

The impact of memrise as a gamified vocabulary learning tool on EFL students' vocabulary retention

El impacto de memrise como herramienta de aprendizaje de vocabulario gamificado en la retención de vocabulario de los estudiantes de EFL

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Abstract

Vocabulary development is a fundamental component in the language acquisition process, as it directly affects the ability to understand and produce messages effectively. In this context, the use of technological tools such as Memrise becomes a valuable resource to enhance such learning. This online educational platform supports students in the acquisition of languages and other areas of knowledge through strategies such as spaced repetition, gamification and the use of interactive content, which facilitates the retention and practical use of vocabulary in real contexts. For this reason, the purpose of this study was to evaluate the effect of Memrise on high school student's vocabulary retention of English as a foreign language. A mixed-methods design methodology was used, in which 30 high school students' vocabulary and perceptions were assessed through pre- and post-tests and semi-structured interviews. The data were analyzed statistically and thematically, integrating Excel and Atlas.ti for a comprehensive understanding. The study began with a 20-item questionnaire to assess vocabulary retention in English, evidencing significant difficulties in the students. After a four-week intervention with Memrise, post-test results showed 90% of participants increased their performance. The tool stood out for its interactivity and effectiveness in retention, although greater personalization and grammatical reinforcement were suggested.

Keywords: memrise; vocabulary; gamification; students; retention

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Resumen

El desarrollo del vocabulario es un componente fundamental en el proceso de adquisición de la lengua, ya que afecta directamente a la capacidad de comprender y producir mensajes de forma eficaz. En este contexto, el uso de herramientas tecnológicas como *memrise* se convierte en un valioso recurso para potenciar dicho aprendizaje. Esta plataforma educativa online apoya a los estudiantes en la adquisición de idiomas y otras áreas de conocimiento a través de estrategias como la repetición espaciada, la gamificación y el uso de contenidos interactivos, que facilitan la retención y el uso práctico del vocabulario en contextos reales. Por este motivo, el propósito de este estudio fue evaluar el efecto de *memrise* en la retención de vocabulario de inglés como lengua extranjera por parte de estudiantes de secundaria. Se utilizó una metodología de diseño de métodos mixtos, en la que se evaluó el vocabulario y las percepciones de 30 estudiantes de secundaria mediante pruebas previas y posteriores y entrevistas semiestructuradas. Los datos se analizaron estadística y temáticamente, integrando excel y atlas.ti para una comprensión global. El estudio comenzó con un cuestionario de 20 ítems para evaluar la retención de vocabulario en inglés, evidenciando dificultades significativas en los estudiantes. Tras una intervención de cuatro semanas con *memrise*, los resultados posteriores a la prueba mostraron que el 90% de los participantes aumentaron su rendimiento. La herramienta destacó por su interactividad y eficacia en la retención, aunque se sugirió una mayor personalización y refuerzo gramatical.

Palabras clave: *Memrise*; vocabulario; gamificación; estudiantes; retención.

Introduction

Undoubtedly, vocabulary is an essential area in the process of language acquisition, given its impact on the comprehension and production of languages (Kaicer et al., 2024). Nowadays, digital dynamics force learning to be significantly associated with pedagogy. Therefore, mobile devices or digital platforms have adhered to education to improve the teaching-learning process (Alahmadi et al., 2023), among them, underlies the *Memrise* (Walker, 2015). This platform is based on the generation of flashcards and gamification techniques to enhance the memorization and retention of the lexicon in students of English as a foreign language (González et al., 2020).

In this regard, different investigative arguments such as those of Deputri et al. (2023) and Hasif & Darmi (2024), have shown that language learning supported by digital tools generates a prominent impact on language learning, highlighting benefits in terms of autonomy, motivation and vocabulary retention. However, the criteria of Weissheimer et al. (2020), emphasize that the educational context suffers from many educational problems, mainly in the learning of English; since many students lack a correct vocabulary, in fact, they have problems with temporary retention, compromising correct learning of English and vocabulary. In addition, the studies of Zarei & Shishegarha (2024), reaffirm this same idea, noting that EFL students face difficulties in their learning due to cultural and linguistic differences, which can affect their communicative competence.

In this context, *Memrise* allows repetition to memorize words and helps or forge learning in a foreign language. This platform offers various features that help students understand and memorize new vocabulary, such as audio, images, and puzzle games. In addition, it makes it easier for students to create their own vocabulary lists and set flexible study schedules (Curry, 2025). The use of gamification applied from a digital perspective, such as *Memrise*, can represent an innovative strategy to improve vocabulary retention in students (Esmaeili & Shahrokhi, 2020). In

fact, the point of view Aprizal & Wachyudi (2024), argues that digitalization brings transformative changes when it comes to learning vocabulary, allowing for more effective and enjoyable learning.

In this sense, it is necessary to point out that vocabulary learning is framed as an indispensable element for learning a language. Therefore, gamification has the potential to generate an enriching learning process when it comes to acquiring vocabulary (Cancino & Castillo, 2021). This is fundamental because it allows students to generate interaction consecutively, adapting new terms or words in particular contexts, favoring memorization (Zainuddin, 2021). For this reason, Memrise has been described as a powerful tool to aid vocabulary learning and retention in learners. From all the arguments put forward, the purpose of this study was to evaluate the effect of Memrise on secondary school students' retention of English as a foreign language. The following research questions that were generated are as follows: How does Memrise improve vocabulary retention among EFL students? What challenges do students face when using Memrise in a resource-limited setting? How does using Memrise affect students' motivation to learn English vocabulary? and How do students perceive Memrise as a vocabulary learning tool?

Theoretical framework

Vocabulary can be defined as the system of words necessary for successful communication; it is one of the most important aspects of language learning. If a person does not have sufficient vocabulary knowledge, it is impossible to express meaningfully established ideas in a second language. Beyond the fact that vocabulary develops language generation, vocabulary must be prominently integrated into language teaching, even above other language skills (Oviedo, 2022). Its learning is increasingly considered essential in the language teaching process. Therefore, there are now many ways to teach vocabulary in an environment that complies with the principles of modern didactics. Among other things, students can benefit from teachers who apply appropriate didactic resources and strategies to achieve an adequate presentation of vocabulary insertion (Gortaire et al., 2022).

Gamification is the application of game-design elements to contexts not directly related to games. In the context of EFL teaching, this approach is utilized to create an engaging and motivating learning environment, enhancing vocabulary retention through interactive and rewarding experiences (Gortaire et al., 2022). Gamification employs clear objectives, short-term achievable goals, and frequent rewards to maintain learner interest and motivation. Elements such as competition, cooperation, points, levels, badges, and immediate feedback enhance students' engagement and improve vocabulary retention and long-term recall (Cancino & Castillo, 2021; Weissheimer et al., 2024).

Memrise

Memrise is an online learning platform that helps students learn languages and other subjects with the help of techniques such as spaced repetition, gamification, and interactive content. It was founded in 2010 and offers vocabulary and grammar courses in any particular language that are presented in a fun way. In 2017, it received the Google Play award as the best language learning app, reinforcing its relevance in the educational field (Esmaeili and Shahrokhi, 2020). Its system is based on the use of visual and conceptual elements, called Memes-markers, which include resources such as mnemonic associations, etymological explanations, humorous clips, photographs, illustrations, reference phrases, or any other means that facilitate the student's connection with the content they learn.

These resources stimulate sensory perception, creative thinking, and the affective dimension of the learner, which reinforces the consolidation of memory and makes the educational process a more dynamic and attractive experience (Zhang, 2019). In that sense, it can be argued that Memrise is a language learning platform that integrates gamification principles to make the educational process more engaging and effective. Through elements such as points, levels, rewards, daily challenges and spaced repetition, Memrise motivates users to practice constantly. These game-like dynamics not only increase learner engagement but also improve vocabulary retention and facilitate more interactive and meaningful learning.

Memrise is accessible through computers and other electronic devices, which is important given the increasing penetration of digital technology into Vietnamese life. Given the mentioned features, this app improves readers' learning of English, which is essential in terms of learning English as a second personal language. Memrise provides a variety of tools and options to promote learning, especially through word retention; Users can use pre-projected classes or create their own with various images and videos (Hamer, 2021).

Learning theories associated with Memrise

From learning theories, such as Vygotsky's constructivism, learning is an active process in which the student builds his or her own knowledge through interaction with the environment and social mediation (Ertmer & Newby, 2013). In Memrise, this is reflected in several features. Customizing vocabulary lists allows users to connect new words with their own prior knowledge. In contrast to Piaget's cognitivism, priority is given to the importance of mental processes in learning, such as memory, attention and the organization of information (Mahmoud, 2024). Memrise integrates this theory using various tools. Mind maps and visual associations allow users to connect words with images and phrases, making them easier to store in long-term memory (Ertmer & Newby, 2013; Almousawi, 2021). In addition, active information processing, where words are placed in sentences and situations, promotes comprehension and contextual use. While Skinner's behaviorism postulates that learning occurs through stimuli and reinforced responses (Pahwa

& Bhalla, 2024). In Memrise, this is observed in several aspects. First, spaced repetition, which reinforces vocabulary learning through constant repetition, a fundamental principle of operant conditioning. In addition, positive reinforcement, such as points, badges, and level advancements, act as rewards, motivating students to continue learning.

Features associated with Memrise

According the contributions of Nguyen et al. (2023), argue that the platform Memrise can be characterized by certain attributes which are presented as follows:

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- Spaced repetition: It helps students identify their strengths and weaknesses, facilitating memorization and recall through an algorithm that indicates knowledge gaps.
- Competition: Gamification through motivation, allowing students to earn points and climb a leaderboard to practice more.
- Community: Gamification allows students to create and share courses, discuss with people, and choose what they want to study.
- Exercise system: Gamification presents the practice of learning through memory and pronunciation activities, including dictionary writing, translation, or multiple choice.
- Reminder: Send automated emails to remind students about the material they need to review, encouraging more opportunities for practice.
- Gamification elements: It makes learning like a game, where students grow a flower as a reward for correct answers, receiving immediate visual and musical feedback.

Memrise: A perspective associated with teaching–learning vocabulary

The effectiveness of Memrise in improving vocabulary proficiency is a key issue as several studies agree that the use of Memrise contributes to improved vocabulary retention among students, demonstrating the potential of the app to reinforce language skills (Dwi & Wachyudi, 2024). In addition, it not only helps students learn new vocabulary but also continues to reinforce it through repetition and spaced review so that words are consolidated in long-term memory. In addition, its immediate feedback with progress analysis allows students to not only track their progress but also change the way they learn if necessary to maximize their performance (Rohim et al., 2022).

Memrise exercises allow students to move new words from their short-term memory so that they can be recalled as they are implemented in a variety of examples over time (Fadhilawati et al., 2022). Not only does this proven learning technique create long-term memories of words and vocabulary formulation, but it also allows students to practice words about real-life items instead of memorizing difficult words that have a specific but uncertain use. This makes students skilled at interaction and improves their self-confidence and competence (Dian et al., 2023).

In another aspect, the process of vocabulary acquisition is characterized by students being confronted with new words so that they can understand them. Thus, teachers can apply various linguistic strategies to increase the chances that students will internalize new concepts. Memrise meets these fundamental criteria of lexical teaching, as this platform facilitates the work of teachers (Karanfil, 2021). Through this app, instructors can enter unknown words set up with phonics, writing, and general grammar. In addition, the teaching of the lexicon should permeate games and challenges for the student, which implies an attractive approach for students and the presentation of stimulating dynamics for long-term memorization (Nguyen et al., 2023). As a starting point, the multiple activities in Memrise consisting of visual cards and online mechanical activities result in more opportunities to remember terms, which changes the entire experience of acquiring information for the better (Asyiah, 2017).

According to contributions from Yugafiati & Priscila (2019), in order to have an efficient command of vocabulary, students need to pay attention to aspects of phonics, word writing, grammar rules, as well as word interpretation. To this extent, Memrise offers resources that involve pronunciation, written representation, grammatical classification, and semantic understanding of terms so that learners can become familiar with their correct pronunciation and also internalize their writing and their role in linguistic structure. In addition, this platform has its features that facilitate vocabulary consolidation through auditory exposure and the contextualized application of words in interactive exercises, such as completing sentences, inserting words into empty spaces, etc.

State of the art

In a study, authors Aprizal and Wachyudi (2024), discuss how Memrise uses different theories to bolster vocabulary retention. Through a literature review of 20 sources, common themes, patterns, discrepancies, and suggestions for future research are identified. The findings highlight Memrise's potential in vocabulary learning, with topics including mobile app preferences, gamification, motivation, autonomy, and technical considerations. They conclude that more research is needed to explore broader contexts and replicate and address technical issues. In itself, Memrise shows promise for improving vocabulary acquisition through its gamified interface, contributing to the changing landscape of language education.

Vocabulary retention

Many empirical studies examining the effect of Memrise on vocabulary acquisition in the EFL classroom and using experimental and control groups found increased retention compared to traditional forms of teaching (Esmaeili & Shahrokhi, 2020; Fadhilawati, et al., 2022, Rohim et al., 2022). These studies show that students who use Memrise obtain faster improvements in lexical recognition and written production, as well as greater consolidation of frequent and infrequent words. Likewise, an increase in motivation and autonomy is evidenced thanks to interactive activities and spaced repetition systems that reinforce long-term memory. These benefits are replicated in different educational contexts and language proficiency levels.

Challenges

One key challenge raised by authors regarding the use of Memrise is the impact of the frequency of use and students' mobile device skills (Nhu and Quyen, 2021). Major challenges in using Memrise include the dependence on a stable internet connection and the limited features available only to advanced users. In addition, some perceive the questions to be too simple, the level divisions unclear, and the speed of pronunciation excessive. Technical difficulties such as slow downloading, lack of access to devices and insufficient digital skills hinder their use. Also, the time investment required and negative preconceptions about the complexity of the application reduce the frequency of use. These obstacles reveal the need to improve usability, provide student training and optimize offline access (Fathi et al., 2018; Nhu & Quyen, 2021).

Motivation and perceptions

Nhu and Quyen (2021), studied the effect of Memrise on vocabulary and attitudes of English students in English of students in Vietnam, towards the application of this mobile application to improve their vocabulary. The results showed that the use of Memrise and other mobile applications for English learning by students is beneficial, showing a significant improvement in students' vocabulary level when using Memrise, with an increase in the mastery of medium and low-frequency vocabulary and a decrease in high-frequency vocabulary. That said, the authors also found issues regarding effectiveness stemming from students' negative prejudices about the application. They suppose Memrise is quite hard to use or too complicated. This attitudinal barrier suggests that the effectiveness of an educational tool depends not only on its design and content, but also on the user's experience and willingness to adapt to digital environments. Thus, the success of Memrise could be increased through pedagogical support strategies that strengthen familiarization and reduce technological resistance, especially in contexts where digital skills are still developing.

From these results, staff suggested that students could use the Memrise and Quizlet apps to learn vocabulary in a fun way with other topics; for example, to learn vocabulary about Kithen's action verbs, which will be of great help when learning procedural texts.

Based on the criteria Fathi et al. (2018), investigated the effects of the use of the Memrise mobile application (app) on the learning of vocabulary of a second language (L2) and the ability to self-regulate in vocabulary acquisition. The findings revealed that Memrise helped students improve their L2 vocabulary learning ability and self-regulation more than the control group. Positive perceptions of Memrise are linked to its ability to foster autonomy and self-regulation in learning. Its accessibility, personalization and mobile use motivate students to actively manage their educational process, thus promoting more autonomous, constant and effective learning in English vocabulary teaching contexts.

Methods

This study followed an explanatory sequential design, which corresponds to the combination of qualitative and quantitative approaches, known as mixed methods or methodological triangulation, integrating their advantages throughout the research process, adding complexity but favoring methodological complementarity in scientific research (Pereira, 2011). The quantitative approach was implemented to collect information in the featured pre, and post vocabulary tests spaced four weeks apart before and after an intervention. Both tests consisted of 20 multiple-choice items designed from the vocabulary taught with the Memrise platform, ensuring that the assessment is aligned with the specific content covered during the study. The qualitative phase that followed included semi-structured interviews to collect data on students' experiences, to explore the students' perceptions about the usefulness and effectiveness of Memrise in their learning process, complementing the quantitative findings.

The study included 30 high school students between the ages of 15 and 17, who have an A1 level of English language proficiency. The participants were selected through convenience sampling, considering the characteristics of the current educational context in which the researcher works in the city of El Coca, Ecuador. This selection approach allowed for an accessible group that was representative of the specific conditions of English language learning in that environment. The selection was made in accordance with ethical principles, ensuring the voluntary nature of participation and the confidentiality of the data collected by means of previously signed consent. The following inclusion and exclusion criteria were established.

Inclusion criteria

- Enrolled in the researcher's English classes.
- Knowledge of English vocabulary.

- Students who sign the informed consent form.

Exclusion Criteria

- Students who do not have access to a smartphone or the internet.
- Those who missed more than 20% of the intervention sessions.
- Students who did not sign the informed consent form.

The analysis of the quantitative data, which included the scores obtained in the pretest and posttest, as well as the records of use of the application, was performed using descriptive and inferential statistical techniques using Microsoft Excel and SPSS to determine the validity of the instrument by means of a dependent sample t-test to compare data from the same group and to demonstrate the significance of the impact of Memrise. On the other hand, the qualitative data derived from the interviews were processed through thematic coding, which made it possible to identify recurrent patterns and key themes related to the students' perceptions. For a visual representation and a deeper understanding of qualitative information, Atlas.ti software was used, which facilitated the generation of clear and meaningful conceptual networks.

Results

The study began by conducting a 20-item pre vocabulary test structured in four fundamental sections: recognition, use in context, writing and production, and retention. Each section assessed different aspects of the student's ability to identify, understand, use, and remember English vocabulary. The findings obtained after the application of the instrument are presented below in Table 1.

Pre-test

Table 1. Vocabulary retention (Pretest)

	Average vocabulary retention score	Vocabulary retention level		
	Average score	Level	Frequency	Percentage
Recognition	2.47	High	0	0%
Use in Context	1.77	Medium	7	23%
Writing and Production	1.40	Low	6	20%
Retention	1.00	Very low	17	57%
Total	6.63		30	

Source: own elaboration

The analysis shows low vocabulary retention among the students evaluated in the pretest. The overall average score of 6.63 out of 10 points reflects that most participants face difficulties in recognizing and applying English vocabulary. It is noteworthy that 80% of the students obtained less than 10 points, which indicates a limited ability to remember and use words in different contexts.

Vocabulary recognition had the highest score (2.47), although it is still low and does not reach a high level of performance. In contrast, retention, with a score of 1.00, is classified at a "very low" level, which shows that students quickly forget the words learned. In addition, only seven students (23%) achieved a medium level in contextual use, suggesting that the vast majority failed to integrate the words learned into sentences or conversations. On the other hand, writing and production also show a low score (1.40), indicating that students have difficulties not only in remembering but also in actively employing vocabulary.

Intervention

The intervention for the application of Memrise was developed over a period of four weeks with the aim of improving English vocabulary retention in students between 15 and 17 years of age. During this time, participants used the platform as a complementary tool to their formal learning, following a structured methodology that combined the use of the app with planned academic activities.

In the first week, an introduction to the Memrise platform was made, which included explanations on its functionality, main features, and benefits for language learning. Students were trained in the use of tools such as spaced repetition, interactive games, and word recognition through images and audio.

During the second and third weeks, students worked with Memrise autonomously and in guided sessions within the classroom. A daily use plan was established with a minimum of 15 to 20 minutes of practice. The activities included exercises in word recognition, application in context, and written production, reinforcing the association of terms with native images and pronunciations. Collaborative learning was promoted through the exchange of experiences and strategies among participants.

In the fourth week, a final evaluation was carried out by means of a post-test, comparing the results with the initial test to measure the improvement in vocabulary retention. The data obtained indicated significant progress, reflected in an increase in scores and greater student confidence in the use of the language (See Table 2). Finally, a space for reflection and feedback was held, in which participants shared their perceptions about the effectiveness of Memrise and suggested possible improvements in its implementation.

Posttest

Table 2. Vocabulary Retention (Post-test)

	Average vocabulary retention score	Vocabulary retention level		
	Average score	Level	Frequency	Percentage
Recognition	4.23	High	13	43%
Use in Context	3.27	Medium	12	40%
Writing and Production	3.23	Low	5	17%
Retention	3.23			
Total	13.97		30	

Source: own elaboration

The analysis of the results obtained in Table 2 shows the post-test with a significant improvement in English vocabulary retention after the use of Memrise. The total average score of 13.97 represents a considerable increase compared to the pre-test, where students mostly obtained low scores of 6.63 points. Ninety percent of participants (27 out of 30) improved their performance.

The recognition area scored the highest (4.23), with 43% of students achieving a high level, indicating that participants have developed better word identification. Likewise, the use in context also showed an improvement (3.27), reflecting a greater understanding of the meaning of the terms in different situations. Regarding retention and written production, both achieved a score of 3.23, which represents a significant improvement compared to the low values of the pretest. A relevant finding is the drastic reduction in the number of students with a "low" level (≤ 9 points), which decreased from 24 to only five.

Table 3. T-test for vocabulary retention tests

		Average score	t	P value
Pre-test	Recognition	2.47	15.019	0.000
	Use in Context	1.77	10.780	0.000
	Writing and Production	1.40	8.968	0.000
	Retention	1.00	7.374	0.000
	Total	6.63	11.510	0.000
Post-tets	Recognition	4.23	29.963	0.000
	Use in Context	3.27	24.189	0.000
	Writing and Production	3.23	22.885	0.000
	Retention	3.23	24.329	0.000
	Total	13.97	25.699	0.000

Source: own elaboration

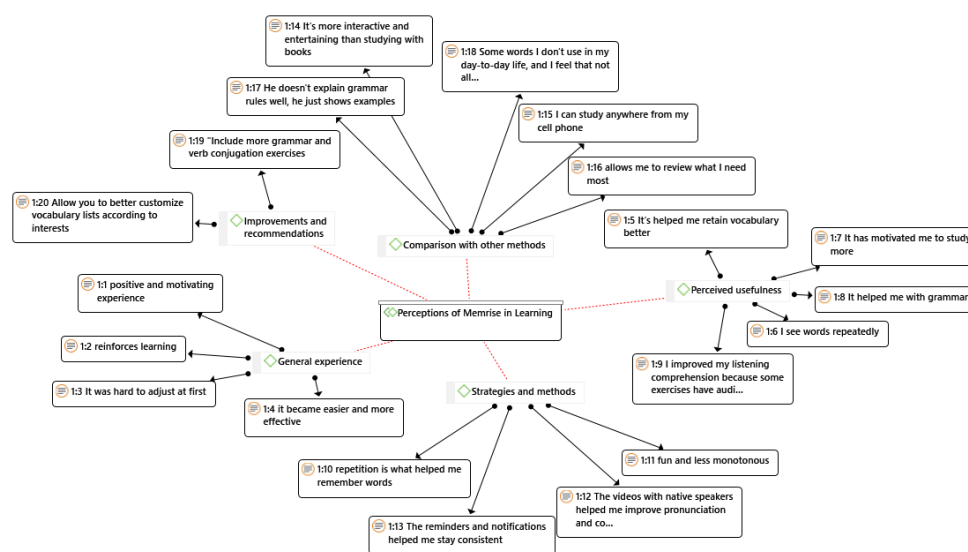
The table summarizes the results of sample t-tests to assess vocabulary retention in four dimensions (recognition, use in context, written production, and retention) and a total index, before and after a didactic intervention. In the pre-test, the means are low (from 1.00 to 2.47 points) and the overall score reaches 6.63, although all t-values (7.37-15.02) are significant ($p < .005$), proving that students started from a modest but real initial knowledge. After the intervention, the means rise markedly (from 3.23 to 4.23 points) and the total rises to 13.97, with very high t-values (22.88-29.96) and $p < .001$, indicating highly significant differences from zero. The marked increase in each subscale and the total score shows that the applied strategy robustly improved lexical com-

petence: students not only recognize and use vocabulary in context but also retain and produce texts with greater fluency.

Perception

The presented semantic network in Figure 1 on the perceptions of Memrise in learning shows a detailed assessment of its benefits, limitations, and recommendations for improvement. It is structured in four main areas: general experience, comparison with other methods, perceived usefulness and strategies/methodologies.

Figure 1. Semantic network of student's perception of the use of Memrise



Source: own elaboration

In terms of the overall experience, users highlighted that Memrise offers a positive and motivating experience. Although some faced initial difficulties, over time they managed to adjust and find the most effective learning. Repetition and reminders were identified as key elements for vocabulary retention.

Compared to other methods, Memrise was perceived as more interactive and entertaining than books, as well as allowing learning anywhere using mobile devices. However, some users found certain words not relevant to their daily lives.

In the dimension of perceived usefulness, students highlighted improvements in vocabulary retention, listening comprehension, and motivation to study. However, there is evidence of a limitation in the teaching of grammar, as Memrise focuses more on exposition and repetition of words. Finally, in terms of strategies and methods, the exercises with native speakers and a less monotonous structure were positively valued, which is a positive aspect of the use of the tool.

Discussion

Regarding vocabulary retention, the study findings show students initially had a low performance in vocabulary retention that affected their overall language proficiency. Initially, students had a low performance in vocabulary retention, denoting notorious difficulties in recognition, use in context, written production, and retention. These contributions are aligned with those evidenced by Wero et al. (2021), demonstrating that learners have a proficiency of less than 30%, which represents a significant limitation in their ability to actively use English vocabulary. In the same way, from the considerations of Srisang & Everatt (2021), maintain that the lowest score is found in reading comprehension (29.89%) and grammar (36.76%), which suggests that students with low vocabulary have difficulties in grammatical structures and the interpretation of text.

However, in the post-test, it was possible to see that most of the participants improved their performance, which confirms the effectiveness of the application in consolidating learning. Among the areas assessed, word recognition scored the highest. These contributions are in prominent agreement with the contributions of Nguyen et al. (2023), indicating that thanks to Memrise, 77.8% of students improved their vocabulary, highlighting repetition and multisensory exposure as key factors for long-term retention. In the same way, the contributions of Cahuana (2021), emphasize that 77.2% of students had a significant improvement when learning new vocabulary in English. However, 88.5% denoted having a pleasant experience learning vocabulary. In this same aspect, the contributions of Nhu & Quyen (2021), say that 86% of students had an improvement in vocabulary, while 57% rated the wide variety of vocabulary examples positively.

In response to the research question on motivation, it is noted that the platform is seen as a motivating and effective tool. Constant repetition and recall ensure knowledge of the words and their interactive relationship to traditional lessons. In fact, according to the research considerations of Nurani (2023), denotes that it has a prominent relationship with the above, given that the Memrise application is a valuable tool for the autonomous development of vocabulary and language skills; Its flexibility, user-friendly interface, and comprehensive materials create a positive and enjoyable learning experience. From that same perspective, Ningrum (2024), also points to a significant correlation, as the Memrise improves the quality of the learning process outcomes and it is certainly more interesting for students to learn to listen, students are not easily bored and are enthusiastic about trying new things. The impact of Memrise on student motivation is highly positive, as the platform not only facilitates vocabulary learning, but also generates a dynamic and engaging environment that stimulates interest and active participation.

In answer to the research question on challenges and perceptions, it was found that, in the learning process, not all students usually receive clear feedback on the results of what they hear, but by using the Memrise app, students receive feedback from the teacher to continue improving their listening skills. This contribution may coincide in a certain way with that of Gregory & Zulu (2024), which highlighted the preference of these students for technology-enhanced learning experiences, because it invalidates traditionalist approaches, and the Memrise highlights a new form

of pedagogical dynamism. Furthermore, it compares with the study by Nhu and Quyen (2021), which highlights the perception of Memrise as an interactive and entertaining tool but with limitations in grammar teaching, aligns with the findings of other similar studies in the field of technology-assisted language learning.

Conclusions

The results from this study point to a positive impact of Memrise on vocabulary learning in the EFL classroom, highlighting its potential to enhance vocabulary retention and application. In another aspect, the post-test results demonstrate a considerable improvement in the retention and application of English vocabulary after the use of Memrise. The overall test scores seem to indicate the observed increase in the average score, especially regarding the recognition and use of vocabulary in context, seems to indicate that the tool facilitates vocabulary consolidation. The reduction in the number of low-achieving students also supports the effectiveness of Memrise. Therefore, these observations underscore the positive impact of several learning strategies incorporated in the tool, such as spaced repetition and contextualized learning, on memory and the application of learned vocabulary. These results suggest the need to implement reinforcement strategies, such as spaced repetition and interactive activities, to improve the retention and application of English vocabulary. The present study also adds that the opportunity for self-education and immersion in the activities of native speakers is especially appreciated. To maximize its efficiency, Memrise should offer grammar and conjugation exercises and knowledge customization options.

Finally, it can be concluded that the evaluation of Memrise's perceptions shows, to begin with, that the platform has a positive rating in terms of the promotion and optimization of lexical retention. More specifically, repetition and reminders play a crucial role, while the ease of making cancellations, amendments, and rescheduling compares favorably to word processing. In contrast to more traditional language methods, Memrise is more interactive and generally more accessible, however, it is argued that several elements are not as relevant to everyday use. In addition, the grammar and some aspects of learning can clearly be improved to offer more customizable options. In short, Memrise has excellent estimates for its general appeal and easy adaptation, but the structure and content could be further refined to deliver more benefits, which should be better protected by teachers.

One of the main limitations of the study is that English vocabulary retention and application are still deficient, especially in context usage and writing. In addition, although Memrise has proven to be an effective tool, its impact may vary according to the learning style of each student. It is recommended to complement its use with more dynamic pedagogical strategies, such as gamification and collaborative activities in class. Likewise, it would be convenient to improve the personalization of the contents on the platform to strengthen grammatical aspects. Finally, greater teacher involvement is suggested to optimize learning outcomes.

References

- Alahmadi, A., Albaqami, S. E., & Foltz, A. (2023). Using technology-based vocabulary instruction inside and outside of the classroom. *Frontiers in Communication*, 8. <https://doi.org/10.3389/fcomm.2023.1162219>
- Almousawi, S. A. (2021). Examining English Language Learning Apps from A Second Language Acquisition Perspective. *International Journal of Higher Education*, 10(5), 166. <https://doi.org/10.5430/ijhe.v10n5p166>
- Aprizal, A. D., & Wachyudi, K. (2024). The Effectiveness of Memrise as a Vocabulary Learning Tool. *Journal Ilmiah Wahana Pendidikan*, 10(4), 8-17. <https://doi.org/10.5281/zenodo.10499120>
- Asyiah, D. N. (2017). The vocabulary teaching and vocabulary learning: Perception, strategies, and influences on students vocabulary mastery. *Journal Bahasa Lingua Scientia*, 9(2), 293-318. <https://doi.org/10.21274/lj.2017.9.2.293-318>
- Cahuana, M. (2021). *M-Learning (Memrise) and Vocabulary* [Bachelor Thesis, Universidad Técnica de Ambato].
- Cancino, M., & Castillo, G. (2021). Gamification: How does it impact L2 vocabulary learning and engagement? *Electronic Journal of Foreign Language Teaching [e-FLT]*, 18(2), 156-170. <https://doi.org/10.56040/ghcc1824>
- Curry, D. (2025). Memrise Revenue and Usage Statistics. Business of Apps. <https://www.businessofapps.com/data/memrise-statistics/>
- Deputri, A. B., Hamidiyah, A., & Baihaqi, A. (2023). The use of MENRISE application on students motivation in learning english cocabulary. *GENTA BAHTERA: Jurnal Ilmiah Kebahasaan Dan Kesastraan*, 9(1). <https://doi.org/10.47269/gb.v9i1.243>
- Dian, R., Sri, T., & Setyorini, A. (2023). The use of Memrise Application in Improving Students' Vocabulary Mastery at the 8th grade of Junior High School. *CENDEKIA: Juornal Ilmu Sosial, Bahasa dan Pendidikan*, 3(4), 9-16. <https://doi.org/10.55606/cendikia.v3i4.1693>
- Dwi, A., & Wachyudi, K. (2024). The Effectiveness of Memrise as a Vocabulary Learning Tool | Jurnal Ilmiah Wahana Pendidikan. *Journal Ilmiah Wahana Pendidikan*, 10(4), 8-17. <https://doi.org/10.5281/zenodo.10499120>
- Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, Cognitivism, Constructivism: Comparing Critical Features From an Instructional Design Perspective. *Performance Improvement Quarterly*, 26(2), 43-71. <https://doi.org/10.1002/piq.21143>
- Esmaeili, Z., & Shahrokhi, M. (2020a). The Impact of Memrise Application on Iranian EFL Learners Collocation Learning and Retention. *International Journal of Language Education*, 4(2), 222-233. <https://doi.org/10.26858/ijole.v4i2.10672>
- Esmaeili, Z., & Shahrokhi, M. (2020b). The Impact of Memrise Application on Iranian EFL Learners' Collocation Learning and Retention. *International Journal of Language Education*, 4(2), 221-233. <https://eric.ed.gov/?id=EJ1270604>

- Fadhilawati, D., Rachmawati, D. L., Hastari, S., & Nehru, N. A. (2022). Learn vocabulary in a fun way through the Memrise and Quizlet applications in Blitar City. *Journal pengabdian mandiri*, 1(10).
- Fadhilawati, D., Ulum, B., & Rachmawati, D. L. (2022). Implanting Vocabulary for Long Terms Memory through Memrise and Quizlet Applications. *JPI (Jurnal Pendidikan Indonesia)*, 11(1), 34-42. <https://doi.org/10.23887/jpi-undiksha.v11i1.29504>
- Fathi, J., Alipour, F., & Saeedian, A. (2018). Enhancing Vocabulary Learning and Self-regulation via a Mobile Application: An Investigation of the Memrise App. *Journal of Modern Research in English Language Studies*, 5(1), 27-46. <https://doi.org/10.30479/jmrels.2019.10311.1282>
- González, H., Isaza, G., Idarraga, M., & Rodríguez, M. (2020). Integrating the virtual platform memrise as a teaching tool for english vocabulary in foreign language students of second semester at a university. *Latinoamericana de estudios educativos*, 16(1), 259-284. <https://doi.org/10.17151/rlee.2020.16.1.12>
- Gregory, J. L., & Zulu, F.-Q. (2024). Enhancing vocabulary acquisition through Memrise in an English second-language class: Action research at a TVET college. *Journal of Vocational, Adult and Continuing Education and Training*, 7(1), 21-21. <https://doi.org/10.14426/jovacet.v7i1.387>
- Hamer, W. (2021). Utilizing Memrise application as instructional media-based technology to enrich the students' vocabulary mastery. *UNNES-TEFLIN National Seminar*, 4(1), 364-375.
- Hasif, A. F., & Darmi, R. (2024). Comparative Analysis of Duolingo and Memrise for English Language Learning. *Conference on English Language Teaching*, 4(1), 137-145. <https://doi.org/10.24090/celti.2024.1017>
- Kaicer, Á. M., Mendoza, H. X., Bazurto, S. N., Intriago, M. C., & Mendoza, L. A. C. (2024). The use of technology and its impact on the strengthening of english vocabulary. *Ciencia Latina Revista Científica Multidisciplinar*, 8(4), 1617-1638. https://doi.org/10.37811/cl_rcm.v8i4.12398
- Karanfil, F. (2021). How EBA (Educational Informatics Network) platform and Memrise may help EFL learners: A review for state school EFL learners in Turkey. *Journal of Foreign Language Education and Technology*, 6(1), 76-91.
- Mahmoud, A.-A. (2024). Behaviorism, Cognitivism, and Constructivism as the Theoretical Bases for Instructional Design. *Technium Education and Humanities*, 7, 10-28. <https://doi.org/10.47577/teh.v7i.10576>
- Nguyen, A. T., Nguyen, T. T., Le, T. T., Phuong, H. Y., Pham, T. T., Huynh, T. A. T., & Nguyen, H. T. (2023). Effects of Memrise on Vietnamese EFL Students' Vocabulary: A Case Study at a College in a Rural Area. *Electronic Journal of e-Learning*, 21(5), 450-460. <https://doi.org/10.34190/ejel.21.5.3066>
- Nhu, P., & Quyen, T. (2021). Improving Vocabulary Learning With Memrise Mobile Application For Students In Vietnam. *International Journal on E-Learning Practices (IJELP)*, 4, 61-75. <https://doi.org/10.51200/ijelp.v4i.3426>
- Nhu, P. T. T., & Quyen, T. N. Q. (2021). Improving vocabulary learning with Memrise mobile application for students in Vietnam. *International Journal on E-Learning Practices (IJELP)*, 4, 61-75. <https://doi.org/10.51200/ijelp.v4i.3426>

- Ningrum, F. (2024). *The influencia of using Memrise application towards students litening ability at the eleventh grade of SMA N Ipasir sakti in the academic year of 2022/2023* [Bachelor Thesis, University Islamic].
- Nurani, S. D. (2023). English students perceptions of the use of Memrise application in learning english vocabulary independetly. *Juornal Penelitian, Pendidikan, Dan Pembelajaran*, 18(25). <https://jim.unisma.ac.id/index.php/jp3/article/view/21509>
- Pahwa, D. K., & Bhalla, A. (2024). Education as an evolving concept- Behaviorist, Cognitivist and Constructivist Perspectives. *International Journal for Innovate Research in Multidisciplinary Field*, 10(4), 1-5.
- Pereira Pérez, Z. (2011). Los diseños de método mixto en la investigación en educación: Una experiencia concreta. *Revista Electrónica Educare*, 15(1), 15-29. <https://doi.org/10.15359/ree.15-1.2>
- Rohim, R. F., Gumelar, R. E., & Riandi, R. (2022). The Effect of Memrise Application Towards Students' Vocabulary Mastery. *Journal of English Language Learning*, 6(2), 194-198. <https://doi.org/10.31949/jell.v6i2.3656>
- Srisang, P., & Everatt, J. (2021). Lower and Higher Level Comprehension Skills of Undergraduate EFL Learners and Their Reading Comprehension. *LEARN Journal: Language Education and Acquisition Research Network*, 14(1), 427-454.
- Walker, L. (2015). The impact of using Memrise on student perceptions of learning Latin vocabulary and on long-term memory of words. *Journal of Classics Teaching*, 16(32), 14-20. <https://doi.org/10.1017/S2058631015000148>
- Weissheimer, J., Marques, J., Lobo, J., & Souza, N. (2020). Gamification and L2 vocabulary learning: The Vocabox Experience in the Languages without Borders Program. *Revista Linguagem & Ensino*, 22(4), 1136-1154. <https://doi.org/10.15210/rle.v22i4.16453>
- Wero, Y., Machmud, K., & Husain, N. (2021). The Study on Students' Vocabulary Size. *Jambura Journal of English Teaching and Literature*, 2(1), 22-34. <https://doi.org/10.37905/jetl.v2i1.10279>
- Yugafiati, R., & Priscila, T. (2019). The use of mind map to improve students vocabulary at SMP waringin bandung. *Journal on English Language Teaching*, 7(2), 98-105.
- Zainuddin, Z., & Keumala, C. M. (2021). Gamification concept without digital platforms: A strategy for parents on motivating children study at home during Covid-19 pandemic. *PEDAGOGIK: Journal Pendidikan*, 8(1), 156-193. <https://doi.org/10.33650/pjp.v8i1.2174>
- Zarei, A. A., & Shishegarha, E. (2024). The effect of dynamic assessment models on L2 listening and speaking anxiety. *Journal of Language Horizons*, 7(4), 149-176. <https://doi.org/10.22051/lghor.2023.42482.1763>
- Zhang, X. (2019). Learning Technology Review: Memrise. *CALICO Journal*, 36(2), 152-161. <https://doi.org/10.1558/cj.3785>

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