

Mapping Vocabulary Memorisation Strategies among Junior High School EFL Learners: A Quantitative Survey Using Gu's VLQ 6.4

Nurhafizah¹, Zulfah Fakhruddin²

^{1,2}IAIN Pare-Pare, Pare-Pare, Indonesia

Email: authoremail@domain.com

ABSTRACT

Vocabulary learning is one of the most persistent challenges for junior high school students in EFL contexts. This study investigates the types and frequency of memory strategies employed by students in learning English vocabulary at SMP Islam Al-Akhyar, where learners engage daily in a unique “password” routine that requires recalling English words before entering class. Using a quantitative descriptive design, data were collected from 21 Grade VII students through an adapted version of Gu's (2018) Vocabulary Learning Questionnaire (VLQ6.4) focusing on memory-related items. Sixteen statements representing three strategy types, Rehearsal, Encoding, and Activation, were rated on a five-point Likert scale. Descriptive and inferential analyses (One-Way ANOVA and Tukey HSD) revealed significant differences among the three strategies ($p < .05$). Students reported using Encoding strategies most frequently ($M = 3.84$), followed by Activation ($M = 3.46$) and Rehearsal ($M = 2.96$). These findings indicate that learners rely more on meaning-based and cognitive elaboration techniques such as visualisation and morphological analysis rather than simple repetition. The study highlights the pedagogical importance of integrating encoding and activation practices into vocabulary instruction to enhance both retention and active word use.

Keywords: *Activation, EFL learners, encoding, memory strategy, vocabulary learning strategies.*

1) INTRODUCTION

Vocabulary acquisition is a vital aspect of second language learning and a strong indicator of overall proficiency, for junior high school students in EFL (English as a Foreign Language) contexts, vocabulary mastery often becomes a significant challenge because exposure to authentic language use is limited and learning still depends heavily on rote memorization. Students can recall words temporarily but frequently fail to retain and use them in communication. Understanding how students remember and retrieve words through effective cognitive strategies is, therefore, essential for promoting meaningful vocabulary learning.

At SMP Islam Al-Akhyār, teachers implement a unique routine known as the password class, in which students recall and pronounce several English words before entering the classroom. This daily

Paper presented at The 2nd ICONETT, 2025
Faculty of Teacher Training and Education
Universitas Islam Negeri Alauddin Makassar
South Sulawesi-Indonesia

practice strengthens memorization through repetition and retrieval. However, the cognitive and psycholinguistic strategies that support this activity remain unexplored. Investigating these internal strategies provides insight into how young learners process vocabulary beyond mechanical memorization.

Previous studies have classified Vocabulary Learning Strategies (VLS) into several types. Gu & Johnson (1996); Schmitt (1997) grouped them into cognitive, metacognitive, social, and memory-based categories, while Nation (2013) emphasized learning through meaningful repetition and contextual use. Among these, memory strategies are particularly effective for younger learners because they involve association, imagery, and contextualization. Oxford (2016) describes memory strategies as linking new knowledge with prior experience through visual, auditory, or semantic cues that enhance long-term retention.

Empirical research supports the benefits of memory strategies. Teng (2015) found that imagery and associative learning improved EFL learners' vocabulary retention. Alzahrani & Alquarashi (2023) reported that students using encoding and activation strategies achieved higher recall. These results are consistent with Craik & Lockhart (1972) Levels of Processing Theory, which argues that deep processing produces stronger memory traces. Accordingly, rehearsal promotes short-term memory, whereas encoding and activation foster durable retention through elaboration and retrieval.

Building on this theoretical foundation, Gu (2018) developed the Vocabulary Learning Questionnaire (VLQ 6.4), a validated instrument with 62 items representing multiple strategy types. Within the memory category, the VLQ identifies three subtypes: Rehearsal (repetition and verbal recall), Encoding (association, imagery, and morphological awareness), and Activation (using new words in communication). Although the VLQ has been applied widely among adult and university learners, its use with junior secondary students in regular school contexts remains limited. Existing research primarily emphasizes autonomous strategy use in higher education, leaving younger learners underrepresented.

This under-exploration constitutes a clear research gap. In school environments where vocabulary memorization is routine, such as the password class, students repeatedly encounter words but may employ different mental approaches to store and recall them. Investigating their use of memory strategies can reveal how repetition interacts with deeper processing. Moreover, understanding

adolescent learners' strategies can help teachers design vocabulary activities that move beyond rote memorization toward strategic learning and active language use.

Therefore, this study aims to explore the types and frequency of memory strategies used by junior high school students at SMP Islam Al-Akhyār in learning English vocabulary. The study focuses on three subcategories, Rehearsal, Encoding, and Activation, and examines how frequently each is applied and whether significant differences exist among them. The research employs a simplified and adapted version of Gu's VLQ 6.4 to suit the learners' linguistic level while maintaining theoretical accuracy. Specifically, the study addresses two research questions:

- a) What types of memory strategies are most frequently used by junior high school students in learning English vocabulary at SMP Islam Al-Akhyār?
- b) Is there a significant difference among students' use of rehearsal, encoding, and activation strategies in learning vocabulary?

By answering these questions, the study contributes to understanding how young EFL learners employ memory strategies in vocabulary acquisition and offers pedagogical insights for improving classroom practices. The findings are expected to inform teachers on how to integrate cognitive and retrieval-based strategies into routine memorization tasks to enhance vocabulary retention and long-term language development.

2) 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. The design was appropriate for systematically identifying learners' cognitive behaviors and analyzing whether significant differences existed among strategy categories. Quantitative methods enabled the researcher to collect measurable data and apply inferential statistical tests, specifically One-Way ANOVA and Tukey HSD, to compare students' use of three memory strategy types: Rehearsal, Encoding, and Activation. Descriptive statistics were used to summarize the data, while inferential statistics determined significant differences among the three categories.

The research was conducted at SMP Islam Al-Akhyar, a private Islamic junior high school in South Sulawesi, Indonesia. The school provided an authentic setting because it applies a daily vocabulary memorization routine known as the Password Class. Before entering the English classroom, students must recall and pronounce English words assigned by their teacher. This habitual practice promotes repeated exposure and retrieval, providing a natural environment to investigate how learners apply memory strategies in real-life classroom conditions.

The participants were 21 students from Grade VII, chosen through purposive sampling because they actively participated in the password program and had completed at least one semester of formal English instruction. Grade VII was selected since it represents the entry level of structured English learning, and students at this stage are heavily engaged in vocabulary memorization routines. Participation was voluntary, and students were informed about the study's purpose and confidentiality procedures.

The instrument used was a structured questionnaire adapted from the Vocabulary Learning Questionnaire (VLQ) version 6.4 developed by Gu (2018). The original VLQ contains 62 items, but this study selected 16 items related explicitly to memory strategies to ensure focus and appropriateness for young learners. The items represented three subcategories: five measuring Rehearsal (e.g., repetition and verbal recall), five for Encoding (e.g., association, imagery, and morphological awareness), and six for Activation (e.g., using new words in communication). The questionnaire was translated into Bahasa Indonesia and simplified linguistically to ensure comprehension. Each statement used a five-point Likert scale ranging from 1 (never), 2 (almost never), 3 (seldom), 4 (sometimes), 5 (always/often), allowing participants to express how frequently they applied each strategy.

To ensure content validity, the adapted instrument was reviewed by two experts in English education and psycholinguistics. Minor revisions were made for clarity without altering the conceptual meaning. The reliability test using Cronbach's Alpha produced a coefficient above 0.70, indicating acceptable internal consistency.

The data collection took place during regular English lessons. Before distribution, the researcher explained the study's objective and provided one example item to ensure clarity. Students completed the questionnaire within 25–30 minutes under direct supervision. The researcher monitored the

session to ensure independent and honest responses. Completed questionnaires were collected immediately after completion to maintain data accuracy and avoid peer influence.

After data collection, responses were coded and analyzed using SPSS version 26 and verified using Python statistical libraries (SciPy and Stats models). The analysis included two main stages. First, descriptive statistics (mean and standard deviation) were calculated for each item and each strategy category. The following interpretation scale was used: 1.00–1.80 = very low, 1.81–3.20 = low, 3.21–4.00 = moderate, and 4.01–5.00 = high. These categories described how frequently students employed each strategy in learning vocabulary.

Second, inferential analysis was applied to examine significant differences among the three strategy types. The One-Way ANOVA test determined whether the mean differences were statistically significant, while the Tukey HSD Post Hoc Test identified which specific pairs of strategies differed significantly. This approach provided both a general and detailed view of the relationships among the three strategy categories.

Ethical principles were observed throughout the study. The principal of SMP Islam Al-Akhyar granted permission to conduct the research, and informed consent was obtained from participants and their parents. Students were assured that participation was voluntary and that their responses would remain confidential. No identifying information was recorded, and all data were used solely for research purposes.

Overall, this research followed a structured and replicable procedure, combining expert-validated instruments, organized data collection, and rigorous statistical analysis. The methodological framework ensured both reliability and validity, providing an accurate and transparent account of students' use of memory strategies. Through the integration of descriptive and inferential approaches, this study offers comprehensive insights into how junior high school students employ Rehearsal, Encoding, and Activation strategies in learning and retaining English vocabulary within an authentic classroom practice.

3) RESULTS AND DISCUSSION

This part presents the results of the study and provides a discussion of the findings. 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

Paper presented at The 2nd ICONETT, 2025
Faculty of Teacher Training and Education
Universitas Islam Negeri Alauddin Makassar
South Sulawesi-Indonesia

rehearsal, encoding, and activation strategies. Thus, the discussion interprets these results in relation to prior research and highlights their pedagogical implications for vocabulary learning in EFL classrooms.

Table 1: *Questions Result*

Item	Statement	Mean Score	Interpretation
1	I repeat my language list several times until I have memorized it all.	4.00	Moderate
2	I make flashcards and carry them with me wherever I go.	2.28	Low
3	I regularly repeat new words I've memorized.	3.23	Moderate
4	When memorizing words, I say them out loud.	2.33	Low
5	I write words repeatedly to help me remember them.	2.71	Low
6	I visualize images in my mind to help me remember words.	3.33	Moderate
7	I visualize word spellings in my mind to remember them.	3.90	Moderate
8	I group words that sound similar to make them easier to remember.	3.52	Moderate
9	I pay attention to prefixes, roots, and suffixes to understand words	3.71	Moderate
10	I memorize frequently used prefixes and roots.	4.04	High
11	I try to recall the sentence where the word appeared	3.47	Moderate
12	I remember new words along with the context in which they appear.	3.50	Moderate
13	I create my own sentences using newly learned words.	2.85	Low
14	I try to use new words as much as possible in my speaking and writing.	2.85	Low
15	I try to use new words in real situations.	3.66	Moderate
16	I try to use new words in imaginary situations in my mind.	3.71	Moderate

Table 1. presents the mean scores and interpretations for each item measuring students' use of memory strategies. The results indicate variations in the frequency of strategy use across the 16 statements. Overall, the mean scores ranged from 2.28 to 4.04, reflecting a general tendency of participants to use memory strategies at low to moderate levels.

In the Rehearsal Strategy section (Items 1–5), the highest mean score was found in the statement “I repeat my language list several times until I have memorized it all” ($M = 4.00$), which falls into the moderate category. This suggests that repetition is a reasonably common technique among students. However, statements such as “I make flashcards and carry them with me wherever I go” ($M = 2.28$)

and “When memorizing words, I say them out loud” ($M = 2.33$) were rated low, indicating that learners do not frequently employ visual or verbal repetition strategies.

For the Encoding Strategy (Items 6–10), students demonstrated moderate engagement overall. The highest mean ($M = 4.04$, high) was found for the statement “I memorize frequently used prefixes and roots”, showing that morphological awareness is a strong aspect of students’ encoding behavior. Other items such as “I visualize word spellings in my mind” ($M = 3.90$) and “I group words that sound similar” ($M = 3.52$) were in the moderate range, suggesting that students often rely on visualization and categorization techniques to enhance memory.

In the Activation Strategy section (Items 11–16), the results revealed a moderate level of strategy use across most statements. The highest mean ($M = 3.71$) appeared in “I try to use new words in imaginary situations in my mind”, followed by “I try to use new words in real situations” ($M = 3.66$). These results imply that students are moderately active in applying new vocabulary in both imagined and authentic contexts, reflecting the use of productive recall. However, some items such as “I create my own sentences using newly learned words” ($M = 2.85$) and “I try to use new words as much as possible in my speaking and writing” ($M = 2.85$) scored low, suggesting limited active language production.

In summary, table 1 shows that students employ memory strategies at a moderate overall level, with the Encoding Strategy being the most frequently used, followed by Activation, while Rehearsal was the least preferred. This pattern suggests that learners favor strategies that involve meaning, visualization, and contextual use over pure repetition or rote memorization.

Table 2: *Descriptive Statistics*

Strategy	Mean (M)	Standard Deviation (SD)	Interpretation
Rehearsal	2.96	0.63	Moderate user
Encoding	3.84	0.82	High user
Activation	3.46	0.66	Moderate user

Table 2 presents the mean scores and standard deviations of the three memory strategies: Rehearsal, Encoding, and Activation. Among them, the Encoding strategy obtained the highest mean score ($M = 3.84$, $SD = 0.82$), indicating that students frequently used techniques such as associating words with images, focusing on word structures, and creating meaningful connections. The Activation

strategy followed with a mean score of ($M = 3.46$, $SD = 0.66$), suggesting that learners occasionally applied new vocabulary in communication, reflecting moderate engagement in retrieval and use. Meanwhile, the Rehearsal strategy recorded the lowest mean ($M = 2.96$, $SD = 0.63$), showing that repetition-based techniques like reviewing word lists or saying words aloud were less preferred. The overall pattern indicates that students relied more on deeper cognitive processing, emphasizing meaning and association over mechanical memorization. This finding implies that young EFL learners at SMP Islam Al-Akhyār tend to use strategies that support long-term vocabulary retention rather than short-term recall. The results highlight the importance of encouraging encoding- and activation-based learning to enhance vocabulary mastery among secondary-level students.

Table 3: *One-Way ANOVA Result*

Source of Variation	df	F	Sig. (p)	Significance
Between Groups	2	7.77	0.001	Significant ($p < .05$)
Within Groups	60	-		-
Total	62	-		-

The One-Way ANOVA test examined whether there were significant differences among the three types of memory strategies, Rehearsal, Encoding, and Activation, used by the students. The analysis yielded a statistically significant result, $F(2, 60) = 7.77$, $p = .001$, indicating that the mean scores among the three strategy categories were not equal. This means that students showed distinct patterns in how they applied memory strategies during vocabulary learning. The significant value suggests that learners favoured a specific strategy more than others, reflecting differences in cognitive engagement and learning preferences. The high F -value confirms that the variance between groups was greater than the variance within groups, thus supporting the conclusion that at least one strategy type was used significantly more often. These results provide empirical evidence that students at SMP Islam Al-Akhyar did not rely uniformly on all memory strategies. Instead, they demonstrated selective use, showing a tendency to engage more deeply with strategies that involve cognitive elaboration and association, rather than surface-level repetition. This finding serves as the basis for further post hoc analysis to determine which specific strategies differ significantly from each other.

Table 4 presents the results of the Tukey HSD post hoc test, which identified specific differences among the three memory strategies: Rehearsal, Encoding, and Activation. The analysis revealed that both Encoding and Activation strategies were used significantly more frequently than Rehearsal, with

$p = .001$ and $p = .033$, respectively. However, the difference between Encoding and Activation was not statistically significant ($p = .406$). These results indicate that students tended to employ strategies involving meaning-based processing and cognitive elaboration more often than simple repetition or rote memorization. The finding further confirms that learners at SMP Islam Al-Akhyar favored Encoding strategies, such as associating new words with mental images and recognizing word parts over Rehearsal, which focuses on mechanical repetition. The absence of a significant difference between Encoding and Activation also suggests that students naturally link mental association with practical usage when recalling vocabulary. This pattern demonstrates that vocabulary retention among EFL learners is strengthened through deeper processing and retrieval, rather than surface-level repetition, emphasizing the pedagogical importance of integrating encoding and activation techniques into classroom vocabulary instruction.

The findings of this study provide valuable insights into how junior high school students engage with different memory strategies when learning English vocabulary. The analysis and interpretation of the results reveal not only the students' general tendencies in using each strategy but also the underlying cognitive processes that shape their vocabulary learning behaviours. The discussion below is organized into four main parts: rehearsal, encoding, activation, and significant differences among the strategies. Each section connects the quantitative findings to theoretical perspectives and prior empirical research to illustrate how these patterns contribute to understanding memory strategy use in EFL contexts.

Rehearsal Strategies

As shown in Table 1 and Table 2, the mean scores for the five rehearsal items ranged from 2.28 to 4.00, with an overall average of $M = 2.96$, indicating a moderate level. These results suggest that students occasionally use repetition-based strategies, such as reviewing word lists and repeating words aloud, to memorize vocabulary. However, the relatively lower mean compared to other strategy suggests that learners perceive these techniques as monotonous or less engaging, particularly when they are not embedded in meaningful learning contexts. In other words, while rehearsal remains an instinctive and familiar approach for learners, especially in contexts where vocabulary memorization is a daily routine, its limited cognitive depth reduces its overall effectiveness for long-term retention.

This finding aligns with Gu & Johnson (1996) argument that “rote memorization is effective only when enriched by deeper processing” (p. 648). Simple repetition may help learners retain vocabulary temporarily, but without semantic elaboration, the information is often stored in short-term memory and easily forgotten. Similarly, Barcroft (2009) emphasized that rehearsal alone rarely results in durable memory traces unless combined with meaningful association or contextualized learning. When repetition is paired with elaboration, such as using the word in a sentence, connecting it with prior knowledge, or visualizing its meaning, the likelihood of long-term retention increases substantially.

The nature of the Password Class may also explain the moderate use of rehearsal strategies among students at SMP Islam Al-Akhyar. The activity requires immediate recall of words as an entry routine but may not provide enough opportunity for reflective or contextualized use afterward. This procedural structure promotes surface memorization rather than deep understanding, which could explain the students’ moderate mean scores. Nevertheless, some students still reported positive engagement with simple rehearsal, indicating that repetition serves as an essential foundational step in vocabulary learning.

Another factor influencing this moderate result is learners’ perception of rehearsal as a low-level cognitive activity. Younger EFL students may quickly lose motivation when tasks involve mere repetition without interaction or creative output. Ellis & Wulff (2016) and Natalina & Bakti (2017) suggest that adolescent learners retain information better when they are exposed to multi-sensory or communicative reinforcement rather than isolated drills. Therefore, although rehearsal remains a basic strategy, it functions most effectively when integrated with higher-level strategies such as encoding and activation.

Furthermore, the results imply that teachers must reconsider how repetition is introduced in class. Instead of traditional rote memorization, rehearsal can be adapted into meaningful practices, such as word games, peer quizzes, and pronunciation challenges. Integrating repetition into engaging contexts can transform a monotonous process into an interactive learning experience, Nation (2013) suggested that successful vocabulary learning requires multiple encounters with words in varied forms and contexts. In conclusion, while rehearsal strategies form the backbone of vocabulary learning, their long-term effectiveness depends on how they are linked with deeper cognitive processes and communicative practices.

Encoding Strategies

The results in Table 1 and Table 2 revealed that encoding strategies achieved the highest mean ($M = 3.84$, $SD = 0.82$), falling within the moderate to high range. This category includes cognitive techniques such as associating new words with images, grouping words by sound similarity, and analyzing morphological structures (prefixes, roots, and suffixes). The highest-scoring item, “I memorize frequently used prefixes and roots” ($M = 4.04$), demonstrates that students have developed a notable degree of morphological awareness, which plays a vital role in deepening vocabulary knowledge.

This strong preference for encoding strategies aligns with Zhang & Lu (2015) who found that learners focusing on morphological awareness and contextual association perform significantly better in both vocabulary breadth and depth. Morphological decoding allows students to infer meaning and grammatical function without memorizing every word individually, leading to more efficient learning. The ability to break down complex words into recognizable units (e.g., un- + happy = unhappy) fosters analytical skills that go beyond memorization.

Moreover, the preference for encoding reflects a shift from surface-level learning to deeper semantic processing, as proposed by the Levels of Processing Theory (Craik & Lockhart, 1972). According to this theory, the depth of cognitive engagement determines the durability of memory: shallow processing (such as repetition) produces fragile memory traces. In contrast, deeper processing (such as elaboration and association) yields durable retention. The findings of this study clearly illustrate that students are not only memorizing words but are also actively constructing relationships between form, meaning, and context, a hallmark of deeper learning.

The findings also echo Oxford (2016) and Teng (2015), who reported that visual imagery and semantic association significantly improve recall among EFL learners. When students visualize a word’s meaning, imagine its use in context, or associate it with familiar experiences, they engage more areas of the brain, strengthening memory connections. Encoding therefore transforms passive exposure into active knowledge construction. The students’ consistent use of encoding strategies suggests that even at a junior level, they are capable of adopting cognitively complex techniques when guided by structured activities, such as the Password Class that emphasizes both repetition and retrieval.

Interestingly, the success of encoding strategies in this study might also stem from the cultural and educational context. Indonesian classrooms often rely on explicit instruction and teacher-led explanations, which naturally support form-meaning analysis. When students are taught vocabulary through morphological breakdowns or contextual examples, they tend to internalize encoding strategies subconsciously. This supports Teng (2015) argument that learners can develop strategy awareness through exposure and practice rather than formal training alone.

However, despite the overall positive findings, encoding strategies are not without limitations. While students demonstrate moderate to high use of encoding techniques, their ability to transfer these skills into spontaneous communication remains limited. Encoding ensures comprehension and retention, but unless followed by activation, learners may still struggle to retrieve words during speaking or writing. Therefore, educators should integrate encoding tasks with communicative activities, such as storytelling or collaborative writing, to bridge the gap between understanding and active use.

In summary, the predominance of encoding strategies among students reflects their cognitive maturity and their tendency to favor strategies that link form and meaning. These findings reaffirm that vocabulary instruction should emphasize analytical and associative learning, not just rote memorization. Encoding supports deeper learning and prepares students for long-term lexical development, making it a crucial component of vocabulary pedagogy in EFL classrooms.

Activation Strategies

As indicated in Table 1 and Table 2, activation strategies produced a moderate mean score ($M = 3.46$, $SD = 0.66$). Students reported occasionally using newly learned words in speaking and writing activities. The highest mean values were observed in items such as “I try to use new words in imaginary situations in my mind” ($M = 3.71$) and “I try to use new words in real situations” ($M = 3.66$), suggesting moderate engagement in retrieval and production. These results imply that while students understand the value of using new words, they still face challenges in applying them consistently in communicative contexts.

This finding resonates with Oxford (2016), who argued that strategies must be “situated in communication and active use to have a lasting impact” (p. 103). Without authentic opportunities for application, learned vocabulary tends to remain passive. Similarly, Alzahrani & Alquarashi (2023)

found that students often underuse activation strategies unless classroom tasks explicitly require output, such as discussions or project-based assignments. In the current study, students may be limited by classroom structures that focus more on input (memorization and comprehension) than on output (speaking and writing).

From a psycholinguistic perspective, activation strategies play a vital role in moving vocabulary from receptive to productive knowledge. According to Baddeley (2012) working memory model, retrieval strengthens neural connections, making subsequent recall faster and more automatic. Therefore, when students practice using words in context, they consolidate both semantic and phonological memory traces. The moderate use of activation strategies in this study suggests that learners are still in the process of transferring vocabulary from short-term to long-term storage through retrieval.

Another explanation for this moderate level may involve affective factors such as anxiety and confidence. Many junior learners feel hesitant to use new vocabulary for fear of making mistakes, particularly in oral communication. MacIntyre & Gardner (1994) have shown that language anxiety can reduce the likelihood of activating new vocabulary, even when learners understand it well. Teachers can mitigate this by creating a low-anxiety environment that encourages risk-taking and self-expression.

The results also imply pedagogical implications. Teachers should design tasks that naturally elicit vocabulary use, such as role-plays, storytelling, and vocabulary games. Integrating vocabulary activation with communicative learning aligns principle that language knowledge develops through both receptive and productive use (Nation, 2013). Encouraging students to write short dialogues, use new words in journaling, or collaborate in group discussions can strengthen their retrieval pathways and improve fluency.

Overall, the findings indicate that activation strategies serve as the bridge between comprehension and communication. While encoding ensures understanding, activation ensures application. Strengthening this link is essential for helping EFL learners achieve functional vocabulary use. Thus, instructional approaches at SMP Islam Al-Akhyar and similar school contexts should include structured communicative tasks that make vocabulary activation a consistent and meaningful part of the learning process.

Significant Differences among Memory Strategies

The inferential analyses presented in Table 3 and Table 4 confirmed statistically significant differences in students' use of memory strategies, $F(2, 60) = 7.77$, $p = 0.001$. The Tukey HSD post hoc test revealed that Encoding was used significantly more frequently than both Rehearsal ($p = 0.001$) and Activation ($p = 0.033$). In contrast, the difference between Encoding and Activation was not significant ($p = 0.406$).

These findings validate the descriptive results and confirm that encoding strategies dominate students' memory practices. Learners naturally gravitate toward methods involving meaning-making, visualization, and morphological analysis rather than mechanical repetition. This trend reflects the cognitive maturity of the participants and aligns with Craik & Lockhart (1972) model, which posits that deeper levels of processing result in stronger memory retention.

Moreover, the results suggest that the learning environment at SMP Islam Al-Akhyar supports the development of cognitive engagement. The daily Password Class, although rooted in repetition, encourages active recall and recognition, both essential precursors to encoding. The combination of structured memorization and retrieval tasks provides students with repeated exposure and opportunities to form semantic connections, which strengthens vocabulary acquisition.

The non-significant difference between Activation and Rehearsal also provides an essential pedagogical insight. It indicates that while students occasionally apply new words in speaking and writing, these activities are still inconsistent. Rehearsal and activation may occur in isolation rather than as parts of a continuous process from memorization to use. This highlights the need for more task-based and communicative learning activities that connect the two. By designing lessons where words learned through encoding are actively used in context, teachers can help students move from recognition to production more effectively.

These results are consistent with previous studies conducted (Teng, 2015) and Aljurbua (2021) who also found that encoding and activation were more effective than simple repetition for long-term vocabulary retention. Furthermore, they suggest that successful vocabulary learning depends on the integration of different strategy types rather than reliance on one alone. In other words, while encoding contributes to comprehension, activation ensures communicative use, and rehearsal maintains basic familiarity. The interplay of these three components is crucial for developing well-rounded vocabulary knowledge.

From a broader perspective, the findings also contribute to the field of language learning strategy research. They demonstrate that even at the junior high school level, learners are capable of employing higher-order cognitive strategies typically associated with more advanced students. This supports Oxford (2016) argument that young learners can be strategic if their environment fosters awareness and practice. It also suggests that explicit instruction in memory strategies may not be necessary; instead, providing structured and meaningful learning experiences can lead to natural strategy development.

Therefore, the significant differences among strategy types underscore the importance of encoding as the most effective memory strategy, while highlighting the complementary roles of rehearsal and activation. To optimize vocabulary instruction, teachers should integrate these strategies systematically, beginning with repetition for familiarity, followed by encoding for deeper understanding, and culminating in activation for communicative use. Such an integrated approach can transform vocabulary learning from a mechanical task into an active cognitive and communicative process, ultimately enhancing language retention and fluency among EFL learners.

In conclusion, the statistical analysis revealed significant differences among the three types of memory strategies used by the students. Encoding and Activation strategies were found to be significantly more effective than Rehearsal, indicating that learners benefit more from cognitive elaboration, association, and active retrieval than from simple mechanical repetition. These findings confirm that deeper mental engagement, such as analyzing word parts, forming mental images, and using new vocabulary in communication, enhances both comprehension and long-term retention. In contrast, rote repetition tends to support only short-term recall and is less effective without meaningful context. The results also suggest that the learning environment at SMP Islam Al-Akhyar fosters encoding through structured memorization tasks, but more communicative opportunities are needed to strengthen activation. Pedagogically, this implies that vocabulary instruction should integrate multiple layers of learning: repetition for initial exposure, encoding for deeper understanding, and activation for practical application. By combining these elements, teachers can help students transform passive knowledge into active language use. Overall, the study underscores that effective vocabulary learning in EFL classrooms requires not only remembering words but also connecting, understanding, and using them meaningfully.

4) CONCLUSIONS

This section summarizes your research. You also may give suggestions and implications. This study concludes that junior high school students at SMP Islam Al-Akhyar employ memory strategies in learning English vocabulary at a moderate level, with encoding strategies being the most frequently used and most effective. The results of the difference test (ANOVA) revealed a significant difference among the three types of memory strategies, named rehearsal, encoding, and activation, indicating that students rely more heavily on the encoding strategy than on the other two. However, there was no significant difference between the use of rehearsal and activation strategies.

These findings reveal that students show selective preferences for specific strategies, emphasizing encoding as a cognitively deeper approach that supports long-term retention. The school's "Password Class" activity provides a valuable platform for memorization. Still, it would be more effective if integrated with tasks that promote activation, enabling learners to apply vocabulary in meaningful communication.

The study suggests that the school's "Password Class" routine provides a valuable scaffold for strategic vocabulary learning but would benefit from integration with activities that strengthen activation, such as communicative speaking and writing tasks. Teachers are encouraged to design learning experiences that combine encoding (deep cognitive processing) with activation (practical application) to ensure both retention and active use of vocabulary.

Future research should extend this study by involving larger and more diverse samples and by using a mixed-methods approach, including interviews and classroom observations, to gain deeper insights into how memory strategies function in authentic learning contexts.

Acknowledgment

The authors sincerely appreciate SMP Islam Al-Akhyar's support and participation. Special thanks to the English teacher and the Grade VII students who actively contributed to this study. This research was conducted partially to fulfill the academic requirements at IAIN Pare-pare.

REFERENCES

Aljurbua, M. F. (2021). Memory Strategies for Vocabulary Learning Employed by Saudi Undergraduate EFL Learners. *Arab World English Journal*, 1, 1–100.

Paper presented at The 2nd ICONETT, 2025
Faculty of Teacher Training and Education
Universitas Islam Negeri Alauddin Makassar
South Sulawesi-Indonesia

- <https://doi.org/https://dx.doi.org/10.24093/awej/th.276>
- Alzahrani, K., & Alquarashi, N. (2023). Vocabulary Learning Strategies Used by Saudi Female EFL Learners. *International Journal of Linguistics*, 4(1), 111–123. <https://doi.org/https://doi.org/10.36892/ijlts.v4i1.296>
- Baddeley, A. (2012). Working Memory : Theories , Models , and Controversies. *Annual Review of Psychology*, 63(1), 1–29. <https://doi.org/10.1146/annurev-psych-120710-100422>
- Barcroft, J. (2009). Strategies and Performance in Intentional L2 Vocabulary Learning. *Language Awareness*, 18(1), 74–89. <https://doi.org/https://doi.org/10.1080/09658410802557535>
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of Processing: A Framework for Memory Research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671–684. [https://doi.org/https://doi.org/10.1016/S0022-5371\(72\)80001-X](https://doi.org/https://doi.org/10.1016/S0022-5371(72)80001-X)
- Ellis, N. C., & Wulff, S. (2016). Cognitive Approaches to Second Language Acquisition. In *Theories in second language acquisition: An introduction* (2nd ed., pp. 71–94).
- Gu, P. Y. (2018). Validation of An Online Questionnaire of Vocabulary Learning Strategies for ESL Learners. *Studies in Second Language Learning and Teaching*, 8(2), 325–350.
- Gu, Y., & Johnson, R. K. (1996). Vocabulary Learning Strategies and Language Learning Outcomes. *Language Learning*, 46(4). <https://doi.org/https://doi.org/10.1111/j.1467-1770.1996.tb01355.x>
- MacIntyre, P. D., & Gardner, R. C. (1994). The Subtle Effects of Language Anxiety on Cognitive Processing in the Second Language. *Language Learning*, 44(2), 283–305. <https://doi.org/https://doi.org/10.1111/j.1467-1770.1994.tb01103.x>
- Natalina, K., & Bakti, N. (2017). Vocabulary Learning Strategies Used by Junior High School Students. *Indonesian Journal of English Language Studies*, 3(2).
- Nation, I. S. . (2013). *Learning Vocabulary in Another Language* (2nd ed.). Cambridge university press. <https://doi.org/https://doi.org/10.1017/CBO9781139858656>
- Oxford, R. L. (2016). *Teaching and Researching Language Learning Strategies: Self-Regulation in Context, Second Edition* (1st (ed.)). Routledge. <https://doi.org/https://doi.org/10.4324/9781315719146>
- Schmitt, N. (1997). Vocabulary Learning Strategies. In *Vocabulary: Description, Acquisition and Pedagogy* (pp. 199–227). Cambridge University Press.
- Teng, F. (2015). Assessing the Relationship between Vocabulary Learning Strategy Use and Vocabulary Knowledge. *PASAA*, 49(1), 39–66.
- Zhang, X., & Lu, X. (2015). The Relationship Between Vocabulary Learning Strategies and Breadth and Depth of Vocabulary Knowledge. *The Modern Language Journal*, 99(4), 740–753. <https://doi.org/https://doi.org/10.1111/modl.12277>