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VOCABULARY LEARNING STRATEGIES OF INDONESIAN EFL LEARNERSIN MALAYSIA: A FOCUS ON GENDER

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Abstract
Vocabulary learning is vital for EFL students. Students face difficulties in learning new English vocabulary. Meanwhile, few studies have investigated the strategies used by Indonesian English as a Foreign Language (EFL) learners to learn new words and the relationship with their gender differences. And there need to be more studies that examine the vocabulary learning strategies (VLSs) of Indonesian students studying abroad in the ESL context. Considering the increasing number of Indonesian students studying in ESL communities, this study aims to identify the vocabulary learning strategies employed by Indonesian university students who are pursuing their studies at universities in Malaysia. There were 183 students (89 males and 94 females) enrolled in various degree programmes randomly selected in this study. The Vocabulary Learning Strategies Questionnaire from(Almabrouk, 2017), based on (Schmitt, 1997)'s taxonomy, was adopted as the data collection instrument. The findings showed that the most frequent strategy employed by the respondents was '*trying to develop vocabulary knowledge by watching English TV channels (e.g. movies, songs, documentaries* from the metacognitive category. Meanwhile, the least frequent strategy employed by the respondents was '*ask the lecturer for translation of the new word into an L1 translation'* from the social category. The results also indicated that there were no statistically significant differences in the use of VLSs based on gender.

Keywords— Gender, Indonesia EFL University Students, Vocabulary Learning Strategies

Introduction

In the present era of globalisation, the English language's importance is obvious (Hadi & Guo, 2020). It is because of its role as a global language and lingua franca. It has been concerned to be the first lingua franca in the world (Jenkins, 2009). English is an inevitable requirement in several fields, such as scientific research, engineering and technology, education, medicine, communication, and other fields. Therefore, language learners need to acquire vocabulary in the earlier stages of the second or foreign language learning process. Vocabulary learning strategy (VLS) is one of the significant issues in English language learning that has caught the attention of researchers. There has been an explosion of research into second-language vocabulary learning in the last few decades (Schmitt, 2017).

Most scholars, likewise, argue that learning new words is one of the essential processes in vocabulary development. Some recent studies have focused on the importance of investigating the mastery of vocabulary and vocabulary learning strategies (VLSs) in English as a second or foreign language (ESL or EFL) in Indonesian and abroad contexts (Ali, 2020; Asgari & Mustapha, 2011; Besthia, 2018;Çelik & Toptaş, 2010; Leilei, 2016; Susanto et al., 2019). Some indicate that the use of vocabulary learning strategies and their effectiveness is one factor affecting the language learners' success in mastering a second or foreign language vocabulary skill. Thus, Exploring the vocabulary learning strategies used by English language students can reveal individual differences in vocabulary learning among students and encourage EFL teachers and curriculum developers to design materials and activities to help the learners improve their vocabulary learning(Ghalebi et al., 2020).

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English language teachers should emphasise VLSs to help language learners learn vocabulary that can significantly impact their English proficiency. (Novianti, 2016) reported that receptive vocabulary scores of second-year undergraduate students in an Indonesian college are lower than 2000 words even after they had gained extra hours of English instruction. In addition, among high school students, poor vocabulary knowledge can be seen in (Mustafa, 2019) study. His study showed that from 1st 2.000 most-frequently used words that dominated texts in juniozr high school and 1st 3.000 most frequently used words in the senior high school texts, the estimated percentages acquired by students were lower than 60% in most, with only 72% for the 1st 1.000 level. It means that the vocabulary size of Indonesian secondary school graduates has yet to satisfy the curriculum expectation. VLS among Indonesian students studying abroad (Malaysian context) were seen to be given little emphasis in past studies. Besides, the role of gender, grades, learning environment, and age context on vocabulary learning strategies has also been investigated. However, similar to the previous variable, studies on the relationship between vocabulary learning strategies and gender found mixed and inconsistent results, such as in (Bhatti & Mukhtar, 2020) and (Gorgoz & Tican, 2020). The previous studies in the Indonesian context did not connect the VLSs to individual differences such as gender. Therefore, the current research also focused on such aspects related to students' individual differences and the use of appropriate and effective VLSs to see their actual use of such strategies and to understand certain factors which affect their use of VLSs.

Consequently, this study is interested in investigating VLSs among those specific students. They study and live abroad because many previous research works on VLSs have been carried out in several contexts of ESL/EFL in the same environment in which students live. Besides, few studies in terms of VLSs have been conducted within the Indonesian context (EFL), such as (Bakti, 2017; Besthia, 2018;Noprianto & Purnawarman, 2019; and Susanto et al., 2019). However, as for those particular students who study at some public universities in Malaysia. The investigation of this issue (VLSs) is considered one of the unique contexts among those previous ones.

Therefore, it was worth investigating VLSs among those particular students to help the researchers fill the gap between previous studies that have been conducted on both EFL/ESL contexts in which students study and live in the same environments. In addition, teachers encounter challenges, particularly in helping students acquire and utilise new words effectively. In such a process, VLSs may be utilised effectively. It is of great help for students to learn such effective strategies. To know how to find the meaning of new words, store them in their memory, and use them by practising and expanding their vocabulary. Consequently, this research intends to investigate English vocabulary learning strategies employed by Indonesian EFL university students studying in Malaysia. This study also investigated the relationship between VLSs use and individual differences in enhancing the learners' language proficiency.

Literature Review

Vocabulary Learning Strategies (VLS)

Over the last two decades, vocabulary was a field that had attracted the interest of scholars within the field of L2 acquisition (Nation, 1990). Many scholars insisted on the importance of vocabulary learning strategies. They argued that these strategies are the learners' urgent need to understand, recognise new words' meanings, and use these new words in their written or oral tasks. (DeCarrico & Jeanette, 2001) focus on the vital role of vocabulary learning strategies (VLSs). He found that VLSs are essential in facilitating learners' incidental vocabulary learning. He added that these strategies help learners to discover and consolidate the meaning of unknown and newly learned words. The following sections are defined vocabulary learning strategies and taxonomies used in this research.

Taxonomy of Vocabulary Learning Strategies (VLSs) by Schmitt (1997)

Many language researchers have classified vocabulary learning strategies, such as (Gu & Johnson, 1996; Schmitt, 1997; Nation, 2001). However, the researchers have chosen (Schmitt, 1997)’s taxonomy in the present research because it is the most suitable and comprehensive taxonomy for learners. His comprehensive taxonomy of vocabulary learning

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strategies was developed based on (Oxford, 1990)'s concept of discovery, consolidation and classification system in language learning strategies. Then, His taxonomy is widely used among language researchers. It also contributed significantly towards preparing the general classification framework of vocabulary learning strategy**.** (Schmitt, 1997) proposed discovery strategies used to define the meaning of new words and consolidation strategies used to consolidate the meaning of the new words. Furthermore, He grouped the taxonomy into five categories with 58 individual strategies. The strategies are determination strategies consisting of nine items; social strategies, eight items; memory strategies, twenty-seven items; cognitive strategies, nine items and metacognitive strategies, five items.

In addition, (Catalán, 2003) shows several advantages of using (Schmitt, 1997)'s taxonomy as a research instrument, such as based on the theory of learning strategies and theories of memory. It is also technologically simple and can be used with learners of different ages, educational backgrounds, and target languages. Besides, many scholars have used Schmitt's Taxonomy in their research studies (Almabrouk, 2017; Alahmadi et al., 2018; Al-Harbi & Ibrahim, 2018; Besthia, 2018; Ghalebi et al., 2020; Benedict & Shabdin, 2021), since it can be standardised as a test and is rich in a variety of vocabulary learning strategies.

Additionally, previous studies on the type and frequency of individual VLS and the types of VLS categories by (Schmitt, 1997) administered by individual differences such as gender, age, education level and learning environments can be observed and elaborated further in the following subsections.

Vocabulary Learning Strategies Used by Learners Based on Gender

Numerous studies have been carried out to investigate the factors influencing the choice of different vocabulary learning strategies. For example, (Ellis ,1994) indicates that the learners' frequency of use and types of vocabulary learning strategies are affected by two main sets of factors. These sets involve individual differences among learners, such as attitudes, major field of study, age, and gender. The other factors include teaching and learning conditions such as task, course level, and previous vocabulary learning strategies instruction. Among the situational and social factors, gender seems to receive the most exhaustive attention from the researchers as a predictor of variation in language learning strategies. However, some scholars argue that the gender factor does not affect the learner's choice of strategy.

Many studies have been done concerning the gender difference in using VLS. (Stoffer, 1995) discovered that there is no significant relationship between gender and a student's choice of strategy. In a similar study, (Tsai & Chang, 2009)'s study, for example, revealed that Chinese female and male students showed no significant difference in their VLS use. On the other hand, results obtained by (Gu, 2002) prove the opposite. He revealed that female students used VLSs more significantly than their male counterparts. In addition, females also employed most of the VLSs related to success in EFL learning. Furthermore, (Catalán, 2003) also used a questionnaire to test 302 Spanish female and 279 Spanish male learners by administering (Schmitt, 1997)'s VLS Questionnaire. Her findings indicated that female learners employed more vocabulary learning strategies than their male counterparts.

A study, likewise, done by (Cengizhan, 2011), examined the use of vocabulary learning strategies among Turkish students according to their gender and classes. The subjects of this study were 50 students (30 male and 20 female students) enrolled in the 10th and 11th classes of Edrine Teacher Training High School, Turkey. The results of this study revealed that male students utilised metacognitive strategies more frequently than their female counterparts. In contrast, females used the rest of the VLSs more frequently than male students. These findings differ from those by (Al-Harbi & Ibrahim, 2018), who found that male Saudi EFL learners preferred social strategy compared to females who preferred

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cognitive strategy. Moreover, they found that two strategies (cognitive and memory strategies) indicated a statistically significant difference between the two genders. From these researches, it can be revealed that male learners outperformed females using metacognitive and social strategies.

(Al-Khresheh & Al-Ruwaili, 2020) showed strategies for learning vocabulary used by language learners. 219 Saudi students participated in this study. The results showed that memory strategies were most used, followed by determination, social, and metacognitive strategies, while the least were cognitive strategies. The results also indicated that no statistically significant difference was found in the five categories of strategies except in memory strategy, in which females obtained higher scores than males. Furthermore, (Hawari & Huwari, 2021) conducted a study of vocabulary learning among students at Prince Sattam Bin Abdul Aziz University (AL-Aflaj Branch) by using (Schmitt, 1997)'s questionnaire. The results revealed that the metacognitive strategy was the most and the determination strategy was the least utilised by the students. In addition, looking into the use of VLSs based on gender, there was a statistically significant difference in the use of VLSs from metacognitive, cognitive and social strategies. In contrast, no significant difference was found in using determination and memory strategies. The results also showed statistically significant differences in using VLSs attributed to gender. Since these different results always appear in a body of literature, it becomes challenging to come up with general conclusions about the use of VLSs in terms of gender and requires further research.

Categories and Individuals of Vocabulary Learning Strategies Most and Least frequently Utilised by Learners

About find the most and least frequently VLS used, (Schmitt, 1997) conducted research in Japan among 600 high schools, college and adult learners. His study discovered dictionary use, oral and written repetition, word spelling, and contextual guessing. In contrast, learners most frequently used semantic maps, the keyword method, and first language cognates were used less frequently. Moreover, he found that more proficient learners were inclined to utilise more complex and meaning-centred strategies than less proficient learners.

In the Indonesian context, (Bakti, 2017) studied vocabulary learning strategies used by junior high school students at SMPN 1 Salatiga. The results showed that the students preferred *'checking if the word is also an Indonesian word'* and *'guessing words' meaning from cotext'* from the determination category. This strategy is followed by *'asking classmates and teachers for definition'* from the social category. *'remembering the word by studying* and *paying attention to its spelling*' were the most frequently utilised in the memory category. Students most frequently used *'underlining the word'* in the cognitive category, while '*using English media such as news, the Internet, magazines, and videos',* was the most frequently used in the metacognitive category. The results also revealed that the students choose practical, simple and fast strategies for learning new words. Furthermore, (Besthia, 2018)'s study found that 74 Indonesian EFL university students in a public university showed to utilise guessing from context and dictionary use strategies were the most popular strategies while asking the teacher or peers for meaning was rarely used. This study administered a questionnaire adapted from (Schmitt, (1997)'s taxonomy and semi-structured interviews to obtain more information about their beliefs and attitudes toward using vocabulary learning strategies to learn new words.

A study conducted by (Al-Harbi & Ibrahim, 2018) examined the vocabulary learning strategies used by Saudi English department students. Sixty-five students participated in this study. The findings showed that the most frequently used strategies were '*I try to remember the word by repeating it several times, 'I try to guess the meaning of the word from text/context'* and *'I learn new words when interacting with native speakers*. In general, social

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strategy is the most used strategy, while memory strategy is the least frequently used by learners. Furthermore, (Idriss, 2019) researched vocabulary learning strategies used by Sudanese university students. It was to examine 60 university students in a 15-item questionnaire adapted from (Schmitt, 1997)'s taxonomy on the frequency of their use of vocabulary learning strategies. The data were analysed by using frequency, percentages and means. The findings showed that Sudanese EFL learners most frequently use social strategies (M= 10.9). Meanwhile, the least used strategies are memory strategies recording the lowest mean score (M=5.6).

In the Malaysian context, (Lam & Kuan, 2019) studied vocabulary learning strategies used by Mandarin learners at the University of Malaysia, Sarawak. The results indicated that the learners employed cognitive strategies the most and metacognitive strategies the least. Another study about vocabulary learning strategies was conducted by (Goundar, 2019). It was to explore different vocabulary learning strategies among adult English as a foreign language learners course at Projects Abroad (Nadi) Fiji. The findings showed that the guessing strategy implied the most frequent VLSs employed by EFL learners. In addition, learners use repetition, memorisation, dictionary strategies, translation use, and background knowledge and experience to increase their vocabulary acquisition.(Ayar & Kızıltan, 2020) (Ayar & Kızıltan, 2020) studied the effects of cartoons on vocabulary learning strategies, a case study in intermediate-level Turkish EFL learners. The findings showed that the experimental group used the common vocabulary learning strategies for determination and meta-cognitive strategies, whereas the control group mainly adopted memory, social and metacognitive strategies. Although many studies have revealed differences in the most or least frequent use of vocabulary learning strategies, not much is known about the vocabulary learning strategies employed by Indonesian EFL university students, especially in the Malaysian context.

Based on what has been highlighted above, this study tried to fill those gaps by investigating the use of vocabulary learning strategies related to individual differences by Indonesian EFL university students studying in Malaysia. Therefore, the present study tries to answer the following research questions:

1) What are the most and least vocabulary learning strategies commonly used by Indonesian EFL university students in Malaysia?

2) Are there any statistically significant differences in the use of VLSs by Indonesian EFL university students in Malaysia due to gender?

Research Method

Instrument

This study employed a quantitative study. The vocabulary learning strategies questionnaire (VLSQ) adapted from (Almabrouk, 2017), which contained 44 elements based on the taxonomies of (Schmitt, 1997), was employed in the present study. The questionnaire consists of five categories of Vocabulary Learning Strategies; Determination (DET), Social (SOC), Memory (MEM), Cognitive (COG) and Metacognitive (MET). All these 5 VLS categories comprise 44 individual strategies in learning vocabulary to identify the frequency of the VLS utilised by these respondents; DET (9 strategies), SOC (7 strategies), MEM (14 strategies), COG (5 strategies) and MET (9 strategies).

Furthermore, the questionnaire used in the study consists of two sections: 1) demographic information and 2) vocabulary learning strategies. The first section was designed to elicit information about the respondents' background information to demonstrate the representative of the participants, such as age and gender. On the other hand, the second section dealt with the students' reported strategy usage when learning English vocabulary by using the VLSQ, as mentioned above. This instrument was administered to 40 students to

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obtain its validity and reliability based on the current students. It had proven its validity and reliability, which yielded a Cronbach's Alpha coefficient report of .93 for the overall category. In other words, the internal consistency of the instrument is good. The VLSQ items were addressed using a 5-point Likert-type scale (from 1=never to 5=always).

Participants

The respondents were selected based on random sampling for this study, which involved 183 Indonesian undergraduate and postgraduate university students from various backgrounds studying in Malaysia. The respondents were selected based on their existence in Malaysia since the covid-19 attack on the country. Some of the students tend to back to Indonesia. Every Indonesian student staying and pursuing their studies in Malaysia could participate in the present study. Eighty-nine males and ninety-four females participated in this study and were chosen randomly based on questionnaire responses.

Data Collection Procedure and Analysis

All participants were to answer each question based on the frequency of employing the listed 44 individual vocabulary learning strategies in their experience in learning English vocabulary. Participants were also allowed to ask questions if any strategies listed needed to be understood. Moreover, they were also requested to answer the questions as faithfully as possible. It took about 5 to 10 minutes to answer usually. Since the data collection procedures were online using *Google Form* format and administered via Instagram message, WhatsApp personally, and through the WhatsApp group of the Indonesian Students Association (PPI) in each Malaysian university, participants could answer the questionnaire in their free time. Some of them filled out the questionnaire directly, and some lately to one week. The survey was conducted from 2nd February 2022 to 29th June 2022.

After collecting the online survey, the researchers prepared data for analysis by screening and coding these answers into numerical scores. This method of collecting and coding the data enabled the researchers to collect and gather reflective data about the EFL Indonesian university students in Malaysia regarding their utilisation of vocabulary learning strategies. The researchers used SPSS version 24 to analyse the data. In order to summarise the responses of the students to the questionnaire, some statistical procedures were carried out, such as Cronbach alpha, descriptive statistics of means and standard deviations. (Flynn, 2011) affirms that the statistical package for social science (SPSS) is a powerful application that performs simple descriptive statistics, reliability measurement, and advanced tests.

Results and Discussion

Demographic information of the respondents

Table 1 shows the demographic information of the respondents. The total number of respondents was 183 Indonesian students studying in public and private universities in Malaysia. Both genders included 89 males (48.4%) and 94 females (51.6%) from various provinces in Indonesia. The respondents' ages ranged from 17 to 66 years old, studying in some universities pursuing their study in undergraduate 63 students (34.4%) (including diploma and first degree) and postgraduate 120 students (including master and Doctoral) at various academic majors in Malaysia.

Table 1: Description of Respondents

Category	Frequency	Percentage (%)
Gender		
Male	89	48.4
Female	94	51.6

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Education Degree		
Undergraduate	63	34.4
Postgraduate	120	65.6
Total	**183**	**100**

Having analysed the questionnaire data of the current study, the researchers investigated the findings based on the research questions. Descriptive statistics, including means and standard deviations of the five categories and their individual vocabulary learning strategies, describe the most and least frequently used vocabulary learning strategies. The results of the descriptive analysis are presented in Table 2. As the table reveals that determination strategies showed as the most frequently employed among the five categories of vocabulary learning strategies, with a mean value of 3.55 and a standard deviation of .63. This category is followed by metacognitive strategies (M=3.50, SD=.61), memory strategies (M= 3.47, SD=.65), cognitive strategies (M=3.3, SD=.89), and social strategies (M=2.89, SD= .88).

Table 2: *Descriptive Statistics for Each Category of the Strategies*

Category	N	Min	Max	Mean	Std. Deviation	Rank
DET	183	9	45	3.55	.63	1
MET	183	9	45	3.50	.61	2
MEM	183	18	70	3.47	.65	3
COG	183	5	25	3.3	.89	4
SOC	183	7	35	2.89	.88	5

Analysis of the most common vocabulary learning strategies employed by learners

The findings from the descriptive statistics on the vocabulary learning strategies utilised by Indonesian EFL university students in Malaysian universities revealed that the five most frequently used strategies by this group of learners were from the Metacognitive (MET) and Determination (DET) categories. The most employed strategy was VLS29' *trying to develop my vocabulary knowledge by watching English TV channels (e.g. movies, songs, documentary'* (M = 4.23, SD = .0.835) from the Metacognitive category. This result is in line with the studies done by (Benedict & Shabdin, 2021) that the highly proficient learners or the most strategies used by the participants are Metacognitive strategies to improve their vocabulary knowledge. This finding may mean that the participants were interested in watching English movies or news with subtitles or listening to the news since their smartphones are effortless to access in this era. Besides, internet access is now more accessible, and new technological devices have helped learners boost and change their learning habits (Sohrsabi & Iraj, 2016).

The second highest strategy employed was VLS30 *'I try to develop my vocabulary knowledge by using computer programs (e.g. internet)'* (M = 4.07, SD = 0.923) from the Metacognitive category. This strategy assists students in gaining more vocabulary through some features of computer programs. In this new era, there are lots of new technology on the internet that could make it easier to learn languages. This strategy is followed by VLS25 '*use of a bilingual dictionary (English / Indonesian'* from the Determination category (M = 3.91, SD = 1.118) as the third most employed strategy by the learners. In this strategy, the new word can be found through bilingual English to Indonesian dictionary as it is easy to use to discover the meaning of new words for recognition. This finding is coherent with (Benedict & Shabdin, 2021) result that most learners use a dictionary that translates the new word to their first language (L1) and analyses the word through its spelling for vocabulary retention.

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Besides, VLS31 *'I try to develop my vocabulary knowledge by listening to English radio programs (songs, news*)' (M= 3.91, SD= 1.068) was found to be the fourth most employed strategy by learners. This strategy is followed by VLS26 '*use a bilingual dictionary (Indonesian / English)'* (M = 3.89, SD = 1.138) from the Determination category. The participants utilised this strategy to define the meaning of new words to increase their vocabulary knowledge, as they might have easily found the new words' meanings through dictionaries on their smartphones.

From the findings, the individual VLS *'I try to develop my vocabulary knowledge by watching English TV channels (e.g. movies, songs, documentaries'* from the Metacognitive category (MET) indicated as the most employed strategy by Indonesian learners in Malaysia. This Metacognitive category represents the individual VLS as the five most employed strategies by learners, such as VLS30 *'I try to develop my vocabulary knowledge by using computer programs (e.g. internet)*'. This program is like an application or software on a computer that can help learners study new words daily. Using a laptop since these applications are available online, and item VLS31, '*I try to develop my vocabulary knowledge by listening to English radio programs (songs, news)'*. Meanwhile, two strategies included in the most frequently employed by the respondents were *'use a bilingual dictionary (English / Indonesian)* and *'use a bilingual dictionary (Indonesian / English),* with mean values of 3.91 and 3.89, respectively, as the third and fifth most frequently employed. The utilisation of categories and individual VLS by learners is shown in table 3 below.

Table 3: Descriptive Statistics on the most Common Vocabulary Learning Strategy (VLS) employed by Learners

Item No	Items of the VLS	Category of VLS	N	Mean	Std. Deviation
VLS29	I try to develop my vocabulary knowledge by watching English TV channels (e.g. movies, songs, and documentaries).	MET	183	4.23	0.835
VLS30	I try to develop my vocabulary knowledge by using computer programs (e.g. internet).	MET	183	4.07	0.923
VLS25	I use a bilingual dictionary (English / Indonesian).	DET	183	3.91	1.118
VLS31	I try to develop my vocabulary knowledge by listening to English radio programs (songs, news).	MET	183	3.91	1.068
VLS26	I use a bilingual dictionary (Indonesian / English)	DET	183	3.89	1.138

Analysis of the least common vocabulary learning strategies employed by learners

The first least commonly used was VLS38, *'ask a lecturer for translation of the new word into an L1 translation'* (M= 2.49, SD= 1.204) from the Social category. This finding is coherent with the findings of (Besthia, 2018)'s study with Indonesian university students who are studying in Indonesia using social strategies less frequently. The nature of the learning environment for learning vocabulary in Indonesia is considered an individual process since fewer students want to practice their English. According to (Susanto, 2018), Indonesian students most of the time favour utilising Indonesian as their Lingua Franca at school and sometimes at home. In the meantime, lacking an opportunity to use English daily may cause students to refuse to ask lecturers' assistance with the meaning of new words.

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The second least frequent strategy used by the learners was VLS36, '*skip the new word'* from the Metacognitive category (M= 2.52, SD= 1.031). This finding is coherent with other results (Bakti, 2017; Besthia, 2018). (Bakti, 2017) found that *'skip the new words'* was the least frequently utilised by respondents. It could be because the participants assumed that all English words were essential to understanding. Besides, the VLS41 *'ask a lecturer for word lists of the flash card for accuracy'* (M= 2.56, SD= 1.184) was found to be the third least frequent strategy utilised by the Indonesian learners in Malaysia from the Social category. This finding is coherent with **(**Benedict & Shabdin, 2021) results that *'asking lecturers to check the students' flash card or word list for accuracy'* was least frequently employed by low and high-proficiency students at a public university in Malaysia. The least frequent use of this strategy in the current study could be due to their challenging situation because of covid 19 with no face-to-face learning. In addition, we know that preparing flash card and image are tiring for learners (Al-Harbi & Ibrahim, 2018).

Indonesian EFL university students were also discovered to utilise item VLS39, '*ask a lecturer for a paraphrase of the new words'* (M= 2.58, SD= 1.13) from the social category as the fourth least frequently employed strategy. The use of this strategy proves the opposite results of (Bakti, 2017) study that favoured utilising this to discover and consolidate the meaning of new words. The students might assume the teacher to be a credible source and influent in English because of the English teacher's background. VLS40' *ask a lecturer for a sentence including the new word'* with a mean value of 2.67 and a standard deviation of 1.14 was found to be the respondents' fifth least frequent strategy of social category. The current study's finding is different from the finding by (Al-Harbi & Ibrahim, 2018). He found that social strategy is the most frequently used strategy by Saudi English department students. The reason is likely due to the Indonesian undergraduate and postgraduate students studying in the English as a Second Language (ESL) learning environment and since they passed the Malaysian University English Test (MUET) as a requirement for studying in the country. As more proficient learners, they tend to use a wide range of VLS rather than just asking lecturers and peers. This point of view aligns with (Schmitt, 1997) argument that more advanced and successful learners tended to employ more complex and meaning-centred strategies than less advanced learners.

The results indicated that the least employed personal vocabulary learning strategy was *'ask a lecture for translation of the new word into an L1 translation'* from the social category (SOC). This strategy was followed by *'skip the new word'* from the metacognitive category (MET) with a mean value of 2.52 and a standard deviation of 1.031. The following three least common strategies employed by the respondents were *'asks a lecturer for word lists or flash cards for accuracy'*, *'ask a lecturer for a paraphrase of the new words'* and *'ask a lecturer for a sentence including the new word'. It was f*rom the social category as the third, fourth and fifth least frequent strategies employed, with mean values of 2.56, 2.58 and 2.67, respectively.

Table 4: Descriptive Statistics on the least Common Vocabulary Learning Strategy (VLS) employed by Learners

Item No	Items of the VLS	Category of VLS	N	Mean	Std. Deviation
VLS38	I ask lecturer for translation of the new word into a L1 translation.	SOC	183	2.49	1.204
VLS36	I skip the new word.	MET	183	2.52	1.031
VLS41	If you use word lists or flash card, do you ask a lecturer	SOC	183	2.56	1.184

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	whether they are accurate?				
VLS39	I ask a lecturer for a paraphrase of the new word.	SOC	183	2.58	1.13
VLS40	I ask a lecturer for a sentence including the new word.	SOC	183	2.67	1.14

Analysis of vocabulary learning strategies employed by female learners compared to male learners

The second research question aimed to identify the vocabulary learning strategies used by male and female participants. To analyse the data from 183 respondents, the researchers used descriptive and inferential statistical methods. Table 5 shows no difference in the frequency of strategy use between male and female Indonesian EFL university students.

Table 5: Use of VLS According to Gender

Category of Strategy	**Male**			**Female**		
	Mean	**SD**	**Rank**	**Mean**	**SD**	**Rank**
Memory Strategy	3.40	0.65	3	3.53	0.64	3
Cognitive Strategy	3.23	0.88	4	3.37	0.91	4
Determination Strategy	3.55	0.61	1	3.55	0.65	1
Meta-Cognitive Strategy	3.44	0.58	2	3.54	0.63	2
Social Strategy	3.04	0.80	5	2.76	0.94	5

Table 5 shows all the five main categories of VLS used by the participants of this study according to gender. Male and female students indicate the same higher use of the five categories of VLSs. The highest frequency of use among male and female students was in the determination category and metacognitive category, with means values of 3.55 and 3.4 (SD= 0.61 and 0.58) obtained by male students, with means value of 3.55 and 3.54 (SD= 0.65 and 0.63) obtained by female students. However, female participants obtained higher mean values than males in four categories except for the social category with means value of male (M=3.04, SD= 0.80) and female (M= 2.76, SD= 0.94). The findings reveal that both genders prefer the determination category as the most frequent VLS employed in learning new words. This result concurs with (Benedict & Shabdin, 2021) and (Ayar & Kızıltan, 2020) findings. They also found that learners frequently used determination and metacognitive. The current study's findings also contradicted the results of (Lam & Kuan, 2019) and (Al-Khresheh & Al-Ruwaili, 2020). Their findings revealed that metacognitive strategies were the least frequent VLSs employed by learners.

In order to determine whether the difference is significant, an independent samples t-test was administered for each primary strategy of the questionnaire to calculate the factor scores for the construct VLS category. A series of six independent samples t-tests on the scores was performed to determine whether both male and female EFL Indonesian university students are significantly different. The t-test results are revealed in Table 6.

Table 6: Independent Samples t-test for the use of VLS and Gender

Category	**G**	**N**	**M**	**SD**	**df**	**t(-)**	**PV**	**S**
Memory Strategy	M	89	3.40	0.7	181	1.4	0.16	ns
	F	94	3.53	0.6		1.4		
Cognitive Strategy	M	89	3.23	0.9	181	1.1	0.30	ns
	F	94	3.47	0.9		1.1		
Determination Strategy	M	89	3.55	0.6	181	0.1	0.94	ns
	F	94	3.55	0.7		0.1		

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Metacognitive Strategy	M	89	3.44	0.6	181	1.2	0.24	ns
	F	94	3.54	0.6		1.2		
Social Strategy	M	89	3.04	0.8	181	2.2	0.24	ns
	F	94	2.76	0.9		2.2		
VLSs	M	89	3.38	0.6	181	0.7	0.47	ns
	F	94	3.44	0.6		0.7		

The mean value of memory strategies among male learners in table 6 was (M= 3.40), while it was (M= 3.53) among female learners. The finding indicates that females more frequently employ memory strategies than males. Moreover, there was no statistically significant difference between males and females in the use of memory category (p= .0.16). Likewise, this analysis reveals that males in the cognitive strategies obtained mean values of 3.23 with a standard deviation of 0.9, while females indicated a mean score of 3.47. This finding shows that females frequently employ cognitive category than males. There was no statistically significant difference between both genders in using these strategies (p= 0.30). Males and females obtained the same mean value (M=3.55). It indicates that both genders most frequently utilised determination strategies, and there was no statistically significant difference between males and females using these strategies (p= 0.94). Females showed to have s slightly higher mean score on the use of metacognitive strategies than their male counterparts, (M= 3.44) for males and (M= 3.54) for females. There was no statistically significant difference in using these strategies (p= 0.24).

Interestingly, males obtained higher mean scores than females in social strategies. It was (M= 3.04) for males and (M= 2.76). However, this difference in utilising VLS does not indicate a significant difference (p= 0.24) between both genders. Even though females outperformed males in using four categories of VLSs overall, there was no statistically significant difference in the use of VLSs between male and female learners (p= 0.47). These results are coherent with **(Al-Khresheh & Al-Ruwaili's, 2020)** findings that there was no statistical difference in using vocabulary learning strategies overall among Saudi EFL learners based on gender. However, they found that the memory category was the only one that indicated statistical difference, with females obtaining higher mean values than their male counterparts. The results of this study indicate that there was no statistically significant difference in the use of all five categories of VLSs by learners. It also concurs with (Al-Harbi & Ibrahim 2018) findings. They found no significant difference in the metacognitive, social and determination strategies employed by 65 male and female Saudi EFL learners.

This finding concurs with (Hawari & Huwari, 2021) results that female learners employed determination and memory strategies as the most frequently employed strategy by female Saudi EFL university students. They found no statistically significant difference compared to their male counterparts. However, the results of the present study contrast with their findings in terms of a statistically significant difference in using metacognitive, cognitive and social strategies attributed to gender. Moreover, the results of this study are consistent with the findings in the literature (e.g., Stoffer, 1995;Tsai & Chang, 2009), which indicated that gender does not significantly affect the choice of VLS use by learners.

Conclusion

This study's findings show that participants' most frequently utilised strategies were '*I try to develop my vocabulary knowledge by watching English TV channels (e.g. movies, songs, documentary'* (M = 4.23). *'I try to develop my vocabulary knowledge by using computer programs (e.g. internet)'* (M = 4.07) from the metacognitive category and *'use a bilingual dictionary (English / Indonesian')* from the determination category (M = 3.91), respectively. While the least frequent VLSs employed by participants were *'ask a lecturer for translation of the new word into an L1 translation'* (M= 2.49) from the Social category, *'skip the new word'* from the metacognitive category (M= 2.52) and *'ask a lecturer for word lists of the flash card for accuracy'* (M= 2.56) from social category. In addition, the results indicate that the determination category was the most frequently employed by participants of the five categories.

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The results of this study indicate that females obtained higher mean scores in memory, metacognitive, determination and cognitive strategies than their male counterparts. While using social strategies, males outperformed females' mean scores. The results also reveal no statistically significant difference in male and female participants' use of the five categories and individual VLSs.

In essence, the present study suggests that learners need to teach to use all of VLSs since they are young to be autonomous language learners. This study is likely to be used as a reference for vocabulary learning strategies that are vital in both the ESL and EFL contexts. Researchers recommend conducting further research on VLS to develop literature in this field of study, whether qualitative or mixed-method research with a larger sample. Last, examining the difference in the use of VLS attributed to other individual differences such as academic major, age, education level, and learning environment would be delightful to do.

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