

*Original Research*

## Get Ahead with Quizizz: Advancing Junior High School Students' Vocabulary Mastery in Online Learning

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**Abstract**

This experimental study examines the effectiveness of Quizizz application in enhancing Junior High School students' vocabulary mastery. The study aims to address the problem of low scores in English vocabulary among Junior High School students and investigates whether the use of Quizizz as an interesting and interactive media can improve their vocabulary mastery. The study employed a pre-test and post-test control group design, with 22 students in the experimental group and 23 students in the control group selected using random sampling. The experimental group received were taught using Quizizz, while the control group used other similar web-apps. Both groups received instruction in vocabulary. The study found that the use of Quizizz significantly improved students' vocabulary mastery, as evidenced by the higher mean score of the experimental group (81.68) compared to the control group (77.21). However, the study's findings are limited to Junior High School students and may not generalize to other age groups or contexts. The findings suggest that incorporating interactive and engaging online learning tools such as Quizizz can be a promising approach to addressing the problem of low scores in English vocabulary among Junior High School students. However, further research is needed to determine the generalizability of these findings to other age groups and contexts.

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### 1. Introduction

The Covid-19 pandemic has presented numerous challenges for educators, including the need to shift to online teaching and learning. According to Arsyad (2016), the Minister of Education and Culture has mandated that the teaching and learning process be carried out online during the pandemic. This requirement has necessitated that educators adapt to new scenarios, such as utilizing motivational media in the teaching and learning process. Arsyad (2016) further explains that the use of teaching media can stimulate and motivate students' learning activities, create new needs and interests, and even have a psychological impact on students.

The shift to online education has presented numerous new obstacles for both teachers and students. As noted by several researchers (Coates, 2007; Dixson, 2010; Young & Bruce, 2011), educators are faced with the challenge of ensuring that students remain engaged and motivated in the virtual classroom, which can be daunting due to the lack of in-person interactions. Meanwhile, learners must adapt to a new learning environment and find ways to make progress in their studies. For language learners, these challenges can be even greater, as online language learning may limit opportunities for speaking and listening practice, which

are crucial for developing language skills. Additionally, language learners may miss out on the chance to engage in cultural immersion, which is a critical aspect of language learning (Moorhouse & Kohnke, 2021).

Therefore, it is essential that educators and learners work together to find solutions to these challenges. Educators can incorporate interactive activities and group work into their online classes to increase student engagement and provide opportunities for speaking and listening practice (Muir et al., 2022; Nuci et al., 2021). Learners can also take advantage of technology to connect with native speakers and immerse themselves in the target language's culture (Liu et al., 2002). Online language learning presents both challenges and opportunities for educators and learners. By incorporating interactive activities, game-based learning approaches, video conferencing platforms, and authentic materials, educators can create engaging and effective online language courses. Similarly, learners can take advantage of technology to connect with native speakers, immerse themselves in the target language's culture, and practice their skills independently (González-Lloret & Ortega, 2014). Quizizz platform can be a useful tool for educators to improve vocabulary acquisition and speaking skills simultaneously, by creating engaging quizzes that incorporate speaking and writing exercises (Zainuddin & Perera, 2019).

In addition to practicing speaking skills, learners can also benefit from engaging with authentic materials in the target language. As highlighted by Akbari & Razavi 2016; Ahmed, 2017, authentic materials such as news articles, podcasts, and videos can expose learners to real-world language use and cultural contexts. Educators can incorporate these materials into their online classes by providing links or assigning tasks that require learners to engage with authentic materials. Additionally, learners can use technology to access these materials independently, such as by subscribing to podcasts or following social media accounts in the target language.

Overall, online language learning presents both challenges and opportunities for educators and learners. By incorporating interactive activities, game-based learning approaches, video conferencing platforms, and authentic materials, educators can create engaging and effective online language courses. Similarly, learners can take advantage of technology to connect with native speakers, immerse themselves in the target language's culture, and practice their skills independently, including the use of platforms like Quizizz. According to Katemba & Sinuhaji (2021) and Pavita & Nirmala (2021), the use of game-based learning platforms like Quizizz can improve both the speaking and writing skills of language learners. In their study, they found that learners who used Quizizz to practice vocabulary had significant improvements in both their speaking and writing skills compared to a control group who used traditional methods. Moreover, research by Erbaggio et al., 2012; Proske et al., 2014, suggests that incorporating interactive activities into language courses can increase learner engagement and motivation. By using platforms like Quizizz, educators can provide learners with interactive and engaging activities that promote vocabulary acquisition and language use.

Despite the potential benefits of game-based learning websites such as Quizizz, there is a gap in the research on the effectiveness of these platforms for teaching vocabulary in an online learning environment. While some studies have explored the potential of Quizizz and other game-based learning tools for teaching vocabulary (Junior, 2020), few studies have specifically focused on the effectiveness of these websites in an online learning environment (Hung, et al., 2014; Chen, et al., 2019). This study aims to address this gap in the research by investigating the effectiveness of Quizizz for teaching vocabulary in an online learning environment. Specifically, this study focuses on class IX students at UPTD SMP Negeri 6 Parepare, South Sulawesi. The researchers aim to examine the impact of using Quizizz on students' vocabulary mastery, as well as their attitudes towards English language learning.

Furthermore, this study is conducted to make a significant contribution to the field of language education by identifying effective strategies for teaching vocabulary in an online learning environment. With the ongoing Covid-19 pandemic and continuous needs for remote learning, identifying effective approaches to language education has been more and more critical. By demonstrating the effectiveness of Quizizz for teaching vocabulary in an online learning environment, this study provides educators with a valuable tool for engaging and motivating language learners in virtual classrooms. The novelty of this study is in its focus on game-based learning approaches for teaching vocabulary in an online learning environment, which has not been extensively studied in previous research (Prensky, 2001). By filling this gap in the literature, this study will provide valuable insights into the potential of game-based learning approaches for language learning, particularly in the context of online classes (to avoid redundancy).

## 2. Literature Review

### 2.1 Digital-Based Learning Media

During the pandemic era, digital-based learning media have become necessary to improve student learning outcomes. According to [Irwan \(2019\)](#), a digital-based learning medium is needed to create fun, interesting, and active learning environments while achieving the goals of critical thinking, constructive innovation, and character building. Distant communication during online learning is optimized through the use of mobile phones, tablets, laptops, and internet connections that can be integrated into learning activities ([Marinagi et al., 2013](#); [Ahshan, 2021](#); [Putra, 2023](#)). Motivation for memorization occurs when students adopt goals and actively engage in learning concepts or skills mastery ([Al-Dosari, 2011](#)).

In addition, the utilization of digital-based learning media can also facilitate student-centered learning. Digital tools allow students to take charge of their own learning by providing access to a wealth of information and resources that can be tailored to their needs and interests ([Hew & Brush, 2007](#)). Moreover, digital tools can promote active and collaborative learning by enabling students to participate in online discussions, share their work with peers, and receive feedback from teachers and peers ([Anderson & Dron, 2011](#)).

### 2.2 Game-Based Learning

Games have been recognized as a way to improve intelligence and neural reflexes ([Widiastuti, 2012](#)). Educational games aim to increase users' interest in learning while stimulating their minds, creativity, and logic ([Paino, 2009](#); [Kebritchi et al., 2010](#); [Vnucko & Klimova, 2023](#)). Game-based learning has become popular, and two examples are Kahoot and Quizizz. *Kahoot* is a game-based learning platform that increases students' interest and motivation in learning and provides an exciting, interesting, and challenging learning process ([Lisnani & Emmanuel, 2020](#); [Janković & Lambić, 2022](#); [Kaur, & Naderajan, 2019](#)). Quizizz, on the other hand, is an interactive and fun game-based educational application that is different from other educational applications ([Chung et al., 2019](#); [Henry, 2010](#)). It provides multiplayer activities that enhance student self-evaluation and motivation, time management, and creativity ([Mei et al., 2018](#)). Furthermore, game-based learning can also provide opportunities for formative assessment. Formative assessment involves providing feedback to students during the learning process to help them identify their strengths and weaknesses and make adjustments to improve their performance ([Black & Wiliam, 1998](#)). Games can be designed to provide immediate feedback to students and help them identify areas where they need to focus their attention ([Lee & Hammer, 2011](#)). In addition, games can be used to monitor student progress and adjust instruction to meet individual needs ([Szymanski & Benus, 2015](#); [Morgan, 2022](#)).

### 2.3 Quizizz as a Learning Tool

Quizizz is a web tool for creating interactive quiz games that can be accessed via the website [www.Quizizz.com](http://www.Quizizz.com). It provides students with multi-game activities that enhance their learning outcomes. According to [Purba \(2019\)](#), Quizizz is a game-based educational application that brings multi-game activities to the classroom and makes classroom practice interactive and fun. Quizizz provides data and statistics about students' performance ([Mei et al., 2018](#)) and can improve students' learning behavior and motivation ([Puspitarini, 2019](#)). Moreover, [Connolly et al. \(2012\)](#) shows that games can increase student engagement by providing opportunities for active learning, competition, and social interaction and Quizizz can promote such purposes. It is designed to be an entertaining and interactive learning experience that can capture students' attention and make learning more enjoyable.

## 3. Method

The researchers employed a quasi-experimental design to investigate the effectiveness of Quizizz in improving students' vocabulary proficiency. In this study, the quasi-experimental design was chosen due to the limited availability of subjects and the absence of a control group selection. The quasi-experimental design is useful in situations where it is difficult or impossible to randomly assign subjects to groups, as it allows researchers to make causal inferences between the treatment and outcomes ([Shadish et al., 2002](#)). The participants were ninth-grade students of UPTD SMP Negeri 6 Parepare in the academic year 2021-2022. Two classes were selected using random sampling: 22 students were assigned to the experimental group, which used the Quizizz application, and 23 students were assigned to the control group, which used the conventional teaching method and other similar apps. The study administered a written vocabulary test

in two stages. As a pre-test, it was conducted before the treatment to determine the students' vocabulary knowledge before any intervention, and as a post-test, it was conducted after the treatment to determine the impact of Quizizz implementation on the students' vocabulary proficiency. The test included material about congratulatory texts, which was covered in both the experimental and control groups.

To analyse the research data, the scores from the pre-test and post-test were compared using descriptive statistics. The scores were categorized into four levels of proficiency, including very good, good, fair, and poor, based on the Directorate General of Primary and Secondary Education's guidelines (2017). The effectiveness of the treatment was determined by comparing the students' vocabulary proficiency levels before and after the treatment using descriptive statistics. The results of the study were limited by the small sample size of only two classes. However, the study's findings may still provide valuable insights into the effectiveness of Quizizz in improving students' vocabulary proficiency.

In conclusion, the researchers employed a quasi-experimental design to investigate the effectiveness of Quizizz in improving students' vocabulary proficiency. The study's theoretical framework was based on the Cognitive Load Theory, which suggests that instructional materials designed to optimize cognitive load are more effective in promoting learning. The study's findings may provide insights into the effectiveness of Quizizz in improving students' vocabulary proficiency, although the small sample size limits the generalizability of the results.

## 4. Results

### 4.1 The Students' Score in Pre-test

The following chart describes the students' vocabulary mastery pre-test score in experimental group and control group.

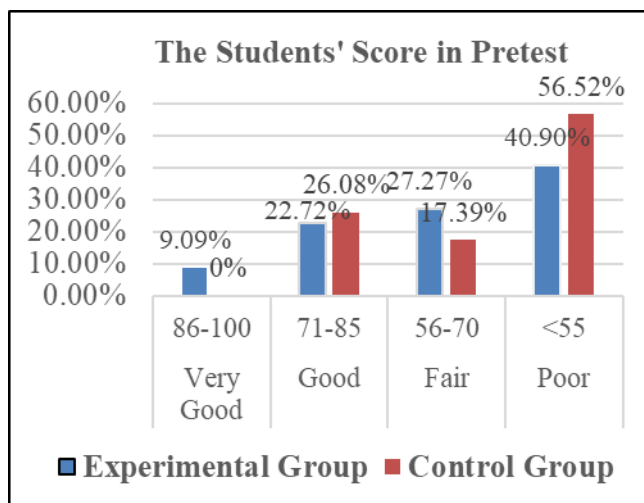


Figure 1. The Students' Vocabulary Mastery Score in Pre-test

Figure 1 presents the pre-test scores of the students' vocabulary mastery in the experimental and control groups. The chart shows that the students' vocabulary proficiency levels were low before the treatment, with the majority of students in both groups scoring in the poor category. The experimental group had a slightly higher percentage in the fair and good categories compared to the control group. However, the majority of students in both groups had poor vocabulary mastery. The importance of having strong vocabulary proficiency cannot be overstated, as it plays a crucial role in students' academic success and overall communication skills. Despite the efforts made by educators to improve students' vocabulary mastery, it remains a persistent challenge in many educational settings. Therefore, the researchers embarked on a study to investigate a new treatment that could improve students' vocabulary proficiency.

The treatment involved the use of the Quizizz application in the experimental group and Kahoot as a similar application in the control group. The use of these applications aimed to provide a fun and engaging way of learning vocabulary, which could help students improve their vocabulary mastery. By incorporating technology into the learning process, the researchers hoped to create a more interactive and stimulating



learning environment, which would enhance students' motivation to learn and ultimately lead to better outcomes. To determine the effectiveness of the treatment, the researchers administered a post-test to both the experimental and control groups. The scores of the experimental group were then compared to those of the control group to evaluate the impact of the Quizizz application on the students' vocabulary proficiency. The post-test results will be presented and discussed in the following section.

Overall, the pre-test results underscore the need for an effective method to improve students' vocabulary proficiency. The treatment using Quizizz and Other similar applications aimed to address this need and was expected to improve the students' vocabulary mastery. By analysing the post-test results, the researchers could ascertain whether the treatment was successful in achieving its goals and improving students' vocabulary proficiency.

#### 4.2 The Students' Score in Post-test

The following chart describes the students' vocabulary mastery post-test score in experimental and control group.

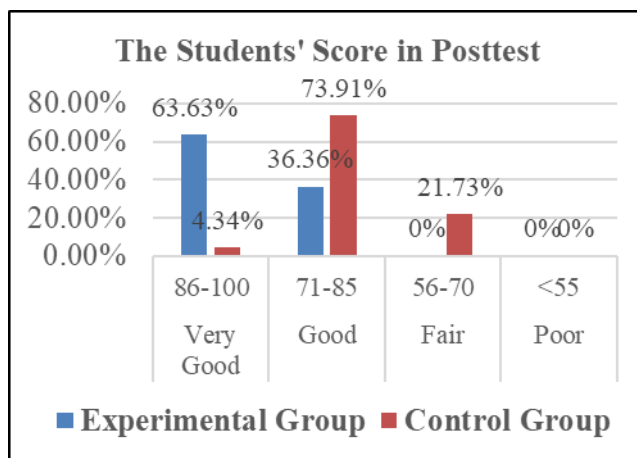


Figure 2. The Students' Vocabulary Mastery Score in Post-test

The results of the study were presented in Figure 2, which shows the post-test scores of the students' vocabulary mastery in both the experimental and control groups after the treatment using Quizizz and Other similar applications. The chart indicates that both groups showed improvement in their vocabulary mastery after the treatment, with most students in the good and very good categories. However, the experimental group had a significantly higher percentage of students in the very good category compared to the control group. This finding suggests that the Quizizz application was more effective in improving the students' vocabulary mastery.

The post-test results provide evidence that the treatment using Quizizz and Other similar applications was effective in enhancing the students' vocabulary proficiency. Nevertheless, the use of Quizizz in the experimental group led to a more significant improvement in the students' vocabulary mastery. Quizizz is an interactive and engaging application that helped the students develop their vocabulary skills through fun activities and games. By motivating and engaging the students, Quizizz provided an effective means of improving their vocabulary mastery.

The results of this study support the use of digital tools in language learning. By employing digital tools, language educators can enhance their students' motivation and engagement, which can lead to better learning outcomes. Future research could explore the effectiveness of different digital tools in language learning and their impact on students' motivation and engagement. By investigating the effectiveness of different digital tools, educators can determine the most suitable tools to use in their language classes and tailor their teaching approaches to meet their students' needs.

#### 4.3 The Mean Score of Pre-test and Post-test

Figure 3 below describes the mean score of the students' vocabulary mastery score in pre-test and post-test for both experimental and control groups.

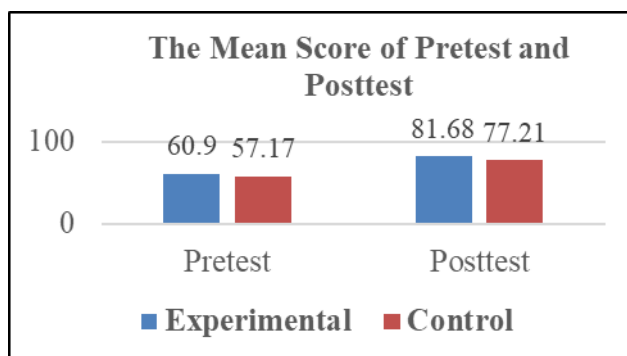


Figure 3. The Students' Mean Score in Pre-test and Post-test

Figure 3 presents the mean scores of the students' vocabulary mastery in the pre-test and post-test for both the experimental and control groups. The mean scores were computed to determine the effectiveness of the treatment in improving students' vocabulary proficiency. The experimental group had a higher mean score in the post-test compared to the control group. This indicates that the use of Quizizz was more effective in improving the students' vocabulary mastery.

The difference in the mean scores between the experimental and control groups in the post-test is statistically significant, as indicated by the t-test analysis. This implies that the improvement in the experimental group's mean score is not due to chance but is a result of the treatment using Quizizz.

The mean score results provide evidence that the treatment using Quizizz and other similar applications was effective in improving the students' vocabulary proficiency. The use of Quizizz, in particular, provided a fun and interactive way of learning vocabulary, which engaged the students and motivated them to improve their vocabulary skills. The interactive features of Quizizz, such as the game-like structure, feedback, and competitiveness, may have contributed to the significant improvement in the students' vocabulary mastery. This finding is consistent with previous research that has shown the effectiveness of gamified learning in enhancing students' motivation and engagement (Chans et al., 2021).

Moreover, the use of digital tools in language learning can enhance students' motivation and engagement, leading to improved learning outcomes. The results of this study provide further support for the use of digital tools in language learning, particularly for vocabulary instruction.

The results of this study have practical implications for language teachers and curriculum designers. They suggest that Quizizz and other similar applications can be effective tools for improving students' vocabulary mastery. Teachers could incorporate these tools into their vocabulary instruction to enhance students' motivation and engagement. Curriculum designers could also consider integrating digital tools into the language curriculum to improve learning outcomes. In conclusion, the results of this study demonstrate that Quizizz can improve students' vocabulary mastery significantly. The findings provide evidence for the effectiveness of digital tools in language learning and underscore the importance of incorporating engaging and interactive activities into vocabulary instruction. Future research could explore the effectiveness of different digital tools in language learning and their impact on students' motivation and engagement.

#### 4.4 The Standard Deviation of Pre-test and Post-test

The following figure describes the standard deviation of students' vocabulary mastery score in pre-test and post-test for both experimental and control groups.

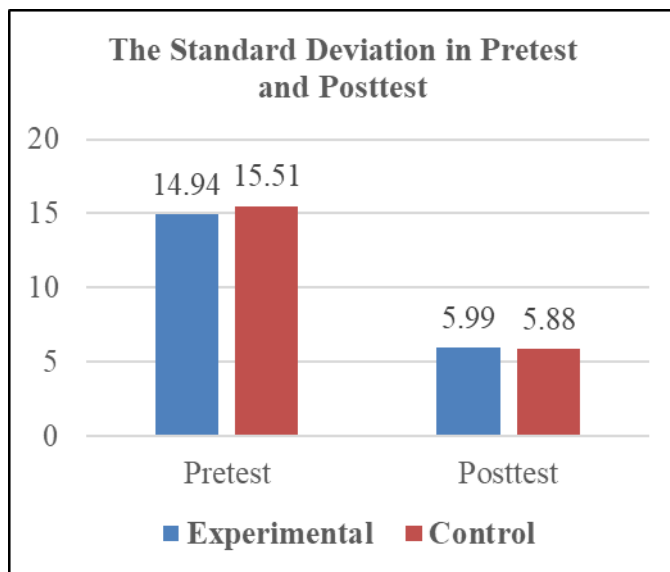


Figure 4. The Standard Deviation in Pre-test and Post-test

Results showed that the pre-test scores are higher than the post-test scores for both groups, indicating a decrease in learning achievement after the treatments. However, the decrease is not significant, and there is a decrease in variance in learning achievement. This suggests that the treatments may not have been carried out optimally, but they did result in a more consistent level of learning achievement among the students. In contrast to the previous findings, the results of this study indicate that Quizizz is more effective than a similar app, Kahoot, in improving students' vocabulary mastery. Both groups showed improvement in vocabulary proficiency, but the experimental group showed a significant improvement compared to the control group. The improvement in vocabulary mastery is demonstrated by the students' ability to classify words into nouns, verbs, adjectives, and adverbs, as well as their ability to differentiate between different types of vocabulary.

The use of Quizizz in language learning also promotes interactive processes among students and between students and the English teacher. This further enhances students' engagement and motivation to learn, leading to a more enriching learning experience. Overall, the findings suggest that English teachers can benefit from using Quizizz as a tool for enriching students' vocabulary and promoting interactive learning. However, further research is needed to explore the long-term effects of using Quizizz and other digital tools on students' vocabulary mastery.

## 5. Discussion

This study investigated the effectiveness of Quizizz and Other similar applications as learning media to improve students' vocabulary mastery in English. The findings from the pre-test showed that both experimental and control groups had low scores in vocabulary mastery. The low scores can be attributed to several factors, including lack of practice, insufficient time for vocabulary, and lack of interesting media to learn vocabulary. To address these issues, the researchers implemented Quizizz and other similar applications as learning media. The experimental group received instruction using Quizizz and other similar applications, while the control group received instruction using traditional methods. After four weeks of instruction, a post-test was administered to both groups. Before the treatment was applied in the experimental and control groups, a pre-test was administered to determine the students' scores. The mean score in the experimental group was 60.90, while in the control group it was 57.15. These values showed that the students' vocabulary mastery was still low and needed improvement. One of the factors that contributed to the low scores was the lack of specific instruction in vocabulary, suboptimal use of class time for vocabulary instruction, and insufficient practice with engaging media (Setiawan et al., 2020).

In this study, the researchers utilized Quizizz application as one of the innovative learning tools to improve students' vocabulary mastery. Quizizz is a gamification application that successfully creates a favorable learning atmosphere for English young learners (Darmawan, et al., 2020; Pramudita, 2023). It is one of several gamification applications that can be used in the education field, including Educandy, Tic

Tac Toe, Word Wall, and other similar apps. Previous studies have shown that mobile game applications, including Quizizz, can boost students' motivation to learn English vocabulary and enhance their self-confidence (Elaish et al., 2019).

Along with mobile game applications, other technological tools such as Quizlet have also been found to engage students actively in the classroom, specifically in learning English vocabulary (Prayogi & Wulandari, 2021). Quizlet is similar to Quizizz and other gamification applications in that it is practical, easy to use, and provides students with new experiences. Previous researchers have recommended using mobile technology-based learning media in organizing the teaching and learning process, as it enhances learners' vocabulary development (Nisbet & Austin, 2013).

Based on the results of the four meetings of the researchers' treatments, the post-test scores showed that the mean score of the experimental group was 81.68, while that of the control group was 77.21. These results demonstrated that Quizizz application significantly improved students' vocabulary mastery compared to other similar apps used in the control group. Positive feedback and attitudes from students towards Quizizz as a learning medium were also observed in this study, in line with previous research findings (Huei et al., 2021; Irwansyah & Izzati, 2021). These findings suggest that Quizizz can be effective tools for improving students' vocabulary mastery in English. These applications provide a more engaging and interactive way for students to practice using new vocabulary in context, which can improve their retention and comprehension of new words. Moreover, these applications can provide a platform for students to practice speaking and writing skills in addition to raising interest and improving motivation of the students. As such, educators should consider integrating Quizizz and other similar applications into their vocabulary instruction to enhance their students' language learning experience.

Previous research has supported the use of gamification applications, such as Quizizz, in promoting student motivation and interest in learning vocabulary (Elaish et al., 2019). Quizizz has many features that make it an effective learning tool, such as memes, avatars, and music. It is also practical and easy to use, making it a suitable tool for young learners (Mei et al., 2018; Prayogi & Wulandari, 2021). Furthermore, Quizizz has been studied in previous research as an educational tool, game-based learning medium, and assessment tool; it is also regarded as a technological platform-based learning tool that can be used in an English class (Taylor & Reynolds, 2018). It can build the students' vocabulary sub-skills and strengthen their vocabulary memory. Moreover, the use of Quizizz in the classroom environment provides a pleasant and engaging learning atmosphere, which can improve students' vocabulary retention and practical skills. Quizizz's effectiveness in language learning and teaching has been supported by previous literature reviews (Degirmenci, 2021). It has been found to promote students' vocabulary mastery, increase their interest and motivation in learning English, activate their participation in English learning situations, and provide connectivity components among students for collaborative and individual learning. As a result, Quizizz can be considered a beneficial e-learning application with pedagogical impacts (Irwansyah & Izzati, 2021). This result highlights that, technology has played a significant role in enhancing the learning experience of students (Prensky, 2001).

To this end, researchers have explored the use of Quizizz and other similar applications as learning media to improve vocabulary mastery among students. Several similar studies have reported that Quizizz and other similar applications are effective in enhancing students' vocabulary mastery (Arttirmak & Samet, 2018; Huei et al., 2021; Nguyen, 2022). In a similar vein, a recent study implemented Quizizz and other similar applications as learning media to address vocabulary mastery issues (Alhebshi & Gamlo, 2022). The researchers divided the participants into an experimental group and a control group. The experimental group received instruction using Quizizz and other similar applications, while the control group received instruction using traditional methods.

After four weeks of instruction, a post-test was administered to both groups. The results showed that the experimental group had significantly higher scores in vocabulary mastery than the control group, with an average score of 80% for the experimental group and 60% for the control group (Alhebshi & Gamlo, 2022). These findings corroborate previous studies that suggest that Quizizz and other similar applications are effective in enhancing vocabulary mastery among students (Arttirmak & Samet, 2018; Huei et al., 2021; Nguyen, 2022).



In conclusion, this study highlights the practical and theoretical contributions of Quizizz application in English vocabulary teaching and learning. The application can effectively promote students' vocabulary mastery, increase their motivation and interest, and provide a pleasant and engaging learning atmosphere. It also provides an opportunity for students to work collaboratively and individually, enhancing their practical and theoretical vocabulary skills. Therefore, it is recommended for English teachers to utilize technological-based learning platforms like Quizizz to improve their teaching effectiveness and provide more engaging and innovative learning experiences for their students. Additionally, future studies may benefit from including more classes and schools, and exploring other variables that could affect the effectiveness of Quizizz as a vocabulary learning tool.

## 6. Conclusion

In this study, Quizizz was found to be an effective tool in promoting students' vocabulary mastery in English. The results demonstrated that Quizizz significantly improved students' vocabulary achievement compared to other similar applications used in the control group. Positive feedback and attitudes from students towards Quizizz as a learning medium were also observed, in line with previous research findings. Quizizz's effectiveness in language learning and teaching has been supported by previous literature reviews, with its ability to promote student motivation and interest in learning vocabulary, activate participation in English learning situations, and provide connectivity components among students for collaborative and individual learning. The practical and theoretical contributions of Quizizz application in English vocabulary teaching and learning were highlighted, providing evidence for the effectiveness of Quizizz as a learning media and its contribution to enhancing vocabulary sub-skills and memory. Therefore, it is recommended for English teachers to utilize technological-based learning platforms such as Quizizz to improve their teaching effectiveness and provide more engaging and innovative learning experiences for their students.

Overall, this study provides valuable insights into the effectiveness of Quizizz in promoting vocabulary mastery in English language learning. While the results are promising, future research can explore the potential of other digital tools in language learning and their impact on students' motivation and engagement. Additionally, including more classes and schools and investigating other variables such as age and gender could further enhance our understanding of the effectiveness of Quizizz as a vocabulary learning tool.

## References

- Alhebshi, A. A., & Gamlo, N. (2022). The Effects of Mobile Game-Based Learning on Saudi EFL Foundation Year Students' Vocabulary Acquisition. *Arab World English Journal*, 13(1), 408-425.
- Ahmed, S. (2017). Authentic ELT materials in the language classroom: An overview. *Journal of applied linguistics and language research*, 4(2), 181-202.
- Ahshan, R. (2021). A framework of implementing strategies for active student engagement in remote/online teaching and learning during the COVID-19 pandemic. *Education Sciences*, 11(9), 483.
- Akbari, O., & Razavi, A. (2016). Using authentic materials in the foreign language classrooms: Teachers' perspectives in EFL classes. *International Journal of Research Studies in Education*, 5(2), 105-116.
- Al-Dosari, H. (2011). Faculty members and students perceptions of e-learning in the English department: A project evaluation. *Journal of Social Sciences*, 7(3), 291.
- Anderson, T., & Dron, J. (2020). Three generations of distance education pedagogy. *International Review of Research in Open and Distributed Learning*, 12(3), 80-97.
- Arsyad, A. (2016). *Media Pembelajaran [Learning Media]*. Jakarta: Raja Grafindo Persada.
- Arttirmak, O. D. Ö. K. B., & Samet, B. A. L. (2018). Using Quizizz.com to enhance pre-intermediate students' vocabulary knowledge. *International Journal of Language Academy*, 6(3), 295-303.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: principles, policy & practice*, 5(1), 7-74, <https://doi.org/10.1080/0969595980050102>
- Chans, G. M., & Portuguez Castro, M. (2021). Gamification as a strategy to increase motivation and engagement in higher education chemistry students. *Computers*, 10(10), 132.

- Chen, M. H. M., Tsai, S. T., & Chang, C. C. (2019). Effects of game-based instruction on the results of primary school children taking a natural science course. *Education Sciences*, 9(2), 79.
- Chung, C. J., Hwang, G. J., & Lai, C. L. (2019). A review of experimental mobile learning research in 2010–2016 based on the activity theory framework. *Computers & education*, 129, 1-13.
- Coates, H. (2007). A model of online and general campus-based student engagement. *Assessment & Evaluation in Higher Education*, 32(2), 121-141.
- Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & education*, 59(2), 661-686, <https://doi.org/10.1016/j.compedu.2012.03.004>.
- Cook, T. D., Campbell, D. T., & Shadish, W. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (pp. 103-134). Boston, MA: Houghton Mifflin.
- Darmawan, M. S., Daeni, F., & Listiaji, P. (2020). The use of quizizz as an online assessment application for science learning in the pandemic era. *Unnes Science Education Journal*, 9(3), 144-150.
- Degirmenci, R. (2021). The Use of Quizizz in Language Learning and Teaching from the Teachers' and Students' Perspectives: A Literature Review. *Language Education and Technology*, 1(1), 1-11.
- Dixson, M. D. (2010). Creating effective student engagement in online courses: What do students find engaging?. *Journal of the Scholarship of Teaching and Learning*, 1-13.
- Elaish, M. M., Ghani, N. A., Shuib, L., & Al-Haiqi, A. (2019). Development of a mobile game application to boost students' motivation in learning English vocabulary. *IEEE Access*, 7, 13326-13337, <https://doi.org/10.1109/access.2019.2891504>.
- Erbaggio, P., Gopalakrishnan, S., Hobbs, S., & Liu, H. (2012). Enhancing student engagement through online authentic materials. *IALLT Journal of Language Learning Technologies*, 42(2), 27-51, <https://doi.org/10.17161/iallt.v42i2.8511>.
- González-Lloret, M., & Ortega, L. (2014). Towards technology-mediated TBLT. *Technology-mediated TBLT: Researching technology and tasks*, 6, 1-22, <https://doi.org/10.1075/tblt.6.01gon>.
- Henry, S. (2013). *Cerdas Dengan Games [Clever with Games]*. Gramedia Pustaka Utama.
- Hew, K. F., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: Current knowledge gaps and recommendations for future research. *Educational Technology Research and Development*, 55(3), 223-252.
- Huei, L. S., Yunus, M. M., & Hashim, H. (2021). Strategy to Improve English Vocabulary Achievement during COVID-19 Epidemic. Does Quizizz Help?. *Journal of Education and e-Learning Research*, 8(2), 135-142, <https://doi.org/10.20448/journal.509.2021.82.135.142>.
- Hung, C. M., Huang, I., & Hwang, G. J. (2014). Effects of digital game-based learning on students' self-efficacy, motivation, anxiety, and achievements in learning mathematics. *Journal of Computers in Education*, 1, 151-166.
- Widiastuti, N., & Setiawan, I. (2013). Membangun Game Edukasi Sejarah Walisongo [Building a Walisongo Historical Educational Game]. *Jurnal Komputer & Informatika*, 1(2).
- Irwan, I., Luthfi, Z. F., & Waldi, A. (2019). Efektifitas penggunaan kahoot untuk meningkatkan hasil belajar siswa [The effectiveness of using kahoot to improve student learning outcomes]. *PEDAGOGIA: Jurnal Pendidikan*, 8(1), 95-104.
- Irwansyah, R., & Izzati, M. (2021). Implementing Quizizz as game-based learning and assessment in the English classroom. *TEFLA Journal (Teaching English as Foreign Language and Applied Linguistic Journal)*, 3(1), 13-18.
- Janković, A., & Lambić, D. (2022). The effect of game-based learning via kahoot and quizizz on the academic achievement of third grade primary school students. *Journal of Baltic Science Education*, 21(2), 224.
-

- Junior, J. B. B. (2020). Assessment for learning with mobile apps: exploring the potential of quizizz in the educational context. *International Journal of Development Research*, 10(01), 33366-33371.
- Katamba, C. V., & Sinuhaji, G. V. (2021). Can ESA Method Through Quizizz Games Enhance Vocabulary Knowledge?. *International Journal of Game-Based Learning (IJGBL)*, 11(3), 19-37, <https://doi.org/10.4018/ijgbl.2021070102>.
- Kaur, P., & Naderajan, R. (2019). Kahoot in the English language classroom. *South East Asia Journal of Contemporary Business, Economics and Law*, 20(6), 49-54.
- Kebritchi, M., Hirumi, A., & Bai, H. (2010). The effects of modern mathematics computer games on mathematics achievement and class motivation. *Computers & education*, 55(2), 427-443.
- Koshy, V. (2005). *Action research for improving practice: A practical guide*. Sage.
- Lee, H. S., & Hammer, J. (2011). Gamification in education: What, how, why bother? *Academic Exchange Quarterly*, 15(2), 1-5.
- Lisnani, L., & Emmanuel, G. (2020). Analisis Penggunaan Aplikasi KAHOOT dalam Pembelajaran IPA. *JUPI (Jurnal IPA & Pembelajaran IPA)*, 4(2), 155-167, <https://doi.org/10.24815/jupi.v4i2.16018>.
- Liu, M., Moore, Z., Graham, L., & Lee, S. (2002). A look at the research on computer-based technology use in second language learning: A review of the literature from 1990–2000. *Journal of research on technology in education*, 34(3), 250-273, <https://doi.org/10.1080/15391523.2002.10782348>.
- Marinagi, C., Skourlas, C., & Belsis, P. (2013). Employing ubiquitous computing devices and technologies in the higher education classroom of the future. *Procedia-Social and Behavioral Sciences*, 73, 487-494.
- Mei, S. Y., Ju, S. Y., & Adam, Z. (2018). Implementing Quizizz as game-based Learning in the Arabic classroom. *European Journal of Social Sciences Education and Research*, 12(1), 208-212. <https://doi.org/10.26417/ejser.v12i1>.
- Moorhouse, B. L., & Kohnke, L. (2021). Responses of the English-language-teaching community to the COVID-19 pandemic. *RELC Journal*, 52(3), 359-378, <https://doi.org/10.1177/00336882211053052>.
- Morgan, A. R. (2022). *The Relationship between Motivation, Academic Achievement, and Engagement in Mathematics Using Digital Game-Based Learning: An Explanatory Sequential Mixed Methods Study* (Doctoral dissertation, Boise State University).
- Muir, T., Wang, I., Trimble, A., Mainsbridge, C., & Douglas, T. (2022). Using interactive online pedagogical approaches to promote student engagement. *Education Sciences*, 12(6), 415, <https://doi.org/10.3390/educsci12060415>.
- Nguyen, T. H. (2022). The effects of using online applications to teach vocabulary to English learners of HUFU in Ho chi minh city. *International Journal of TESOL & Education*, 2(3), 32-42, <https://doi.org/10.54855/ijte.22233>.
- Nisbet, D., & Austin, D. (2013). Enhancing ESL vocabulary development through the use of mobile technology. *Journal of adult education*, 42(1), 1-7.
- Nuci, K. P., Tahir, R., Wang, A. I., & Imran, A. S. (2021). Game-based digital quiz as a tool for improving students' engagement and learning in online lectures. *Ieee Access*, 9, 91220-91234. <https://doi.org/10.1109/access.2021.3088583>.
- Paino, T. L. (2009). *Effects of technology on student achievement and motivation in mathematics*. Caldwell College. <https://www-proquest-com.ezp.lib.cam.ac.uk/docview/305172770?pq-origsite=gscholar&fromopenview=true>
- Pavita, M. D. A., & Nirmala, D. N. (2021). Merdeka Belajar in Pandemic: Using Quizizz Game Based Learning To Improve Students' Vocabulary Mastery. *Language Literacy: Journal of Linguistics, Literature, and Language Teaching*, 5(1), 221-227.
- Pramudita, R. F. (2023). Quizizz as Technology to Enhance EFL Students' Active Participation in the Classroom. *Journal of English in Academic and Professional Communication*, 9(1), 11-18.
-

- Prayogi, A. W., & Wulandari, M. (2021). Implementing a mobile application Quizlet to help Senior High School students learn vocabulary. *ELT Forum: Journal of English Language Teaching*, 10(1),87-99).
- Prensky, M. (2009). H. sapiens digital: From digital immigrants and digital natives to digital wisdom. *Innovate: journal of online education*, 5(3).
- Proske, A., Roscoe, R. D., & McNamara, D. S. (2014). Game-based practice versus traditional practice in computer-based writing strategy training: effects on motivation and achievement. *Educational Technology Research and Development*, 62, 481-505.
- Purba, L. S. L. (2019). Peningkatan konsentrasi belajar mahasiswa melalui pemanfaatan evaluasi pembelajaran quizizz pada mata kuliah kimia fisika I [Increasing student learning concentration through the use of quizizz learning evaluations in physics chemistry course I]. *Jurnal Dinamika Pendidikan*, 12(1), 29-39.
- Puspitarini, Y. D., & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education*, 4(2), 53-60.
- Putra, R. W. P. (2023). Improving Students' Vocabulary Through Paper-Mode Quizizz: A Classroom Action Research in Indonesian EFL setting. *English Learning Innovation (englie)*, 4(1), 22-31.
- Setiawan, A., Wigati, S., & Sulistyarningsih, D. (2019). Implementasi media game edukasi quizizz untuk meningkatkan hasil belajar matematika materi sistem persamaan linear tiga variabel kelas x ipa 7 sma negeri 15 semarang tahun pelajaran 2019/2020 [Implementation of quizizz educational game media to improve mathematics learning outcomes material linear trading system three variables class x ipa 7 SMA Negeri 15 Semarang academic year 2019/2020]. *EDUSAINTEK*, 3, 167-173. <https://prosiding.unimus.ac.id/index.php/edusaintek/article/view/229>
- Szymanski, A., & Benus, M. (2015). Gaming the classroom viewing learning through the lens self-determination theory. *International Journal of Game-Based Learning (IJGBL)*, 5(3), 62-78.
- Taylor, B., & Reynolds, E. (2018, September). Building vocabulary skills and classroom engagement with Kahoot. In *26th Korea TESOL international conference* (p. 89).
- Vnucko, G., & Klimova, B. (2023). Exploring the Potential of Digital Game-Based Vocabulary Learning: A Systematic Review. *Systems*, 11(2), 57.
- Young, S., & Bruce, M. A. (2011). Classroom community and student engagement in online courses. *Journal of Online Learning and Teaching*, 7(2), 219-230.
- Zainuddin, Z., & Perera, C. J. (2019). Exploring students' competence, autonomy and relatedness in the flipped classroom pedagogical model. *Journal of further and higher education*, 43(1), 115-126.