

The Effectiveness of Quizlet-Based Guided Discovery Learning on Vocabulary Mastery at a Junior High School in Pematangsiantar

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ABSTRACT

In many Indonesian junior high schools, students often struggle to retain English vocabulary due to the dominance of passive, teacher-centered memorization techniques. Although digital tools are readily available, their systematic integration with structured pedagogical frameworks, such as Guided Discovery Learning (GDL), remains scarce in local EFL contexts. Addressing this gap, this study evaluates the efficacy of integrating GDL with Quizlet to improve the vocabulary mastery of eighth-grade students at SMP Negeri 10 Pematangsiantar. The research employed a quantitative quasi-experimental design with 60 students selected via purposive sampling. The experimental group was taught using the GDL-Quizlet model, while the control group followed conventional instruction. Data analysis using non-parametric statistics revealed that the experimental group significantly surpassed the control group. While the control group showed stagnant results, the experimental group demonstrated substantial gains. These findings suggest that combining the scaffolding of GDL with the gamified engagement of Quizlet creates a highly effective learning environment, offering a practical solution for teachers aiming to boost student motivation and lexical competence.

Keywords: EFL Students, Guided Discovery Learning, Quizlet, Vocabulary Mastery, Quasi-Experimental Research

1. INTRODUCTION

Vocabulary mastery has long been recognized as a fundamental aspect of foreign language learning. As Nation (2013) emphasizes, vocabulary knowledge is central to all communicative skills, since learners cannot comprehend texts, speak fluently, or write accurately without sufficient lexical competence. In English as a Foreign Language (EFL) context such as Indonesia, vocabulary is indispensable for mastering listening, speaking, reading, and writing skills (Alqahtani, 2015). Despite years of English instruction, many Indonesian junior high school students still struggle with vocabulary learning. They often

find it difficult to remember and apply new words, leading to poor reading comprehension and limited communicative ability (Salam & Nurnisa, 2021). In many classrooms, traditional vocabulary instruction still relies on memorization, translation, and dictionary-based exercises. Although such practices can produce short-term recall, they rarely promote meaningful understanding or long-term retention (Rohmatillah, 2014).

To address these persistent challenges, teachers and researchers have begun to incorporate digital media and interactive tools to make vocabulary learning more engaging. Among these innovations, Quizlet has gained popularity as an effective tool for enhancing vocabulary mastery. Quizlet allows teachers to create interactive sets of words with images, audio, and practice games that promote active recall (Anjaniputra & Salsabila, 2018). Several studies confirm its effectiveness in improving motivation, retention, and learner autonomy. For example, Kose and Arslan (2021) reported that EFL learners using Quizlet achieved better vocabulary performance than those who used traditional methods. Likewise, Setiawan and Wiedarti (2020) found that Quizlet fosters engagement and long-term retention through its game-based learning environment.

Although numerous studies have demonstrated the positive effects of Quizlet on vocabulary learning, most have focused mainly on the technological aspect rather than its pedagogical integration. Quizlet has often been used as an independent or supplementary tool without being linked to a structured instructional model (Waluyo, 2020). As a result, students may interact with the application passively—memorizing words mechanically rather than understanding them contextually or exploring patterns of use.

Meanwhile, Discovery Learning, as proposed by Bruner (1961), highlights the importance of learner exploration, hypothesis-making, and knowledge construction. However, for students with low proficiency or limited motivation—such as many junior high school learners in Indonesia—the Guided Discovery Learning (GDL) approach is more appropriate. GDL maintains the exploratory nature of discovery learning but includes structured teacher guidance at each stage, ensuring students remain supported and focused (Yazdani & Sadeghi, 2022).

While Muliati and Syam (2020) have established that properly scaffolded Guided Discovery Learning can boost engagement, there is a notable disconnect in current literature. Most previous studies tend to treat Quizlet merely as a standalone technological tool (Anjaniputra & Salsabila, 2018; Setiawan & Wiedarti, 2020) or view Discovery Learning as an isolated pedagogical method (Junizar et al., 2020). The systematic

integration of the two remains largely unexplored. This gap is particularly pressing for the context of SMP Negeri 10 Pematangsiantar, where students struggle with low vocabulary competence and limited motivation—precisely the issues this combined approach seeks to address.

To bridge this gap, this study examines the effectiveness of integrating Quizlet into the Guided Discovery Learning model. Specifically, it aims to determine if combining GDL's scaffolding with Quizlet's interactive features can improve vocabulary mastery, retention, and engagement among the eighth-grade students at SMP Negeri 10 Pematangsiantar. This research specifically seeks to answer the following question:

1. Does the use of Guided Discovery Learning through Quizlet significantly affect the vocabulary mastery of Grade VIII students at SMP Negeri 10 Pematangsiantar?

The findings of this study are expected to provide several contributions. Theoretically, it will expand current literature on technology-enhanced language learning (TELL) by demonstrating how Quizlet can be effectively embedded in a guided instructional design. Practically, it offers English teachers a feasible model for improving vocabulary mastery among students with low motivation, even in settings with limited technology. Methodologically, this study contributes an example of classroom-based experimentation that merges digital media and pedagogical innovation in the Indonesian EFL context.

Ultimately, this study emphasizes that vocabulary learning should not rely solely on memorization but should engage students in guided discovery—where they actively construct meaning through exploration, reflection, and digital interaction. By combining Quizlet's interactivity with the scaffolding of Guided Discovery Learning, this study aspires to create a more meaningful, enjoyable, and sustainable vocabulary learning experience for Indonesian junior high school students.

2. RESEARCH METHOD

Research Design

This study applied a quasi-experimental method using a non-equivalent control group design (pre-test/post-test), as true randomization was not feasible within the school

setting. The study examined how the integration of Guided Discovery Learning (GDL) and Quizlet—as the independent variable—affected students' vocabulary mastery. The experimental group received the GDL-Quizlet treatment, whereas the control group was subjected to traditional teaching methods.

Group	Pre-Test	Treatment (X)	Post-Test
Experimental	30 students	X (Guided Discovery Learning + Quizlet)	30 students
Control	30 students	– (Conventional Teaching)	30 students

Participants

The study involved 60 eighth-grade students from SMP Negeri 10 Pematangsiantar in the 2025/2026 academic year. Using purposive sampling, Class VIII-4 ($n = 30$) was assigned as the experimental group, while Class VIII-6 ($n = 30$) served as the control group. The participants were selected based on comparable English proficiency levels, teacher recommendations indicating low learning motivation, and administrative feasibility during the researcher's teaching internship.

Instrument & Procedures

A Vocabulary Achievement Test consisting of 15 multiple-choice items was employed as the research instrument. The test was administered in two parallel forms: Form A for the pre-test and Form B for the post-test. The instrument was validated by subject-matter experts and demonstrated high reliability based on a pilot test result ($r_{11} = 0.84$).

The research was conducted over a three-week period. In Week 1, the pre-test was administered to establish students' baseline vocabulary competency. In Week 2, a 70-minute instructional treatment was implemented for both the experimental and control groups. In Week 3, the post-test was administered to measure vocabulary improvement and retention.

Data Collection Procedures

The process of data collection took place over a three-week period within the 2025/2026 academic year and was carried out in collaboration with the English teacher at SMP Negeri 10 Pematangsiantar. Quantitative data were obtained through a Vocabulary Achievement Test administered in two stages. The pre-test (Form A) was conducted at the beginning of the study to identify students' initial vocabulary proficiency, while the post-

test (Form B) was administered in the final week to examine changes in vocabulary mastery following the instructional treatment.

Due to school regulations restricting the use of electronic devices, all testing activities were conducted using paper-based instruments. To ensure fairness and reduce the influence of external factors, both the experimental and control groups completed the tests on the same day during their regular class schedules. Throughout the testing sessions, supervision was jointly carried out by the researcher and the classroom teacher to maintain consistent procedures and prevent any form of collaboration among students. In addition, students were explicitly instructed not to discuss the test materials with peers from other classes in order to minimize the possibility of test leakage.

Data Analysis Technique

Data analysis involved a combination of descriptive and inferential procedures, with accuracy confirmed through a cross-verification process (manual calculation and digital tools). Descriptive metrics, such as central tendency and dispersion, provided an initial overview of the score distributions. Regarding assumptions, the Shapiro–Wilk test indicated that the data did not follow a normal distribution ($p < .05$). Consequently, the study utilized non-parametric statistics. The Wilcoxon Signed-Rank Test evaluated significant differences within groups, whereas the Mann-Whitney U Test was employed to determine differences between the experimental and control groups.

3. RESULTS AND ANALYSIS

3.1. Result

The data presented in this section were obtained from 60 eighth-grade students who participated in the study. They were distributed equally into two groups: the experimental group ($n = 30$) and a control group ($n = 30$). Throughout the intervention phase, the experimental group engaged with Guided Discovery Learning (GDL) combined with Quizlet, whereas the control group was taught using conventional methods.

Descriptive Statistical Analysis

The quantitative data obtained from students' vocabulary achievement tests are presented in Table 1, which summarizes the descriptive statistics and learning mastery results.

Table 1. Summary of Descriptive Statistics and Learning Mastery

Group	Test	Mean	Std. Deviation	Min	Max	Mastery (%)
Experimental (GDL + Quizlet)	Pre-test	51.78	18.58	33.3 3	93.3 3	20.0%
	Post-test	80.00	10.05	66.6 7	93.3 3	80.0%
Control (Conventional)	Pre-test	25.56	25.86	6.67	93.3 3	13.3%
	Post-test	25.56	25.86	6.67	92.0 0	13.3%

Note: Minimum Mastery Criterion (KKM) ≥ 71 .

Referring to the data in Table 1, there was a positive shift in the experimental group's performance. The mean score increased from 51.78 (pre-test) to 80.00 (post-test), while the percentage of students mastering the material grew from 20.0% to 80.0%. On the other hand, the control group results remained constant, showing no increase in either the mean score or mastery percentage.

Hypothesis Testing (Inferential Statistics)

The data analysis began with a normality check via the Shapiro–Wilk test, which showed a non-normal distribution ($p < .05$, necessitating the use of nonparametric statistics. First, the Wilcoxon Signed-Rank Test demonstrated that the experimental group experienced a significant score increase ($Z = -4.717$, $p < .001$, in contrast to the control group which showed no significant difference ($p = .180$). Finally, the Mann–Whitney U Test confirmed that the post-test scores of the experimental group were significantly superior to those of the control group ($U = 0.000$, $p < .001$).

Qualitative Observation Data

Observation results confirmed that the GDL–Quizlet model was implemented fully (100%) according to the lesson plan. Students in the experimental group demonstrated higher levels of visual attention, initiative, and enthusiasm, particularly during the “Blast Game” activities. In contrast, students in the control group tended to remain passive within a teacher-centered learning environment.

3.2. Discussion

The findings of this study provide strong empirical evidence that the integration of Guided Discovery Learning (GDL) with Quizlet significantly enhances students' vocabulary mastery. This improvement can be attributed to the synergy between an active pedagogical framework and interactive digital technology.

From a pedagogical perspective, GDL shifts students' roles from passive recipients to active explorers of knowledge. This aligns with Bruner's (2020) constructivist theory, which emphasizes that discovery-based learning promotes deeper understanding through active knowledge construction. The qualitative observations support this claim, as students in the experimental group displayed higher curiosity, engagement, and participation than those in the control group.

From a technological perspective, Quizlet functions as a catalyst that gamifies the discovery process. Features such as active recall and repetitive practice facilitate vocabulary retention and long-term memory consolidation. These results are consistent with previous studies by Nguyen (2021) and Rahmah and Kurnia (2022), which highlight Quizlet's effectiveness in enhancing retention and intrinsic motivation.

Moreover, this study demonstrates that technological limitations such as restrictions on personal device use can be addressed through adaptive instructional strategies. The collective use of Quizlet via a projector successfully transformed the classroom into a collaborative and interactive learning environment. Despite limitations such as a relatively small sample size and the potential novelty effect, the findings suggest that integrating digital tools within a structured pedagogical model is a promising approach to improving EFL learning outcomes in Indonesian junior high schools.

4. CONCLUSION

Based on the results, this study confirms that integrating Guided Discovery Learning (GDL) with Quizlet is highly effective for improving vocabulary mastery among eighth-grade students at SMP Negeri 10 Pematangsiantar. The statistical evidence shows a clear distinction: students in the experimental group achieved significantly higher post-test scores compared to those in the control group. While the control group showed little progress, the experimental group demonstrated substantial gains in both mean scores and mastery levels. The success of this method lies in the combination of GDL's structured

exploration and Quizlet's engaging, gamified features. Moreover, the findings prove that this strategy is adaptable; it successfully transforms passive learning into an active environment even in settings with limited facilities, such as using a single classroom projector.

In light of these findings, several recommendations are offered. For English teachers, it is advisable to move away from teacher-centered methods like lecturing and translation. Instead, adopting the GDL-Quizlet integration is strongly encouraged to foster student autonomy and motivation. In schools with limited devices, teachers can adapt by projecting Quizlet for collective class activities, ensuring the method remains inclusive. For future researchers, it would be beneficial to involve a larger and more diverse sample to enhance generalizability. Longitudinal studies are also needed to verify if the vocabulary retention is permanent or merely a result of a short-term novelty effect. Finally, future studies could isolate the impact of technology by comparing 'GDL with Quizlet' against 'GDL with physical flashcards to see which component contributes most to student success.

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