vocabulary gains and reported higher motivation. This suggests that gamification can act as a motivational affordance that catalyzes learner engagement, reinforcing SDT's dimensions through feedback, progress visibility, and challenge.

Similarly, Chowdhury et al. (2024) explore how digital games support vocabulary acquisition via agency, intrinsic motivation, and contextualized interaction. The study highlights that when learners are permitted to experiment, make decisions, and control pacing within a gamified environment, they tend to engage more deeply with vocabulary tasks. This supports a perspective that sees gamification features mediating between tool design and learning outcomes.

Likewise, Zhang et al. (2025) investigated how Computer-Assisted Language Learning (CALL) tools such as Anki, Quizlet, Kahoot!, and ChatGPT promote learner autonomy and engagement among Chinese learners. Using an 8-week experimental design with 100 undergraduates, the study compared CALL-supported learning with traditional instruction. Findings showed that students using CALL tools demonstrated significantly higher autonomy, motivation, and metacognitive awareness levels, indicating a shift toward more self-directed learning behaviors. Although some technical challenges were noted, participants generally perceived CALL as motivating and beneficial for independent vocabulary acquisition. These results align with Self-Determination Theory (Deci & Ryan, 1985), as CALL supports learners' intrinsic motivation by enhancing autonomy, competence, and relatedness. The study underscores the potential of integrating tools like Quizlet within a guided framework to foster language proficiency and autonomous learning in higher education contexts.

In short, Quizlet encourages intrinsic motivation and sustains learner engagement beyond what traditional rote memorization methods typically achieve. The self-determination theoretical framework enables the current study to interpret whether Quizlet supports vocabulary learning and why students perceive it as motivating.

3. Methodology

3.1. Research design

This study adopted a multiple-case study design (Yin, 2018) to investigate the integration of Quizlet into IELTS vocabulary instruction. This qualitative research design enables researchers to engage directly with participants and explore the topic more deeply (Marshall & Rossman, 2016). Although the participant pool was small (three focal students in a class of nine), this design was considered appropriate for two reasons. First, case studies allow for an in-depth exploration of contemporary educational practices in authentic classroom contexts, particularly where the boundaries between phenomenon (digital vocabulary learning) and context (IELTS instruction) are not clearly separated. Second, the study aimed to capture learners' lived experiences, strategies, and perspectives in a specific setting rather than generalize to a broader population. This aligns with the purpose of case study research, which prioritizes depth of understanding over breadth of coverage.

3.2. Participants

The participants in this study were three university seniors from a public university in Ho Chi Minh City: one male majoring in Electrical Engineering and two females majoring in English. All were 21 years old and were conveniently selected from an IELTS tutored class of nine students. This group was chosen because they had regular exposure to Quizlet as part of their IELTS vocabulary learning activities, making them well-suited to provide insights into learners' perceptions and experiences with the tool. To ensure confidentiality, pseudonyms were assigned to each participant. Participation was voluntary, and informed consent was obtained prior to the interviews. All participants were taught by the same instructor, Mr. N. Table 1 summarizes the participants' demographic information.

Table 1

Personal Information of Participants

Name	Gender	Age	Major	Years at university	Years of learning English
Alice	Female	21	English Language	3	11
Xuka	Female	21	English Language	3	15
Lee	Male	21	Automation Electricity	3	11

Note. Excel Output

Alice, a 21-year-old English major, has studied English for eleven years. Initially, she relied on YouTube for self-study, but later, she incorporated Quizlet and social media platforms like Facebook and TikTok, actively participating in English-speaking groups. Her preference for interactive, casual learning has helped improve her speaking and listening skills by exposing her to real-world language use. While she enjoys the engaging content on YouTube and TikTok, she acknowledges that Quizlet offers a more structured and systematic approach to vocabulary retention.

Xuka, also 21 years old and an English major, has been learning English for 15 years, starting at six. Despite her long experience, she still faces challenges with language use, synonym confusion, and vocabulary retention. She used Quizlet to expand her vocabulary and manage test-related stress. Additionally, she recommends Google Translate for quick word recognition and comprehension. However, she notes that while Google Translate provides instant translations, it lacks the structured reinforcement of spaced repetition, limiting its effectiveness in long-term retention.

Lee, the only male participant, is a 21-year-old automation engineering student. He has studied English for eleven years, but has struggled with comprehending academic materials and using technical language in his field. In 2022, he transitioned from traditional learning methods to using Quizlet, finding it a significant improvement. He shared that Quizlet's repetitive practice and clear explanations made learning more engaging and effective.

3.3. Research instruments

The researcher designed twelve semi-structured interview questions to explore how Quizlet supports students in vocabulary learning and to capture their perceptions of its use. In addition to developing the interview protocol, the researchers were responsible for data collection, analysis, and interpretation, ensuring consistency with the study's objectives. Each participant responded to all twelve questions. Specifically, Questions 1 and 2 elicited demographic information, while Questions 3 to 5 examined participants' general vocabulary learning habits and strategies. Questions 6 to 10 focused on their Quizlet experiences, including changes in study approaches, vocabulary retention, and motivation in learning English. Finally, Questions 11 and 12 addressed participants' perspectives on traditional versus digital learning methods and their recommendations for integrating Quizlet into English language programs (see Appendix A - online version for the complete list of interview questions).

3.4. Data collection procedure

The study involved three participants enrolled in an IELTS preparation course taught by Mr. N, an instructor with three years of experience teaching IELTS at a foreign language center (Appendix C - online version). The class, comprising nine students, followed a structured

curriculum incorporating Quizlet-based vocabulary assessments with content from Barron's Essential Words for the IELTS (Lougheed, 2014). The study spanned three months, with students attending two-hour classes twice per week. Each vocabulary unit, consisting of three lessons, lasted two weeks and focused on a specific topic to provide contextualized vocabulary instruction.

Quizlet was integrated into the IELTS course through **teacher-led classroom activities** and **student self-study assignments.** The instructor introduced vocabulary sets prepared on Quizlet in class and used them in interactive activities such as Quizlet Live team competitions and vocabulary refresher exercises. Outside class, students were required to complete specific Quizlet study modes (e.g., Learn, Write) as weekly homework, with their progress monitored by the instructor. This dual approach ensured that Quizlet was a supplementary self-study tool and an embedded curriculum component.

Students engaged with Quizlet in a structured sequence to support vocabulary learning across three dimensions: **form, meaning, and use**. They began with Flashcards to recognize spelling, pronunciation, and part of speech (form). Next, they practiced *Learn* mode and Match to connect definitions, synonyms, and translations (meaning). Finally, they used Write and Test modes to apply sentence vocabulary, improving grammatical accuracy and contextual usage (use). This scaffolded process enabled learners to move progressively from recognition to recall and application.

Using gamification strategies like Quizlet Live and Quizlet Plus, Mr. N led interactive practices promoting team-based contests and sustained participation. Participants used vocabulary sets in a variety of ways. Before moving on to learn to practice definitions, synonyms, and sentence use, they started with the Flashcards mode to familiarize themselves with sound and meaning. After that, they wrote for spelling and word forms. By methodically utilizing various study techniques, students could advance from recognition to recall and application, transforming vocabulary acquisition from a passive to an active and enjoyable. Learning results were further enhanced by the often-updated Quizlet library (see Appendix B - online version for sample Quizlet questions). In total, there are four units as follows:

- **Unit 1: The Natural World** - Environmental Impacts of Logging, Bird Migration, Plant Life in the Taklimakan Desert
- **Unit 2: Leisure Time** - Peripheral Vision in Sports, History of the Circus, Uses of Leisure Time
- **Unit 3: Transportation** - First Headlamps, Major Subways of Europe, Electric Cars Around the Globe
- **Unit 4: Culture** - Origins of Writing, Hula Dancing in Hawaiian Culture, The Art of Mime

At the end of the course, students were invited to participate in interviews, and three volunteers - Alice, Xuka, and Lee - agreed to participate. Each semi-structured interview lasted 20 - 25 minutes, allowing for an in-depth exploration of participants' experiences. The interviews were recorded with participants' consent and later transcribed for analysis. Participants first provided background information, including their year of study and the time they typically spent learning vocabulary each week. They then described their usual study methods and the strategies or resources they had relied on before using Quizlet. The discussion also covered their prior experience with Quizlet, whether they had used it before joining the IELTS class, and how frequently they engaged with it during the course.

To ensure comprehensive data collection, participants reflected on how their approach to vocabulary learning evolved after incorporating Quizlet, comparing its effectiveness to previous methods. They also shared insights into how Quizlet influenced their studying habits, motivation, and recall when learning English vocabulary and evaluated the benefits and limitations of traditional versus digital vocabulary learning tools. Lastly, participants provided recommendations for students and educators on integrating Quizlet into English programs and expressed interest in exploring other language-learning applications. To enhance data reliability, member checking was conducted by summarizing key points at the end of each interview and asking participants to confirm or clarify their responses.

3.5. Data analysis

This study employed qualitative analysis to explore participants' perceptions of Quizlet's impact on English vocabulary learning. With participants' consent, all interviews were audio-recorded, transcribed, and translated from Vietnamese to English to ensure accessibility. Data integrity was ensured through a rigorous translation process to preserve the original context and meaning. The study adopted an inductive content analysis approach with open coding, allowing themes to emerge naturally, following the guidelines of Marshall and Rossman (2016) and Creswell (2007).

The researchers systematically reviewed the transcripts, annotated key segments, and developed initial codes before identifying common patterns and carefully examining divergent views. After that, the researchers continuously compared the codes and used direct participant quotations to illustrate key insights and enhance validity. To ensure trustworthiness, the research team maintained reflexivity through analytic memos and self-reflection on potential researcher bias. Additionally, inter-rater reliability was established by having a second researcher independently code a subset of the data; discrepancies were discussed until consensus was reached. This process enhanced the consistency of coding and the credibility of the findings.

4. Findings and discussion

4.1. Findings

4.1.1. Participants' perceptions of using Quizlet in English vocabulary acquisition

This section presents the findings based on the three dimensions of Self-Determination Theory: autonomy, competence, and relatedness. Data from participant interviews (Alice, Xuka, and Lee) revealed how Quizlet influenced their vocabulary learning experience through self-directed learning, mastery development, and social connection.

Autonomy: Control, flexibility, and self-regulated learning

The findings indicate that Quizlet offers learners greater autonomy than traditional vocabulary learning. Participants emphasized the platform's flexibility, which allows them to decide when, where, and how to study, thus encouraging self-regulation and ownership of learning. Alice highlighted that digital tools help her manage time and learning pace independently:

"When I study alone at home without a teacher, I lack motivation and feel little incentive to complete my tasks correctly. With digital platforms like Quizlet, I can manage my time efficiently and study at my convenience."

Her comment demonstrates that using Quizlet fosters autonomous behavior by enabling time management and self-direction. However, she also mentioned dependence on internet access as a limitation, which can constrain her sense of control.

Like Alice, Xuka also noted the value of autonomy in Quizlet use:

"I usually study on Quizlet for two hours daily and throughout the week to maintain memory frequency because I usually gain language in the evening."

This consideration reflects her ability to personalize study sessions according to her preferred schedule, indicating autonomous learning. Similarly, Lee organized his study time based on his learning needs:

"If there is no English class, it will be one hour that I use Quizlet every day; otherwise, it will be two to three hours, except on Sunday."

Lee's self-imposed timetable reflects the exercise of choice and self-discipline. The findings suggest that students use Quizlet to extend learning beyond classroom boundaries, demonstrating a shift from teacher dependency to self-directed engagement.

Competence: Mastery, progress, and motivation

The second dimension of SDT, competence, is evident in how students perceive Quizlet as enhancing vocabulary mastery and providing feedback that builds confidence. Participants described Quizlet's structure, i.e., flashcards, spaced repetition, and games, as mechanisms that reinforce learning and support a sense of achievement.

Alice reported that Quizlet improved her vocabulary retention:

"Before using Quizlet, I found it difficult to remember new words. I retain vocabulary much better with regular practice and use it naturally in conversations."

This shows how consistent exposure through digital repetition builds perceived competence. Xuka also associated her improvement with Quizlet's features:

"In the past, I could not discriminate between different word kinds … Quizlet helped me solve the challenge by eliminating the words I couldn't fully recall."

This statement suggests that Quizlet's active recall and feedback mechanisms enhance self-efficacy, a core aspect of competence. Additionally, Lee highlighted how Quizlet's gamified functions transformed learning from a tedious task into an enjoyable challenge:

"I used to see studying as a chore, but Quizlet's interactive games make it fun. Competing with myself to improve my scores has kept me motivated."

`Gamified learning provides immediate feedback and measurable progress, allowing learners to experience mastery in small, rewarding increments. Across participants, this perceived progress fostered intrinsic motivation. They studied not only to achieve external success but also to improve their satisfaction.

Relatedness: Collaboration, connection, and support

Although autonomy and competence were more prominently reported, elements of relatedness emerged in participants' accounts, particularly through collaborative and communicative aspects of Quizlet. Lee mentioned that Quizlet's reminders and shared study sets helped him stay connected with peers and maintain accountability:

"Regularly using Quizlet is a helpful way for me to prepare for my teacher's test… it reminds me to study through alerts."

Through features such as shared flashcards and progress comparison, learners experience a digital connection that mirrors classroom collaboration. This social dimension supports the SDT notion of relatedness, feeling part of a learning community, even in self-paced study.

Moreover, students' discussions of classroom integration show that using Quizlet alongside in-person instruction strengthens their sense of belonging and shared purpose. Combining independent and collective learning reinforces mutual support among peers and teacher-student relationships, fulfilling the relatedness component.

In short, participants reported increased autonomy through flexible, self-paced learning and control over their study routines. The platform's features such as spaced repetition, flashcards, and gamified elements fostered a sense of competence by improving vocabulary retention and making learning more engaging. Elements of relatedness also emerged, with participants experiencing digital connection through shared study sets and reminders, supporting collaborative learning even in self-directed contexts. Overall, Quizlet encouraged self-regulated, motivating, and socially supported vocabulary learning.

4.1.2. Participants' recommendations for integrating Quizlet into English language curricula at Vietnamese universities

Insights from Quizlet users are essential to maximizing the platform's integration into vocabulary learning programs at Vietnamese universities. Rather than replacing conventional teaching strategies, Quizlet is a valuable complement, enhancing learning experiences through its interactive features. The students' recommendations provide practical strategies for leveraging Quizlet to improve vocabulary retention and engagement in university courses. Three key themes emerge from the participants' suggestions: early engagement, assessment and feedback, and organization.

Early engagement with Quizlet for academic success

Alice emphasizes that Quizlet plays a crucial role in her academic experience, mainly because her instructors frequently use it to assess students based on materials from previous lectures. In her view, right from being first-year students, students should become familiar with Quizlet as early as possible to prevent missing out on important vocabulary and gradually adapt to using it as a study tool:

"Since many university lecturers use Quizlet for vocabulary reviews, students should become familiar with Quizlet early on in the first year at university to prevent missing out on valuable vocabulary and gradually become used to using it". (Alice)

Alice's insight underscores the significance of Quizlet as a reinforcement tool. Since many university assessments build upon previously taught content, students unfamiliar with Quizlet or failing to incorporate it into their study routines may fall behind. Additionally, Quizlet's repetitive study modes, such as flashcards, quizzes, and games, help reinforce knowledge more effectively than traditional rote learning.

For first-year students, transitioning to university involves an increased workload and the need for greater self-directed learning. Quizlet provides a structured, engaging way to facilitate this transition by offering interactive review options that enhance memory retention.

Enhancing assessments and feedback through Quizlet

Xuka highlights Quizlet's potential for improving assessment and communication between teachers, students, and parents. One notable feature of Quizlet is its ability to send results directly to students and parents, making it a useful tool for tracking academic performance:

"Because Quizlet allows results to be sent directly to students' and parents' emails, teachers may utilize it to develop assessments." (Xuka)

Traditional assessments often require manual grading, which can be time-consuming, error-prone, and lack transparency. By contrast, Quizlet automates assessment results, offering instant feedback and reducing administrative workload for educators. Additionally, this system promotes greater accountability, as parents and students receive performance reports in real-time.

Students also benefit from immediate access to their results, allowing them to identify weak areas and adjust their study strategies accordingly. This differs from traditional methods, where students may experience long waiting periods for grades, leading to anxiety and uncertainty about their progress.

Organizing learning materials with Quizlet folders

Lee offers another practical recommendation - students should create individual Quizlet folders to store their study sets for later use.

"Each of you should have a Quizlet folder to save materials for later use." (Lee)

By digitally organizing study materials, students can easily retrieve important content without the risk of losing physical notes or printed handouts. This strategy is particularly beneficial in higher education, where students must manage large amounts of academic content across multiple courses.

In addition to organization, appropriately naming and categorizing Quizlet folders can enhance study efficiency. Rather than searching through scattered notes, students can quickly locate relevant vocabulary and concepts, optimizing their study time. Moreover, Quizlet's sharing feature enables students to collaborate by exchanging folders with peers, promoting peer-assisted learning.

In short, traditional vocabulary learning and digital platforms like Quizlet each offer distinct advantages and limitations. While conventional methods provide structured reinforcement and autonomy, they can be time-consuming and less engaging. In contrast, digital tools like Quizlet enhance efficiency, interactivity, and self-paced learning but rely on Internet access. Student perspectives reveal that Quizlet improves vocabulary retention through spaced repetition and gamification, fostering self-directed learning and motivation. Additionally, it supports exam preparation and progress tracking. For effective integration into Vietnamese universities, students recommend early engagement, assessment through automated feedback, and organized study materials using Quizlet folders to enhance learning efficiency.

4.2. Discussion and implications

The findings of this study reveal that Quizlet positively influenced students' vocabulary learning experiences, particularly in terms of motivation, engagement, retention, and self-directed study. To explain these results, this discussion draws on Self-Determination Theory (SDT) (Deci & Ryan, 1985), which identifies three psychological needs, i.e., autonomy, competence, and relatedness, as central to intrinsic motivation.

Autonomy

Students valued Quizlet's flexibility to manage their own learning schedules, as reflected in Alice's and Xuka's accounts of studying independently at their preferred times. This supports SDT's claim that autonomy fosters intrinsic motivation by allowing learners to determine when, where, and how they study. Similar outcomes have been reported by Waluyo and Bucol (2021), Nguyen and Le (2022), who found that Quizlet promoted self-directed vocabulary learning through customizable study routines and progress monitoring.

However, this finding also refines earlier research. While Ali et al. (2024) argued that AI-driven language tools enhance autonomy through personalization, their study was largely theoretical. The present findings add empirical evidence from Vietnamese learners demonstrating how autonomy operates when learners voluntarily adopt Quizlet.

Competence

Quizlet's gamified features, like instant feedback, repetition, and self-testing, reinforced students' sense of mastery. Xuka's and Lee's experiences illustrate how perceived progress can sustain motivation, consistent with SDT's competence principle. Prior studies similarly noted improved recall and satisfaction (e.g., Bueno-Alastuey & Nemeth, 2020; Whitman et al., 2019), yet they lacked a theoretical explanation of why learners felt motivated. By situating these results within SDT, this study clarifies that competence gains derive from continuous feedback and measurable progress, not merely game-like enjoyment.

Moreover, findings here resonate with Mohammadi et al. (2024), who showed that digital flashcards outperformed paper versions in fostering receptive and productive vocabulary. These results suggest that Quizlet strengthens perceived competence through scaffolded, low-stakes practice that builds confidence and enhances motivation, an advantage that traditional methods often lack.

Relatedness

Although less prominent, students acknowledged Quizlet's collaborative potential, such as sharing folders and study sets with peers. This supports SDT's third component, relatedness, by promoting interaction and a sense of belonging in the learning community. Suharno et al. (2023) similarly emphasized that teacher presence and structured interaction sustain motivation in long-term gamified courses. The current study reinforces this by showing that even minimal digital collaboration, such as shared study sets or reminders, can foster social connectedness that sustains engagement.

Integrating SDT with existing literature

Overall, this study extends prior research in two key ways. First, while most earlier work (e.g., Bueno-Alastuey & Nemeth, 2020; Putz et al., 2020) described what Quizlet achieves, few explained why it motivates learners. By aligning the findings with SDT, the present study provides a theory-driven explanation: Quizlet satisfies autonomy through flexible scheduling, competence through immediate feedback, and relatedness through collaboration.

Second, few studies have examined Quizlet in high-stakes contexts such as IELTS preparation in Vietnam, a gap highlighted in the literature review. Addressing this, the current research demonstrates that Vietnamese university students use Quizlet not merely for memorization but as a tool for sustained, self-regulated learning. This supports Tosun (2015), who observed that digital tools are most effective when learners are intrinsically motivated to study beyond class hours.

Pedagogical implications

These findings convey several implications for English language teaching in higher education, especially in EMI (English-medium instruction) programs where vocabulary retention is critical. Educators should integrate Quizlet as a complementary tool, not a replacement for instruction. Gamified features such as points, leaderboards, badges, and timed challenges should be used to support autonomy, competence, and relatedness, echoing Suharno et al. (2023) that gamification works best alongside active teacher guidance. Teachers can further enhance competence by designing contextualized vocabulary sets (collocations, idioms, example sentences) and providing immediate feedback through digital quizzes.

At the institutional level, universities should train instructors and students to use Quizlet effectively and develop reflective learning habits. To prevent the novelty effect from fading, teachers can embed adaptive difficulty, scaffolding, and social interaction within gamified tasks (Putz et al., 2020), ensuring that motivation translates into long-term learning gains.

Theoretical contribution

By applying SDT to empirical evidence, this study bridges the theoretical gap noted by Ali et al. (2024) and others who called for explanations of why gamified learning motivates students. It demonstrates that Quizlet's success lies not in technology alone but in its ability to fulfill fundamental psychological needs. Thus, integrating SDT provides a comprehensive understanding of the motivational mechanisms behind vocabulary learning in digital environments.

5. Conclusion, limitations, and recommendations for future studies

This study investigated how Quizlet supports university students' English vocabulary learning through the lens of Self-Determination Theory (Deci & Ryan, 1985). The findings revealed that Quizlet enhances learners' motivation, engagement, vocabulary retention, and self-directed learning by fulfilling the three psychological needs of autonomy, competence, and relatedness. Students appreciated the flexibility to manage their learning schedules (autonomy), the immediate feedback and progress tracking that reinforced mastery (competence), and the collaborative features that fostered a sense of connection (relatedness).

By aligning empirical results with SDT, this study advances a theory-driven understanding of why gamified CALL tools motivate learners. It shows that Quizlet's impact stems from its technological novelty and its capacity to satisfy intrinsic motivational needs that underpin sustained vocabulary learning. These insights extend prior research, particularly in the underexplored Vietnamese EFL context, and highlight the importance of grounding digital learning practices in established motivational frameworks.

Despite its advantages, this study has several limitations. First, its findings may not be broadly generalizable, as they focus on specific academic disciplines. Students from different universities, geographical regions, or technological learning environments may perceive Quizlet's effectiveness differently. Second, this study captures students' experiences at a single time rather than examining the long-term effects of Quizlet on vocabulary growth. Although students reported increased intrinsic motivation through enhanced engagement, vocabulary acquition and autonomous learning, further research is needed to assess the sustained impact of regular Quizlet use. Additionally, the relatively small participant pool limits the scope of the findings, highlighting the need for larger-scale studies.

Future research should address these limitations by expanding sample sizes to capture broader student perspectives. Investigating variations across disciplines, academic levels, and learning environments would provide a more comprehensive understanding of Quizlet's effectiveness. Additionally, studies should employ longitudinal designs to assess the long-term impact of Quizlet on vocabulary acquisition and retention. Examining educators' experiences with Quizlet can also offer insights into best practices for implementation. By extending research beyond the scope of this study, education can continue to evolve and adapt to technological advancements in language learning.

SCIENTIFIC CONTRIBUTION

The manuscript clearly identifies a research gap; the manuscript extends or refines existing theories; the manuscript introduces or improves research methods; the manuscript provides new datasets or empirical evidence; the manuscript presents statistically and practically significant findings; the manuscript offers policy/managerial/technological implications; the manuscript opens new directions for further research.

AUTHOR CONTRIBUTIONS

CRediT: **Truong Thi Nhu Ngoc**: Conceptualization, Methodology, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Supervision, Project Administration; **Nguyen Tu Nhan**: Methodology, Validation, Formal Analysis, Investigation, Resources, Writing - Review & Editing, Visualization; **Nguyen Minh Hung**: Resources, Writing - Review & Editing.

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NO CONFLICT OF INTEREST STATEMENT

All authors declare that they have no conflict of interest.

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