ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

EXPLORING THE IMPACT OF GAMIFIED VOCABULARY LEARNING THROUGH MALL IN COMPARISON WITH TRADITIONAL FLASHCARDS

Anam Saqib[1]
Department of English, Foundation University, Islamabad
Email: anamunir2007@gmail.com
Zumer Rubab[2]
Lecturer, Department of English, Federal Urdu University of Arts, Sciences and Technology, Islamabad
Email: zumerrubab5@gmail.com

Abstract
This research aims to assess the effectiveness of using a gamified learning approach employing the mobile-assisted learning application (MALL) – WordTag, as a medium of learning new vocabulary words compared to traditional paper-based flashcards among upper primary-level, EFL learners. Based on the Cognitive Theory of Multimedia Learning (CTML) and Self-efficacy Theory, the study aims to examine the impact of gamified learning on students' motivational and engagement levels, as well as on their vocabulary learning achievement. A mixed-method study employing a questionnaire with quantitative and qualitative components was administered before and after the gamified activity with 40 Year-6 students. The findings confirmed that MALL gamified learning positively affected students' motivation as compared to the sample's prior experiences of learning vocabulary using traditional instruction methods. Also, the results showed that the students showed a higher level of engagement in vocabulary learning tasks, tended to retain the learnt words longer and were more motivated to learn the new and challenging words while using the MALL app. These results imply that if designed appropriately, the MALL application is a more efficacious source of vocabulary learning than traditional methods, i.e., word lists and paper flashcards, which present some important implications for educators and MALL application designers within the EFL education field.

Keywords: CALL, MALL, EFL, MAVL, CTML, gamification

Introduction and Theoretical Background:

Language is the most crucial part of our life, and vocabulary is the most vital element of language. The significance of vocabulary learning can be highlighted through this saying by David Wilkins (1972): "Without grammar, very little can be conveyed, without vocabulary nothing can be conveyed".

In the field of second language learning, vocabulary learning is a crucial component that presents difficulties for teachers and students alike (Kohnke et al., 2021). For decades, conventional approaches have been widely used in vocabulary acquisition, for instance, the Grammar Translation Method (GTM), which employs vocabulary teaching by translating lists of vocabulary words in the students' first language. Students were given a variety of words and had to memorise native language equivalents for target language vocabulary words, as discussed by Freeman (2000) in his book titled "Techniques & principles in Language Teaching". This method turned into a very tiring and uninteresting way of learning vocabulary for students. Also, words that had been taught in this manner were forgotten quickly. As they were taught out of context and they were not practised enough (Eisa,.2020)

Wallace (1982) emphasises the struggle to retain the second language's vocabulary and how challenging it can be to communicate in a foreign language when one has trouble coming up with the right words. Similarly, Nam (2010) highlights how vocabulary improves all four language abilities and helps a teacher lead productive classroom conversations.

Nowadays, this situation has changed. A lot of strategies have been utilised in vocabulary acquisition. There are many alternatives to teaching vocabulary. One of them is teaching vocabulary through games. The integration of technology, especially the widespread availability of mobile devices, is causing a revolutionary change in the educational scene

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

(Rizwan, 2021). A plethora of cutting-edge methods and resources for teaching vocabulary have emerged as a result of this evolution, including online resources and game-based learning apps like Kahoot, Quizlet, Duolingo, etc.

Although a few instructors might imagine that language games are a waste of time, the function of mobile games in teaching and studying vocabulary can not be denied. Mobile games can assist instructors in creating contexts wherein language is used meaningfully. Game-based learning puts learners and their engagement at the centre of the entire learning process. Under the constructivist paradigm, (Dickson, A.; Yeboah, A.; Kusi, A., 2016) it is contingent on learners' concentration and it relies on the implementation of already existing knowledge to newly acquired skills. By using new information, learners modify their pre-existing knowledge and construct new information.

Similar to how paper books are still relevant in the digital age, classic vocabulary-building techniques like paper flashcards have enduring significance despite the abundance of digital resources available. According to Stephen Krashen's (1985) input hypothesis, input must be understandable. He argues that we acquire language in only one manner, while we apprehend messages and obtain understandable input. Thus, we acquire while we apprehend what human beings inform us or what we read, while we are focused. Comprehensible input means that learners must be capable of apprehending the essence of what's being stated or showcased to them. At this point, mobile games can assist instructors in making vocabulary learning input understandable.

This study explores the complex field of language learning within the framework of the Cognitive Theory of Multimedia Learning (CTML) (Mayer, R. E. 2014) and its application to Mobile-Assisted Vocabulary Learning (MAVL). With its three basic tenets, CTML provides the theoretical foundation for multimedia-based learning. According to Mayer, the brain processes information through two different channels: one for verbal information and another for visual information. Furthermore, CTML views learning as a creative process, embracing it as a constructivist tenet. Effective learning occurs when students actively participate in cognitive processing, integrating previously acquired knowledge with novel stimuli, according to Wittrock's Generative Learning Theory (1992). Through learners' active selection, arrangement, and integration of the relevant material with past knowledge, CTML fosters this dynamic cognitive processing and provides a thorough framework for categorising MAVL applications. It divides them into two main groups: tasks or lexical programs and resources or aids. Four different forms of lexical programs or tasks are identified: computerised vocabulary lists, flashcards, exercises, and incidental learning with lexical glosses. On the other hand, the framework identifies the three most important lexical aids that provide students access to lexical means and information: open Google searches, digital dictionaries, and lexical concordances. Electronic dictionaries, for instance, react intelligently to input from rookies, presenting precise lexical statistics and providing extra information upon request making vocabulary learning interesting.

Similarly, Gamification (using mobile flashcard games) helps form an effective learning environment in which learners perceive a sense of progression by accomplishing in-game tasks and unlocking higher levels. This sense of progression refers to what Bandura (2012) described as Self-efficacy in his Self Cognition Theory. Based on his construct, the views of people about their accomplishments and achievements are reflected through self-efficacy. In this respect, productive results can enhance sustained motivation and boost feelings of self-fulfilment. Learners with a high self-efficacy level, take control of their learning, set high goals for themselves, and regulate their learning strategies when needed.

In addition, Csikszentmihalyi (1991) defined Flow theory which says that a high level of self-efficacy can only be achieved when it's done for personal enjoyment. It requires people to get

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

to the ideal Flow state. It is only possible when learners are intrinsically motivated to acquire new skills and enjoy the process of learning. This idea of seeking gratification from learning leads to an 'engagement loop'. According to Zichermann and Cunningham (2011), an engagement loop is defined as an activity where learners continually seek pleasure through achieving rewards.

In this way, this process of positive reinforcement is based on 'programmed instruction' following a Behaviourist approach. (Skinner, 1958). The behaviour of learners is regulated through the use of rewards, instant feedback, and positive reinforcement. The boost of gamification is beneficial in engaging learners to stay on vocabulary learning tasks and motivating them to learn new words and practice them in context.

'Game elements pyramid' is a framework proposed by Werbach and Hunter (2012b) which explains how motivation is sustained through gamified lessons in three steps named 'elements'. The first element is "Components" which generate "Mechanisms". "Mechanisms" produce "Dynamics" which become the top tier of the pyramid. Gamified vocabulary learning tasks incorporate these distinctive game elements, from general to specific, to accomplish tasks. The way to achieve each game element is different from the other two but motivation and engagement are required by all three elements.

Game-based vocabulary learning puts learners and their engagement at the centre of the entire learning process. At the same time, learners learn from their teammates and act independently. This process broadens their minds to learn various skills and solve difficult tasks in totally new situations (Gaweł, Wach-Kąkolewicz, 2016). Following the principles of constructivism, new integrated learning methods should replace conventional learning methods. The overview of the literature highlights the benefits of gamified vocabulary learning making learning a better experience for learners through immediate feedback, a productive learning environment, and the attainment of learners' needs.

Despite the immense use of game-based learning in the field of education, there is no affirmation to prove its effectiveness in teaching methodologies. Studies that indicate the effective use of gamified lessons in education are scarce (Dicheva et al., 2015). Based on recent research results, the majority of students find gamified learning more enjoyable than traditional learning methods. Only a small number of students do not find a clear connection between gamification and education. It depends on how well-developed the mobile games are and how they are received by the students.

Compared to conventional teaching methods, where students get grades based on their class performance, it is the complete opposite in MALL games. In a gamified vocabulary learning, students are not scared to make mistakes and face embarrassment. As a result, students are fully focused on learning rather than worrying about their grades (Alsawaier 2018).

To sum up the discussion, gamified learning apps contain the potential to maximise learning provided they are well-formulated, properly designed, and well-received by the students.
(Dicheva et al., 2015). In the end, educational professionals have a cumbersome responsibility to carefully choose and implement gamification in the educational field by considering the requirements of students.

It is worth noting that little research has been done to observe and calibrate the vocabulary learning process of young teens of the upper primary level using MAVL. Further research is necessary to highlight not only the suitability but also to explore the obstacles in the way of implementing gamification for effective vocabulary learning outcomes for students.

Significance of the Study:

The study is important because it highlights the relative merits of mobile game application (Word Tag) and paper flashcards as vocabulary-learning tools. To maximise the learning environment, educators must know which approach positively affects students' motivation and

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

engagement. Furthermore, examining the differences in learning results between the two methods offers insightful information on the best resources for vocabulary learning. This study adds to the current conversation on cutting-edge pedagogical approaches and helps educators and MALL application developers create efficient vocabulary-learning resources.

In this study, we compare the efficacy of conventional paper flashcards with gamified vocabulary learning through the Word Tag APP among upper primary-level EFL learners.

Research Objective:

To investigate the impact of gamified vocabulary learning on motivation, engagement, and learning outcomes of Year 6's students in the EFL classroom, compared with paper flashcards.

Research Questions:

1. Which method improves students' motivation and engagement to learn new vocabulary words, Word Tag, or Paper Flashcards?
2. What are the differences in learning outcomes and performance between students exposed to gamified vocabulary learning and those learning vocabulary through flashcards?

Literature Review:

The ongoing controversy over cellular programs vs conventional paper flashcards for vocabulary learning has been very well tested in recent research. New research is constantly adding to our understanding of the complicated dynamics of different modes of learning and the way they affect pupils' learning outcomes. Numerous researches have examined how vocabulary learning through mobile apps MALL compared to conventional paper flashcards. In a mixed technique, 60 Turkish undergraduate college students, Basoglu and Akdemir (2010) determined that smartphone programs were a more effective manner to learn vocabulary in English than paper flashcards. In a similar vein, Azabdaftari and Mozaheb (2012) determined that cell apps outperformed paper flashcards in vocabulary training in the course of their examination related to 80 undergraduate college students in Tehran. After studying 139 university students in Japan, Ashcroft et al. (2016) determined that at the same time as both methods were equally effective for college kids with higher skill ability levels, digital flashcards were more positive for those with lower competence tiers. In their investigation of the Memrise app's results on Iranian EFL college students, Fathi et al. (2018) determined that, when compared to a control group, the app notably improved the learners' vocabulary significantly.

Kose and Mede (2018) observed how the Rememba app affected the vocabulary boom and motivation of 38 EFL college students in Turkey. They found that users' motivation and vocabulary knowledge had increased. Xodabande et al. (2022) showed that by using mobile application flashcards, Iranian high school students achieved better vocabulary learning outcomes.

Li and Hafner (2022) discovered that among Chinese undergraduate students, vocabulary gains using mobile-based word cards were higher than those from traditional cards. Further demonstrating the usefulness of digital tools in self-regulated learning, Zung et al. (2022) found that college students preferred digital flashcards because of their adaptability, ease of use, and convenience.

In a comparable vein, Garcia (2023) focused on English language novices at universities. Over a few weeks, contributors' development was monitored by the use of either paper flashcards or a vocabulary app. Fascinatingly, it was observed that even though the initial studying profits were comparable for both means, app users in the end showed greater scores in evaluation practices and higher retention.

Moreover, Nguyen (2023) also investigated students' opinions and reviews about various vocabulary-mastering strategies. Through surveys and interviews, they found that many

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

college students valued the convenience and interactive features provided by mobile apps, and quite a few preferred the tactile sensation of paper flashcards. Another study (Gavilanes, 2024) was carried out to discover the role of virtual games in helping students acquire vocabulary. Through various games the students were examined, this research focused on the use of modern technology for vocabulary learning especially for the modern era learners.

Furthermore, Mustafa (Bingol, 2024) did a study on law students to assess the quiz-based method testing in enhancing vocabulary skills while comparing the two study techniques, considering other factors like coordination, and the willingness of students. Nguyen (Thi, 2024) is a case study that explored how smartphones and devices employing digital apps like YouTube can help university students improve and learn vocabulary. These apps help university students learn vocabulary independently in an asynchronous setting.

Similarly, Najwa (Bayaksud, 2024) conducted a study based on the use of Quizlet among high-school students in Indonesia. The aim was to assess the acquisition of vocabulary through digital apps. The students responded positively to this quizlet-based vocabulary acquisition.

Recent studies from 2024 provide important insights into learners' responses to different vocabulary-learning techniques. A study by Damar Isti Pratiwi (2024) compared educational games with conventional paper-based vocabulary activities in a flipped classroom and found that although students performed well in both methods, low-proficiency learners preferred paper-based techniques, showing that gamification is not uniformly effective across proficiency levels. Another study by Budi Waluyo (2024) examined game-based platforms—Kahoot, Quizizz, and Quizlet—to measure their effects on vocabulary and grammar acquisition. By comparing various elements of MALL (Mobile-Assisted Language Learning) and game-driven tasks, the study found that the effectiveness of each platform varied depending on learner engagement, task type, and instructional design.

Building on this foundation, 2025 research demonstrates the expanding effectiveness of digital gamification in vocabulary learning. A study published in CALL-EJ (2025) investigated teachers' perceptions of using digital video games for vocabulary instruction and reported that immersive, game-based environments enhanced motivation and active participation, despite concerns regarding distraction and content control. Findings from JUPENSI (2025) showed that learners using gamified apps featuring points, badges, and leaderboards significantly outperformed those using non-gamified platforms, with higher engagement and reduced dropout rates. Research published in the International Journal of Science and Innovation (IJSI, 2025) focused on engineering students and confirmed that gamification tools, such as apps and online exercises, substantially improved vocabulary retention and learning outcomes. Results from ALIMAN (2025) further revealed that gamified platforms helped reduce learner anxiety while increasing motivation, leading to better vocabulary retention and more positive attitudes toward learning. Additional 2025 studies also reinforce these trends: Arif (2025) found that gamification on online learning platforms improved English vocabulary retention; Hidayat (2025) demonstrated that gamified tasks enhanced EFL vocabulary acquisition; Mahasneh (2025) showed increased motivation among middle-aged EFL learners through gamification; and Javed (2025) reported strong classroom-based improvements in vocabulary learning through Kahoot.

Across these studies, commonly used gamified platforms—Duolingo, Memrise, Quizlet, PowPow, Wordwall, and Kahoot!—were frequently highlighted for leaderboards, achievements, in-app rewards, timed challenges, social competition, adaptive difficulty,

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

immediate feedback, and repeated exposure, all contributing to sustained engagement. Researchers consistently recommend incorporating elements such as spaced repetition, personalised challenges, competition, and positive reinforcement to maximise vocabulary recall. Teachers are therefore encouraged to integrate well-designed gamified tools into instructional practices while ensuring content control and continuous monitoring of learner outcomes.

Overall, evidence from 2024 and 2025 shows that vocabulary learning is rapidly evolving across digital contexts, with learners demonstrating diverse preferences shaped by proficiency, technology familiarity, and learning style. While traditional methods—such as paper flashcards—remain effective and in some cases preferred by lower-proficiency learners, gamified mobile applications offer adaptability, interactivity, and strong motivational benefits for a wide range of learners.

Despite these developments, studies examining the effectiveness of MALL and educational games among primary and lower-secondary learners remain scarce, particularly within the Pakistani context. More research is needed to determine the most context-appropriate digital tools, the most effective gamification strategies, and how these can be adapted for different proficiency levels as technology continues to shape the future of vocabulary learning.

Methodology:

The purpose of this research is to find the impact of gamified vocabulary learning on ESL learners. To investigate the impact, a mixed framework of qualitative and quantitative research was designed. A unique Questionnaire was designed and used as a Pre and Post-test assessment tool to gauge the impact of gamified vocabulary learning through the mobile learning app, on three variables of the vocabulary learning process, i.e.: Motivation, Engagement, and Learning Outcomes.

Ethical Considerations:

Ethics were considered the top priority in this study. The study was approved by the administration of the school where the researcher worked as a faculty member. The parents of all the participants were briefed about the study and all of them consented to their ward's participation in the research. The participants and the school where the study was conducted were given complete anonymity.

Application Features: (Word Tag)

Word Tag combines education and entertainment to help students improve their vocabulary. It has a wide array of unique features such as; engaging gameplay through vibrant real cities across the world, connection-building characters Roxy and Wolfgang, who collect virtual spray cans, and "tag" walls with words to learn their definitions, pronunciation, contextual use and spellings. This feature adds a fun element of painting graffiti on the walls of the city in the game. It also enables learners to master new words through a variety of fun mini-games like word jumbles, synonym matching, and sentence completion. Repeated exposure to words across multiple in-game features helps students with vocabulary retention. The game app also allows students to explore and learn new words at their own pace, allowing for a personalised learning experience.

The students get reward points in the form of virtual coins when they answer a question correctly and get instant feedback in case they make errors. The coins can be used to buy customized clothing for the personalized in-game avatar, which makes the learners eager to achieve goals and learn new words. The tasks are given in missions, which keep the students

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

engaged in the game, mission completion is required to unlock the next level and students can reattempt and practice as much as they like to fix their errors. Once a level is completed the students can unlock badges displayed on the leaderboard section of the game. The students are also able to see their scores on the leaderboard. All of the learnt vocabulary words and the feedback remain available for the students to access later for further practice, to prepare for their graded assignments.

Figure 1: Game Images

Note: (2023) From the Word Tag - Word Learning Game https://mrswordsmith.com/en-gb

Sampling Method:

A group of 40 Year-6 students including 20 boys and 20 girls volunteered to participate in the research. The participants in this study were students aged between 10-11 years. Another unifying factor among the participants is that all the participants were non-native English speakers and had Urdu as their L1 language and English as their L2 language. Out of the population of 40 students, a group of 10 students including 5 girls and 5 boys were picked randomly through a lottery ticket method as a sample population.

Data Collection

The data for the Pre-Test Assessment was collected from the students in the form of filled-in questionnaire forms, at the end of the execution of a four-week teaching plan of the conventional teaching method employing paper flashcards.

The data for the Post-Test Assessment was also collected in the form of a filled-in questionnaire. The students filled out the questionnaire at the end of four week gamified teaching plan.

Statistical Analysis of Data:

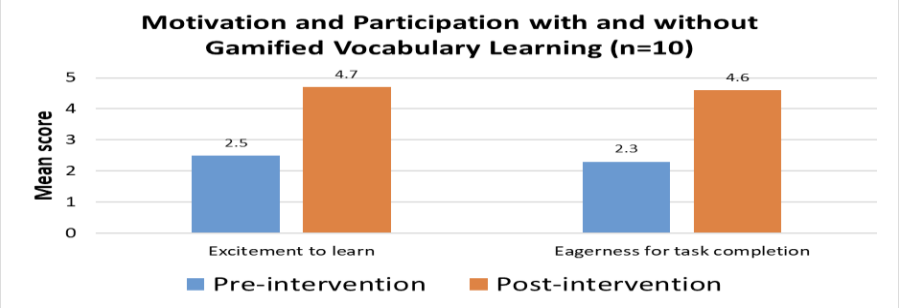
A paired Sample t-test was applied to the collected data to determine the impact of the intervention of gamification, on the motivation, engagement, and learning outcomes of vocabulary learning of the Year 6's students in an EFL classroom.

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

Findings and Analysis

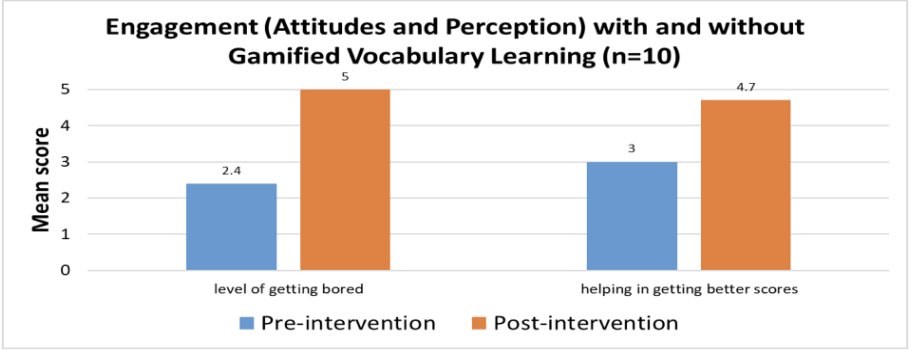
Measuring the impact of gamification on motivation, engagement and learning outcomes of students' vocabulary learning process was the main goal of this research. To measure the impact pre-test and post-test strategy was employed. The pre-test was conducted to measure students' motivation, engagement, and learning outcomes before the intervention of the gamified vocabulary learning through the MALL app, where the students were learning the vocabulary words through the traditional word lists and flashcards. Whereas the post-test was used to measure all three variables after the intervention of vocabulary learning through the MALL app. The pre-test and the post-test were done after the children had been exposed to both teaching methods for four weeks each, had attempted their graded assignments, and had seen their results. This enabled the researchers to determine the direct measurement of the change in the three concerned variables of the students' vocabulary learning process. The results are reported in Tables 1, 2 and 3

Table 1: Statistics for the Pre and Post Scores



As the table shows, the average scores measuring the students' motivation and participation increased significantly after the intervention. The mean score of motivation and engagement variables, i.e., excitement and eagerness to complete the vocabulary learning tasks, saw a whopping increase after the intervention as depicted in the bar graph above. The p-value for all the elements in order of magnitude is smaller than 0.05, showing that the change in the motivation and participation (post-test vs. pre-test) was statistically significant, indicating that the gamified vocabulary learning through the MALL app's intervention served as an effective tool for sustained motivation for all the participants. The graph shows that the gamified vocabulary learning method proved to be an effective tool to increase students' excitement to learn, and eagerness to complete the vocabulary learning tasks as compared to the traditional method of learning vocabulary through Flashcards.

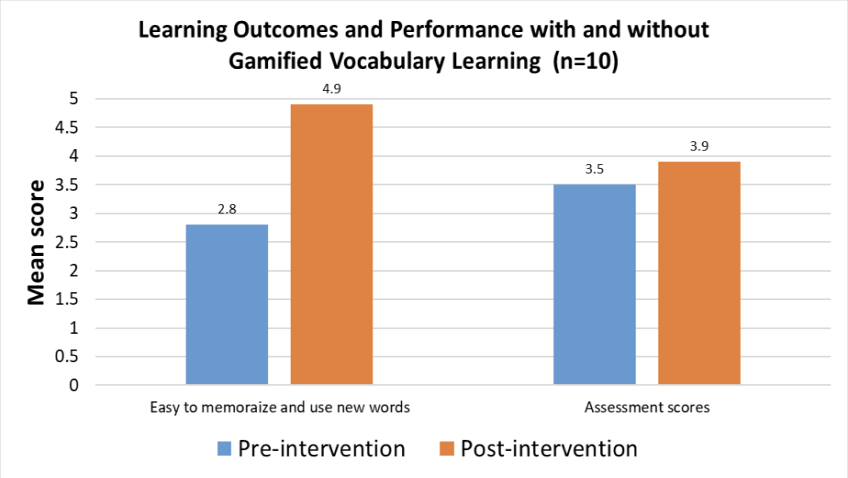
Table 2 Statistics of the Pre and Post Scores



ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

The bar graph in Table 2 shows a similar hike in the mean values post the intervention of gamified vocabulary learning for the variables of continued engagement in various vocabulary learning tasks, in which the participants need to engage to reach the objectives of every lesson. These results further illustrate that the gamified vocabulary learning integrated as the learning tool was effective in invoking intrinsic drive in the students to engage and complete the required tasks. The higher levels of assessment scores indicate that the students felt more in control of their progress and learning. They learned the new vocabulary words more effectively by being engaged with the interactive features of the game and by staying engaged with the learning task for longer. Conversely, the participants before the intervention were not able to progress as much, presumably because of a lack of motivation and finding the flashcard activity (matching the meanings, using the new words in sentences, and reading the challenging words in a context) relatively boring. Another distinguishing factor was that the students got more opportunities to practice the vocabulary words as they played the game in their free time thus achieving the overarching goal of MALL, which makes learning a fun activity and the learners are intrinsically motivated to learn new words and find it easier to retain them for a longer period.

Table 3 Statistics of the Pre and Post-Scores



The results of Table 3 make it evident that the students' vocabulary learning assessment scores improved significantly post-intervention and they find it easier to remember the new vocabulary words after learning them through the gamified MALL app.

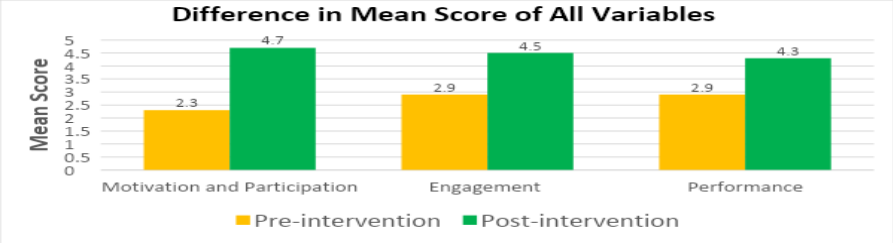
Results

Cognitive learning is defined as "learning that is concerned with the acquisition of problem-solving abilities and with intelligence and conscious thought". Adapting questions based on a problem-solving approach to enhance learners' problem-solving skills is of key importance. This game not only reinforced learners' previous understanding of the vocabulary words, but it also taught the players new challenging words in a fun and immersive gameplay. Constructivist theorists assert that when students construct personal knowledge derived from meaningful experiences, they are much more likely to retain and use what they have learned. Hence this game served as a useful learning tool for the process of vocabulary learning in terms of not only enhancing the motivation, and engagement to stay on the learning task but also the learning outcomes of the students in terms of improved assessment scores.

It's imperative to note that MAVL had a significantly higher impact on the learners' motivation, participation and engagement to learn new words. The table below shows the

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

comparative values of learners' motivation, engagement and performance before and after intervention.



Limitations and Recommendations:

The findings of this study have their limitations as the MALL gamified vocabulary learning strategy employed needs a well-equipped ICT lab with sustainable internet connectivity. The study does not focus on the strategies and factors involving the construction of the game and implementation of gamification in an ESL classroom; hence, it is recommended to conduct profound research on the implementation of gamification and choosing a game that suits the learning setup for learners in other settings. The findings of this study might not be equally valid for all the students, depending on the variations in their learning styles.

This research heavily relies on learners' experiences and feedback, while not taking teachers' experiences and feedback into account. Future researchers can explore the educators' perceptions, experiences and feedback in implementing gamified learning in ESL classrooms.

Conclusion

Using Word Tag, an e-learning MALL application utilizing a game design to encourage learners to explore words, has a higher efficacy in motivating, stimulating and promoting learning when compared to conventional paper flashcards among Year 6 EFL students. The application of MAVL helped learners achieve a Flow state as they were intrinsically motivated and engaged with the enjoyable vocabulary learning tasks more frequently while playing the game for personal enjoyment. The learners sought gratification from MAVL which led to an 'engagement loop' of learning as discussed by Zichermann and Cunningham (2011) which not only enlivens the learning process itself but is also effective in deploying information in the form of new vocabulary.

This, along with feedback from the learners that the game was fun and stimulating, may have contributed to higher intrinsic motivation and participation because of the positive reinforcement, immediately available feedback, ease of access to practice and improving the errors, provided in features of the game.

These insights show that the MAVL strategies can enable the enhancement of an engaging learning process for the learners. Further research should extend the findings' timeframe and consider how such approaches to gaming can be translated in both scope and to students of different ages and learning environments to provide cross-validation of these results.

References

Adom, Dickson, Akwasi, A., & Ankrah, K. (2016). CONSTRUCTIVISM PHILOSOPHICAL PARADIGM: IMPLICATION FOR RESEARCH, TEACHING AND LEARNING. *Global Journal of Arts Humanities and Social Sciences, 4*, 1–9.

Alsawaier, R. S. (2018). The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology, 35*(1), 56–79. https://doi.org/10.1108/ijilt-02-2017-0009

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

Anonymous. (2025). Digital video games and language learners' vocabulary: Teachers' perspectives on effectiveness and challenges. *CALL-EJ, 26*(2). https://callej.org/index.php/journal/article/view/82

Anonymous. (2025). Gamification tools for vocabulary development in engineering students. *International Journal of Science and Innovation, 18*(2), 68–79. https://ijsi.in/wp-content/uploads/2025/07/18.02.046.20251003.pdf

Arif, U. Q. (2025). The influence of gamification on English vocabulary retention in online learning platforms. *Jurnal Pendidikan Penelitian Ilmu, 5*(2), 1044–1053. https://doi.org/10.53299/jppi.v5i2.1468

Ashcroft, R. J., Cvitkovic, R., & Praver, M. (2016). Digital flashcard L2 vocabulary learning outperforms traditional flashcards at lower proficiency levels. *The EuroCALL Review, 26*(1), 14–28.

Azabdaftari, B., & Mozaheb, M. A. (2012). Comparing vocabulary learning of EFL learners using mobile learning vs. flashcards. *The EuroCALL Review*, *20*(2), 47–59.

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, *38*(1), 9–44.

Basoglu, E. B., & Akdemir, O. (2010). A comparison of undergraduate students' English vocabulary learning: Using mobile phones and flash cards. *Turkish Online Journal of Educational Technology*, *9*(3), 1–7.

Bayaksud, N., Degeng, N. P. D. D., & Razali, N. K. A. (2024). The use of Quizlet for vocabulary learning. *Journal of Language and Literature Studies, 4*(1), 244–255. https://doi.org/10.36312/jolls.v4i1.1823

Bingol, M. (2024). The impact of virtual vocabulary applications on law students' lexical competence. *Arab World English Journal, 15*(4), 295–312. https://dx.doi.org/10.24093/awej/vol15no4.19

Cameron, L. (2001). *Teaching Languages to Young Learners*. Cambridge University Press.

Csikszentmihalyi, M. (1991). *Flow theory*. København: Munksgaard.

Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in education: A systematic mapping study. *Journal of Educational Technology & Society*, *18*(3), 75–88.

Eisa, S. A. H. (2020). The pros and cons of the grammar-translation method. *Arab Journal for Scientific Publishing*, *2663*, 5798.

Fathi, J., Alipour, F., & Saeedian, A. (2018). Enhancing vocabulary learning via Memrise. *Journal of Modern Research in English Language Studies, 5*(1), 27–46.

Freeman, L. D. (2000). *Techniques and Principles in Language Teaching* (2nd ed.). Oxford University Press.

Gaweł, A., & Wach-Kąkolewicz, A. M. (2016). Konstruktywizm edukacyjny w nauczaniu przedsiębiorczości metodą gier elektronicznych. *Horyzonty Wychowania*, *15*(34), 87–102.

Hamzah, M. S. G., Kafipour, R., & Abdullah, S. K. (2009). Vocabulary learning strategies of Iranian EFL students. *European Journal of Social Sciences, 1*(1), 39–50.

Hidayat, M. (2025). Enhancing EFL vocabulary acquisition through gamification. *Kariwari Smart: International Journal of Educational Research, 7*(1), 101–109.* https://e-journal.iainfmpapua.ac.id/index.php/kariwarismart/article/view/1397

Javed, N. (2025). The impact of Kahoot on English vocabulary acquisition. *International Journal of Language and Literature Studies, 9*(3), 82–91.* https://ijlls.org/index.php/ijlls/article/view/2305

Kohnke, L., & Ting, A. (2021). ESL students' perceptions of mobile applications for academic vocabulary. *Knowledge Management & E-Learning*, *13*(1), 102–117.

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

Kose, T., & Mede, E. (2018). Investigating mobile flashcard applications for vocabulary learning. *MEXTESOL Journal, 42*(4).

Krashen, S. D. (1985). *The Input Hypothesis: Issues and Implications.* Longman.

Leticia, L. G. J. (2024). The impact of multimedia games to enhance lexis. https://repositorio.uta.edu.ec/items/ff0332e9-3a71-4527-a28c-72bde8f7de0a

Li, Y., & Hafner, C. A. (2022). Mobile-assisted vocabulary learning. *ReCALL, 34*(1), 66–80.

Mahasneh, O. (2025). The impact of gamification on motivating middle-aged EFL learners. *Frontiers in Language Studies, 12*(1), 31–45.* https://journals.bilpubgroup.com/index.php/fls/article/view/7538

Mayer, R. E. (2014). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge Handbook of Multimedia Learning* (pp. 43–71). Cambridge University Press.

Nam, J. (2010). Effective strategies for teaching vocabulary. *TESL Canada Journal*, 127–127.

Nguyen, H. T. M., & Bui, T. L. D. (2023). Group work in Vietnamese EFL classrooms. *Journal of Inquiry Into Languages and Cultures, 7*(1), 12–26.

Nguyen, T. D. T. (2024). Impact of MALL on autonomous English learning. *AsiaCALL International Conference Proceedings, 6*, 217–237. https://doi.org/10.54855/paic.24616

Nur Lailatur Rofiah, & Waluyo, B. (2024). Effects of gamified grammar and vocabulary learning. *Questa Soft*. https://www.ceeol.com/search/article-detail?id=1265081

Pan, S. C., Zung, I., & Imundo, M. N. (2022). User-generated versus pre-made digital flashcards.

Pratiwi, D. I., Fitriati, S. W., Yuliasri, I., & Waluyo, B. (2024). Flipped classroom with gamified technology. *Asian-Pacific Journal of Second and Foreign Language Education, 9*(1). https://doi.org/10.1186/s40862-023-00222-4

Rahmani, A., Asadi, V., & Xodabande, I. (2022). Using mobile devices for vocabulary learning. *Frontiers in Psychology, 13*, 899885.

Rizwan, A. (2021). Effect of digital flashcards on low-frequency vocabulary retention. *International Journal of Infrastructure Research and Management, 9*(1).

Rodríguez-Arce, J., Vázquez-Cano, E., Juárez-Pegueros, J. P. C., & González-García, S. (2023). Improving L2 vocabulary using m-learning. *SAGE Open, 13*(4).

Skinner, B. F. (1958). Reinforcement today. *American Psychologist, 13*(3), 94.

Wallace, M. J. (1982). *Teaching Vocabulary.* Heinemann.

Werbach, K., & Hunter, D. (2012). *The Gamification Toolkit: Game Elements.*

Wilkins, D. A. (1972). *Linguistics in Language Teaching.* Edward Arnold.

Wittrock, M. C. (1992). Generative learning processes. *Educational Psychologist, 27*(4), 531–541.

Word Tag – Word Learning Game. https://mrswordsmith.com/en-gb

Zichermann, G. (2011). *Gamification by Design.* O'Reilly.