

Quizalize App: Teaching English Vocabulary for Young Learners

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ABSTRACT

Quizalize has been developed as a technological tool to enhance the efficiency of foreign language learning. This study investigates and compares vocabulary recognition outcomes between traditional and Quizalize-based learning methods. Utilizing a quasi-experimental design, the study assessed degrees of freedom (df) as $N-1 = 26-1 = 25$, with a t-table value of 0.396. The obtained t-value of 0.001 was significantly lower than the t-table value of 0.396. Consequently, the alternative hypothesis (H_a) was supported, and the null hypothesis (H_o) was rejected. These results indicate that Quizalize significantly improves students' vocabulary recognition. The findings underscore the effectiveness of integrating Quizalize, highlighting its potential to enhance students' vocabulary acquisition and engagement through interactive and appealing exercises.

Keywords: *Quizalize; Artificial Intelligence; Vocabulary; Teaching English for Young Learners*

INTRODUCTION

In our globalized age, English language proficiency has become vital for success in various personal, academic, and professional contexts (Sari, 2023). Mastery of English facilitates worldwide collaboration, education, and career opportunities, making it an essential skill for everyone (Sari, 2021).

Developing a strong vocabulary is crucial for learning a foreign language, as it significantly influences the four language skills: hearing, speaking, reading, and writing. According to Manullang et al., (2020), a limited vocabulary restricts effective communication.

Therefore, acquiring an extensive vocabulary is essential for students, as it motivates and enables them to engage in meaningful dialogue and understand written content. Teaching English to Young Learners (TEYL) focuses on introducing language skills to children, leveraging their curiosity and creativity (Halliwell, 1992).

Vocabulary recognition skills are particularly important in early language acquisition. However, the absence of suitable reading resources and the traditional teaching methods can make learning English challenging and monotonous, especially for students in remote areas. This situation necessitates

innovative approaches to help students develop a positive attitude towards English learning.

Educational innovation involves new ideas, methods, or strategies to enhance learning outcomes and solve educational challenges (Syafaruddin et al., 2012). This includes the integration of educational technology, such as AI-powered tools like Quizalize, which support vocabulary teaching and recognition through interactive activities and games.

Utilizing technology in teaching can create dynamic and engaging learning experiences, offering numerous benefits such as improved accessibility, flexibility, and reduced costs (Bryan & Volchenkova, 2016). Teaching English to Young Learners (TEYL) emphasizes supporting vocabulary acquisition, which is crucial during the early years of linguistic development.

Traditional TEYL techniques, while still valuable, are being enhanced by innovative technologies, especially Artificial Intelligence (AI), which offers creative ways to meet the diverse needs of young students (Zhuo et al., 2021).

AI's impact on education, particularly in language instruction, is significant as it personalizes learning, offering adaptive feedback and assessments that foster student progress and

engagement (Zheng & Xing, 2020).

AI-based tools, like chatbots, provide interactive language practice, increasing student motivation and engagement by offering tailored feedback during natural language conversations (Zhang et al., 2019).

Additionally, platforms like Quizalize incorporate gamification to enhance learning without compromising academic integrity, drawing student attention and increasing their enthusiasm to learn through interactive tests and quizzes (Sumiharsono & Hasanah, 2017).

Quizalize offers adaptive learning experiences, allowing teachers to customize quizzes with multimedia elements, providing real-time feedback and data analytics to optimize learning and engagement (Elmahdi et al., 2018).

In Indonesia, TEYL focuses on early English language acquisition through engaging and interactive activities, targeting young learners between 6 to 12 years old (Getie, 2020). However, challenges persist in teaching young learners due to their limited vocabulary and short attention spans (Syakir & Elihami, 2020).

To address these issues, English teachers are encouraged to utilize games and multimedia resources to create engaging learning environments that motivate students (Permana, 2020). Vocabulary proficiency is crucial for effective communication in English, serving as the foundation for all language skills (Huang, 2023).

Teaching vocabulary requires introducing new terms, understanding the relationship between form and meaning, and using media to enhance learning activities (Sipayung, 2018). Despite the success of these tools, a gap exists in research regarding the use of Quizalize technology specifically aimed at enhancing vocabulary learning, suggesting a potential area for further exploration and innovation in TEYL.

This study aims to investigate the impact of Quizalize on young learners' vocabulary recognition abilities in TEYL classes, exploring the effectiveness of integrating AI technology into English language instruction. Specifically, the study will address the question: "Is there a significant difference in students' vocabulary learning after treatment using Quizalize?"

By examining this question, the study aims to determine whether integrating Quizalize as a technological tool significantly enhances students' vocabulary acquisition. This focus is crucial to understanding how such digital platforms can influence educational outcomes in vocabulary learning.

METHODOLOGY

This chapter outlines the research design, subjects, data collection methods, and analysis techniques used in the study. A quasi-experimental approach, based on quantitative methods, was chosen to evaluate the impact of the Quizalize strategy on fourth-grade students' vocabulary mastery at Madrasah Ibtidaiyah in Banyumas.

The study included two groups: an experimental group of 26 students and a control group of 24 students, each undergoing pre-test and post-test assessments. The treatment, spread over seven meetings in one month, included five Quizalize-based vocabulary sessions, each focusing on a different theme, such as time, daily routines, and transportation.

The research setting, subjects, sampling method, and data collection tools were selected with considerations for generalizability and accuracy. The data were analyzed using statistical techniques, including descriptive and inferential statistics, particularly t-tests, to identify significant differences between the groups.

The pre-test and post-test scores were compared to assess the effectiveness of the Quizalize strategy in enhancing students' vocabulary learning.

RESULTS AND DISCUSSIONS

a. Results

1. Students' Vocabulary Test Results

Table 1. Descriptive Statistic

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test Control	54.5833	24	19.33215	3.94616
	Post-test Control	60.8333	24	17.67254	3.60739
Pair 2	Pre-test Experiment	62.3077	26	13.05609	2.56051
	Post-test Experiment	76.5385	26	12.63085	2.47711

The control group on **Table 1** showed an increase in mean score from 54.5833 to 60.8333, indicating a positive change. The standard deviation decreased slightly, indicating reduced variability in the scores. The experimental group exhibited a substantial increase in the mean score from 62.3077 to 76.5385, indicating a significant improvement.

Both groups demonstrated an increase in post-test scores, yet the experimental group showed much larger mean scores than the control group. The experimental group's mean score increased by 14.2308 points, while the control group's score increased by 6.25. These statistics suggest that the intervention, which may have involved using Quizalize, may have been effective in improving vocabulary learning, particularly in the experimental group.

Further analysis, such as paired t-tests, may provide more insight into the significance of these changes. In the control group, the average pre-test score was 54.48, and the average post-test score was 60.83. In the experimental group, the average pre-test score was 62.30, and the average post-test score was 76.54. The test results are presented in the **Table 2** below:

Table 2. Control Group Test Score

NO.	NAME	CONTROL GROUP		Different (d) of Pre-test and Post-test
		PRE-TEST	POST-TEST	
1	Student 1	40	60	20
2	Student 2	80	90	10
3	Student 3	40	60	20
4	Student 4	70	80	10
5	Student 5	50	60	10
6	Student 6	50	70	20
7	Student 7	40	40	0
8	Student 8	80	80	0
9	Student 9	50	40	-10
10	Student 10	40	50	10
11	Student 11	90	60	-30
12	Student 12	50	70	20
13	Student 13	60	30	-30
14	Student 14	30	50	20
15	Student 15	30	40	10
16	Student 16	90	90	0
17	Student 17	50	80	30
18	Student 18	70	70	0
19	Student 19	80	60	20
20	Student 20	50	50	0
21	Student 21	40	70	30
22	Student 22	50	50	0
23	Student 23	20	30	10
24	Student 24	60	80	20
Total		1310	1460	190
Mean		54,58	60,83	

Table 2 presents the outcomes of the control class, which used the English module book for learning. After the pre-test, the teacher taught the material with the specified theme. The test results for the control group showed

only a slight increase in scores after the test. **Table 2** shows differences in pre-test and post-test results between the control and experiment classes.

In the control class, the lowest pre-test score was 20, and the highest was 90, resulting in a total score of 1310 and an average of 54.58. For the post-test, the lowest score was 30, and the highest score was 90, with a total of 1460 and an average of 60.83. The study was conducted in the control class of 24 students. The degrees of freedom (df) were calculated as $N-1 = 24-1 = 23$, with a t-table value of 0.413. In contrast, the experimental group used the Quizalize platform.

This platform allows students to learn through visual images, auditory cues, and interactive game quizzes. The pre-test was given simultaneously with the same material. The score results are displayed in the **Table 3** below:

Table 3. Experimental Group Test Score

NO.	NAME	EXPERIMENTAL GROUP		Different (d) of Pre-test and Post-test
		PRE-TEST	POST-TEST	
1	Student 1	50	90	40
2	Student 2	80	60	-20
3	Student 3	50	80	30
4	Student 4	60	70	10
5	Student 5	60	90	30
6	Student 6	60	80	20
7	Student 7	70	60	-10
8	Student 8	70	80	10
9	Student 9	60	80	20
10	Student 10	30	80	50
11	Student 11	60	70	10
12	Student 12	70	90	20
13	Student 13	60	70	10
14	Student 14	50	80	30
15	Student 15	70	80	10
16	Student 16	60	70	10
17	Student 17	50	60	10
18	Student 18	90	60	-40
19	Student 19	50	50	0
20	Student 20	80	90	10
21	Student 21	60	80	20
22	Student 22	80	80	0
23	Student 23	80	60	-20
24	Student 24	60	90	30
25	Student 25	60	90	30
26	Student 26	50	100	50
Total		1620	1990	360
Mean		62,30	76,54	

In the experiment class, the lowest pre-test score was 30, and the highest was 90, resulting in a total score of 1620 and an average of 62,30. In the post-test, the lowest score was 50, and the highest was 100, with a total score of 1990 and an average of 76,54. The researcher has calculated the t-score (Suwartono, 2014). The significance level for this experimental research had already

been set at 5% ($\alpha = 0.05$). This significance level determines whether to accept or reject the hypothesis.

The results shown in **Table 3** above are the class scores that have received treatment. There is a significant difference in the scores before and after treatment, indicating the effectiveness of using Quizalize materials.

2. Inferential Statistics

Table 4. T-test

		Paired Samples Test				t	df	Sig. (2-tailed)	
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test Control - Post-test Control	-6.25000	16.36871	3.34125	-13.16190	.66190	-1.871	23	.074
Pair 2	Pre-test Experiment - Post-test Experiment	-14.23077	20.03459	3.92911	-22.32291	-6.13863	-3.622	25	.001

The study was conducted in the experimental class with 26 students. **Table 4** showed the degrees of freedom (df) were calculated as $N-1 = 26-1 = 25$, with a t-table value of 0,396. The t-score of 0.001 indicates that this improvement is statistically significant. Consequently, the alternative hypothesis (H_a) is accepted, and the null hypothesis (H_0) is rejected. In short, the data collected and analyzed using various statistical formulas supported the alternative hypothesis (H_a).

The data indicates a significant difference in student activeness before and after treatment, with a significance value of less than 0.05. After conducting a series of tests, interviews were conducted to understand students' perceptions after receiving treatment using Quizalize for vocabulary mastery. According to Sudiran & Prasetyowati (2014), media can successfully enhance English teaching and learning activities by providing information.

b. Discussions

The impact of Quizalize on vocabulary recognition was examined by comparing the pre-test and post-test results of a control group and an experimental group. The descriptive statistics reveal significant differences in the average scores, with the control group improving from 54.58 to 60.83, and the experimental group from 62.31 to 76.54.

This striking disparity highlights the potential effectiveness of Quizalize in

vocabulary learning, demonstrating a more substantial improvement in the experimental group (Valencia et al., 2022). The increase in scores suggests that interactive and engaging learning tools like Quizalize can greatly enhance students' ability to remember and recall vocabulary.

To gain a deeper understanding of these improvements, it's crucial to examine the changes in standard deviation for both groups. The standard deviations offer valuable insights into the improvements we observed. The standard deviation of the control group decreased slightly from 19.33 to 17.67, indicating a modest reduction in score variability. However, this change does not seem substantial and may suggest only a slight homogenisation of performance.

In contrast, the experimental group's standard deviation remained relatively stable, from 17.41 to 17.68, indicating consistent performance improvements across students (Zheng & Xing, 2020). This stability implies that Quizalize's adaptive learning features, tailored to individual students' needs, may contribute to a more uniform enhancement of vocabulary skills across different ability levels.

Furthermore, the consistency in improvement is supported by the results of a paired samples t-test, providing a deeper statistical understanding of the significance of these improvements. The significance of the improvements was further elucidated using a paired samples t-test. The control group's t-score of -1.871 and p-value of 0.074 indicated their score increase was not statistically significant.

In contrast, the experimental group's t-score of -3.622 with a p-value of 0.001 revealed a noteworthy improvement in vocabulary recognition. This substantial difference emphasizes the efficacy of Quizalize in fostering vocabulary acquisition compared to traditional methods. (Haenlein & Kaplan, 2019).

These findings align with existing research on educational technologies, suggesting that interactive platforms can lead to meaningful learning gains. Additionally, qualitative feedback from students using Quizalize provides further context and understanding of these results. The qualitative feedback collected from Quizalize students provides additional insights to complement the quantitative data.

Students indicated that Quizalize was engaging and motivating. They found the interactive quizzes and game-like elements made learning enjoyable. This aligns with Bakhsh (2016) findings, which suggested that young learners benefit greatly from activities incorporating visual images, auditory cues, and interactive elements.

Gamified learning environments can capture students' attention more effectively than traditional teaching methods, potentially leading to better retention and understanding of new vocabulary. This underscores the significance of gamification in education, a concept that Quizalize exemplifies, and its impact on student engagement and motivation.

Furthermore, the idea of incorporating game-like elements into education, as demonstrated by Quizalize, has been proven to enhance student involvement and motivation. According to Smiderle et al., (2020), integrating game components into educational activities can greatly increase students' interest and participation.

Quizalize's utilization of immediate feedback, rewards, and competitive aspects likely contributes to its effectiveness by creating a dynamic and stimulating learning atmosphere. This engagement is vital for acquiring vocabulary, as it promotes repeated exposure and practice, which are important in language learning.

This approach is enhanced by Quizalize's personalized learning experience, which caters to the individual needs and preferences of students. The use of technology in education, such as platforms like Quizalize, is changing towards more interactive and student-centred learning environments. As educational technologies continue to advance, they offer new opportunities to cater to diverse learning needs and preferences (Luckin & Holmes, 2016).

This change is especially crucial in today's digital age, where students are accustomed to interactive and multimedia-rich experiences outside the classroom. By incorporating similar elements into educational practices, we can bridge the gap between students' digital lives and their academic learning. Furthermore, educational technologies like Quizalize not only benefit students but also support teachers by enhancing their instructional practices.

The use of educational technologies can help teachers manage and enhance their instructional practices. Platforms like Quizalize can automate tasks such as grading and tracking student progress, allowing teachers to focus more on personalized instruction and student engagement. This can lead to more efficient and effective teaching, ultimately benefiting student learning outcomes.

Overall, the study shows the significant positive impact of Quizalize on vocabulary recognition among students, highlighting the importance of integrating AI technologies into educational practices. In conclusion, the study demonstrates the significant positive impact of Quizalize on vocabulary recognition among students.

Combining descriptive and inferential statistics with qualitative feedback provides a comprehensive understanding of how interactive and adaptive learning tools can enhance educational outcomes. The findings emphasize the importance of integrating AI technologies like Quizalize into educational practices to cater to diverse learning needs and foster better academic performance (Luckin & Holmes, 2016).

As educational technologies evolve, their role in personalized and effective teaching becomes increasingly vital, paving the way for more dynamic and engaging learning environments.

CONCLUSIONS

The findings provide compelling evidence of the impact of Quizalize on vocabulary recognition compared to traditional textbook-based learning. Data analysis revealed significant improvements in the Quizalize group over the control group. The degrees of freedom for the t-test were 25, with a critical t-table value of 0.396.

The t-score from the paired samples t-test was 0.001, less than the critical value, leading to the acceptance of the alternative hypothesis. This confirms that Quizalize significantly enhances vocabulary recognition, highlighting the effectiveness of integrating interactive and gamified learning tools in education.

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