

# Vocabulary Learning Strategies and Vocabulary Mastery by Indonesian EFL Learners

Alfan Zuhairi<sup>1</sup> & Junaidi Mistar<sup>1</sup>

<sup>1</sup> English Education Department, Faculty of Teacher Training and Education, Universitas Islam Malang, Indonesia

Correspondence: Alfan Zuhairi, English Education Department, Faculty of Teacher Training and Education, Universitas Islam Malang, Jl. Mayjen Haryono 193 Malang, 65141, Indonesia.

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## Abstract

This research aimed at unpacking the types of vocabulary learning strategies (VLS), the intensity of use, and their relationship with vocabulary mastery of Indonesian EFL learners. As many as 180 English education department students from three universities in East Java, Indonesia, participated in the study. They were assigned to fill in a 50-item vocabulary learning strategy inventory and a 50-item vocabulary mastery test. The data were analyzed using Principle Component Analysis (PCA) to discern the categories of vocabulary learning strategies. In addition, descriptive and correlational analyses were also employed. The study revealed six categories of vocabulary learning strategies, including cognitive, metacognitive, determination, memory, encoding, and activation strategies, showcasing 63.5% of vocabulary learning strategy variances. In general, the students applied vocabulary learning strategies at a moderate level, with metacognitive and encoding strategies being used the most and cognitive strategies being used the least. The study also unpacked that the six categories of strategies were significant predictors of vocabulary mastery ( $F=4.391$ ,  $p<.000$ ), with metacognitive strategies being the best predictor. These findings suggest that overt training on how to make use of vocabulary learning strategies is required for Indonesian EFL learners.

**Keywords:** foreign language learning, learning strategies, vocabulary learning strategies, strategies training, vocabulary mastery

## 1. Introduction

Research on learning strategies developed extensively in the 1990s when sophisticated classifications of language learning strategies were obtained (O'Malley & Chamot, 1990; Oxford, 1990). Since then, many research projects in the field have been set out, leading Skehan (1991, p.285) to claim that the period was characterized by "a near-explosion of activity." Further development of the study tried to identify the strategies of learning specific language skills of reading, listening, speaking, and writing and the strategies of learning language components of grammar and vocabulary.

Regarding vocabulary learning strategies, the studies may be classified into two categories. The first category of studies attempted to classify the types of vocabulary learning strategies and measure the extent of use of these strategies. Furthermore, the second category assessed the relationship between vocabulary learning strategies and vocabulary mastery. Among the first category of studies, Gu and Johnson (1996), for example, classified strategies of L2 vocabulary learning into four categories, including metacognitive, cognitive, memory, and activation strategies. Metacognitive strategies contain two subcategories, including selective attention and self-initiation. Cognitive strategies contain three subcategories: guessing, dictionary use, and note-taking. Moreover, memory strategies contain two subcategories, including rehearsal and encoding. Lastly, activation strategies cover only one category, i.e., constantly implementing the newly learned vocabulary items.

Another taxonomy classifies vocabulary learning strategies into two broad categories: discovery and consolidation (Schmitt, 1997). Discovery strategies are those that the learners employ to find out the meanings of new words they encounter for the first time, and these contain determination and social strategies. Determination strategies are employed when the learner utilizes available contextual clues to learn the newly found word's meaning, and social strategies are employed when the learners ask someone for help to get to know the meaning. Moreover, they employ consolidation strategies to internalize the meanings, including memory, cognitive, metacognitive, and social strategies. Memory strategies take the form of relating new words with the ones already learned using such things as imagery or grouping. Cognitive strategies include repetition and mental processes utilizing word lists or flash cards. Moreover, self-dictating is a part of metacognitive strategies. Finally, social strategies for consolidation take the form of establishing cooperative learning groups, in which the learner studies and practices newly learned words with peers.

Still, another attempt to categorize vocabulary learning strategies was carried out by Hashemi and Hadavi (2015), identifying eight categories of strategies among medical science students in Iran. In the order of frequency of strategy use, these eight categories include study preference, social strategies, guessing, dictionary use, memory, selective attention, note-taking, and autonomy.

In terms of the intensity of the use of learning strategies, numerous studies reported a medium level of use (Arjomand & Shariffar, 2011; Puangsang & Intharaksa, 2017; Subon, 2013). Yet, other studies report a low level of use. Yacoob et al. (2019), for example, studied the use of vocabulary learning strategies by Saudi Arabian learners of English in Malaysia and reported that the learners used low-level strategies, with *creating* being used the most frequently ( $M=2.24$ ) and *reviewing* being used the least frequently ( $M=1.42$ ). Earlier, Hashemi and Hadavi (2015) also reported a low-level use of vocabulary learning strategies by Iranian medical students. Recently, Benedict and Shabdin (2021) reported that many high achievers of Malaysian learners of English favor English language media as their strategies, such as songs, movies, and newscasts ( $M=2.86$ ), while low achievers used a strategy of *asking classmates for meaning* ( $M=2.74$ ) the most.

On the contrary, the high achievers disfavor *asking teachers to check the student word lists* ( $M=1.11$ ), and the low achievers dislike *using the semantic feature grids* ( $M=1.06$ ). Meanwhile, Ali et al. (2022) found that students at a technical university in Malaysia used vocabulary learning strategies at a moderately low level of intensity. These studies indicate that more research is still required to broaden our repertoire of the pattern of strategy used by different groups of learners.

The second category includes studies on the relationship between vocabulary learning strategies and vocabulary mastery. These studies may further be classified into two subcategories: those employing correlational and experimental designs. One study within the first subcategory is carried out by Gu (2010) correlating vocabulary learning strategies and passive and active vocabulary mastery. Out of nineteen individual strategies, eleven of them, including *self-initiation*, *immediate context-based guessing*, *extended dictionary use*, *look-up strategies*, *word meaning note taking*, *word use note taking*, *visual repetition*, *visual encoding*, *word structure encoding*, and *semantic encoding*, were found to correlate significantly with passive vocabulary. Moreover, it was also found that the active use of off-list words correlated significantly with such vocabulary learning strategies as *selective attention*, *using word lists*, *visual encoding*, *auditory encoding*, *semantic encoding*, *contextual encoding*, and *activation*.

In contrast, Alahmad (2020) reported that fourteen of sixteen items of vocabulary learning strategies correlated negatively with vocabulary size, suggesting that the more the learners used these strategies, the less their vocabulary mastery would be. Similarly, Susanto, Halim, and Nuwrun (2019) reported that students' vocabulary learning strategies contributed to the level of vocabulary skills by only 3%, with the correlation coefficient being insignificant. Thus, more studies should be called to seek more evidence on vocabulary learning strategies' role in predicting successful learning.

Among studies using experimental designs is one by Rasekh and Ranjbary (2003). They studied two groups of Iranian EFL learners at the Tehran Institute of Technology, in which one group received training on the metacognitive application for learning vocabulary while the other did not. After ten weeks of training, they were compared in terms of their lexical knowledge. The results indicated that the experimental group ( $M=29.29$ ,  $SD=3.84$ ) outperformed the control group ( $M=25.30$ ,  $SD=4.32$ ) significantly with a  $t$ -value of 3.55 ( $p<.05$ ). Another study in this subcategory was carried out by Mizumoto and Takeuchi (2009) among EFL students at two Japanese universities. The study found that explicit instruction of vocabulary learning strategies significantly improved the students' frequency of use and vocabulary achievement as measured by a vocabulary test.

Moreover, Al-Darayseh (20014) found that the explicit training of vocabulary learning strategies effectively improved vocabulary learning and reading comprehension. Al-Ghazo and Ta'amneh (2022) came up with a similar finding. They found that students who were trained to use a contextual guessing strategy in learning vocabulary scored better in a vocabulary achievement test than their counterparts who were taught traditionally.

Even though there have been attempts to discover the types of vocabulary learning strategies, one thing to note is that they have yet to use a posteriori classification of learning strategies. It implies that more studies using a posteriori classification are required. Moreover, the studies on the relationship between vocabulary learning strategies and achievement still need to be conclusive. Therefore, the present study is carried out to fill in these gaps.

## 2. Research Questions

The study intends to unravel the following questions:

1. What strategies do Indonesian EFL learners employ in their vocabulary learning?
2. What is the intensity of the use of the reported vocabulary learning strategies?
3. Are vocabulary learning strategies significant predictors of vocabulary mastery? If yes, which strategy type is the best predictor?

## 3. Methodology

### 3.1 Design and Subjects

The present study employed both exploratory descriptive and correlational designs. The exploratory, descriptive design was used to identify the types of vocabulary learning strategies and their use pattern. Furthermore, the correlational design was prompted to investigate the predictability of the student's vocabulary mastery from their vocabulary learning strategies. In this study, students of English education study programs from three universities in East Java, Indonesia, participated as the subjects of the study. An equal number ( $n=20$ ) were selected from students of Years 1, 2, and 3 from each university, totaling 180 students, consisting of 122 females and 58 males. The participants were between 20 and 23 years old and had been learning English at the university level for one, two, or three years.

3.2 Research Instrument

The required data was collected using two research instruments: a questionnaire and a test. General learning and vocabulary learning strategies questionnaires were plotted to assess the participants' vocabulary learning strategies (see Oxford, 1990; Gu & Johnson, 1996; Schmitt, 1997). The items are initially grouped based on cognitive, metacognitive, and socio-affective learning strategies. O'Malley and Chamot (1990) describe cognitive strategies as the pupils' learning process (*taking notes, analyzing details, and summarizing*), metacognitive as the pupils' learning management (*setting up learning targets, planning learning activities, and reflecting on learning progress*), and socio-affective strategies as affective state management in applying the vocabularies in the daily conversation.

Before being used for the research project, the questionnaire that originally consisted of seventy strategy items was piloted to 39 students of the English education department at Universitas Islam Malang. When the items were construct-validated, it was found that fifty items contributed very significantly to the measurement of variances of vocabulary learning strategies, so these fifty items were then used in the research project. Each item of the questionnaires had five statements reflecting the extent to which it was true for them (never or almost never true of me, usually not true of me, sometimes true of me, usually true of me, always or almost always true of me). These options were converted into scores on a scale of 1-5. The reliability estimate in the form of an index of internal consistency (Cronbach's Alpha) of overall strategies was found to be .968, suggesting that the data was highly reliable.

In addition, a decent vocabulary test was plotted to assess the student's mastery of English vocabulary. The test is a preliminary assessment to measure the students' readiness for self-paced Reading for Understanding developed by Parker (1958). Fifty test items in the form of short, incomplete statements were used in the study. For each item, the subjects were required to select one correct word out of four alternatives to complete the statement. The following are two samples of the test items.

1. Jane's favorite TV program is the weekly circus. She likes to watch the .... (A. books B. cars C. airplanes D. clowns)
2. It would be easier to plan the monthly expenses both for business firms and for households if all the months had the same number of .... (A. sales B. days C. workers D. holidays)

An analysis of the test's reliability was on the 0.743 index, indicating that the data was adequately reliable.

3.3 Data Analysis

The current study employed three statistical analyses: Principal Component Analysis, descriptive analysis, and regression analysis. The Principal Component Analysis (PCA) was directed with two criteria (the Bartlett's test of Sphericity and Kaiser-Meyer-Olkin value) to discern the factors of vocabulary learning strategies before collecting the factorability analysis. The Bartlett's test of Sphericity should be significant, and the Kaiser-Meyer-Olkin (KMO) value should be at least .6 (Pallant, 2005). The results were then treated as learning strategy categories. In this case, when a strategy provided high loading on more than one factor, it was placed in the factor with the highest loading. Next, descriptive analysis in the form of computation of means and standard deviations was performed to find out the pattern of use of vocabulary learning strategies. In this case, the criteria for interpreting the intensity of use is low if the mean is between 1.00-2.44, a medium between 2.45-3.44, and high between 3.45-5.00 (Oxford, 1990). Finally, a regression analysis was employed to measure the relationship between the resulting strategy categories and vocabulary mastery. All statistical analyses were carried out with the help of SPSS Program Version 22.

4. Findings

The study's findings are presented in the order of the research questions.

RQ1. What strategies do Indonesian EFL learners employ in learning vocabulary?

Before the Principle Component Analysis, the collected data was checked to see whether it was factorable. The results indicated that the Keiser-Meyer-Olkin Measure of Sampling Adequacy showed a .770 value and the approximate Chi-Square value of the Bartlett's Test of Sphericity was 3685.893 (df=1225, p<.000). These suggested that the data was factorable.

Table 1. Vocabulary learning strategies and their variance (%)

No.	Strategy Category (Factor)	Variance (%)	Cumulative Variance (%)
1.	Cognitive Strategies	13.85	13.80
2.	Metacognitive Strategies	13.29	27.14
3.	Determination Strategies	12.80	39.94
4.	Memory Strategies	8.37	48.31
5.	Encoding Strategies	7.88	56.19
6.	Activation Strategies	7.31	63.50

Next, six factors were identified from the fifty items when the Principle Component Analysis was performed. The high-loading distribution of strategy items in each factor is presented in Appendix A. The six factors were then treated as strategy categories, explaining 63.50% of vocabulary learning strategy variances, as depicted in Table 1. The first factor accounted for 13.85%, receiving high loadings from eleven individual strategies. They dealt with a cognitive mechanism to learn vocabulary items, such as *relating new words with their synonym or antonyms, writing down the grammatical categories of new lexis, like nouns, verbs, adjectives, or adverbs, organizing words based on the topic or units in the textbook, and writing new words and their definition in English*. Thus, this group of strategies is named cognitive strategy.

The second factor accounted for 13.29%, obtaining high loadings from ten individual strategy items, mostly dealing with thinking of one's learning, such as *repeating words to confirm understanding, doing self-assessment of vocabulary mastery, and using online exercises to test vocabulary mastery*. Therefore, the second factor is called metacognitive strategies.

The third factor obtained high loadings from seven strategies, explaining a 12.80% variance in vocabulary learning strategies. The items were about strategies that the learners took when dealing with new vocabulary items, such as *relating the sound of the new vocabulary with the ones already known, associating the new words with how they look, feel, smell, sound, or taste, and making up a list of new words and reading them aloud*. This group of strategies is termed determination strategies.

Factor 4, moreover, explained 8.37% of vocabulary learning strategy variances, and it obtained high loadings from eight strategies, such as *grouping words based on their suffixes, recording and listening to the words, using rhyme, finding similar words in Indonesian, and making a list of the learned vocabulary items*. These strategies deal with attempts to remember the learned vocabulary items, so this group is named memory strategies.

Next, factor 5 accounted for 7.88%, obtaining high loadings from eight strategies. The strategies included *using images of where the word is found or heard for the first time, associating words with their translation in the first language, Bahasa Indonesia, analyzing words in terms of their base and affixation, and classifying words into their types of nouns, verbs, adjectives, and adverbs*. Therefore, these strategies are named encoding strategies.

Finally, factor 6 explained 7.31% of Variance, obtaining high loading from six strategies, and all of them dealt with activities of using words such as *using learned words in new sentences, writing down words and their translation in the first language (Bahasa Indonesia), acting out words to remember, and saying words aloud*. Thus, this group is named activation strategies.

RQ2. What is the intensity of the use of the reported vocabulary learning strategies?

Table 2. Intensity of use of vocabulary learning strategies

No.	Strategy Category	Mean	S.D	Remark
1.	Cognitive Strategies	2.95	.65	Moderate
2.	Metacognitive Strategies	3.45	.51	High
3.	Determination Strategies	3.09	.58	Moderate
4.	Memory Strategies	3.00	.62	Moderate
5.	Encoding Strategies	3.45	.49	High
6.	Activation Strategies	3.19	.63	Moderate
	Overall	3.19	.46	Moderate

The results of the data analysis dealing with the intensity of the use of vocabulary learning strategies are presented in Table 2. The table contains information that the intensity of the use of overall vocabulary learning strategies was at a moderate level (M=3.19). Regarding the use of each strategy category, two types of strategies – metacognitive and encoding strategies - were used at a high level (M=3.45). The other four groups of strategies, in contrast, were used at a moderate level, and the order of use was activation strategies (M=3.19), determination strategies (M=3.09), memory strategies (M=3.00, and cognitive strategies (M=2.95). Thus, metacognitive strategies were used the most frequently, while cognitive strategies were used the least, indicating that the learners had properly managed their vocabulary learning activities. However, they seem to have problems with processing new words to be learned vocabulary items.

RQ3. Are vocabulary learning strategies significant predictors of vocabulary mastery? If yes, which strategy type is the best predictor?

Table 3. Regression of vocabulary mastery against vocabulary learning strategies

Dependent Variable: Vocabulary Mastery					
Multiple R		Analysis of Variance			
R Square		d.f	Sum of Squares	Mean Square	
.367	.135	6	1034.435	172.406	
.104	6.266	173	6635.014	39.260	
		179	7669.449		
F = 4.391			Significance F = .000		
Coefficients					
Predictor Variables	B	Std. Error B	Beta	t	Sig.
Cognitive Strategies	-.028	.093	-.033	-.295	.768
Metacognitive Strategies	.360	.121	.343	2.988	.003
Determination Strategies	-.203	.097	-.241	-2.097	.037
Memory Strategies	-.207	.151	-.156	-1.370	.173
Encoding Strategies	.390	.179	.207	2.176	.031
Activation Strategies	-.025	.173	-.015	-.145	.885
Constant	23.347	3.607			

As depicted in Table 3, the analysis of the linear relationship between the six categories of vocabulary learning strategies and vocabulary mastery resulted in a multiple correlation coefficient (R) .367, suggesting that 13.5% of variances in vocabulary mastery (R<sup>2</sup>) was attributable to the learners' learning strategies. Although this percentage was not high enough, a further analysis to find the significance of this correlation found an F value of 4.391 (p<.000), indicating that the correlation was significant. Thus, the six categories of vocabulary

learning strategies were significant predictors of vocabulary mastery. Finally, an analysis of the relative importance of each strategy category in predicting the learners' vocabulary mastery found that the order of their significance was metacognitive strategies ( $p < .003$ ), determination strategies ( $p < .031$ ), encoding strategies ( $p < .037$ ), memory strategies ( $p < .173$ ), cognitive strategies ( $p < .768$ ), and activation strategies ( $p < .885$ ).

#### 4. Discussion

The present study revealed the presence of six posterior strategy categories, including cognitive, metacognitive, determination, memory, encoding, and activation strategies, explaining 63.50% of the cumulative Variance of vocabulary learning strategies. This finding indicated that the instrument of the present study was almost two-thirds of the total Variance of strategies in learning vocabulary. In terms of the amount of Variance that each strategy category explains, these six categories may be classified into two categories, which can explain more than 10% variance each and less than 10% variance each. Within the first category were cognitive, metacognitive, and determination strategies; memory, encoding, and activation strategies were within the second category. As these categories resulted from a factor analysis, they were theoretically well grounded, suggesting that they were a valid grouping of vocabulary learning strategies.

This finding is quite in line with the results of previous studies. For example, Asgari and Mustapha (2011) reported that Malaysian ESL students were familiar with determination and metacognitive strategies as their favorable vocabulary learning strategies, so they were keen on using them. Moreover, the classification of vocabulary learning strategies as proposed by Gu and Johnson (1996) was revealed in the present study. They classified the strategies into metacognitive, cognitive, memory, and activation strategies.

Moreover, the present study reported a moderate use of vocabulary learning strategies by Indonesian learners of English. Although Hashemi and Hadavi (2015) said that Iranian students employed low-level strategies of vocabulary learning, with *autonomy strategies* being used the least by paramedical students ( $M=1.37$ ) and *study preference strategies* being used the most by dentistry students ( $M=2.36$ ), the majority of research findings on this matter reported moderate use. Thus, the present study congruently advocated most of the previous studies. Among Iranian learners of English, for example, Arjomand and Sharififar (2011) found that they employed moderate-level strategies in the following order of frequency of use: cognitive strategies ( $M=2.85$ ), determination strategies ( $M=2.68$ ), memory strategies ( $M=2.58$ ), metacognitive strategies ( $M=2.55$ ), and social strategies ( $M=2.50$ ). Subon (2013) also found that among students of Form 6 in Malaysia, they implemented moderate vocabulary learning strategies with individual strategies "*I guess the meaning of words I do not know*" being used the most frequently ( $M=3.81$ ) and "*I carry a pocket dictionary to look up the words I do not know*" being used the least frequently ( $M=2.23$ ). Puagsang and Intharaksa (2017), moreover, reported that students of five vocational colleges in Thailand used the strategies at the 'sometimes' level ( $M=3.17$ ), with social strategies having the highest mean of use ( $M=3.35$ ) and cognitive strategies having the lowest mean ( $M=2.96$ ). Next, Toomnan (2019) also reported the moderate level of vocabulary learning strategies used by university students in the northeast of Thailand. In this case, mean scores of 2.50 and 2.60 were obtained from students of English and non-English education majors, respectively. Lastly, Goundar (2019) reported that EFL students in Fiji who were the subjects of his study prefer cognitive strategies in the form of guessing (96%) and using dictionaries (90%) to note taking (58%).

Out of the six strategy categories, metacognitive strategies were the most frequently used and cognitive strategies were the least frequently used. They suggest that Indonesian EFL learners have acquired sufficient technical skills in managing their vocabulary learning, such as repeating to check understanding and self-assessing. However, this finding contradicts Al-Omairi's (2020) study that metacognitive strategies were the least used by EFL learners at Al-Iraqia University, Iraq. Moreover, the fact that the students used cognitive strategies the least frequently suggests that they may find complexities in processing their strategies. They did not know how to deal with newly encountered vocabulary items. They needed help in, for example, classifying words based on their classes, note taking, and relating the newly engaged vocabulary items with the already learned ones.

Finally, the present study points out the significant role of strategies in vocabulary learning. Although Alahmad (2020) reported a negative correlation between the use of vocabulary learning strategies and vocabulary size among Saudi female learners of English, and Susanto et al. (2019) found no significant correlation between the two variables, most studies reported a positively considerable relationship. Fan (2020), for example, said that Chinese non-English major students' use of attention and guessing strategies in vocabulary learning significantly affected their vocabulary knowledge as assessed in terms of both vocabulary breadth and depth. In a study to synthesize the findings of 45 previous studies on vocabulary learning strategies, Boonkongsan (2012) reported that students' use of vocabulary learning strategies correlated significantly with language achievement, language proficiency, and vocabulary size. Ghalebi, Sadighi and Bagheri (2020) reported that postgraduate and undergraduate students used vocabulary learning strategies at significantly different intensities and with different preference orders. While the order of use of vocabulary learning strategies by postgraduate students was metacognitive, cognitive, social, determination, and memory strategies, the reversed order was reported to be used by undergraduate students. In this case, the order was determination, memory, social, cognitive, and metacognitive strategies. In another study, they found that Iranian students with high and low achievement implemented diverse determination, memory, cognitive, and metacognitive strategies in learning English vocabulary (Ghalebi, Sadighi & Bagheri, 2021).

The effect of vocabulary learning strategies on vocabulary size was also found in experimental studies. Al-Darayseh's study (2014) measured the impact of explicit/implicit vocabulary teaching strategies on Saudi Arabian students' vocabulary and reading comprehension. The study revealed that the explicit/implicit teaching of vocabulary led to students' significantly higher vocabulary mastery than the traditional teaching in the form of listing, translating, and memorizing words. Earlier, Mizumoto and Takeuchi (2009) found that among

university students in Japan, those who got explicit instruction on vocabulary learning strategies outperformed those who did not in the vocabulary test. Similarly, Rasekh and Ranjbar (2003) also found that Iranian EFL students who received metacognitive strategy training for vocabulary learning gained significantly higher post-test scores after ten weeks of instruction than those who did not receive metacognitive strategy training.

## 5. Conclusion

In summary, the present study unpacked six categories of vocabulary learning strategies: cognitive, metacognitive, determination, memory, encoding, and activation strategies, explaining 63.5% of vocabulary learning strategy variances. Furthermore, Indonesian English learners implemented a moderate vocabulary learning strategy. They need to be fully aware of how to apply certain learning strategies. Finally, the present study also found that the student's vocabulary learning strategies were significant predictors of vocabulary mastery, implying that their vocabulary mastery was, to some extent, dependent on how they learned.

## 6. Recommendations

The six categories of the present study could be implemented in future studies with subjects from different groups of learners. Moreover, Indonesian English learners implement vocabulary learning strategies at a moderate level, and their vocabulary learning strategies are significant predictors of vocabulary mastery. They should enhance their awareness of the implementation of the strategies. As such, more time should be devoted to learning strategy training. In other words, the students should be equipped with the technical skill of either explicit or implicit instruction of vocabulary learning strategies. The more students are aware of the availability of vocabulary learning strategies, and the more intensively they apply them, the better their vocabulary learning will be. As a result, their vocabulary mastery will be good and support the quality of their English skills, including their listening, speaking, reading, and writing. Finally, as the present study excluded the effect of individual learner characteristics on vocabulary learning strategies, future researchers may look at individual differences such as language aptitude, personality traits, learning styles, learning context, and learning motivation in predicting vocabulary learning strategies. In this regard, Pei (2023) found that ESL (the US) and EFL (China) learning contexts affected learning strategy choice, and Du and Quyen (2023) reported that motivation strongly affected language strategy choice by Vietnamese learners of English. Moreover, the variability of vocabulary learning strategies associated with gender and proficiency levels may also be investigated.

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## Appendix A

### Vocabulary Learning Strategies

#### A. Cognitive Strategies

1. I connect the word to its synonyms and antonyms.
2. I write down words in a specific vocabulary section at the end or top of my English notebook.
3. I keep vocabulary notes on a computer or other electronic devices.
4. I write down new words and their definitions in English.
5. I write down new words along with my own drawings or pictures.
6. I write down the grammatical category of new words, like nouns, verbs, adjectives, or adverbs.
7. I write down information about the appropriate context or situation in which the word can be used.
8. I write down words on one side of the paper and the definition or synonym on the other side.
9. I write down words on wall charts, posters, and small pieces of paper, which I stick somewhere at home.
10. I organize new words by unit or lesson from the textbook.
11. I guess from textual context in reading.

#### B. Metacognitive Strategies

1. I use a dictionary, an idiom dictionary, and others to understand new English words.
2. I use words and phrases I already know when I don't know the meaning of English words.
3. I repeat words to confirm understanding.
4. When I have learned a new word or phrase in English, I test myself to make sure that I have memorized it.
5. I ask for differences between two words/phrases.
6. I ask for examples of how to use English words or expressions.
7. I would rather use contextual cues to estimate the meaning of words than using a dictionary.
8. I use pictures illustrated in the textbook to find the word's meanings.
9. I use online exercises to test my vocabulary knowledge.
10. I paraphrase a sentence to check understanding.

#### C. Determination Strategies

1. I learn new words by restating them in my own words.
2. I learn new words in English by relating the sound of the new words to the sound of a familiar word.
3. I learn new words in English by associating them with how they look, feel, smell, sound, or taste.
4. I list according to part of the speech.
5. I translate everything into English.
6. I make up lists and read them out loud.
7. I try to understand English abbreviations found in reading texts (e.g., ad. = advertisement).

#### D. Memory Strategies

1. I use a mirror to practice how to pronounce separate new words and words in context.
2. I group words according to the similarity of endings.
3. I make up lists of the words I have just learned.
4. I put a cue next to each word on the list.
5. I tape words and listen to my cell phone or laptop.
6. I remember English words by association and repetition.
7. I use rhymes to remember new English words I have just learned.



8. I try to remember the English words which are similar to Indonesian words, like "quality" and "kualitas."

#### ***E. Encoding Strategies***

1. I learn new words in English by remembering where the new word was located on the page or where I first saw or heard it.
2. I learn new words in English by translating them into my own language.
3. I use existing clues to predict the meaning of new words.
4. I use knowledge of word formation and word structure, including word derivations, inflections, word stems, suffixes, and prefixes.
5. I look up the word in the dictionary and check its grammatical category (e.g., if the word is a verb, noun, adjective, etc.).
6. I ask classmates, friends, or relatives for a definition in English.
7. I ask for the meaning of an item/sentence/phrase.
8. I write down antonyms or synonyms beside new words.

#### ***F. Activation Strategies***

1. I use various new words which I know to make up new sentences.
2. I say words out loud while memorizing.
3. I sing words out loud.
4. I use physical actions when learning words.
5. I write down new words and their Indonesian translation.
6. I use new English words in context when I speak.

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