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Utilizing the Quizizz Application to Improve Students' Vocabulary Mastery at Senior High School

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Abstract
This study aims to determine how effective the Quizizz application is in increasing student vocabulary at SMA Negeri 23 Makassar. This study used a quasi-experimental method. Two classes were selected as samples: one experimental class that used Quizizz to teach vocabulary and one control class that used conventional methods. Pre-test, post-test, and questionnaire were used in this study. Data were analyzed using descriptive and inferential statistics using the SPSS 25 program. The results showed a significant increase in students' vocabulary mastery in the experimental class compared to the control class. The average score of the experimental group increased from 58.42 in the pre-test to 87.67 in the post-test. Meanwhile, the control class increased from 57.61 to 66.33. Findings from the independent t-test showed a significant difference between the post-test scores of both groups (sig. <0,05), which confirmed the effectiveness of Quizizz as an interactive learning medium. In conclusion, Quizizz app contributed positively in improving students' vocabulary mastery and engagement in English learning.

***Keywords:** Quizizz Application, Interactive Learning, Vocabulary Mastery*

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INTRODUCTION

Vocabulary is one of the most essential aspects in learning English as a foreign language because it serves as the foundation for mastering other language skills such as listening, speaking, reading, and writing. According to (Astuti, 2017), vocabulary is the main component that allows learners to express their ideas and comprehend others. However, many students still experience difficulties in mastering vocabulary due to the lack of appropriate strategies and learning media.

Traditional methods that focus mainly on memorization make students less motivated and less engaged in the learning process.

In recent years, the integration of technology in education has been increasingly recognized as a way to enhance student engagement and learning outcomes (Butarbutar et al., 2025; Sujarwo et al., 2026, 2024). One of the popular digital platforms used in language classrooms is Quizizz, an online game-based application that allows teachers to conduct interactive quizzes and assessments. According to Brahmana, (2022) the use of digital learning tools like Quizizz helps promote active participation and creates a more enjoyable learning atmosphere. Similarly, (Misrawati, 2023) and (John W, 2017) found that interactive media improve students' vocabulary mastery and motivation by turning learning into a fun and competitive activity. Quizizz is one of the learning applications that provides interactive quizzes in a game-based format. explains that the use of Quizizz allows students to participate in classroom activities with enjoyment and motivation. Jamjam, (2022) adds that the features of Quizizz such as leaderboards, time limits, and instant feedback make students more active during lessons. Studies by Habibzadeh, (2024) also show that the use of Quizizz helps students to retain new vocabulary and increases their enthusiasm in learning.

Although several previous studies have shown the benefits of Quizizz in language learning, most of them focused on students' motivation and engagement rather than vocabulary improvement. Furthermore, many of these studies were conducted at the junior high school level or in general EFL contexts, leaving limited understanding of how Quizizz can be applied effectively at the senior high school level. In addition, many English teachers still rely on conventional techniques, showing a gap between the potential of digital learning tools and their actual implementation in classrooms.

Furthermore, Melinda, (2022) report that the application encourages collaboration and reduces students' anxiety because the activities are presented in a fun and competitive way. (Kartika Nur, 2024) also note that Quizizz supports independent learning and stimulates students' participation in the learning process. These findings indicate that Quizizz can serve as an effective alternative media for improving vocabulary learning in the classroom.

Therefore, this study aims to fill this research gap by investigating the utilization of the Quizizz application to improve students' vocabulary mastery at the senior high school level. It is expected that through the use of Quizizz, the learning process will become more interactive, engaging, and enjoyable, ultimately leading to better vocabulary mastery and student achievement in learning English.

METHOD

This study adopted a quantitative approach with a quasi-experimental design (Tusquellas et al., 2025) to investigate the effect of using Quizizz on students' vocabulary mastery. The research was carried out at SMA Negeri 23 Makassar during the 2024/2025 academic year. The participants consisted of two intact classes of tenth-grade students, each comprising 33 learners. Due to the nature of the school setting, random assignment was not feasible; therefore, existing classes were selected to represent the experimental and control groups.

Class X.8 was designated as the experimental group and received instruction through the integration of Quizizz as a game-based learning medium, while Class X.2 functioned as the control group and was taught using conventional teaching methods, primarily involving teacher explanation and textbook-based exercises. The intervention was conducted over four meetings, each lasting 90 minutes, ensuring that both groups received equal instructional time and were exposed to the same vocabulary materials, albeit through different instructional approaches.

To measure students' vocabulary mastery, both groups were administered a pre-test prior to the treatment and a post-test after the intervention. The pre-test aimed to determine the baseline equivalence of the two groups, while the post-test was used to assess any improvement resulting from the instructional treatment (Asdar et al., 2024). In addition to the tests, a questionnaire was distributed to gather students' responses toward the use of Quizizz in learning vocabulary. All research instruments, including the test items and questionnaire, were subjected to expert validation to ensure their content validity and appropriateness for the research objectives.

The collected data were analyzed using IBM SPSS Statistics 25. Descriptive statistics were employed to summarize the students' scores, including mean, standard deviation, and score distribution (Samangun et al., 2024). Furthermore, an Independent Sample T-Test was conducted to determine whether there was a statistically significant difference in vocabulary mastery between the experimental and control groups after the treatment. This analysis enabled the researcher to evaluate the effectiveness of Quizizz as an innovative digital learning tool in enhancing students' vocabulary acquisition compared to conventional teaching methods.

RESULT AND DISCUSSION

This study aimed to determine the effectiveness of the Quizizz application in improving students' vocabulary mastery. The results were obtained from the analysis of students' pre-test and post-test scores in both the experimental and control classes. The improvement of students' performance was measured based on the Minimum Completeness Criteria (KKM) of 70, and the learning process was considered successful if at least 75% of the students reached this standard. After being given vocabulary tests in both pre-test and post-test sessions, the students' scores were obtained and summarized in the table below.

Table.1 Students' Vocabulary Mastery in the Pre-Test Eksperimental and Control Class

No	Score Range	Categories	Experimental Class	Control Class
			F	%
1	80–100	Excellent	0	0%
2	70–79	Good	0	0%
3	60–69	Fair	12	36.36%
4	50–59	Poor	21	63.64%
5	≤50	Very Poor	0	0%
Total			**33**	**100%**

The results presented in Table 3.1 show that before the treatment was implemented, the students' vocabulary mastery in both the experimental and control classes was still relatively low. In the experimental class, the majority of students (21 students or 63.64%) were categorized as poor (50–59), while 12 students (36.36%) were in the fair category (60–69). None of the students reached the good (70–79) or excellent (80–100) levels. These findings indicate that most students had not yet mastered the vocabulary material and still struggled with understanding or recalling English words accurately. Similarly, the control class displayed comparable results, with most students (28 students or 84.85%) falling into the poor category (50–59) and only 5 students (15.15%) categorized as fair (60–69). No students in this class achieved scores within the good or excellent categories. This pattern shows that both groups of students shared similar initial conditions and levels of vocabulary mastery before the treatment. The low pre-test scores in both classes suggest that students had limited vocabulary knowledge, which affected their overall English comprehension and expression. Factors that might contribute to this include lack of vocabulary practice, limited exposure to English in daily communication, and monotonous learning approaches used before the study. The relatively equal starting point between the experimental and control classes indicates that the groups were homogeneous in terms of their initial ability, which fulfills one of the requirements for a fair comparison in quasi-experimental research. Therefore, any significant differences observed in the post-test results can be attributed to the treatment—in this case, the use of the Quizizz application as an interactive learning medium designed to enhance students' vocabulary mastery.

No	Score Range	Categories	Experimental Class	Control Class
			F	%
1	80–100	Excellent	33	100%
2	70–79	Good	0	0%
3	60–69	Fair	0	0%
4	50–59	Poor	0	0%
5	≤50	Very Poor	0	0%
Total			**33**	**100%**

The post-test results presented in Table 3.2 show a significant difference between the experimental and control classes after the treatment was applied. In the experimental class, all students (33 students or 100%) achieved scores within the excellent category (80–100). None of the students were found in the good, fair, poor, or very poor categories. This remarkable improvement clearly indicates that the use of the Quizizz application had a highly positive effect on students' vocabulary mastery. In contrast, all students in the control class (33 students or 100%) remained in the fair category (60–69), with no students reaching the good or excellent levels. This result suggests that traditional or conventional learning methods used in the control class did not lead to significant improvement in students' vocabulary mastery. The striking difference between the two classes demonstrates that the Quizizz application effectively enhanced students' vocabulary mastery. The interactive, engaging, and game-based features of

Quizizz created a fun learning environment that increased students' motivation and participation. Therefore, it can be concluded that using Quizizz as a learning medium had a significant positive effect on students' vocabulary mastery compared to conventional teaching methods.

Discussion

The results of this study demonstrated that the Quizizz application could enhance students' learning outcomes, especially in vocabulary acquisition. The interactive and competitive nature of Quizizz made students more active and engaged during the learning process. This finding supports Astuti, (2017) statement that effective vocabulary learning requires students to be actively involved and motivated in the learning process. In this study, the gamified learning environment successfully created a sense of enjoyment and participation, which contributed to better vocabulary retention.

Hendrawati, (2017) argued that monotonous teaching techniques lead to boredom and poor learning outcomes. The current study confirmed this, as students in the control group who learned through traditional methods showed lower improvement compared to those in the experimental group. The features of Quizizz, such as immediate feedback and leaderboard rankings, encouraged healthy competition and motivated students to perform better. This aligns with Prasetyo and Dian Adhi, (2023) who emphasized that the integration of digital media in English learning increases students' motivation and focus.

Moreover, this research is consistent with previous findings by Granic et al., (2014) who found that interactive learning media improved students' vocabulary achievement. However, unlike those studies, this research specifically highlights the use of Quizizz among Indonesian senior high school students and provides evidence (Muh.Yahrif, 2023) that the application can be effectively integrated into the classroom setting.

The study also supports Tengku and Emelia, (2024) who mentioned that game-based learning platforms create a more relaxed and student-centered atmosphere. Students in this research reported that using Quizizz made vocabulary learning more enjoyable and reduced their anxiety when answering questions. Additionally, Maharani & Erlisnawati, (2023) emphasized that digital media enhance students' participation, which was also observed during the experimental sessions in this study.

Overall, the findings confirm that Quizizz is an effective medium to improve vocabulary mastery among high school students. It successfully addresses issues of low motivation and learning boredom often found in traditional teaching. In line with Kismoko & Roni,(2021) theory, learning media should not only deliver material but also stimulate students' interest and participation. Therefore, the results of this research strengthen the idea that game-based digital learning tools such as Quizizz can make vocabulary learning more interactive, motivating, and effective.

CONCLUSION AND RECOMMENDATION

This study concluded that the use of the Quizizz application significantly improved students' vocabulary mastery at the senior high school level. The results of the pre-test and post-test indicated that students who were taught using Quizizz achieved higher learning outcomes compared to those who were taught through conventional methods. Therefore, it can be confirmed that the implementation of Quizizz was effective in enhancing students' vocabulary achievement, as it promoted engagement, enjoyment, and motivation during the learning process.

This finding answers the main objective of the research, which was to determine whether the Quizizz application could improve students' vocabulary mastery. The study provides scientific evidence that integrating game-based learning tools in English language teaching offers a positive learning atmosphere and supports students' active participation. Thus, the research contributes to the advancement of English language education by demonstrating that technology-enhanced learning can effectively overcome students' low motivation and improve vocabulary retention.

From a pedagogical perspective, the findings of this study can be applied in classroom practices to create more interactive and student-centered learning environments. Teachers may use Quizizz not only for vocabulary learning but also to support other aspects of English such as grammar, reading comprehension, and speaking. The platform's feedback and competition features can help maintain students' focus and foster independent learning.

Scientifically, this study strengthens previous findings that emphasize the importance of motivation and technology integration in second language learning. It also extends existing knowledge by focusing on Indonesian high school students, a context that has not been widely studied in relation to Quizizz. Therefore, the results of this research provide both theoretical and practical implications for teachers, researchers, and educational institutions.

For future research, it is suggested to apply Quizizz to different language skills or subjects to examine its wider applicability. Further studies may also explore students' perceptions, long-term retention, or compare Quizizz with other digital learning platforms. These extensions will deepen our understanding of how technology-based learning tools can continuously enhance English language education.

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