

## EFL Learners' Memory Strategies in Vocabulary Learning: A Psycholinguistics Perspective

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### ABSTRACT

Vocabulary plays an essential role in supporting comprehension of academic texts and the development of critical thinking among EFL learners. However, many learners continue to struggle with limited vocabulary mastery. This study aimed to examine the memory strategies used by EFL learners in vocabulary acquisition from a psycholinguistic perspective. The research involved 36 sixth-semester students of the English Education Study Program at UIN Raden Mas Said Surakarta. A mixed-method design was implemented, using interviews to explore learners' memory strategies and questionnaires to identify their tendencies in vocabulary memorization. The findings indicate that learners employ varied memory strategies that influence the effectiveness of vocabulary retention. These results highlight the need for instructional practices that integrate memory-based approaches in vocabulary teaching. The study contributes to psycholinguistic research by providing empirical evidence on how memory strategies shape vocabulary learning among EFL learners.

**Keywords:** *efl, memory strategies, psycholinguistics, vocabulary.*

## INTRODUCTION

English is an international language and is particularly essential for education in the globalization era (Ilyosovna, 2020). It requires learners in second-language countries to master it through memorization strategies that leverage short- and long-term memory for vocabulary acquisition (Thi & Oanh, 2006). The effective use of memory strategies not only facilitates the retention of new vocabulary but also enables learners to retrieve and apply words

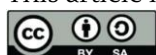
accurately in both spoken and written communication (Nur Andini Sudirman, 2013).

Sixth-semester English Education students at a state university in Central Java of Surakarta are EFL learners who have taken the English curriculum at the College Level for approximately 3 years. As expected, their level of English learning has reached the upper-intermediate level and the English vocabulary repertoire they master should be extensive. They still face significant challenges, limiting their vocabulary mastery due to difficulties in accessing and retaining many vocabulary items effectively in an academic context. In fact, at the college level, vocabulary can be used to support understanding of educational texts and critical thinking patterns in English.

Based on initial observations, they tend to use the rote memorization strategy, which is psycholinguistically inefficient because it relies on mechanical repetition without fostering semantic connections or cognitive processing that enable automatic language retrieval and long-term retention. This strategy is memorizing a list of words and their translations, which is less than optimal for long-term and spontaneous vocabulary retention in memory. This issue is often experienced by those who do not understand effective memory strategies for remembering vocabulary. This statement is reinforced by (Saito et al., 2024), who concluded in his research that strengthening memory traces and semantic processing depends on the effectiveness of the vocabulary learning strategy used.

A phenomenon frequently observed among 6th-semester English Language Education students who participate in microteaching is that their performance remains suboptimal, as microteaching requires high fluency and accuracy. On the other hand, long-term memory retrieval ability greatly influences fluency and accuracy. One of the causes of this challenge is that many students are overly reliant on digital aids, such as online dictionaries or machine translators when working on academic assignments. Dependency can hinder lexical representation strength.

Psycholinguistics emphasizes the importance of understanding individual differences among learners, such as their cognitive styles, memory capacities, and prior linguistic knowledge, to explain vocabulary retention difficulties (Ithriyah, 2024). As the scientific study of mental processes and cognitive mechanisms involved in language acquisition, comprehension, production, and retention, it draws from psychology, linguistics, neuroscience, and cognitive science to elucidate how language is represented and processed in the human brain (Sidauruk, 2025). For instance, psycholinguistics reveals that learners with limited memory capacities may struggle to retain new vocabulary due to



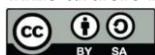
inefficient encoding and retrieval processes, while those with strong prior linguistic knowledge can leverage cognitive styles to enhance long-term retention. This field examines how individuals perceive sounds, recognize words, understand grammar, construct meaning, and produce speech, highlighting how these processes develop over time and vary among individuals, thereby offering insights into overcoming vocabulary retention challenges.

Within psycholinguistics, memory plays a central role. Language learning depends on working memory for temporary storage and manipulation of linguistic information, and on long-term memory for the retention of vocabulary, grammar, and pragmatic knowledge (Flores-salgado & Fal, 2024). Memory is not simply a static store; it is an active and dynamic system that interacts with incoming information, making connections to prior knowledge and facilitating retrieval when needed.

Memory strategies in vocabulary learning are specific techniques used to improve the encoding, storage, and retrieval of new words. They include the keyword method, semantic mapping, imagery, association with personal experiences, and spaced repetition. From a psycholinguistic perspective, these strategies enhance deep processing, which strengthens the links between phonological, semantic, and contextual aspects of vocabulary (Qu & Rahman, 2025).

For instance, the keyword method leverages associative networks in semantic memory by pairing new vocabulary with familiar words or images, which facilitates recall. Spaced repetition takes advantage of the spacing effect, a well-documented phenomenon in cognitive psychology where information is more effectively retained when reviewed at increasing intervals (Saksittanupab, 2024).

In summary, psycholinguistics provides the theoretical foundation for understanding how memory operates in vocabulary learning. By applying memory strategies grounded in psycholinguistic principles, learners can significantly enhance their vocabulary acquisition, retention, and retrieval. The acquisition of vocabulary is a fundamental component in achieving communicative competence and text comprehension among English as a Foreign Language (EFL) learners. In order to facilitate lexical development, learners adopt a range of vocabulary learning strategies (VLS), which are generally classified into four major categories: metacognitive, cognitive, memory, and activation strategies (Schmitt, 1977). Each type of vocabulary learning strategy involves different mental processes that help learners understand, organize, and use new words more effectively. Among these,



memory strategies hold relevance within a psycholinguistic framework, as they emphasize mechanisms of long-term storage and retrieval, which are crucial for effective vocabulary retention.

Metacognitive strategies involve learners' regulation of their own learning, such as planning, self-monitoring, and evaluating progress (Lv & Chen, 2010). Cognitive strategies include direct manipulation of learning input, for example, by taking notes or guessing word meanings from context (Broek et al., 2022). Memory strategies emphasize forming connections between new and known information through imagery, categorization, and mnemonic devices helping transfer lexical items into long-term memory (Sallata, 2022). Meanwhile, activation strategies require learners to apply vocabulary in communicative contexts, which reinforces retention and fluency (Broek et al., 2022). These theoretical perspectives provide a foundation to investigate how EFL learners utilize memory strategies, especially in relation to internal cognitive mechanisms involved in vocabulary acquisition.

Previous studies by Wardhani & Susanto (2023) and Rahayu & Sholikhah (2024) examined specific memory techniques but rarely linked them to underlying cognitive processes. Based on the previous studies, the researchers determined gap for this study. This study examined the memory strategies employed by EFL learners in vocabulary learning through a comprehensive psycholinguistic perspective. This study considers the impact of students' social and cultural contexts on their use of memory strategies, resulting in a broader understanding of vocabulary learning practices that cater to learners' needs. The analysis also includes students' preferences and the effects of memory strategies on vocabulary enhancement, contributing significantly to the development of more adaptive and effective teaching methods in the context of English language learning.

Despite numerous studies conducted on memory strategies in language learning, there remains a gap in understanding how psychological factors and social contexts influence the selection and effectiveness of these strategies. This study aims to provide new insights that can enhance teaching and learning practices in English among EFL learners. This present study is therefore to answer this following research question "What are memory strategies used by EFL Learners' in Vocabulary Learning?"

## METHOD

Qualitative research was used in this research to examine the memory strategies employed by EFL learners in vocabulary acquisition through a

comprehensive psycholinguistic perspective. The qualitative approach was selected as the most appropriate for psycholinguistic investigation because it enables an in-depth exploration of cognitive and psychological processes, such as memory storage, retrieval, and attention mechanisms, which are difficult to quantify numerically. Unlike quantitative research, which quantifies and tests hypotheses using numeric data, qualitative research provides a deeper and more specific description of phenomena from non-numeric data (Amisha Mallah, 2024), thereby capturing the complex psycholinguistic nuances in vocabulary learning. Thirty sixth-semester English Education students were purposively selected in this research.

Questionnaire was used as a data collection. A questionnaire using a Likert scaled was employed to measure the frequency of students' use of memory strategies in vocabulary learning. The analysis consists of stages such as data reduction, data display, and drawing conclusion. In the data reduction stage, the psycholinguistic framework was used to guide the coding process. Responses were categorized based on memory strategies. The researchers used member checks to maintain data credibility, in which participants were provided with summarized versions of the interview findings to confirm the accuracy of the researchers' interpretations. This research focuses on examines the memory strategies employed by EFL learners in vocabulary learning through a comprehensive psycholinguistic perspective.

This study aimed to provide insight into effective memory strategies for vocabulary learning. The scope of this research was limited to sixth-semester students of the English Education Study Program at UIN Raden Mas Said Surakarta. The researchers followed ethical guidelines, ensuring informed consent and confidentiality.

## FINDINGS AND DISCUSSION

In order to achieve the aim of this study, the respondents' answers were presented. Based on the interview, the researchers identified several memory strategies used by English learners. There are four techniques by Schmitt (1977) implemented in this research, such as Metacognitive, Cognitive, Memory, and Activation Strategies. It can be seen by the answer of respondents.

Kind of memory strategies	The respondents' answer
Metacognitive	<ul style="list-style-type: none"> <li>• <i>"Saya berbicara dengan bahasa Inggris seperti sedang melakukan vlog, sehingga saya akan"</i></li> </ul>

	<p><i>berusaha memikirkan vocabulary yang belum saya ketahui, apabila saya tidak tahu, saya akan membuka kamus dan mengulangi kalimat yang salah dengan vocabulary yang tepat,” R4</i></p> <ul style="list-style-type: none"> <li>• <i>“Strategi saya menghafal vocabulary yaitu dengan membacanya terlebih dahulu, lalu mempelajari, dan dilanjut dengan mempraktikannya” R5</i></li> </ul>
Cognitive	<ul style="list-style-type: none"> <li>• <i>“Pada saat akan menghafal saya biasanya menuliskannya terlebih dahulu lalu dibaca berulang kali agar lebih mudah mengingatnya” R1</i></li> <li>• <i>“Biasanya saya mendapat kosakata baru dari film yang saya tonton kemudian saya mencobanya membuat kalimat...” R2</i></li> </ul>
Memory	<ul style="list-style-type: none"> <li>• <i>“Membuat singkatan misalnya warna pelangi ‘MeJiKuHiBiNiU’ (Merah, Jingga, Kuning, Hijau, Biru, Nila, Ungu).” R6</i></li> <li>• <i>“Beberapa strategi untuk menghafal vocabulary. Aku membuat kartu kosakata, menggunakan mnemonic...” R9</i></li> </ul>
Activation	<ul style="list-style-type: none"> <li>• <i>“Perbanyak membaca dan mengingat apa saja vocabulary (kosakata) yang saya pelajari dan berbicara sendiri seakan saya menjadi guru (menjelaskan dengan bahasa indonesia dan inggris apa saja yang saya ketahui dari kosakata tersebut, dengan gaya bahasa saya sendiri)” R7</i></li> <li>• <i>“Strategi yang saya gunakan ketika menghafal adalah menggunakan kata tersebut dalam kehidupan sehari-hari” R8</i></li> </ul>

Based on the the answers of R4 and R5, it can be concluded that their strategy when memorizing vocabulary is a metacognitive strategy, which includes planning, self-monitoring, and evaluating progress.

Based on the answers of R1 and R2, it can be concluded that their strategy for memorizing vocabulary mainly falls under Cognitive Strategies, such as repetition, making sentences, and creating English captions. Repetition in particular supports vocabulary recall because it allows spaced rehearsal and



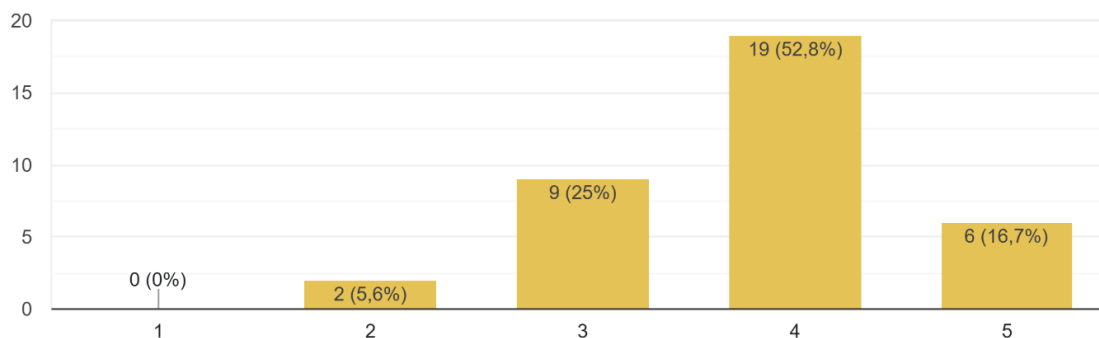
reinforces both phonological and semantic encoding, which helps transfer new words into long-term memory rather than remaining in short-term retention.

Based on the the answers of R6 and R9, it can be concluded that the acronym mentioned above refers to the use of one aspect of the memory strategy, namely mnemonics, where the acronym is one application of this aspect. This supports Schmitt's theory that memory strategies can be an effective alternative approach in the process of learning English vocabulary. From a psycholinguistic perspective, this finding indicates learners' reliance on associative networks and chunking processes, which facilitate the grouping of information into meaningful units.

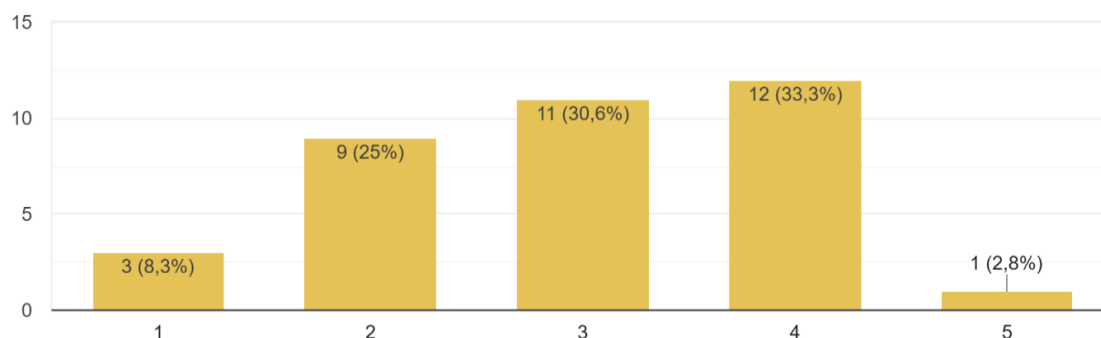
Based on the the answers of R7 and R8, it can be concluded that the respondents applied one aspect of the activation strategy in the context of communication. That is, the respondent memorized vocabulary by role-playing as if they were a teacher explaining in front of a class or memorizing it themselves. This supports Schmitt's theory that the activation strategy can be another option in the process of learning English vocabulary.

On the other hand, the researchers describe the findings of likert scale. A detailed evaluation of the frequency of use of memory strategies, based on the questionnaire and survey responses, is presented below.

### Metacognitive Strategy



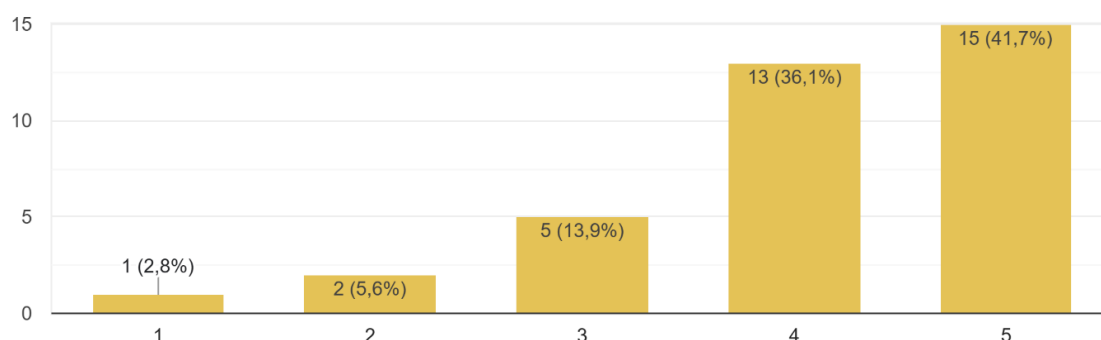
**Figure 1.** Memory Strategies Use “I make a plan or target before I start learning new knowledge.”



**Figure 2.** Memory Strategies Use “I check whether my vocabulary learning is effective.”

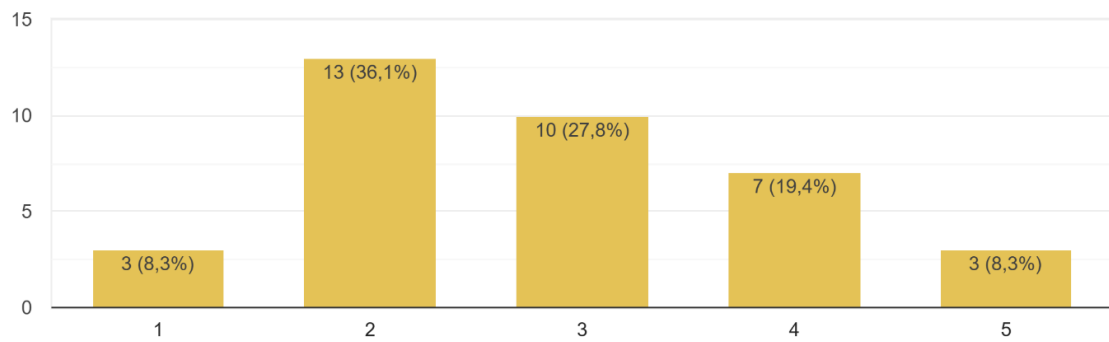
Based on figure 1 and 2, respondents demonstrated frequent use of metacognitive strategies in vocabulary learning. Most of them reported that they often make plans or set specific targets before starting to learn new words, such as deciding how many vocabularies to study or allocating study time. In addition, they also monitor the effectiveness of their learning method by checking whether it helps them remember the words. This indicates that the learners are not passive recipients but actively regulate their learning through planning and self-evaluation, which reflects a conscious effort to optimize their vocabulary acquisition process.

### Cognitive Strategy



**Figure 3.** Memory Strategies Use “I like to write down new vocabulary so it is easier to learn”

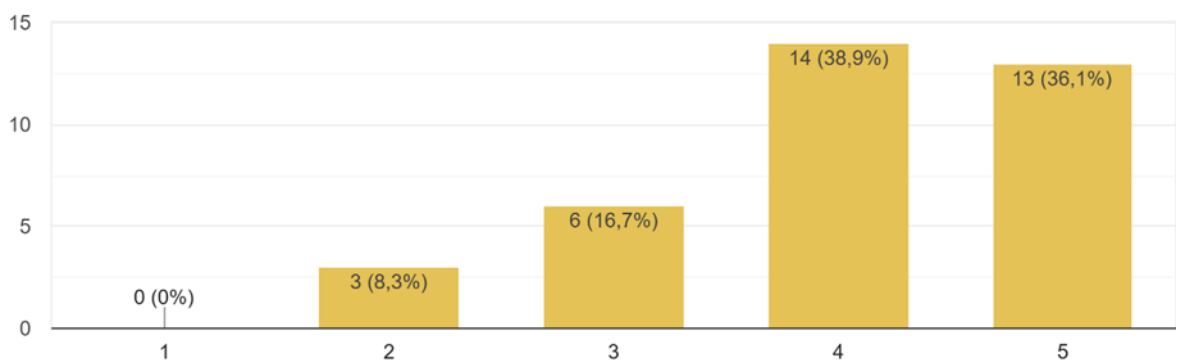




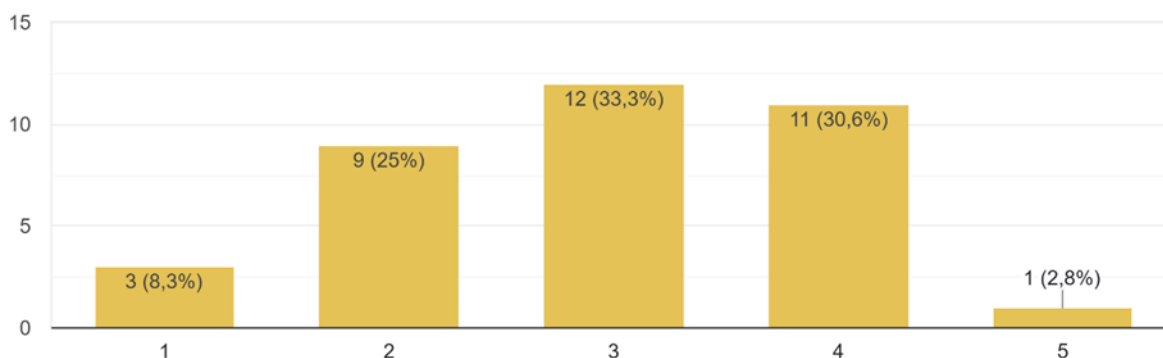
**Figure 4.** *Memory Strategies Use "I am not used to guessing the meaning from sentence or situational context"*

Based on figure 3 and 4, respondents show the tendency to use cognitive strategies. In Figure 3, most respondents always rewrote new vocabulary, indicating a preference for mechanical practice strategies. Meanwhile, Figure 4 is a negative statement; the dominance of “rarely” answers indicates that respondents are actually accustomed to guessing the meaning of vocabulary through context. These findings show that respondents do not only rely on repetition, but also utilize contextual meaning in learning vocabulary.

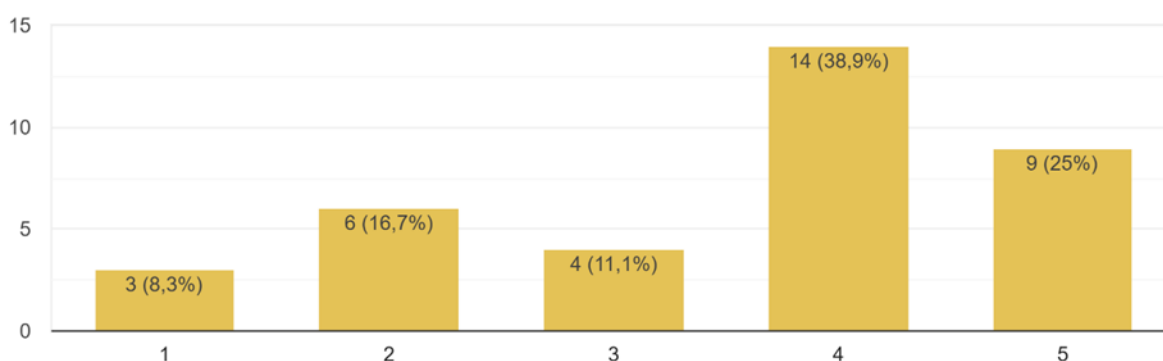
### Memory Strategy



**Figure 5.** *Memory strategies use "I connect new vocabulary with words or information that I already know"*



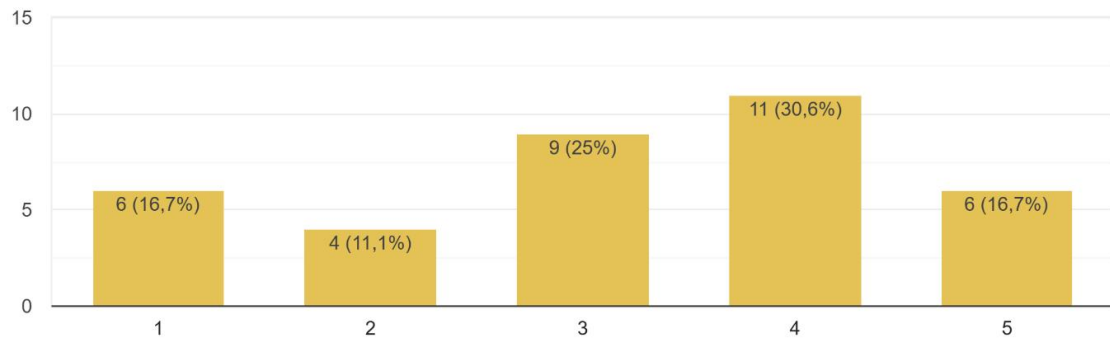
**Figure 6.** Memory strategies use “I memorize vocabulary just from lists without any special techniques”



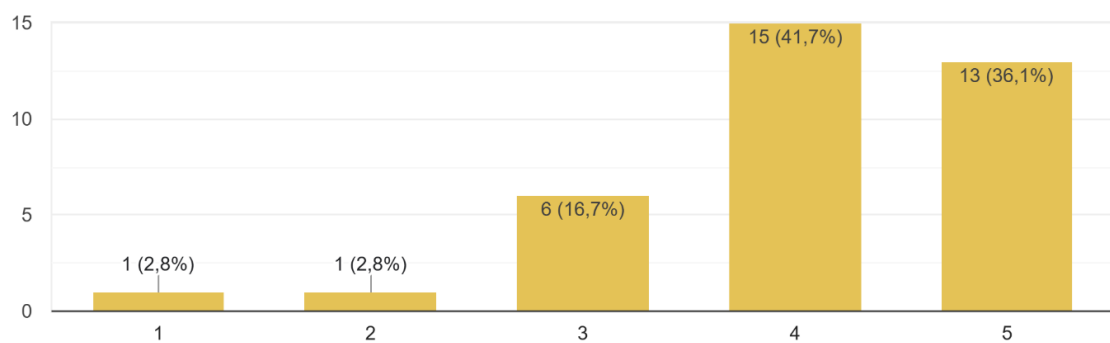
**Figure7.** Memory Strategies Use “I use pictures, colors, or situational imagery to help remember new vocabulary”

Based on figures 5, 6, and 7 suggest that respondents tend to engage in meaningful cognitive processing when learning vocabulary. In Figure 5, the majority often or always connect new vocabulary with information they already know, indicating the use of elaboration strategies. Figure 6 shows that most respondents sometimes or often still memorize vocabulary from lists, suggesting that rote memorization is present but not dominant. Meanwhile, Figure 7 reveals that many respondents often use pictures or situational imagery to support vocabulary retention. Overall, these patterns indicate that learners are more inclined toward associative and visual strategies rather than purely mechanical repetition, which is generally more effective for deeper understanding and long-term memory.

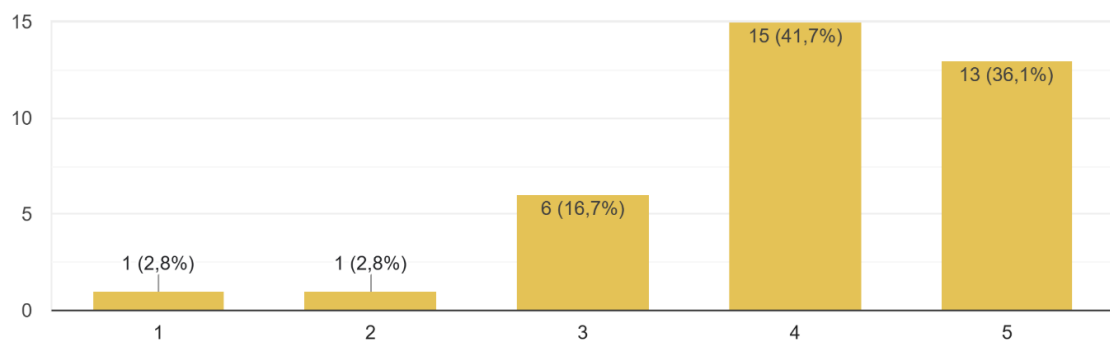
### Activation Strategy



**Figure 8.** Memory Strategies Use “I am afraid of making mistakes, so I rarely use new vocabulary when speaking”



**Figure 9.** Memory Strategies Use “I try to use new vocabulary in conversation or writing”



**Figure 10.** Memory Strategies Use “I feel that using vocabulary in real situations can help me remember it better.”

Based on figures 8, 9, and 10 reveal how learners attempt to actively apply new vocabulary in real communication. Figure 8 shows that many respondents (often) feel afraid of making mistakes, which leads to hesitation in using new vocabulary when speaking. However, Figure 9 presents a more proactive tendency, as the majority (often) still try to use new vocabulary in conversation or writing. This inclination is further supported by Figure 10, where most

respondents (often and always) agree that using vocabulary in real situations helps them remember it more effectively. These findings suggest that although learners experience anxiety, they are aware of the benefits of vocabulary activation and are willing to apply new words in authentic contexts.

The findings indicate that metacognitive strategies were the most dominantly used by the learners in their vocabulary learning process. Most respondents reported that they habitually set learning targets and monitor the effectiveness of their methods while studying. This reflects a strong tendency toward self-regulation, which aligns with the concept of metacognitive strategy as the process of planning, monitoring, and evaluating one's own learning (Lv & Chen, 2010). Learners who consciously regulate their learning are generally more motivated and strategic, as they actively adjust their approach to optimize outcomes (Panadero, 2017).

In addition, cognitive strategies were also widely employed, particularly those involving repetition and direct manipulation of vocabulary. Many learners mentioned rewriting and rereading new words multiple times or directly applying them into sentences. This confirms the role of cognitive strategies as mechanical processes such as repetition, note-taking, and verbal rehearsal to reinforce retention (Icle & Fo, 2020). The frequent use of these strategies suggests that students actively strengthen vocabulary through consistent exposure and practice rather than passive recognition.

Furthermore, memory strategies were also commonly used, particularly through association, visualization, and mnemonic techniques. Several learners tended to connect new vocabulary with prior knowledge or visualize situational contexts to enhance memorization. This aligns with the concept of elaboration, where new information is linked to meaningful mental representations to support long-term retention (Al-faris & Jasim, 2021). The tendency to rely on imagery-based and mnemonic encoding is consistent with the view that visualization and associative learning facilitate deeper vocabulary retention (Ellis, 1995).

Finally, activation strategies were applied by many learners, although not as dominantly as the previous categories, yet still significantly impactful. A considerable number of students expressed effort to actively use new vocabulary in speaking or writing and agreed that applying vocabulary in real-life situations helps them remember it better. This supports the view that activation strategies reinforce retention by requiring learners to retrieve and apply vocabulary in communicative contexts (Ellis, 1995). The use of such strategies reflects an awareness that vocabulary mastery is not only about

memorization but also about practical usage for communicative competence (Nw & Haromain, 2018).

Overall, the findings show that learners do not rely on a single strategy but rather combine metacognitive regulation, cognitive repetition, meaningful memory encoding, and communicative activation forming an integrated strategic pattern that supports both retention and real-world application of vocabulary.

## CONCLUSION

The study found that learners used a combination of metacognitive, cognitive, memory, and activation strategies in vocabulary learning, with metacognitive strategy such as planning, self-monitoring, and evaluating progress being the most common. Cognitive strategies like repetition, note-taking, and active vocabulary use in real contexts are also widely practiced, supporting long term retention. Memory strategies, including the use of acronyms, visual aids, and associative techniques, enhance recall by linking new vocabulary to prior knowledge or imagery. Activation strategies, which encourage applying vocabulary in communicative contexts, further strengthen memorization and fluency. Teachers can help students combine planning, repetition, and application tasks to strengthen vocabulary retention particularly those involving active engagement and self-regulation into their vocabulary learning process, as these approaches promote deeper retention and more effective language use. Future research might explore how digital or gamified tools can enhance memory strategies through spaced-repetition principles.

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