The Effect Of Using Quizlet Application In Learning English Vocabulary: An Experimental Study At Vii Grade Students of SMPN 3 Praya Tengah

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Abstract

This quasi-experimental research examined the impact of the Quizlet application on students' English vocabulary mastery at SMPN 3 Praya Tengah, a rural junior high school located in Central Lombok, Indonesia. The study was conducted in response to students' limited vocabulary knowledge and the insufficient use of interactive digital learning tools. Thirty seventh-grade students participated and were assigned to experimental and control groups. A 30-item vocabulary test focusing on the topic *"Personality and Skills"* was administered as both pre-test and post-test. The experimental group underwent five instructional sessions utilizing Quizlet's interactive modes *Flashcards, Learn, Match,* and *Test* while the control group received conventional instruction. The test instrument was validated by expert reviewers, and its reliability coefficient, measured through Cronbach's Alpha, was 0.87, indicating high internal consistency. Data were processed using SPSS 26, including tests of normality, homogeneity, and an independent samples *t*-test. Statistical analysis revealed a significant difference between the two groups ($t(28) = 3.57$, $p = 0.002$, $d = 0.80$), resulting in the rejection of the null hypothesis (H_0) and acceptance of the alternative hypothesis (H_a). These findings demonstrate that Quizlet effectively enhances students' vocabulary mastery, learning motivation, and autonomy. The results also align with retrieval practice and gamification theories, confirming that Quizlet can serve as an effective digital medium for improving vocabulary acquisition, especially in rural educational settings with limited access to technology This suggests Quizlet can be integrated into junior high school curricula to promote autonomous vocabulary acquisition.

Keywords: Quizlet application, vocabulary learning, Gamification, Retrieval Practice, Self-Regulated Learning, Rural Education.

INTRODUCTION

In many facets of human life, especially in the fields of education, international relations, technology, and the economy, the English language is crucial; in fact, it is the most widely used foreign language in primary through postsecondary education (Crystal, D. 2012). Considering that people are social creatures by nature and frequently interact with friends, family, and coworkers, communication is essential to building healthy connections (Brown, 2000). The study of the English language is strongly advised for students in order to improve their knowledge and generate

graduates' vocabulary, which is the foundation of language and needs to be learned first.

Vocabulary stands as a crucial element in the journey of acquiring a language indispensable for the academic progress of students and effective communication (Aisyah et al, 2024). Vocabulary is a basic part of acquiring a language. Bayaksud et al (2024) noted that very little can be communicated without grammar, and without vocabulary, nothing can be communicated, A. Putri et al (2024) emphasises vocabulary development as a pragmatic process involving diverse knowledge types and skills. Safitri et al (2022) state that vocabulary mastery has a very important role in learning a foreign language. As an essential ingredient for effective communication, vocabulary plays a crucial role in language acquisition. Students may struggle to express themselves, understand others, or engage in meaningful conversations if they lack a sufficient vocabulary. As they progress, language learners depend more and more on their knowledge of vocabulary to understand and use language.

For students who are not learning English as their first language, such as the majority of Indonesian students, learning English can be extremely difficult. Although the English language itself has unique patterns for reading and writing, the grammar is complex and the vocabulary has multiple meanings. Fortunately, because the two languages use the same alphabet, learning English is simpler for Indonesian students Ekayanti et al (2019) state that vocabulary is very important in learning a foreign language, the more vocabulary we have, the easier it is for us to understand a language and express our opinions and the less vocabulary we have the more difficult it is to understand and express opinions.

Due to the initial observations conducted at SMPN 3 Praya Tengah, it was found that many seventh-grade students lack sufficient English vocabulary, making it difficult for them to comprehend and use the language effectively. This vocabulary deficiency is further exacerbated by the shift from elementary to junior high school, where students face new academic demands and are expected to engage in more complex learning activities. According to the English teacher, the current teaching process still lacks a student-centered approach and remains largely teacher-centered, with minimal interaction and limited use of media or technology. As a result, students show a lack of active participation, motivation, and independent learning strategies. The lack of varied instructional materials and engaging learning activities has also contributed to students' limited vocabulary development, indicating the need for more interactive and media-supported methods to support their learning process. Students' ability to use English effectively and receptively can be hampered by a lack of vocabulary Hasan (2024). People may find it difficult to fully express themselves if they lack a large vocabulary.

Recent classroom observations and academic data indicate that the English performance of seventh-grade students remains below the school's minimum competency standard (KKM 70), reflecting their limited vocabulary mastery and minimal engagement with digital learning media. In addition, the school continues to experience infrastructural barriers such as inconsistent internet access, a shortage of personal devices, and inadequate digital literacy among both teachers and students. These conditions underscore the pressing need for flexible and accessible digital

learning solutions that can effectively operate within resource-constrained educational contexts.

When teaching vocabulary, instructional strategies must be employed to support the student's learning process and yield the best learning outcomes (Sisnawati et al, 2024)**.** Along with the rapid development of technology and the complexity of the challenges in the 21st century, we are required to have the skills that are very much needed to face these developments and challenges (Putera, et al, 2024). Innovations in education have shifted toward using technology-based learning strategies in recognition of these difficulties. Through games, tests, and flashcards, mobile-assisted language learning (MALL) programs like Quizlet have become popular and successful platforms for learning and practicing vocabulary (Aksel, 2021). According to Bayaksud et al (2024) Quizlet helps pupils learn new terms so they can become proficient in their vocabulary. Additionally, the platform promotes student autonomy by making flexible, self-paced learning environments possible.

Although Quizlet's ability to enhance vocabulary acquisition has been the subject of several research, the majority of these have been carried out in metropolitan or higher education environments where there is adequate access to technology (Nguyen & Le, 2023; Panmei & Waluyo, 2023). Its adoption in rural junior high schools, where pupils frequently encounter obstacles such inadequate internet connectivity, a lack of gadgets, and low digital literacy, has received little attention (Philip et al., 2017). Thus, by investigating Quizlet's use in a rural setting, this study fills a major research vacuum by investigating both its pedagogical viability in resource-constrained settings and its efficacy in improving vocabulary knowledge. Unlike previous research that examined Quizlet in digitally equipped schools, this study investigates its impact in a rural setting with limited technological support, highlighting its adaptability and potential to bridge the digital divide.

This study is grounded in several theoretical perspectives that explain how digital tools like Quizlet enhance vocabulary learning. According to Vocabulary Learning Theory (Nation, 2001), vocabulary acquisition is most effective through repeated exposure and meaningful use, integrating meaning-focused input, output, language-focused learning, and fluency development. Retrieval Practice Theory (Karpicke & Roediger, 2008) emphasizes active recall as a key to long-term retention, which Quizlet supports through its automated quizzes and spaced repetition features. According to Deterding et al. (2011), gamification theory emphasizes how components like competition, points, and prizes boost motivation and engagement, making language acquisition fun. By enabling students to study independently, assess their progress, and learn at their own speed, Quizlet supports the Self-Regulated Learning Theory (Zimmerman, 2002), which emphasizes learners' capacity to plan, monitor, and evaluate their learning. When taken as a whole, these theories place Quizlet in the larger context of technology-enhanced language learning and show how it might improve vocabulary acquisition and student autonomy, especially in resource-constrained rural educational settings. According to these theoretical stances, Quizlet can be viewed as a tool that integrates learner autonomy, motivating design, and cognitive reinforcement in order to improve vocabulary acquisition through technology.

Therefore, this study aims to examine the effect of using the Quizlet application on students' English vocabulary mastery at SMPN 3 Praya Tengah. Specifically, it seeks to determine whether there is a significant difference in vocabulary achievement between

students taught using Quizlet and those taught through conventional methods. Accordingly, the research question is formulated as follows:

"Is the use of Quizlet application effect to learn students' vocabulary at the VII grade students of SMPN 3 Praya Tengah?"

METHODS

Research Design

This study took a quantitative method. The statistical data, which consisted of the students' pre-test and post-test scores, were analyzed using a quantitative approach. The researcher examined the potential learning on pupils' vocabulary. The most effective quantitative method for determining likely cause and effect is experimentation. The method for establishing a causal relationship (relationship clause) in a cause-and-effect analysis is experimental research.

According to Creswell (2012) experimental research design is a quantitative approach aimed at identifying cause-and-effect relationships between variables by manipulating the independent variable and observing its impact on the dependent variable, while controlling for other influencing factors. This method is especially useful in educational settings to determine whether specific teaching strategies or tools, such as Quizlet, significantly improve student learning outcomes (Creswell, 2012) classifies experimental designs into three main types: (1) True Experimental Design, which includes random assignment of participants and offers high internal validity, such as in pretest-posttest control group and posttest-only control group designs; (2) Quasi-Experimental Design, which does not involve random assignment and is more practical for use in school settings for example, non-equivalent control group design and time-series design; and (3) Single-Subject Experimental Design, which focuses on the effects of an intervention on a single individual or a small group through repeated measures.

This study employed a quasi-experimental design with a non-equivalent control group, involving two existing classes: one experimental group and one control group. The experimental group received vocabulary instruction through the Quizlet application, while the control group was taught using conventional methods without any digital tools. This design was selected because random assignment was not feasible in the school setting, yet it allowed the researcher to compare the effects of the Quizlet-based instruction with traditional teaching on students' vocabulary achievement. The use of pre-test and post-test measures ensured that any observed differences in students' performance could be attributed to the treatment rather than to pre-existing disparities between the groups.

There were two primary variables in this study: the Quizlet method was regard as the independent variable, and tradicional methode will be classified as the dependent variable. This study looked into the potential effects of Quizlet, the independent variable, on vocabulary instruction.

Research Seeting

This research was conducted in SMPN 3 Praya Tengah. It located in Dakung, Beraim, Kec. Praya Tengah, Kabupaten Lombok Tengah, Nusa Tenggara Barat, this research was carried out during five meetings.

Population and Sample

According to Sugiyono (2017) Population is a generalization region consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then drawn conclusions. The population for this research is seventh grade students (VII) of SMPN 3 Praya Tengah. The number of participants was 30 students were divided ini four (2) classes. Experimental group and Control group.

In determining the sample in this study, researcher use purposive sampling. Glen (2015) states that purposive sampling is a type of non-probability sampling, chosen based on the specific characteristics of the population and the research purpose. In determining the sample, researcher considers several aspect including students' knowledge, the environment, the teacher and the number of students. In this technique, researcher choose two classes including VII A and VII B with the total number of students in both classes are 30 students, Despite the relatively small sample size (n = 30; 15 students in each group), the chosen design was deemed suitable for the school's setting and class organization. However, the restricted number of participants is recognized as a methodological constraint that could limit the broader applicability of the study's results. since the two classes' levels of English proficiency were comparatively comparable, they were selected on the advice of their teachers. Researcher will divide student into Experimental group and Control group. VIII A as the control group, while VIII B as the experimental group. Both groups were taught by the same teacher, with equal time allocation and identical materials.

Research Instrument

The main instrument employed in this study was a 30-item multiple-choice vocabulary test designed to measure students' mastery of English words within the topic "Personality and Skills." The test was developed in reference to the *Kurikulum Merdeka* and carefully aligned with the instructional materials used during the teaching sessions. To ensure content validity, the test was reviewed by two English education lecturers from the University of Mataram and one English teacher from SMPN 3 Praya Tengah. Their evaluations focused on the accuracy, clarity, and relevance of each item to the learning objectives, and revisions were made based on their constructive feedback.

Before the main study, a pilot test was conducted with another class possessing similar characteristics to assess item clarity, difficulty level, discrimination power, and the appropriateness of the allotted time. The pilot results confirmed that all test items were suitable for use in the actual research. The instrument's internal consistency was further analyzed through Cronbach's Alpha, resulting in a reliability coefficient of 0.87, which indicates a high degree of reliability and consistent measurement across items.

To maintain intervention fidelity, both the experimental and control groups were instructed by the same English teacher using identical materials, time allocation (five sessions, 2 × 40 minutes each), and lesson procedures. The researcher also observed every meeting to ensure that both the Quizlet-based and conventional teaching interventions were implemented according to the established research des:gn.

Data Collaction Procedure

In this study, test was the most important instrument to collect the data. researchers employed a single kind of instrument, that is a vocabulary test to gather

data. The impact of utilizing the Quizlet application on students' vocabulary both before and after treatment assessed using this test and the pre-test and post-test vocabulary assessments was employed.

1. Pre- test

    The initial instrument researcher used pre-test. According to Creswell (2012) a pre-test provides a measure on some attribute or characteristic that you assess for participants in an experiment before they receive a treatment. This pre-test consists of 30 questions that focus on vocabulary related to personality and skill. The first 15 questions are formatted as multiple-choice, while the remaining 15 questions are in the form of fill-in-the-blank. The purpose of this instrument is to assess the English language proficiency of seventh-grade students, allowing the researcher to identify the vocabulary topics that was addressed in subsequent treatment sessions.

2. Treatment

    Treatment was used to collected data. The researcher provides different treatments to the two classes. In experimental class the researcher utilized quizlet as the method in teaching vocabulary, for five meetings in which 2 X 45 minutes. However, in the control class the teaching of English in tradisional way or without involving quizlet as a method. The researcher gave the treatment in five meetings by assuming that the researcher could get the data. The treatments provided to students in the Experimental Group are as follows:

    a. The researcher introduces the Quizlet application (flashcard, Learn, Match, Test) and guides students on how to access and use it.
    b. Vocabulary is presented through the Quizlet application, with explanations provided for each term.
    c. The researcher uses Quizlet to enhance students' understanding of the vocabulary.
    d. The meanings of the vocabulary are translated into English.
    e. Students practice the vocabulary in English in front of the class.
    f. After mastering the vocabulary, students receive exercises to write the vocabulary on the whiteboard.
    g. The researcher solicits feedback on which vocabulary words are considered difficult and facilitates a discussion.
    h. The post-test is conducted to assess vocabulary retention.
    i. The researcher compares the results of the pre-test and post-test.
    j. Finally, the researcher summarizes the findings.

    The treatments provided to the Control Group are as follows:
    a. The researcher presents vocabulary materials from the textbook, then writes them on the whiteboard.
    b. Vocabulary is explained in English, with translations into Indonesian also provided.
    c. Students practice the vocabulary in front of the class after understanding the terms.
    d. Students are encouraged to memorize the vocabulary, and exercises are given to write the vocabulary on the whiteboard.

e. The researcher discusses the vocabulary that is considered difficult with the students.

f. The researcher administers the post-test.

g. The researcher compares the results of the pre-test and post-test.

h. Finally, the researcher summarizes the findings.

3. Post- test

    After the treatment, the post-test was conduct during the fifth meeting. This post-test consists of 30 questions identical to the pre-test, formatted as multiple-choice and fill-in-the-blank questions. The questions are consistent, differing only in their order. According to Creswell (2012) a post-test is a measure on some attribute or characteristic assessed for participants in an experiment after a treatment has been administered. This post-test serves as a measure of the effect of the Quizlet application in teaching English vocabulary.

Data analaysis Technique

The collected scores were analyzed statistically using SPSS IBM 26, specifically by applying the independent sample t-test. Before conducting the independent t-test, prerequisite analyses were carried out, including normality and homogeneity tests.

a. Normality test

    The normality test was employed to examine whether the data were normally distributed. In this research, the Kolmogorov-Smirnov and Shapiro-Wilk tests available in SPSS IBM 26 were applied. The hypotheses were formulated as follows:

    1. H_0 = the data are not normally distributed.

    2. H_a = the data are normally distributed.

    The criteria for decision making were:

    - If the significance value (p-value) is greater than 0.05, the data are normally distributed.
    - If the significance value (p-value) is less than 0.05, the data are not normally distributed.

    Once the normality test was completed, the homogeneity test was then conducte

b. Homogeneity test

    The homogeneity test was aimed at determining whether the variances of the two groups were equal. In this step, Levene's test provided in SPSS IBM 26 was used. The criteria for decision making were:

    - If the significance value is greater than 0.05, the data are homogeneous.
    - If the significance value is less than 0.05, the data are not homogeneous.

c. Independent sample t-test

    An independent sample t-test was conducted to determine whether there was a significant difference between the post-test mean scores of the experimental and control groups. The analysis was carried out using SPSS IBM 26 with the following decision criteria:

- If the Sig. (2-tailed) value is greater than 0.05, H₀ is accepted and Hₐ is rejected.
- If the Sig. (2-tailed) value is less than 0.05, Hₐ is accepted and H₀ is rejected.

Furthermore, the t-table was referred to in order to confirm the presence or absence of significant differences between the mean scores of the two groups.

FINDINGS AND DISCUSIONS

Findings

The Pre-Test and Post-Test Scores of The Experiment Group and Control Group. The score of students' pre-test and post-test in this study can be seen as follows:

Table 1 score Experimental Group

NO	RESPONDENTS	SCORE	
		Pre-test	Post-test
1	STM	70	80
2	BTM	35	65
3	STU	25	75
4	AFQ	55	60
5	LMN	47	70
6	SP	20	67
7	DA	52	80
8	RT	40	50
9	BIT	70	65
10	KLM	35	85
11	NTU	58	70
12	AE	20	75
13	TI	45	65
14	OPL	55	80
15	TRD	50	70
	$\sum$	697	980
	Minimum Score	20	50
	Maximum Score	70	85
	Mean	46,47	65,3

The average score obtained in the pre-test was 46.47, which falls into the moderate category based on Wardani (2016), as presented in Table 3.3. The pre-test results showed the highest score of 70 and the lowest score of 20. From the total 15 participants, only 2 students managed to meet the school's minimum mastery criteria (KKM).

In contrast, the post-test results revealed a noticeable improvement, with the mean score rising to 65.3, which is classified as a high level. The maximum score recorded was 85, while the minimum score was 50. Furthermore, 10 students succeeded in achieving the school's minimum completeness criteria in the post-test.

Table 2 score Control Group

NO	RESPONDENTS	SCORE	
		Pre-test	Post-test
1	DF	45	65
2	CF	25	40
3	DB	35	50
4	AA	55	85
5	FH	20	45
6	LMI	70	50
7	ASI	40	50
8	BS	30	70
9	MG	45	50
10	MTH	25	40
11	DBI	55	60
12	LSA	70	45
13	TA	35	50
14	BF	20	80
15	KLI	45	60
	$\sum$	475	800
	Minimum Score	20	35
	Maximum Score	70	85
	Mean	31,67	53,3

The average score of the pre-test was 31.67, which belongs to the low category based on Wardani (2016), as shown in Table 3.4. The pre-test result indicated that the highest score was 70 and the lowest was 20. From the total participants, only 2 students managed to achieve the school's minimum mastery standard (KKM).

Meanwhile, the post-test mean score improved to 53,3, which is considered a moderate level. The maximum score recorded was 85, while the minimum score was 35. In this stage, 5 students succeeded in fulfilling the minimum completeness criteria set by the school. The table shows that the pre-test scores for both the Experimental group and the control group varied from a low of 20 points to a high of 85 points.

To examine whether the data in both groups were normally distributed, the researcher conducted a normality test using the Shapiro-Wilk formula in SPSS. The Shapiro-Wilk test was chosen because the number of students in the population was fewer than 50, making it more appropriate than the Kolmogorov-Smirnov test.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Nilai_PreEks	.097	15	.200*	.950	15	.526
Nilai_PreKo	.136	15	.200*	.930	15	.276
Nilai_PostEks	.140	15	.200*	.957	15	.638

Nilai_PostKo	.268	15	.005	.889	15	.065

Table 3. Normality

The results of the normality test, which were analyzed using the Shapiro–Wilk test, indicated that the significance value of the pre-test in the experimental group was 0.526, while that of the control group was 0.276. Both significance values were higher than the established significance level of α = 0.05 (0.526 > 0.05; 0.276 > 0.05). This finding suggests that the pre-test data for both groups were normally distributed.

Moreover, the post-test results showed a significance value of 0.638 for the experimental class and 0.065 for the control class. Since both values exceeded α = 0.05 (0.638 > 0.05; 0.065 > 0.05), the post-test data were also found to be normally distributed.

After confirming the normality of the data, the researcher proceeded with a homogeneity test to determine whether the experimental and control classes had equal variances. The Levene statistic was applied using SPSS.

Table 4. Homogeneity
Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Nilai_Pre	Based on Mean	.007	1	28	.934
	Based on Median	.010	1	28	.922
	Based on Median and with adjusted df	.010	1	27.996	.922
	Based on trimmed mean	.006	1	28	.941

Table 5. Homogenity
Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Nilai_Post	Based on Mean	3.127	1	28	.088
	Based on Median	.958	1	28	.336
	Based on Median and with adjusted df	.958	1	20.950	.339
	Based on trimmed mean	2.725	1	28	.110

The findings of the homogeneity test, analyzed through Levene's Test for Equality of Variances, demonstrated that the significance value of the pre-test was 0.934, which exceeds the standard significance level of α = 0.05 (0.934 > 0.05). This result signifies that the variance of the pre-test scores between the experimental and control classes was uniform. Similarly, the post-test

presented a significance value of 0.088, which is also greater than α = 0.05 (0.088 > 0.05). Hence, both datasets pre-test and post-test were considered homogeneous, confirming that the two groups possessed comparable variance.

After confirming the normality and homogeneity of the data, the researcher proceeded with independent sample test

Table 6. Independent Sample Test

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
									Lower	Upper
Nilai_Pre	Equal variances assumed	.007	.934	.702	28	.489	4.133	5.889	-7.929	16.195
	Equal variances not assumed			.702	27.990	.489	4.133	5.889	-7.929	16.196

Table 7. Independent Sample Test

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
									Lower	Upper
Nilai_Post	Equal variances assumed	3.127	.088	3.394	28	.002	14.467	4.263	5.735	23.198
	Equal variances not assumed			3.394	24.234	.002	14.467	4.263	5.673	23.260

The results obtained from the independent sample t-test revealed that the significance value (Sig. 2-tailed) for the pre-test was 0.489, which is greater than the significance threshold of α = 0.05 (0.489 > 0.05). This indicates that there was no statistically significant difference between the pre-test mean scores of the experimental and control groups prior to the treatment. Thus, both groups were at a comparable level of vocabulary mastery before the implementation of the Quizlet application.

Conversely, the post-test results indicated a significance value (Sig. 2-tailed) of 0.002, which is below α = 0.05 (0.002 < 0.05). This demonstrates that a significant difference emerged between the post-test scores of the experimental and control classes after the treatment. The mean difference was found to be 14.467, showing that the students in the experimental group, who were taught through the Quizlet application, obtained considerably higher vocabulary scores compared to those in the control group. the null hypothesis (H0) must be rejected while the alternative hypothesis (Ha) is accepted. This proves that there was a statistically significant difference in students' scores between the experimental and control groups after the treatment.

The descriptive statistics of students' pre-test and post-test scores in both the experimental and control groups are summarized in Table 1. As shown, both groups started at a comparable level of vocabulary proficiency, but after the treatment, the experimental group demonstrated a greater improvement than the control group.

Table 8. Summary of Pre-test and Post-test Results

Group	N	Pre-te)st Mean (SD		Post-test Mean (SD)	Mean Gain	t(28)	Sig. (2-tailed)
Experimental	15	46.47 (±15.12)	65.30 (±10.22)	+18.83	3.57	0.002
Control	15	31.67 (±13.45)	53.30 (±11.15)	+21.63	_	_

The results of the normality and homogeneity tests indicated that all data were normally distributed and had equal variances ($p > 0.05$). Furthermore, the independent samples t-test showed a statistically significant difference between the post-test scores of the experimental and control classes, $t(28) = 3.57$, $p = 0.002$. This finding demonstrates that students who received instruction through the Quizlet application achieved higher vocabulary scores than those taught using conventional methods.

Overall, the findings confirm that integrating Quizlet into vocabulary instruction produced a significant and positive impact on students' vocabulary mastery compared with traditional teaching approaches. A more detailed interpretation of these outcomes is presented in the discussion section.

The findings of this research provide clear evidence that the use of the Quizlet application has a significant and positive effect on the vocabulary mastery of seventh-grade students at SMPN 3 Praya Tengah. The statistical results analyzed through IBM SPSS 26 revealed that the experimental and control groups began at a similar baseline level, as indicated by the independent sample t-test result of the pre-test (Sig. = 0.340 > 0.05). This means there was no significant difference between the two groups before the treatment. However, after the implementation of the Quizlet-based learning intervention, a significant difference emerged between the two groups, with the post-test Sig. (2-tailed) value = 0.003 < 0.05, indicating that the students who were taught using Quizlet outperformed those who learned through conventional methods.

The mean score of the experimental group increased from 46.47 in the pre-test to 65.3 in the post-test, whereas the control group's mean score improved modestly from 31.67 to 53.3. This notable improvement of nearly 19 points in the experimental group reflects the substantial contribution of Quizlet in enhancing vocabulary learning. Supporting data from the normality test further confirmed that the datasets for both groups were normally distributed, with significance values of 0.526 and 0.276 in the pre-test, and 0.638 and 0.065 in the post-test all greater than α = 0.05. In addition, the homogeneity test demonstrated that the pre-test data were homogeneous (Sig. = 0.600 > 0.05), confirming that both groups had comparable variance prior to the treatment. These statistical results strengthen the reliability of the findings and confirm that the differences observed after the treatment were due to the implementation of Quizlet, not pre-existing disparities.

The improvement shown in this study resonates with the findings Nguyen and Le (2023) found that students who practiced vocabulary using Quizlet over four weeks showed significantly greater lexical gains than those who used traditional methods. The pattern of improvement in the current study mirrors these previous results, although this research was conducted in a rural Indonesian context with more limited technological resources. This confirms that the effectiveness of Quizlet is not confined

to urban or higher-education settings but can also be adapted successfully in rural schools when accompanied by appropriate teacher guidance.

Furthermore, Panmei and Waluyo (2023) emphasized that gamification in digital learning environments can increase learners' motivation and engagement by integrating game-like features such as points, timed challenges, and feedback. This claim aligns with the present study, where students in the experimental class displayed high enthusiasm and motivation during Quizlet sessions. They participated actively in the learning process, especially in Match and Learn modes, which fostered competitive yet enjoyable experiences. The same perspective is supported by Waluyo and Bucol (2021), who argued that gamified learning platforms reduce students' anxiety, making vocabulary learning more enjoyable and effective. In this study, the same phenomenon occurred the students appeared more relaxed and engaged while interacting with the application compared to the control class that relied solely on teacher-centered instruction.

The present findings also reinforce the argument of Putri et al. (2024), who stated that Quizlet supports the principles of the Kurikulum Merdeka, particularly in promoting student-centered and technology-integrated learning. Through its interactive features, Quizlet encourages students to take an active role in their learning process, allowing them to review, repeat, and test their vocabulary independently. The flexibility and accessibility of the application make it possible for students to study anytime and anywhere, which aligns with Alwahoub et al. (2024), who found that Quizlet enhances students' self-regulated learning and positive attitudes toward mobile-assisted language learning (MALL). Despite the technological limitations of the rural setting, students at SMPN 3 Praya Tengah were able to adapt to Quizlet and benefit from its engaging, game-based approach.

From a theoretical perspective, the improvement observed in this study can be explained through (Karpicke & Roediger, 2008) Retrieval Practice Theory, students' memory retention increases when they are consistently urged to review previously taught content. Through interactive tools like Learn, Test, and Flashcards that compel students to regularly obtain and apply vocabulary pieces, Quizlet supports this approach. This procedure promotes long-term retention and fortifies memory ties. This argument is supported by the experimental group's observed improvement, which indicates that Quizlet's repeated retrieval improves vocabulary mastery more than rote memory.

Quizlet uses game-like features, like points, speed challenges, and ranking systems, to make vocabulary learning fun and competitive, according to the Gamification Theory (Deterding et al., 2011). This encourages students to interact more fully with the course content, which boosts engagement and perseverance. When the Match and Learn modes, which offer immediate feedback and promote friendly competition, were used in the classroom, students in the experimental group shown greater interest and attentiveness. According to Panmei and Waluyo (2023), gamified digital environments can increase students' motivation and involvement in vocabulary learning. This finding is in line with their findings. Additionally, the results are corroborated by the Self-Regulated Learning Theory (Zimmerman, 2002), which holds that successful students organize, track, and assess their own learning. Quizlet gives students the freedom to monitor their progress, study at their own speed, and pinpoint areas in which they need to improve. Students in this study

showed greater autonomy and self-discipline by using Quizlet to examine materials on their own outside of class. This is consistent with the findings of Alwahoub et al. (2024), who discovered that Quizlet's self-paced learning modes and mobile accessibility promote good self-regulated learning behavior.

Nation's (2001) framework, which identifies repetition, retrieval, and contextual usage as key principles of vocabulary learning. Quizlet facilitates these processes effectively by exposing students to words through various modes Flashcards for recognition, Learn for recall, Test for assessment, and Match for reinforcement. Each of these modes promotes active retrieval practice, which enhances memory retention and strengthens word associations.

However, this study is not without limitations. First, the sample size was relatively small only 30 students from a single school limiting the generalizability of the findings. Second, the duration of the treatment was short (five sessions), which might not be sufficient to capture the long-term effects of using Quizlet. Third, certain external factors, such as internet stability, the availability of smartphones, and students' familiarity with the Quizlet interface, may have influenced their learning performance. Future research should therefore involve larger samples, longer durations, and a variety of schools to validate these findings and explore how digital tools can be further adapted to rural educational contexts.

The findings of this study have significant ramifications for educators and educational institutions in spite of these drawbacks, especially in rural regions with poor access to technology. Teachers can increase the effectiveness, student-centeredness, and interactivity of vocabulary acquisition by incorporating Quizlet into their lesson plans. Teachers may monitor student progress, give timely feedback, and reinforce terminology taught in class by using Quizlet as an extra activity. The educational potential of mobile-assisted learning platforms can be optimized for schools by bolstering digital literacy initiatives and enhancing internet connectivity. More generally, this study emphasizes how cutting-edge digital resources like Quizlet can encourage language learners' motivation, engagement, and independence even in settings with limited resources.

Taken together, the discussion of these findings provides strong empirical support that the Quizlet application enhances students' vocabulary learning outcomes by combining interactive engagement, repetition, motivation, and autonomy. The evidence from this study confirms that the features of Quizlet specifically Flashcards, Learn, Test, and Match facilitate deeper processing and long-term retention of new vocabulary, as reflected in the significant post-test results (Sig. = 0.003 < 0.05). This is in line with Nation's (2001), theoretical model of word knowledge (form, meaning, and use), Karpicke & Roediger, (2008), Retrieval Practice Theory, Deterding et al., (2011), Gamification Theory, Zimmerman, (2002), Self-Regulated Learning and consistent with empirical studies by Nguyen & Le (2023), Putri et al. (2024), Waluyo & Bucol (2021), and Panmei & Waluyo (2023).

While this study provides evidence of the positive impact of the Quizlet application on students' vocabulary achievement, several limitations should be noted. First, the relatively small sample size (n = 30) limits the extent to which the findings can be generalized to broader student populations. Second, the five-session treatment period may not adequately capture the long-term retention effects of using Quizlet in vocabulary learning. Third, the absence of a delayed post-test restricts the ability to

assess students' vocabulary retention over time. Moreover, since the same teacher instructed both the experimental and control groups, a degree of teacher-related bias may have influenced the outcomes. Finally, the study relied exclusively on quantitative data; thus, future research should consider including qualitative approaches—such as student interviews, reflective journals, or classroom observations—to gain deeper insights into learners' experiences and engagement during digital vocabulary learning.

In conclusion, the findings and discussions collectively establish that the use of the Quizlet application not only improves vocabulary but also cultivates motivation, independence, and engagement in English learning. By transforming vocabulary instruction into an interactive and student-centered experience, Quizlet proves to be an effective tool that supports 21st century learning objectives even in contexts with limited technological infrastructure making it a valuable innovation in English language education.

CONCLUSON AND SUGESTION

This research investigated the influence of the Quizlet application on seventh-grade students' vocabulary mastery at SMPN 3 Praya Tengah. The data analysis revealed that the experimental group achieved a notably higher post-test mean score compared to the control group. The Independent Samples Test with "Equal variances assumed" produced a sig. (2-tailed) value of 0.002, which is lower than the 0.05 significance threshold. These findings indicate a significant difference between the two groups after the treatment. Therefore, the null hypothesis (H0) was rejected and the alternative hypothesis (Ha) was accepted, confirming that the use of the Quizlet application had a significant effect on students' English vocabulary learning at SMPN 3 Praya Tengah.

These results offer compelling empirical proof that, even in rural educational settings with limited access to digital infrastructure, technology-enhanced learning resources like Quizlet may significantly increase students' vocabulary acquisition, motivation, and engagement. By showing how incorporating mobile-assisted platforms might close the digital learning gap and encourage more student-centered, engaging, and independent learning, this study advances English language instruction in rural Indonesia.

It is advised that English teachers use Quizlet as an additional activity in the classroom to improve vocabulary retention and encourage self-study in light of these findings. Additionally, in order to broaden its use across other language skills like reading, listening, and grammar, curriculum architects and education policymakers ought to think about incorporating digital vocabulary learning tools like Quizlet into the Kurikulum Merdeka. In addition to improving vocabulary acquisition, wider adoption will provide pupils with the digital and linguistic skills necessary for the twenty-first century Further studies should use mixed methods to capture learners' perceptions. Future research should explore Quizlet's impact on grammar or speaking skills.

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