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MEMORY STRATEGIES IN VOCABULARY LEARNING: EVIDENCE FROM JUNIOR HIGH SCHOOL EFL LEARNERS

Nurhafizah[1*], Zulfah Fakhruddin [2], Ambo Dalle[3], Mujahidah[4], Magdahalena Tjalla[5]
[1,2,3,4,5]Institut Agama Islam Negeri Parepare, Pare-Pare, Indonesia

*hafizah481018@gmail.com

ABSTRACT

This study investigates the use of memory strategies in vocabulary learning among junior high school EFL learners in an Indonesian Islamic school context. Although vocabulary memorization is commonly emphasized in classroom practice, limited attention has been given to how young learners cognitively process and retain lexical items. This study addresses this gap by examining the types and frequency of memory strategies used by students in a daily "password class" routine, where learners recall English words before entering the classroom. A quantitative descriptive design was employed involving 21 seventh-grade students. Data were collected using an adapted version of Gu's (2018) Vocabulary Learning Questionnaire (VLQ 6.4), focusing on three categories of memory strategies: rehearsal, encoding, and activation. The data were analyzed using descriptive statistics and inferential analysis (One-Way ANOVA and Tukey HSD). The findings revealed statistically significant differences among the three strategies ($p < .001$), with encoding strategies showing the highest mean score ($M = 3.70$), followed by activation ($M = 3.34$), and rehearsal strategies ($M = 2.89$). These results indicate that learners tend to engage more in deeper cognitive processing, such as association, visualization, and contextual use, rather than relying solely on repetition. This study contributes to understanding vocabulary learning strategies among young EFL learners by emphasizing the roles of encoding and activation strategies in vocabulary learning. Pedagogically, the findings suggest that meaningful, communicative activities should complement memorization routines to enhance vocabulary retention and productive language use.

Keywords: EFL Young Learners, Islamic EFL Classroom, Memory Strategies, Vocabulary Acquisition, Vocabulary Learning Strategies

INTRODUCTION

Vocabulary knowledge plays a fundamental role in second language learning because it directly influences learners' ability to understand and produce language. Without sufficient vocabulary, learners experience difficulties in reading, writing, speaking, and listening. Vocabulary is therefore considered the foundation of communicative competence. Nation (2013) emphasizes that vocabulary knowledge includes form, meaning, and use, and effective language learning depends on mastering these components. Similarly, Schmitt (2010) argues that vocabulary acquisition is a gradual and complex process that requires repeated exposure and meaningful engagement. These perspectives highlight that

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vocabulary learning is not merely memorizing word meanings but also involves deeper cognitive processing and active language use.

Recent research has increasingly focused on vocabulary learning strategies as an essential factor influencing vocabulary acquisition. Vocabulary learning strategies refer to the techniques learners use to acquire, store, retrieve, and use vocabulary. Bai explains that learners who employ strategic approaches such as semantic association and contextual guessing develop stronger vocabulary knowledge. Zeng et al., (2025) further report that learners who actively use vocabulary learning strategies demonstrate better retention and recall. These findings suggest that vocabulary learning strategies play an important role in shaping learners' vocabulary development. Among vocabulary learning strategies, memory strategies are widely discussed in the literature.

Memory strategies typically include rehearsal, encoding, and activation processes. Rehearsal strategies involve repetition and memorization; encoding strategies involve meaningful processing, such as association and imagery; and activation strategies involve applying vocabulary in communicative contexts. According to Craik & Lockhart (1972), levels of the processing theory, deeper processing leads to better retention than shallow processing. Therefore, encoding and activation strategies are expected to produce stronger vocabulary learning outcomes than rehearsal strategies.

Previous research has shown mixed findings regarding the effectiveness of different vocabulary learning strategies. Farjami & Aidinlou (2013) identify excessive reliance on rote memorization as a primary impediment to vocabulary learning, suggesting that repetition-based strategies may not support long-term retention. Similarly, Yazidi (2023) reports that learners who rely primarily on repetition demonstrate weaker vocabulary knowledge compared to those who use deeper processing strategies. In contrast, studies by Viera (2017) highlight that active vocabulary use improves writing performance, indicating the importance of activation strategies. These studies suggest that learners benefit from strategies that promote meaningful processing and active use of language.

Technology-enhanced vocabulary learning has also received increasing attention in recent years. Zakian (2022) reports that mobile applications for vocabulary learning encourage learners to engage in contextual and interactive vocabulary practice. Gavranović (2019) similarly found that technology-assisted vocabulary acquisition enhances learners' vocabulary retention and application. Habibullaevna (2020) emphasizes that innovative technologies support modern vocabulary learning strategies by providing multimodal input. Bilová (2018) also demonstrates that collaborative vocabulary learning using ICT improves vocabulary development. These studies suggest that modern vocabulary-learning environments encourage deeper processing and more active use of vocabulary.

In addition, individual differences in learning styles influence the use of vocabulary strategies. Yazidi explains that learners with analytical learning styles prefer encoding strategies, while learners with memorization-oriented styles rely more on rehearsal strategies. Hakem (2022) also found that vocabulary learning in literary texts requires deeper semantic processing, supporting the use of encoding strategies. These findings indicate that learners do not use vocabulary strategies equally and that strategic preferences may vary.

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Research on the measurement of vocabulary learning strategies also highlights the importance of examining multiple strategy types. Labontee (2019) emphasizes that vocabulary strategy instruments should measure various dimensions of vocabulary learning strategies, including memory strategies. Putra (2020) found that postgraduate students use multiple vocabulary learning strategies depending on the learning context. Seffar (2020) also reports that learners combine different strategies rather than relying on a single approach. Linda & Shah (2020) further explain that semantic association strategies significantly improve vocabulary learning. These studies indicate that vocabulary learning involves a combination of strategies. Despite extensive research on vocabulary learning strategies, limited studies have examined the relative use of rehearsal, encoding, and activation strategies among junior high school EFL learners. Most previous studies focus on general vocabulary-learning strategies rather than on specific memory-strategy types. Therefore, it remains unclear which memory strategies learners most frequently use and whether there are significant differences among them.

Although vocabulary learning strategies have been widely investigated, most previous studies focus on general vocabulary strategies rather than specific memory strategies. In particular, limited research has examined how rehearsal, encoding, and activation strategies are used simultaneously by junior high school learners. Previous studies often investigate vocabulary learning outcomes such as vocabulary size or achievement, but fewer studies analyze how learners cognitively process vocabulary through different memory strategies. As a result, the relative use of rehearsal, encoding, and activation strategies among younger learners remains unclear.

Furthermore, many existing studies have been conducted in senior high school or university contexts, leaving younger learners underrepresented in vocabulary strategy research. Junior high school students are still developing their cognitive learning strategies, and their vocabulary learning behavior may differ from that of older learners. Understanding how younger learners process vocabulary is important because early strategy development influences long-term language learning success. However, empirical evidence focusing on memory strategies among junior high school EFL learners is still limited. In addition, previous studies tend to investigate vocabulary learning in formal instructional settings, while routine-based vocabulary practices remain underexplored. Classroom routines such as daily vocabulary recall, memorization tasks, and retrieval-based activities are commonly used in many schools, particularly in Islamic school contexts. However, little is known about how these routines influence students' use of memory strategies. It remains unclear whether such routines encourage repetition-based learning or deeper cognitive processing strategies.

Moreover, studies comparing different types of memory strategies are still scarce. Although the Levels of Processing theory suggests that deeper processing leads to better retention, empirical studies examining differences between rehearsal, encoding, and activation strategies among younger EFL learners remain limited. Without such comparisons, it is difficult to determine which memory strategies are most frequently used and whether learners rely more on shallow or deep processing.

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Therefore, this study aims to fill these gaps by examining the use of rehearsal, encoding, and activation strategies among junior high school EFL learners in a structured vocabulary-learning routine. By focusing on memory strategies within a daily password-class activity, this study provides empirical evidence on how learners process vocabulary cognitively. The findings contribute to understanding vocabulary learning behavior among younger learners and offer pedagogical implications for improving vocabulary instruction. Specifically, the study examines (1) the level of use of each strategy, and (2) whether significant differences exist among the three strategy types. Understanding students' strategy preferences is important for designing effective vocabulary instruction. Based on previous literature, it is expected that learners will rely more on encoding and activation strategies than rehearsal strategies, as deeper processing leads to stronger vocabulary retention. This expectation is examined using descriptive statistics and repeated-measures ANOVA. The findings of this study provide insights into learners' vocabulary learning behavior and contribute to understanding the role of memory strategies in vocabulary acquisition.

The results of this study reveal that encoding strategies were used most frequently, followed by activation strategies, while rehearsal strategies were used least frequently. These findings suggest that learners prefer meaningful processing and active vocabulary use rather than simple repetition. The following section presents the results in detail, followed by a discussion interpreting these findings in relation to previous research.

METHODS

This study employed a quantitative descriptive survey design to examine the types and frequency of memory strategies used by junior high school students in learning English vocabulary. This design was selected because it enables systematic measurement of learners' strategy use and facilitates statistical comparisons across categories of memory strategies. In addition to descriptive statistics, inferential analysis was conducted using One-Way ANOVA followed by Tukey's HSD post hoc tests to examine differences among three memory strategy types: Rehearsal, Encoding, and Activation.

The study was conducted at SMP Islam Al-Akhyar, a private Islamic junior high school in South Sulawesi, Indonesia. The school provides a unique instructional context through its "password class" routine, in which students are required to recall and pronounce English vocabulary before entering the classroom. This daily activity promotes repeated exposure and retrieval, making it a relevant context for examining memory-based vocabulary learning strategies. The participants consisted of 21 Grade VII students selected through total sampling. This approach was used because all students in the target class were actively involved in the password class program, thereby representing the entire accessible population within the research setting. Although the sample size is relatively small, it is considered appropriate because the study focuses on a specific, bounded group rather than aiming for broad generalization. In line with Creswell (2013); Dörnyei et al., (2001), small sample sizes are acceptable in exploratory and context-specific educational research when the objective is to gain in-depth insights into learner behavior.

The research instrument was adapted from the Vocabulary Learning Questionnaire (VLQ), which has been validated in previous studies (Gu, 2018). The VLQ is a widely

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recognized instrument designed to measure learners' use of vocabulary learning strategies, including memory-related strategies such as rehearsal, encoding, and activation. The adaptation in this study focused specifically on memory strategy items to align with the research objectives while maintaining the original theoretical constructs. Therefore, 16 items were selected and adapted to suit the cognitive and linguistic level of junior high school students. The items were categorized into three subtypes: Rehearsal (5 items), Encoding (5 items), and Activation (6 items). The adaptation process involved simplifying the language, translating the items into Bahasa Indonesia, and ensuring contextual relevance without altering the original theoretical constructs. To ensure content validity, the adapted instrument was reviewed by two experts in English language education and psycholinguistics. Revisions were made in response to their feedback to improve clarity and appropriateness. Reliability analysis using Cronbach's Alpha yielded a coefficient above 0.70, indicating acceptable internal consistency. The use of a previously validated instrument strengthens the study's construct validity and ensures that the measurement accurately reflects learners' vocabulary learning strategies.

Data were collected during regular classroom sessions. Prior to data collection, the researcher explained the purpose of the study and provided clear instructions to ensure students' understanding. Participants completed the questionnaire independently, under direct supervision, in approximately 25–30 minutes to minimize response bias. All responses were collected immediately after completion.

The data were analyzed using SPSS version 26 and cross-checked using Python statistical libraries (SciPy and Statsmodels). The analysis was conducted in two stages. First, descriptive statistics (mean and standard deviation) were calculated to determine the frequency of strategy use. The interpretation scale applied was: 1.00–1.80 (very low), 1.81–3.20 (low), 3.21–4.00 (moderate), and 4.01–5.00 (high). Second, inferential statistical analysis was conducted using One-Way ANOVA to examine differences among the three memory strategy types. Prior to conducting ANOVA, assumptions were tested. The normality of the data distribution was assessed using the Shapiro–Wilk test, which indicated that all data were normally distributed (Rehearsal, $p = 0.432$; Encoding, $p = 0.924$; Activation, $p = 0.061$; $p > 0.05$). The assumption of homogeneity of variance was tested using Levene's test, which yielded a p-value of 0.094 ($p > 0.05$), indicating that the variances among groups were homogeneous. Therefore, the assumptions required for parametric analysis were satisfied, and the use of One-Way ANOVA was deemed appropriate.

Following the ANOVA, Tukey HSD post hoc analysis was conducted to identify specific differences between pairs of strategies. This combination of statistical procedures allowed for both overall comparison and detailed examination of differences among rehearsal, encoding, and activation strategies. Ethical considerations were addressed throughout the study. Permission was obtained from the school administration, and informed consent was secured from both students and their parents. Participants were assured that their responses would remain confidential and would be used solely for research purposes, and that no personal identifying information would be collected.

Overall, the methodological approach ensures validity and reliability through the use of a well-established instrument, appropriate sampling techniques, and rigorous statistical

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procedures. While the findings are context-specific, the study provides meaningful insights into vocabulary-learning strategies in a structured classroom environment.

RESULTS

This section presents the study's results. The analysis includes both descriptive and inferential statistics to answer the research questions. Mean scores, standard deviations, and significance levels are explained to reveal students' tendencies in using rehearsal, encoding, and activation strategies.

Table 1. Descriptive statistics

Strategy	N	Mean (M)	Standard Deviation (SD)	Interpretation
Rehearsal	21	2.90	0.60	Low
Encoding	21	3.70	0.78	Moderate
Activation	21	3.33	0.53	Moderate

The descriptive statistics presented in Table 1 indicate clear differences in students' use of memory strategies. Encoding strategies recorded the highest mean score (M = 3.70), suggesting that students frequently rely on meaningful processing techniques such as association, visualization, and linking new words with prior knowledge. This finding indicates that learners tend to engage in deeper cognitive processing rather than relying solely on memorization. The relatively high mean score also suggests that classroom activities encourage students to connect vocabulary with meaning and context, which supports long-term retention.

Activation strategies showed a moderate mean score (M = 3.33), indicating that students sometimes use vocabulary in meaningful contexts. This suggests that learners attempt to apply vocabulary in communication, writing, or contextual practice. However, the slightly lower mean compared to encoding strategies indicates that productive vocabulary use may not yet be fully developed. Students may still require more opportunities to actively use vocabulary in communicative tasks.

Rehearsal strategies recorded the lowest mean score (M = 2.90), indicating that students do not heavily rely on repetition-based learning. Although repetition is commonly associated with vocabulary memorization, the lower mean suggests that learners may perceive repetition alone as insufficient for vocabulary retention. Instead, students appear to prefer strategies that involve deeper engagement with vocabulary meaning. Overall, these findings suggest that learners rely more on encoding and activation strategies than rehearsal strategies.

Table 2. Mauchly's test of sphericity

Effect	Mauchly's W	Chi-square	df	Sig
Strategy	.756	5.325	2	.070

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The results of Mauchly's test of sphericity indicate that the assumption of sphericity was met (p = .070). This means that the variances of the differences between strategy types were equal, allowing the use of standard repeated-measures ANOVA results. Meeting this assumption strengthens the validity of the statistical analysis and ensures that comparisons among rehearsal, encoding, and activation strategies are reliable. Therefore, the subsequent ANOVA results can be interpreted without applying corrections.

Table 3. Repeated measures ANOVA

Source	SS	df	MS	F	Sig. (p)	Significance	Partial Eta Squared
Strategy	6.897	2	3.448	12.27	0,000	Significant (p <0.05)	.380
Error	11.238	40	.281	-		-	

The repeated-measures ANOVA results presented in Table 3 indicate a statistically significant difference among the three memory strategies. The F value (F = 12.27) and significance level (p < .001) show that students used rehearsal, encoding, and activation strategies at different levels. The large effect size (η^2 = .38) further indicates that the differences among strategies are substantial. This suggests that learners demonstrate clear preferences in their use of memory strategies rather than using all strategies equally.

The significant difference supports the descriptive findings that encoding strategies were used most frequently, followed by activation strategies, while rehearsal strategies were used least. This pattern suggests that students tend to rely on deeper cognitive processing strategies. The large effect size also indicates that the variation among strategies is meaningful and not due to random differences.

Table 4 Pairwise comparisons

Comparison	Mean Diff	Std Error	Sig
Rehearsal-Encoding	-.810	.199	.002
Rehearsal-Activation	-.438	.134	.011
Encoding-Activation	.371	.150	.068

The pairwise comparison results provide further insight into the differences among strategies. Encoding strategies were significantly higher than rehearsal strategies (p = .002), indicating that students preferred meaningful processing over simple repetition. Similarly, activation strategies were significantly higher than rehearsal strategies (p= .011), suggesting that learners tend to use vocabulary in context rather than relying solely on memorization. These findings indicate that repetition-based learning plays a less dominant role in students' vocabulary learning.

However, no significant difference was found between encoding and activation strategies (p = .068). This suggests that learners use both strategies at relatively similar levels. Students appear to combine meaningful processing with contextual vocabulary use.

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This pattern indicates that vocabulary learning involves both understanding word meaning and applying vocabulary in communicative situations.

Table 5. Item-level analysis

Item	R1	*R2*	*R3*	*R4*	*R5*	*E1*	*E2*	*E3*	*E4*	*E5*	*A1*	*A2*	*A3*	*A4*	*A5*	*A6*
Mean	*3.90*	*2.29*	*3.24*	*2.33*	*2.71*	*3.33*	*3.90*	*3.52*	*3.71*	*4.05*	*3.48*	*3.43*	*2.86*	*2.86*	*3.67*	*3.71*

The item-level analysis reveals that the highest mean score was found in E5 (M = 4.05), indicating high use of encoding strategies. This suggests that students frequently engage in deeper cognitive processing when learning vocabulary. Several encoding items (E2, E4, E5) also show relatively high mean scores, reinforcing the dominance of encoding strategies. In contrast, the lowest mean score was found in rehearsal item R2 (M = 2.29), indicating low reliance on repetition-based strategies. Other rehearsal items (R4 and R5) also show relatively low scores, suggesting that students do not rely heavily on memorization strategies. Activation strategy items show moderate use, indicating relatively high engagement in using vocabulary in meaningful contexts. However, lower scores suggest that students may still experience difficulty applying vocabulary spontaneously.

The item-level analysis provides more detailed insights into students' strategy use. The highest mean score in E5(M = 4.05) indicates that students frequently use encoding strategies involving deeper processing. Several encoding items (E2, E4, E5) also show relatively high mean scores, reinforcing the dominance of encoding strategies. These results suggest that learners actively connect vocabulary with meaning and context.

In contrast, rehearsal items R2 (M = 2.29) recorded lower mean scores, indicating that students rely less on repetition-based learning. Other rehearsal items (R4 and R5) also show relatively low scores, suggesting that students do not rely heavily on memorization strategies. This suggests that memorization alone may not be the preferred strategy for vocabulary learning. Students may perceive repetition as less effective compared to meaningful processing.

Activation strategy items show moderate use, indicating that students sometimes apply vocabulary in meaningful contexts. Higher scores in some activation items, A6 (M = 3.71) and A5 (M = 3.67), suggest that learners attempt to use vocabulary actively. However, lower scores in other activation items in A3 and A4 indicate that students may still experience difficulty using vocabulary spontaneously. Overall, the item-level analysis confirms that encoding strategies were dominant, followed by activation strategies, while rehearsal strategies were least used.

Overall, encoding strategies were used most, followed by activation strategies, while rehearsal strategies were used least. The ANOVA results confirmed significant differences among the three strategies, with a large effect size. Pairwise comparisons indicated that rehearsal strategies differed significantly from both encoding and activation strategies, while encoding and activation strategies did not differ significantly.

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DISCUSSION

The findings of this study demonstrated that encoding strategies were used more frequently than rehearsal strategies, while activation strategies were moderately applied. The significant difference among strategies indicates that learners tend to engage in deeper cognitive processing rather than relying on surface-level repetition. This pattern aligns with the Levels of Processing theory, which emphasizes that deeper semantic processing leads to stronger memory retention. When learners associate vocabulary with meaning, context, and imagery, lexical items are stored more effectively in long-term memory. This theoretical perspective explains why encoding strategies emerged as the most dominant strategy in the present study.

This finding is supported by research on vocabulary-learning strategies that emphasize semantic processing. Teng (2021) reported that learners who use elaboration, imagery, and association strategies demonstrate stronger vocabulary knowledge and retention. Similarly, Teng & Zhang (2021) found that metacognitive engagement and task-induced involvement significantly influence vocabulary acquisition. These studies confirm that deeper cognitive engagement enhances vocabulary learning outcomes. The dominance of encoding strategies in this study, therefore, reflects learners' engagement in meaningful cognitive processing.

The results also align with research emphasizing multimedia and multimodal vocabulary learning. Mahdi et al. (2024) reported that multimedia glosses significantly improve vocabulary acquisition with medium to large effect sizes, particularly for beginner-level learners. The meta-analysis showed that combining visual and verbal input enhances vocabulary encoding and retention. This finding supports the interpretation that learners in the present study benefited from deeper encoding strategies that involve visualization and association. The use of multiple cognitive channels strengthens vocabulary storage and retrieval processes.

Furthermore, research on vocabulary learning strategies suggests that learners combine multiple strategies rather than relying on a single approach. Aksak & Çubukçu (2026) explain that vocabulary learning strategies interact with aptitude, proficiency, and motivation, resulting in varied strategy use among learners. This perspective supports the present findings, where encoding, activation, and rehearsal strategies were used simultaneously. Vocabulary learning is, therefore, dynamic and influenced by multiple learner variables. This explains why activation strategies were moderately used alongside encoding strategies.

The moderate use of activation strategies suggests that learners partially applied vocabulary in productive contexts. Activation strategies involve using vocabulary in speaking, writing, and interaction. Zhang (2025) reported that active language learning strategies improve learner motivation and language proficiency. Similarly, B R & G (2023) emphasized the role of social constructivist learning environments in vocabulary development, where interaction and collaboration enhance vocabulary mastery. These findings support the moderate use of activation strategies observed in the present study.

Research also highlights the role of technology and digital learning in vocabulary activation. Tonda et al. (2026) found that educational games significantly improve

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vocabulary learning through interactive engagement. Technology-enhanced vocabulary learning encourages learners to use vocabulary actively rather than memorizing it passively. This supports the interpretation that activation strategies were used moderately, as learners engaged in productive vocabulary activities.

In addition, Tuyen & Huyen (2019) stated that using contextual clues significantly enhances vocabulary retention and reading comprehension, as it promotes active engagement and deeper processing of words. This strategy allows students to infer meanings from the surrounding text, leading to improved vocabulary learning outcomes. Similarly, Jin & Luo (2026) found that communicative vocabulary practice strengthens vocabulary accessibility and improves productive language use. These findings support the moderate level of activation strategies in the present study.

The lower use of rehearsal strategies indicates reduced reliance on repetition-based learning. Repetition strategies involve memorization and repeated exposure. Although repetition contributes to vocabulary familiarity, it does not necessarily lead to long-term retention. Webb (2007) explains that repetition without meaningful processing results in shallow learning. Nation (2013) also argues that repeated exposure must be accompanied by meaningful use to enhance vocabulary acquisition. These theoretical perspectives support the lower use of rehearsal strategies in this study.

Research on vocabulary learning also emphasizes the importance of mnemonic and association strategies. Studies show that mnemonic devices involving visualization, association, and repetition improve vocabulary retention and retrieval. Learners who use imagery and association demonstrate stronger long-term vocabulary retention. These strategies correspond to encoding strategies identified in this study. Therefore, the dominance of encoding strategies reflects effective vocabulary learning processes.

Furthermore, social constructivist perspectives explain that vocabulary learning occurs through interaction and contextual use. B R & G (2023) highlights that collaborative learning environments and social media interaction support vocabulary development. Learners build vocabulary knowledge through communication and engagement. This supports the moderate use of activation strategies in the present study.

The findings also align with research emphasizing the use of contextual guessing strategies. Tuyen & Huyen (2019); Mart (2012) explain that guessing word meanings from context enhances lexical processing. Contextual inference requires learners to integrate semantic clues and background knowledge. This deep processing improves vocabulary retention. The frequent use of encoding strategies in this study, therefore, reflects learners' engagement in contextual vocabulary learning.

From a pedagogical perspective, the findings suggest that vocabulary instruction should emphasize encoding and activation strategies. Teachers should provide semantic mapping, contextual guessing, collaborative learning, and communicative tasks. Multimedia glosses, interactive learning tools, and contextual practice should be integrated into classroom instruction. These approaches enhance vocabulary retention and productive use of vocabulary.

Overall, the findings indicate that learners rely more on encoding and activation strategies than rehearsal strategies. This suggests that vocabulary learning involves deeper

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cognitive processing rather than rote memorization. The results support theoretical perspectives emphasizing meaningful processing, contextual learning, multimedia learning, and productive vocabulary use.

CONCLUSION

This study examined the use of memory strategies in vocabulary learning among junior high school EFL students, focusing on rehearsal, encoding, and activation strategies. The findings showed that students tended to use encoding and activation strategies more frequently than rehearsal strategies. However, the findings showed statistically significant differences among the strategies, indicating that learners tend to rely more on encoding and activation strategies than rehearsal strategies. This indicates that learners used all strategies in a relatively balanced way. This suggests that students are beginning to engage in deeper cognitive processing, although their vocabulary learning strategies have not yet developed into clearly differentiated patterns.

From a theoretical perspective, the results support the view that vocabulary learning involves meaningful cognitive processing rather than simple repetition. The preference for encoding and activation strategies reflects learners' engagement in semantic association, contextual understanding, and vocabulary use. However, the absence of significant differences indicates that classroom instruction may encourage the use of multiple strategies without explicitly guiding students toward more effective strategy use.

Pedagogically, the findings highlight the importance of promoting deeper vocabulary learning. Teachers should integrate activities that support encoding and activation processes, such as semantic mapping, contextual learning, and communicative practice. These approaches can enhance vocabulary retention and encourage meaningful use of vocabulary in learning contexts.

Despite its contributions, this study has limitations, including a small sample size and a homogeneous learning environment. Future research should involve larger samples and examine the relationship between strategy use and vocabulary learning outcomes such as retention and productive use. Overall, this study emphasizes the need for intentional, strategy-based vocabulary instruction to support effective vocabulary acquisition and long-term language development.

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