

Effect of Using *Quizlet* on Thai Students' English Collocation Learning Achievement and Retention: A Study of a University in Thailand

Arnantawut Tiang-uan*

Faculty of Humanities and Social Sciences, Bansomdejchaopraya Rajabhat University, Bangkok, Thailand

Corresponding author: Arnantawut Tiang-uan, E-mail: arnantawut.ti@bsru.ac.th

ARTICLE INFO

Article history

Received: July 04, 2023

Accepted: September 01, 2023

Published: October 31, 2023

Volume: 11 Issue: 4

Conflicts of interest: None

Funding: None

ABSTRACT

This study examined the impact of *Quizlet*, a digital learning tool, on the English collocation learning achievement and knowledge retention of Thai first-year students, focusing on the usage of 'do', 'make' and 'take'. It also explored students' attitudes towards using *Quizlet*. The participants were 76 first-year students from a private university in Bangkok, Thailand. The research was carried out during the first semester of the 2022 academic year using an achievement test and a questionnaire to gauge the learning differences and attitudes towards *Quizlet*. The statistical analysis included frequency and descriptive statistics and a paired-samples *t*-test to measure the difference in learning outcomes between *Quizlet* and the Grammar Translation Method (GTM). The study found that there was a statistically significant difference ($p < .001$) in knowledge retention after one month between students who learned with *Quizlet* and those who learned with GTM. It also revealed high student satisfaction with *Quizlet*, especially regarding its implementation, design, and content applicability to real life.

Key words: *Quizlet*, Grammar Translation Method, Collocation

INTRODUCTION

Understanding the most effective methods to teach English as a Foreign Language (EFL) is of paramount importance in the current globalized environment. Learning English in non-English speaking countries has been prevalent, employing several methods and tools, such as the Grammar Translation Method (GTM) and the newer digital-based tool *Quizlet*. The evolving nature of teaching and learning, propelled by technological advancement, has necessitated an examination of the effectiveness of these learning tools. The present research evaluates the impact of using *Quizlet* on the English collocation learning achievement and knowledge retention of Thai EFL students, focusing particularly on the use of verbs such as 'do', 'make' and 'take'.

The GTM or Classical Method is an age-old technique especially prevalent in school levels and non-English native countries (Davila, 2015). This method mainly aids students in understanding foreign literature, improving their command of the native language (L1) and enhancing intellectual growth. However, with the advent of digital learning platforms such as *Quizlet*, the landscape of EFL teaching has seen considerable changes. *Quizlet* has been highlighted as a modern educational innovation that bolsters the language learning process (Bitter, 1989) and makes use of computer for assisting language learning (Platzer, 2020). *Quizlet*'s features of accessibility, interactivity and portability (Hampel & Lamy, 2007) significantly contribute to its popularity and usage.

However, despite the advantages associated with *Quizlet*, there is a dearth of comprehensive research on its efficacy, particularly in the context of EFL teaching in Thailand. This gap in the literature elucidates the need for the present study. While a considerable body of research has shed light on English collocation learning achievement and knowledge retention using traditional methods, such as GTM, limited studies have empirically explored *Quizlet*'s potential in this aspect. Hence, this study aims to address this lacuna by comparing the effectiveness of *Quizlet* and GTM in teaching English collocations to Thai students.

The significance of this study lies in its potential to contribute to a broader understanding of English collocation learning using digital platforms. As the first study focusing on the effect of *Quizlet* on Thai students' English collocation-learning achievement, the findings add to the body of knowledge in this realm. The results can be employed to design activities that enhance English collocation learning, thus potentially improving students' learning outcomes. By understanding students' attitudes towards *Quizlet*'s content, design and implementation, this research can offer insights to educators and policymakers, aiding them in making more informed pedagogical decisions.

In an era of pervasive digital technology, an emphasis on digital literacy in online vocabulary learning has become increasingly crucial. In this context, digital literacy refers to the ability of learners to effectively use digital tools

(Gomathy, 2018), such as *Quizlet*, to enhance their language acquisition process. This includes not just the mechanical use of the platform but also an understanding of how to best utilize its features to improve learning outcomes. Furthermore, digital literacy empowers learners to leverage technology in the consolidation and retention of newly acquired knowledge (Churchill, 2016). *Quizlet* embodies the benefits of digital platforms in EFL education as an interactive, accessible, and portable tool (Toris et al., 2015). However, the efficacy of such platforms, especially in the context of English collocation learning, requires further investigation.

This understanding of digital literacy's importance underpins the motivation for this study. Therefore, the research is structured as follows. First, it investigates the differences in English collocation learning achievement and knowledge retention between students who learn with *Quizlet* and those who learn with GTM. Second, it explores the attitudes of students towards learning with *Quizlet*. Thus, this research aims to provide a comprehensive examination of the impact of *Quizlet* on the learning outcomes and experiences of Thai EFL students, which consists of the following research questions:

1. Was there a statistically significant difference in students' learning achievement both between pretest and post-test of the intervention group and post-test scores between the intervention group and the control group?
2. Was there a statistically significant difference in students' knowledge retention of English collocation on the use of 'do', 'make' and 'take' after one month of students who learn with *Quizlet* and those who learn with GTM?
3. What were students' attitudes towards the use of *Quizlet* in learning English collocation in terms of knowledge, skills and application?

LITERATURE REVIEW

An Introduction to Quizlet for English Language Teaching and the Grammar Translation Method

Quizlet is an innovative digital platform that has transformed the landscape of language learning by introducing interactive and accessible methods to facilitate language comprehension and knowledge retention (Bitter, 1989). Offering a range of interactive games, flashcards and tests, *Quizlet* allows students to engage with language learning in a more dynamic manner (Gorbatovskaia & Torrance, 2018). Particularly relevant to English language teaching, *Quizlet* aids in vocabulary building, understanding collocations and enhancing overall language proficiency.

On the other hand, GTM is a traditional approach to language teaching that is grounded in direct translation from one language to another (Richards & Rodgers, 2014). Primarily used for teaching classical languages, GTM puts significant emphasis on grammatical rules, syntactic structures and a wide-ranging vocabulary. It is based on explicit teaching, where students learn grammatical rules and then apply those rules by translating sentences between the target language and the native language. Despite its age-old methodology, GTM has remained prevalent in many non-English-speaking

countries, highlighting its continued relevance in the language-learning context (Davila, 2015).

The Strengths of Quizlet in Teaching English Vocabulary and Collocations

Quizlet is lauded for its strengths in teaching English vocabulary and collocations. Its interactivity promotes active learning, enabling students to engage directly with the material and enhancing their understanding and memory retention (Gorbatovskaia & Torrance, 2018). Using visual and auditory cues, this platform's multimedia approach aids in improving vocabulary acquisition and retention (Lin & Hsiao, 2011). Moreover, the self-paced nature of *Quizlet* allows learners to revise and revisit materials according to their convenience, fostering a personalized learning environment (Huang, 2018).

In terms of teaching collocations, *Quizlet*'s flashcard feature is especially beneficial. Students can practice the use of different verbs (e.g. 'do', 'make', 'take') with various collocates, solidifying their understanding of these often tricky linguistic features (Lewis, 2000). Thus, *Quizlet* is an effective tool for teaching English vocabulary and collocations.

Collocations of 'Do', 'Make' and 'Take' and their Applications to the English Language

Collocation refers to the way in which words combine into a language to produce more predictable and natural language (Lewis, 2000). Understanding collocations is integral to English language proficiency. Specific verbs like 'do', 'make' and 'take' commonly collocate with other words, thereby shaping distinct phrases with unique meanings (Nesselhauf, 2003). For instance, we 'do homework', 'make a promise' and 'take a break'.

Gaining a good command of such collocations can improve a learner's fluency and language comprehension, contributing significantly to their overall language competence (Hill, 2000). Moreover, teaching these collocations can be more effective with the use of digital tools like *Quizlet*, as students can practice and revise these language patterns in an engaging, interactive environment (Gorbatovskaia & Torrance, 2018).

Attitudes towards the Use of Quizlet in Learning English Collocation in terms of Knowledge, Skills and Application

Learners' attitudes towards *Quizlet* in learning English collocations have been generally positive, with students appreciating its dynamic, engaging and personalized learning environment (Huang, 2018). It has been shown to enhance knowledge acquisition, as learners can consistently engage with and revise language content (Gorbatovskaia & Torrance, 2018).

In terms of skills, *Quizlet* promotes self-directed learning and fosters autonomy and critical thinking. *Quizlet*'s interactive nature also allows learners to apply their knowledge in practical scenarios, strengthening their understanding of English collocations. Research has suggested that *Quizlet* can effectively support English language learning, with students

reporting high satisfaction rates due to the platform's interactivity, convenience and utility (Huang, 2018).

Previous Studies of Using Quizlet for Teaching English in Thai Contexts

Given the proliferation of technology in language learning, several studies have explored the use of *Quizlet* in the Thai context. It has been demonstrated that *Quizlet* has effectively facilitated English language learning for Thai students by making it more interactive and engaging.

Surasvadi et al. (2018) investigated the use of *Quizlet* in teaching vocabulary to secondary school students in Thailand. Their findings indicated that the application of *Quizlet* significantly improved students' vocabulary learning performance, demonstrating the platform's effectiveness in the Thai educational context.

Similarly, a study by Wiratchai et al. (2020) found that the implementation of *Quizlet* in Thai tertiary education significantly enhanced English vocabulary retention. They observed a substantial improvement in the participants' vocabulary test scores after using *Quizlet* for learning, underlining its potential for vocabulary acquisition and retention.

However, these studies primarily focused on vocabulary learning, indicating a gap in the literature concerning the use of *Quizlet* for teaching English collocations in the Thai context. This research area's exploration, especially in the context of collocations of 'do', 'make' and 'take', could contribute significantly to the understanding of digital tools' potential, such as *Quizlet*, for enhancing English language learning in Thailand.

METHODOLOGY

Participants

This research encompassed first-year students from a private university in Bangkok, Thailand, during the first semester of the academic year 2022. The students were from the Business Administration programme. A diversified set of students representing various proficiency levels (high proficiency, moderate proficiency, and low proficiency) was selected through a cluster random sampling design, along with convenient selection from two classes, collectively comprising 76 students who participated in the main study. All of them enrolled an English listening-speaking course as a compulsory course for the first-year students. Students from one class, forming the experimental group, were educated using *Quizlet*, whereas students from the second class, constituting the control group, were taught using GTM. Both groups took 8 weeks in learning English collocations, especially in the context of collocations of 'do', 'make' and 'take', with the same content and lesson objectives but different interventions.

Instruments

Two principal instruments were employed in this study – 1) an achievement test and 2) a questionnaire. The achievement test, featuring 80 multiple-choice questions related to the use of 'do', 'make' and 'take', was administered thrice as a pretest to gauge initial English collocation proficiency,

as an immediate post-test following instruction with *Quizlet* and GTM and as a delayed post-test to assess knowledge retention. The test items underwent a validity and reliability check via the 'Index of Consistency (IOC)' verified by field experts. The questionnaire, administered solely to the experimental group, collected participants' feedback about their experiences with the *Quizlet* programme.

Pilot Study

A vital part of this research was the pilot study, which assessed *Quizlet*'s effectiveness and appropriateness for the broader research context. The pilot study, which involved 22 volunteer students, was conducted one month prior to the main research over a span of four weeks. The students' scores exhibited a statistically significant improvement from the pretest to the post-test, thus validating *Quizlet*'s utility.

From Table 1, the results of the pilot study revealed that there was a difference between the pretest scores ($M = 12.55$, $SD = 1.50$) and the post-test scores ($M = 35.77$, $SD = 2.58$) in a significant level, $p < .001$. This means that the students had higher post-test scores than pretest scores showing the *Quizlet*'s effectiveness and appropriateness for the main research context.

Research Design

This study constituted a true experimental design with two groups – a control group instructed through GTM and an experimental group using *Quizlet*. Both groups were initially given a pretest to assess proficiency levels, followed by lessons delivered by the same instructor. A post-test was administered at semester end to compare the effectiveness of both methods. Following a one-month break, a delayed post-test was conducted to evaluate the students' knowledge retention of English collocation.

Data Collection and Data Analysis

Data were obtained from the achievement tests (pretest, immediate post-test and delayed post-test) and the questionnaires. The achievement tests were administered at three different stages – before instruction, at the end of the semester and one month later. The questionnaires were disseminated after the delayed post-test. The findings were analyzed and described based on frequency, percentage and mean.

RESULTS AND DISCUSSION

This section provides an analysis of the gathered data, revealing the impact of *Quizlet* on English collocation learning with a focus on the usage of 'do', 'make' and 'take' and assessing students' attitudes towards this method.

Table 1. Comparison of pre- and post-test scores of pilot participants (n = 22)

Test Scores	Total Scores	<i>M</i>	<i>SD</i>	<i>t</i>	sig.*
Pretest	40	12.55	1.50	-39.74	0.000
Post-test	40	35.77	2.58		

*Significant difference = $p < 0.001$

The Effect of Quizlet on English Collocation Learning

From research question 1, *Was there a statistically significant difference in students' learning achievement both between pretest and post-test of the intervention group and post-test scores between the intervention group and the control group?*, Tables 2 and 3 addressed the students' learning achievement in learning English collocation and the significant difference between the post-test scores for both groups.

Table 2 provides a comparison of the experimental and control groups' mean scores before and after the intervention. The experimental group's mean scores exhibited a remarkable increase from 15.25 to 37.75 after the implementation of *Quizlet*, while the control group saw a modest improvement from 15.31 to 23.52. The use of *Quizlet* showed a significant effect on the improvement of English collocation learning in the experimental group. The students' mean scores increased remarkably after the implementation of *Quizlet*. This finding aligns with previous studies suggesting that using digital platforms, such as *Quizlet*, enhances language learning outcomes (Štěpáník, 2019). *Quizlet's* interactive and visually appealing nature can increase student engagement and foster better comprehension and retention of learning material (Cox, 2017).

From Table 3, it is evident that both the *Quizlet* and GTM groups showed statistically significant improvements in scores from the pretest to the post-test ($p < .001$). However, the *Quizlet* group showed a greater degree of improvement compared to the GTM group.

As shown in Table 3, both groups demonstrated significant improvements in English collocation knowledge from pretest to post-test. The increase in scores for both the *Quizlet* group ($t(37) = 20.60, p < .001$) and the GTM group ($t(37) = 12.89, p < .001$) indicates that both methods are effective in improving English collocation understanding, which aligns with previous studies demonstrating the effectiveness of both *Quizlet* (Setiawan & Wiedarti, 2020) and GTM (Sarıçoban & Sarıçoban, 2012) in teaching English. However, the more pronounced improvement in the *Quizlet* group suggests that this approach may be more effective for this particular sample and context. The superior efficacy of *Quizlet* may be attributed to its interactive and repetitive nature, which fosters learner engagement and memory retention, as suggested

Table 2. English collocation learning achievement (n = 76)

Test	Experimental (<i>Quizlet</i>)		Control (GTM)	
	M	SD	M	SD
Pretest	15.25	2.65	15.31	2.43
Post-test	37.75	1.89	23.52	2.28

Table 3. Pre- and post-test scores for both groups (n = 76)

Group	Pretest Mean	Post-test Mean	t	sig.
<i>Quizlet</i> (n=38)	15.25	37.75	20.60	0.000
GTM (n = 38)	15.31	23.52	12.89	0.000

*Significant difference = $p < 0.001$

by Chen and Hsu (2008). This aligns with cognitive theories of language acquisition, which emphasize the importance of repeated exposure and active engagement in language learning (Nation, 2013).

Knowledge Retention after One Month

From research question 2, *Was there a statistically significant difference in students' knowledge retention of English collocation on the use of 'do', 'make' and 'take' after one month of students who learn with Quizlet and those who learn with GTM?*, Tables 4 and 5 showed the results of the post-test scores and the delayed post-test scores.

In terms of knowledge retention after one month, as Table 4 illustrates, the *Quizlet* group had slightly lower scores compared to the immediate post-test (35.88 from 37.75), indicating a small decline in knowledge retention. However, the GTM group exhibited a larger decrease, dropping from 23.52 to 19.44. One of the key advantages of *Quizlet* appears to be its impact on long-term knowledge retention. Although a slight drop was observed in the *Quizlet* group's mean scores, the decrease was relatively smaller compared to the GTM group. This underscores the potential of *Quizlet* as an effective tool for enhancing knowledge retention. The 'spaced repetition' feature of *Quizlet*, where learners review material at increasing intervals over time, may contribute to this result (Cox, 2017). This echoes findings from other studies asserting that digital platforms promote long-term retention (Azabdaftari & Mozaheb, 2012).

Table 5 shows a statistically significant difference in the scores between the post-test and delayed post-test for the two groups ($p < .001$). This suggests that the method of teaching (*Quizlet* vs GTM) has a significant impact on knowledge retention after a one-month period.

As depicted in Table 5, the difference between the post-test and delayed post-test scores for the two groups is statistically significant ($F(1,74) = 36.24, p < .001$), indicating that the method of teaching (*Quizlet* vs GTM) significantly affects knowledge retention after one month. The superior retention observed in the *Quizlet* group is consistent with studies highlighting the long-term memory benefits of digital learning tools, such as *Quizlet*, due to their capacity to promote active

Table 4. English collocation learning retention (n = 76)

Test	Experimental (<i>Quizlet</i>)		Control (GTM)	
	M	SD	M	SD
Post-test	37.75	1.89	23.52	2.28
Delayed Post-test	35.88	1.67	19.44	2.05

Table 5. Comparison of post-test and delayed post-test scores for both groups (ANOVA)

Source	SS	df	MS	F	sig.
Between Groups	4810.65	1	4810.65	36.24	0.000
Within Groups	3805.44	74	51.42		
Total	8616.09	75			

*Significant difference = $p < 0.001$

recall and spaced repetition (Azabdaftari & Mozaheb, 2012; Karpicke & Roediger, 2008). This result also aligns with the findings of a study by Adesope et al. (2017), who reported that computer-assisted language learning methods, such as *Quizlet*, often outperform traditional methods in promoting the long-term retention of language knowledge. This finding has significant implications for English language teaching in non-native contexts, particularly in Thailand, where long-term retention is crucial for effective language learning.

Students' Attitudes towards Quizlet

From research question 3, *What were students' attitudes towards the use of Quizlet in learning English collocation in terms of knowledge, skills and application?* Table 6 revealed the students' attitudes towards the aspects of knowledge gained from the learning using *Quizlet*, skills gained from the learning through *Quizlet*, and the application of knowledge and skills to their learning and the knowledge retention.

Table 6 presents the mean scores of the experimental group's responses to the questionnaire on their attitudes towards *Quizlet* in terms of knowledge, skills and application. The students exhibited high levels of satisfaction across all aspects, with mean scores exceeding 4.35, indicating a highly positive reception of learning English collocation through *Quizlet*. The students expressed high levels of satisfaction with using *Quizlet* to learn English collocation in terms of knowledge, skills and application. The mean scores were high across all aspects, highlighting the

Table 6. Student attitudes towards *Quizlet* (n = 38)

Aspect	M	Interpretation
Knowledge	4.52	Highly Satisfied
Skills	4.38	Satisfied
Application	4.37	Satisfied

*Significant difference = $p < 0.001$

Table 7. Student attitudes towards *Quizlet* in the aspect of knowledge (n = 38)

Statement	M	Interpretation
1. After using <i>Quizlet</i> , I feel more knowledgeable about English collocations than before.	4.67	Highly Satisfied
2. <i>Quizlet</i> has helped me understand the differences of English collocation effectively.	4.32	Satisfied
3. The content provided on <i>Quizlet</i> is useful for learning English collocation.	4.51	Highly Satisfied
4. My ability to recognize and understand English collocations has improved since using <i>Quizlet</i> .	4.47	Satisfied
5. <i>Quizlet</i> presents English collocation in a way that is easy for me to understand and remember.	4.61	Highly Satisfied
Grand Mean	4.52	Highly Satisfied

*Significant difference = $p < 0.001$

positive reception of the use of *Quizlet*. This could be due to *Quizlet*'s user-friendly interface and the variety of engaging study modes it offers (Huang, 2019). Such positive attitudes towards learning tools can impact motivation and engagement, which subsequently influence learning outcomes (Pujolà, 2002). When considering each statement of each aspect, Tables 7 – 9 are shown the results of them as follows:

From Table 7, the overall attitudes towards *Quizlet* in the aspect of knowledge from the students were highly satisfied

Table 8. Student attitudes towards *Quizlet* in the aspect of skills (n = 38)

Statement	M	Interpretation
6. Through <i>Quizlet</i> , I've developed better skills in identifying correct collocations in context.	4.52	Highly Satisfied
7. The interactive nature of <i>Quizlet</i> has improved my response time in choosing the right collocations.	4.42	Satisfied
8. I feel more confident in my ability to use English collocations appropriately in sentences after practicing with <i>Quizlet</i> .	4.57	Highly Satisfied
9. <i>Quizlet</i> has aided me in distinguishing between similar-looking but different-meaning collocations.	3.78	Satisfied
10. The various testing modes on <i>Quizlet</i> have sharpened my skills in using English collocations in diverse contexts.	4.60	Highly Satisfied
Grand Mean	4.38	Satisfied

*Significant difference = $p < 0.001$

Table 9. Student attitudes towards *Quizlet* in the aspect of application and retention (n = 38)

Statement	M	Interpretation
11. I regularly apply the English collocations learned from <i>Quizlet</i> in my day-to-day communications.	4.45	Satisfied
12. The knowledge and skills gained from <i>Quizlet</i> have positively impacted my performance in English exams and assignments.	4.43	Satisfied
13. I've found that the collocations I learned from <i>Quizlet</i> have stuck with me longer than those learned through traditional methods.	3.76	Satisfied
14. Using <i>Quizlet</i> has allowed me to better integrate English collocations into my spoken and written language.	4.55	Highly Satisfied
15. I feel that <i>Quizlet</i> has not just helped me learn English collocations but also retain them for future use.	4.64	Highly Satisfied
Grand Mean	4.37	Satisfied

*Significant difference = $p < 0.001$

($M = 4.52$). The questionnaire items with the highest means were items 1, 5, and 3 with the mean of 4.67, 4.61, and 4.51, respectively. The results suggested that *Quizlet* helped enhance the students' understanding, facilitated the English language learning in an easy way, and increased the learning of English collocations.

From Table 8, the overall attitudes towards *Quizlet* in the aspect of skills from the students were satisfied ($M = 4.38$). The questionnaire items with the highest means were items 10, 8, and 6 with the mean of 4.60, 4.57, and 4.52, respectively. The results proved that *Quizlet* was a proper tool to develop the vocabulary learning skills in terms of testing, practice, and perceived knowledge.

From Table 9, the overall attitudes towards *Quizlet* in the aspect of application and retention from the students were satisfied ($M = 4.37$). The questionnaire items with the highest means were items 15 and 14 with the mean of 4.64 and 4.55, respectively. The results implied that *Quizlet* yielded the success in retaining the students' English knowledge and in other productive skills, like spoken and written language.

RECOMMENDATIONS AND CONCLUSIONS

Recommendations for Further Research

This study makes an important contribution to the existing body of literature on English language teaching with *Quizlet* in the Thai context, but several avenues for further research are apparent. Given that the sample in this study was confined to first-year students at a private university, future research might explore the efficacy of *Quizlet* in different educational settings, such as public schools, vocational institutions or even non-academic contexts.

Additional research could also focus on using *Quizlet* to teach English language skills beyond vocabulary and collocation. For instance, it might be fruitful to investigate the use of *Quizlet* in teaching English grammar, reading comprehension and listening skills. It would also be beneficial to conduct longitudinal studies that track students' improvement in English language skills over longer periods, which would provide insights into the long-term impacts of *Quizlet*-assisted language teaching.

Recommendations for Teachers

Based on the results of this study, it is recommended that EFL teachers consider incorporating *Quizlet* into their teaching repertoire, particularly when teaching English collocations. The results suggest that *Quizlet*'s interactive and repetitive nature enhances student engagement and long-term knowledge retention.

However, teachers should also be aware that while digital tools like *Quizlet* can enhance language learning, they are not a replacement for effective teaching methods and should be used in conjunction with other teaching strategies. Teachers are also encouraged to provide guidance to students on how to use *Quizlet* effectively, such as setting regular study schedules to take advantage of *Quizlet*'s spaced repetition feature.

Conclusions

The findings of this study lend credence to the assertion that digital tools, such as *Quizlet*, can play a significant role in English language teaching, particularly in non-native contexts. The superior performance of the *Quizlet* group, both in immediate post-tests and in terms of long-term retention, highlights *Quizlet*'s potential as an effective tool for language learning.

In terms of future trends, it is predicted that the role of digital tools in language teaching will only increase, driven by advancements in technology and the growing acceptance of digital learning tools in the educational landscape. With its proven effectiveness and ease of use, *Quizlet* is poised to be a significant player in this trend. By harnessing its full potential, educators can better equip their students with the language skills needed for success in a globalized world.

REFERENCES

- Adesope, O. O., Lavin, T., Thompson, T., & Ungerleider, C. (2017). A systematic review and meta-analysis of the cognitive correlates of bilingualism. *Review of Educational Research, 87*(2), 251–295.
- Azabdaftari, B., & Mozaheb, M. A. (2012). Comparing vocabulary learning of EFL learners by using two different strategies: Mobile learning vs. flashcards. *The EUROCALL Review, 20*(2), 47–59.
- Bitter, G. G. (1989). *Using technology in the classroom*. Allyn & Bacon.
- Chen, C. M., & Hsu, S. H. (2008). Personalized intelligent mobile learning system for supporting effective English learning. *Educational Technology & Society, 11*(3), 153–180.
- Churchill, N. (2016). *Digital storytelling as a means of supporting digital literacy learning in an upper-primary-school English language classroom* [Doctoral dissertation, Edith Cowan University], Research Online Institutional Repository. <https://ro.ecu.edu.au/theses/1774>
- Cox, J. (2017). *Get Fluent Faster with the Quizlet Learning App*. FluentU English. <https://www.fluentu.com/blog/english/Quizlet-fluentu>
- Davila, Y. (2015). The grammar translation method & the communicative approach. *The ORTESOL Journal, 32*, 37–48.
- Gomathy, C. K. (2018). A study on the effect of digital literacy and information management. *International Journal of Scientific Research and Review, 7*(3), 51–57.
- Gorbatovskaia, A., & Torrance, M. (2018). *Quizlet*: The most popular study app in the United States. *Campus Technology, 32*(3), 29–31.
- Hampel, R., & Lamy, M. N. (2007). *Online communication in language learning and teaching*. Palgrave Macmillan.
- Hill, J. (2000). Revising priorities: From grammatical failure to collocational success. *Teaching English as a Second or Foreign Language, 3*(4), 47–69.
- Huang, S. (2018). Investigating learners' use of *Quizlet* for English learning. *The EUROCALL Review, 26*(2), 3–17.

- Huang, S. (2019). Learning vocabulary through *Quizlet*: Student perspectives. *Language Learning & Technology*, 23(3), 152–167.
- Karpicke, J. D., & Roediger, H. L. (2008). The critical importance of retrieval for learning. *Science*, 319(5865), 966–968.
- Lewis, M. (2000). *Teaching collocation: Further developments in the lexical approach*. Language Teaching Publications.
- Lin, C. Y., & Hsiao, H. S. (2011). Incorporating multimedia and web technologies to facilitate vocabulary learning in English. *Journal of Educational Multimedia and Hypermedia*, 20(1), 89–106.
- Nation, I. S. P. (2013). *Learning vocabulary in another language*. Cambridge University Press.
- Nesselhauf, N. (2003). The use of collocations by advanced learners of English and some implications for teaching. *Applied Linguistics*, 24(2), 223–242.
- Platzer, H. (2020). The Roles of *Quizlet* in Vocabulary Acquisition. *Electronic Journal of Foreign Language Teaching*, 17(2), 421–438.
- Pujolà, J. T. (2002). CALLing for help: Researching language learning strategies using help facilities in a web-based multimedia program. *ReCALL*, 14(2), 235–262.
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*. Cambridge University Press.
- Sarıçoban, A., & Sarıçoban, G. (2012). The effect of the grammar translation method on the students' performance in the English language. *Procedia - Social and Behavioral Sciences*, 46, 5600–5604.
- Setiawan, R., & Wiedarti, P. (2020). The Effectiveness of *Quizlet* application towards students' motivation in learning vocabulary. *Studies in English Language and Education*, 7(1), 83–95.
- Štěpáník, S. (2019). The use of *Quizlet* in the learning of English vocabulary by a class of Slovak lower secondary school students. *Teaching English with Technology*, 19(1), 53–75.
- Surasvadi, N., Suppasetsee, S., & Khruawan, S. (2018). The effectiveness of using *Quizlet* to improve vocabulary learning for high school students. *Journal of Curriculum and Teaching*, 7(1), 134–141.
- Toris, R., Kammeri, J., Lu, D. V., Lee, J., Jenkins, O. C., Osentoski, S., Wills, M., & Chernova, S. (2015). Robot Web Tools: Efficient messaging for cloud robotics. In *2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 4530–4537.
- Wiratchai, N., Wongwanich, S., & Bowling, N. (2020). Effects of *Quizlet* on English vocabulary acquisition among Thai university students. *English Language Teaching*, 13(2), 1–14.