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Abstract
This paper presents and discusses a study on the relationship between vocabulary learning strategies and vocabulary size among 60 ESL learners. With the use of Strategy Inventory of Language Learning (SILL) and Nation's Vocabulary Size Test as the instruments, the data was collected and subsequently analyzed using Pearson's Correlation Coefficient Test to show the correlation between the variables. The analyses of the data reveal that the learners used a number of strategies to learn vocabulary. The most frequently used strategies to learn vocabulary among the ESL learners are social strategies while the least frequently used strategies are compensation strategies. Findings show that there is a correlation between strategies used and vocabulary size. The study suggests that teachers use more of social strategies to promote engagement in learning vocabulary among the learners. For further research, studies on learners' strategies in learning other language skills; writing, speaking, listening and reading can be conducted accordingly to identify their correlation with academic performance.
Keywords: Vocabulary Learning Strategies, Vocabulary Size, Language Learning Strategies, Direct Strategies, Indirect Strategies

Introduction
Background of the Study
The trend of Malaysian youths' diminishing English language ability is worrying (Murugesan 2003; Ling, 2015). Teachers claim that most pupils lack fundamental grammatical skills, struggle to compose 300-word essays, and use colloquial speech when speaking the language (Ling, 2015). Word knowledge is a crucial element of communication competency (Seal, 1991). In fact, the role of vocabulary in English language acquisition is very highly crucial. The importance of second language learners improving their vocabulary knowledge has been emphasised in second language vocabulary acquisition (Singleton, 1999; Schmitt, 2000). Ming (2007) stated that one of the most important components of second language acquisition is vocabulary knowledge. A strong vocabulary knowledge effectively influences second language acquisition. Other than grammar and pronunciation, vocabulary knowledge is also one of the solid foundations to master the English language (Viera, 2017).

McCarthy (2001) claimed vocabulary provides the largest part of the meaning of any language, and vocabulary is the main challenge for most learners. An instructor or educator

needs to guide and teach students how to use strategies effectively in order to learn more efficiently and to develop their vocabulary knowledge and vocabulary learning skills. The success of learning a word depends on the strategies employed and how the strategies are used (Sokmen, 1997). In most Asian university curriculum, vocabulary is not given much weight (Fan, 2003). Vocabulary instruction is mostly incidental in many classes (Fan, 2003; Catalan2003). This implies that whenever a term or phrase looks to be difficult for the pupils, the meanings are given to them. According to Catalan (2003), vocabulary development is primarily reliant on teachers' and students' efforts. The function of vocabulary learning strategies is the media to master words through a continuous learning process, as a result, language acquisition could achieve a desired stage in writing and verbally (Wang, 2015).

Goundar (2015) suggested that the first goal is to identify the strategies applied by the students to learn new English words. Then, the students need to be exposed to the many vocabulary-learning strategies that could be implemented in learning new words. One of the most significant subcategories of language learning strategies is vocabulary learning strategies. Jamal (2016) defined vocabulary learning strategies as the instruments used to acquire vocabulary in the target language. Nation (2001) stated that vocabulary learning strategies are one component of language learning strategies and generally a part of learning strategies as well. Undeniably the four language skills of listening, speaking, reading and writing are the most basic skills that learners have to learn. However, language learners also need to have the knowledge of the vocabulary and the grammar rules of the language to be a successful language learner.

In their study, Hussin et al (2016) discovered that learners in Malaysia struggled to acquire language skills due to a lack of vocabulary knowledge. This decrease in the level of English among the young people in the country might be attributed to a number of causes. One of them might be a lack of appropriate language learning strategies, which is one of the most fundamental individual differences in second language acquisition (Skehan 1989, cited in McMullen 2009). Individuals who do not have a large vocabulary will not be able to apply the structures and functions they have acquired for intelligible communication in a second language (Nunan, 1991).

A study by Wang (2018) showed that different strategies are employed by more successful learners and less successful learners. The study proved that certain patterns of strategy use differentiate more successful students from less successful students. Good learners may be able to utilize these strategies on their own, monitor their own strategy use, assess the effectiveness of the strategies, and accommodate the strategies to their need. More scaffolding was needed by less-successful students to achieve learner autonomy. Therefore, it is the teacher's role to provide them specific guidance of the aspects of vocabulary learning they should focus on, for example how to take notes, and how to organize and review the notes (Wang, 2018). This is supported by Ghalebi et al (2020) in their study with different levels of university students that demonstrated different vocabulary learning strategies were used by learners with different academic degrees.

Another study by Memis (2018) among Turkish tertiary language learners revealed a significant strong positive relationship between the vocabulary learning strategies used by the learners and their vocabulary achievement. Accordingly, vocabulary achievement increases parallel to the frequency and the number of strategies. This result signals an essential positive correlation between strategy use and vocabulary. Khatimah (2018) also found similar results in her study to see the relation between students' vocabulary learning strategies with their vocabulary size. The findings indicated that vocabulary learning

strategies used by the respondents of the study had positive correlation with their vocabulary size.

Meanwhile Aisyah (2017) in her vocabulary teaching and learning research implied that vocabulary mastery is significantly influenced by students' choice of vocabulary learning strategies. The study highlighted that determination and metacognitive strategies helped students to have higher vocabulary size. Different styles of learning and different vocabulary learning strategies are employed by different learners in their learning process (Linda & Shah, 2020). Learners need to employ more appropriate learning strategies that are suitable with their learning style to master an extensive range of English vocabulary. These evidences infer that appropriate strategies are very significant to help learners learn vocabulary effectively as stated by Alahmad (2020) that learners as well as teachers should also be concerned about the significance of employing vocabulary learning strategies appropriately and efficiently according to the task at hand, rather than just applying them randomly.

Problem Statement

Many studies have found a link between the use of vocabulary learning strategies and the amount of a learner's vocabulary (Cai, 2014; Kırmızı, 2014; Subaşı, 2014), and most of these studies discovered that the employment of vocabulary learning strategies affects the learners' overall vocabulary size. According to previous research, vocabulary instruction in English classrooms is frequently neglected (Wong & Lee, 2020). They suggested that second language instructors should begin to consider vocabulary as an important element of English instruction. Additionally, many studies on the relation between vocabulary learning strategies and vocabulary size focus on tertiary level students Ghalebi et al (2020); Memis (2018); Tian (2019); Alahamad (2020) and primary school students (Linda & Shah, 2020; Chan & Aziz, 2021).

In light of the expanding body of research studying the issue of vocabulary learning strategies and to contribute to literature in the field, this study attempts to identify how Form 4 ESL learners use vocabulary learning strategies to build vocabulary and its relation with their vocabulary size as a learning outcome. Prior to this current study, a survey was done in the same sample population to identify the students' vocabulary size with the medium of Nation and Beglar (2007) Vocabulary Size Test 14,000 version containing 140 multiple-choice items. The results showed that 66.67% of the students scored below 8,000-word families. According to Nation (2001), written receptive vocabulary size English language learners must have is 8000-word families. This indicates that more than half of the students are below the recommended vocabulary size a learner must have. To put it another way, majority of the students have small vocabulary size. This study assumes that the small vocabulary size is due to inappropriate use of strategies for vocabulary learning among the students. With the problem in hands, this study aims to identify the relationship between the strategies used with their vocabulary size.

Research Purpose

This study aims to explore the vocabulary learning strategies employed by Form 4 ESL learners in a suburban secondary school in Pulau Pinang. Therefore, the research objectives and research questions that guide the study are as follow:

Research Objectives
- To identify the language learning strategies employed by ESL learners in learning

vocabulary.
- To identify the relationship between ESL learner's language learning strategies for vocabulary and their existing vocabulary size.

Research Questions
- What are the language learning strategies employed by ESL learners in learning vocabulary?
- What is the relationship between ESL learner's language learning strategies for vocabulary and their existing vocabulary size?

Significance of the Study

The findings of the study will be significant to the students, teachers, administrators as well as teacher training institution. The findings will give valuable information as how to produce more effective vocabulary learning. The findings of the study will help the learners, especially the weak students to improve their learning practices in vocabulary development. With a variety of vocabulary learning strategies, learners will be able to explore and apply new approaches in order to be a successful language learner. Less proficient learners will be more aware of their responsibility to learn and become independent learners to employ the strategies that best suit them.

Secondly, the findings of the study will provide important information for the teachers to have a better understanding of the area being studied. Teacher may discover new knowledge and information about the learners and the best pedagogical practices that could help them to learn vocabulary effectively. With the information, teachers can plan their language pedagogy to make lessons more meaningful with positive outcomes.

Additionally, the findings of the study will be significant to the administrators either at school, district or state level. With the data from the findings, the administrators can identify the best strategies to teach vocabulary and organize appropriate activities to help students enrich their vocabulary especially the weak students. With the fact that vocabulary is very important in learning a language, every educational level should take part in helping the students. Apparently, in order to help teachers to be more efficient in teaching vocabulary, more trainings for them should be given. Teacher training institution can utilize the findings and plan suitable courses to support the teachers to teach vocabulary effectively. With this course and trainings, teachers will be more confident to apply new teaching approaches in the classroom.

Literature Review
Conceptual Framework
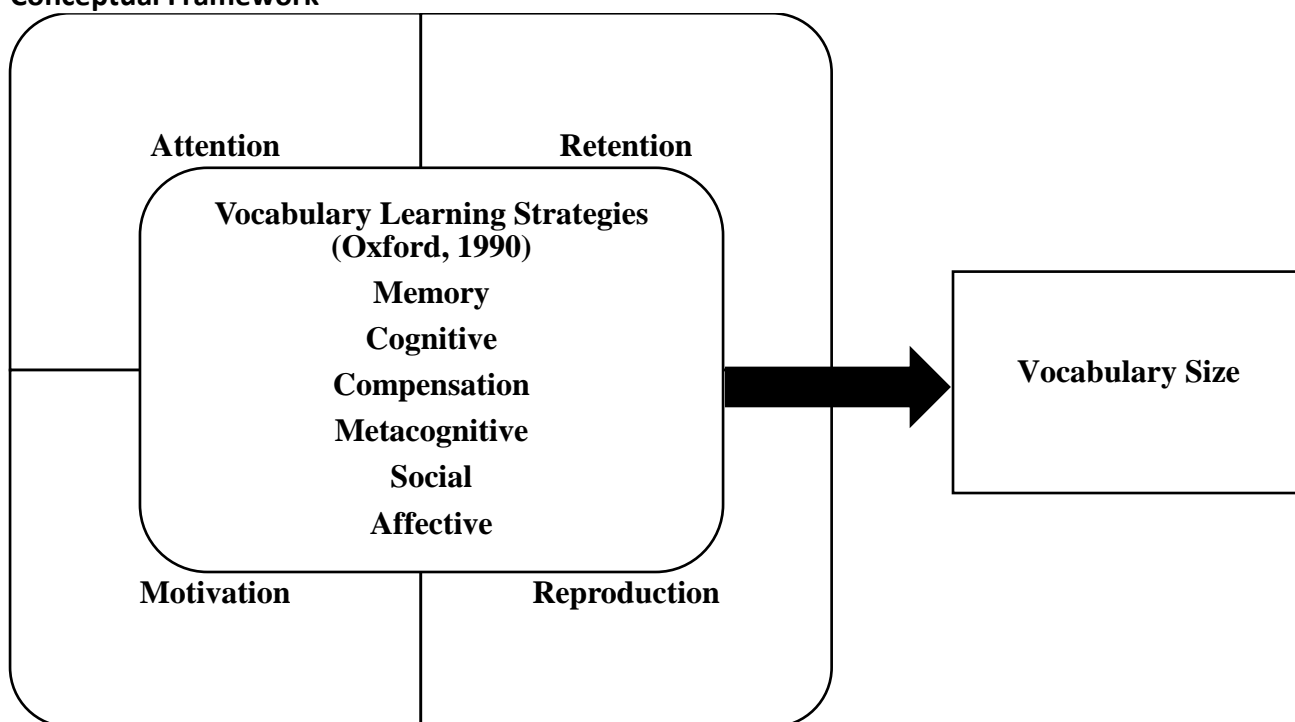
Figure 1: Conceptual Framework

Figure 1 represents the conceptual framework that outlines the concept explored in this study and the relationship between the theory and variables. The diagram shows the correlation between the variables, which are vocabulary learning strategies as the independent variables and vocabulary size as the dependent variable. With Bandura's social learning theory that consists of four processes, attention, retention, reproduction and motivation, as the underpinning theory, this research aims to test the relationship between these two variables. In the diagram, the four processes in the theory act as the base that support and guide the process of vocabulary learning using the strategies proposed by (Oxford, 1990).

Language Learning Strategies (LLS)

Language learning strategy is defined by Oxford (1990) as particular measures made by the learner to make learning easier, faster, more pleasurable, more self-directed, more effective, and more transferable to other contexts. Furthermore, Scarcella and Oxford (1992) define learning strategies as specific steps, behaviours, procedures, or techniques used by students to improve their own learning, such as looking for discussion partners or encouraging oneself to face a tough language job. Later on, language learning strategies, according to Cohen (1998), are those procedures that learners deliberately choose and consequently actions may be taken to improve learning or use of a second language by retaining, remembering, retrieving, and utilising information about that language.

Although researchers have different conceptions of language learning strategies, there are several similar points that are extremely important. There are some common attributes of language learning strategy, according to (Oxford, 1990). She summarises that language learning strategies help to achieve the main goal of communication competence, allow for more self-direction among students, broaden the role of teachers, problem-oriented, a learner's specific actions, involve a variety of aspects of the learners, not only

cognitive abilities, both directly and indirectly assist learning, may not be observable, are usually aware, are teachable, are adaptable and may be influenced by various factors.

Oxford (1990) Classification of Language Learning Strategies
Oxford, according to Jones (1998), has produced a more complete and sophisticated system of language learning strategies than previous classification models. Direct strategies are classified into three categories; memory, cognitive, and compensatory. They involve direct learning and use of the subject matter, in this case a new language. The three categories of indirect language learning strategies include metacognitive strategies, affective strategies, and social strategies, which all contribute indirectly yet powerfully to language acquisition. Memory strategies such as making mental links and utilising actions, according to Oxford (1990), aid in storing information in long-term memory and recovering information when needed for communication. Retention process is involved in the employment of memory strategies. Through this direct strategy, learners intentionally store the information in their memory to be later used in different context.

For compensation strategies, when a language activity is beyond their grasp, learners employ compensatory tactics such as guessing new words when listening and reading or utilising circumlocution while speaking and writing to compensate for their lack of proficiency in the target language. This learning process involves reproduction process as proposed in Bandura' SLT. Learners can use metacognitive strategies to control their learning by planning, organising, focusing, and analysing their own learning process. The process involved at this stage is the attention process when the learners plan their learning and give attention to the learning materials learning goals. Affective strategies assist learners to control feelings like confidence, motivation, and attitudes that are associated with language learning and motivation process is involved at this level. Lastly, questioning and collaborating with others are examples of social strategies that enable individuals to interact with other people, which are typically used in a discourse environment. Learners need to apply attention process to observe how other people use the language when interacting with them.
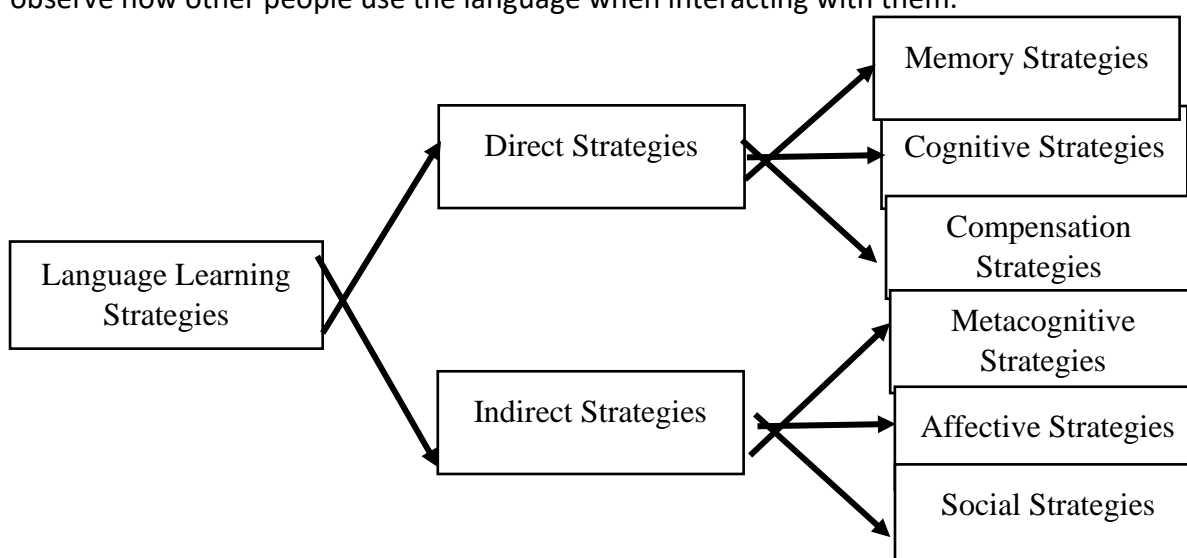

Figure 2: Classification of Language Learning Strategies (Oxford, 1990)

Classification of LLS in Vocabulary Learning (Oxford, 1990)
i. Direct Strategies
    a. Memory Strategies
Memory strategies are defined by Oxford and Crookall (1989) as techniques particularly adapted to assist the learner retain new knowledge in memory and retrieve it later. Some of the strategies in this area, such as grouping and associating, or utilising action, such as mechanical procedures, help to build mental connections, which play a key role in enhancing language skills. Perez & Alvira (2017) found that utilising memory strategies to acquire vocabulary helped nearly all of the participants in their study, including those who had never used any strategies previously. Later in 2020, a study by Nshiwi revealed a positive correlation between memory strategies and long-term retention. Interestingly, the study's findings reveal the connection between the mode of teaching and the students' use of LLSs. This shows memory strategies need to be directly employed in the learning process for retention of the new vocabulary learnt.

    b. Cognitive Strategies
Cognitive methods, according to Ellis (1997), are essential in language learning and they include analysing, synthesising, and changing existing information. According to Perez & Alvira (2017), when students began to expand their vocabulary range, they also began to improve their reading comprehension. This emphasises how important it is to study vocabulary in order to grasp a second language (Schmitt, 2008). Rabadi (2019) found out that cognitive methods were ranked as the second most commonly utilised strategy by the participants in his research. Individual cognitive strategies such as skimming and searching for words in their language are comparable to Oxford's (2003) explanation of cognitive strategies. Hasram & Singh (2021) aimed to identify the LLS employed by learners of an international secondary school in improving their vocabulary in their study. The findings also revealed that cognitive strategy as the preferred LLS among the participants. Later, Tian (2019) discovered a substantial positive association between cognitive methods and vocabulary size in a research on the usage of vocabulary learning strategies in relation to vocabulary size of students in Chinese universities. It shows cognitive strategies have the most influence on vocabulary learning.

    c. Compensation Strategies
Zhang and Li (2011) state, learners might use compensation strategies, such as guessing, to make up for knowledge gaps. In a study on compensation approach among EFL learners, Karbalaei & Negin Taji (2014) stated that in expressing their intended meanings, Iranian EFL students tended to employ a variety of compensatory strategies. To support the findings, Shakarami (2017) performed a study on language learning strategies among third-millennium ESL learners, and found that participants employed compensatory strategies often. However, certain changes in strategy application appeared to be relevant in the Net-Geners' online conversations in their language learning assignments. Learners must pay at least some attention to individual words, therefore implicit learning is not fully implicit. The subjects with explicit instructions performed better as compared with subjects who received implicit instruction (Marzban & Kamalian, 2013).

ii. Indirect Strategies
a. Metacognitive Strategies

Examples of strategies in metacognitive component include planning for learning, considering the learning progression, observing their comprehension or production, and evaluating their learning after their task is completed (see Cohen & Macaro 2007; Anderson, 2002; Oxford, 1990; O'Malley et al., 1985). It was emphasized that most successful learners use metacognitive strategies through directing the reception and production of language and they affect language skills in different degrees (Ansarin, Zohrabi, & Zeynali, 2012; O'Malley & Chamot, 1990; Oxford, 2011). This is proven by Wang (2018) in his study that successful learners were able to do selective attention, review notes taken, and manage one's vocabulary which are categorized as metacognitive strategies. Rabadi (2019) shared the results of his study that the employment of metacognitive strategies frequently indicates that the participants have a high level of metalinguistic awareness. This demonstrates their capacity to comprehend their language tasks as well as their ability to organise and pick appropriate strategies for the activities. Ghalebi et al (2020) also reported that the most frequently used strategy by postgraduate students were metacognitive strategies in his study among university students. Meanwhile, the results of a research conducted by Chan & Aziz (2021) at a Chinese primary school revealed that metacognitive strategies were strongly linked to students' academic success. This showed that students in the Chinese schools prefer to improve vocabulary by self-learning and taking responsibility for their own education. It can be concluded that successful learners are able to be independent learners and take control of their own learning to achieve goals without being directly instructed by teachers.

b. Affective Strategies

Bimmel (1993), gave the definition of affective strategies as the attempts made by the learner to recognise and overcome feelings. As a result, affective strategies such as employing music to reduce anxiety have an impact on learners' emotions and attitudes. According to Mandasari and Oktaviani (2018), the most appropriate approach for motivating students to acquire a second language is the affective strategy. Roboh & Tedjaatmadja (2016) found that among high proficiency learners, the first and second parts of affective strategies, namely "lowering your anxiety" and "encouraging yourself," were more commonly utilised. In summary, the findings implied that employing affective strategies can help learners reduce their anxiety when learning English, encourage themselves to be motivated in learning English, and they are also able to manage their emotion in learning a language.

It is suggested by Perez and Alvira (2017), strategies can yield positive learning outcomes when they are fun for them to use. This indicates the use of affective strategies work well for some students. The data showed that when learners identified a reason for using vocabulary strategies, they were motivated to prepare their material at home and collaborate with their classmates in class (Perez & Alvira, 2017). In contrast, Hasram & Singh (2021) revealed a contrast finding in their study on LLS employed by learners of an international secondary school in improving their vocabulary. The results claimed that the least preferred and used strategy is the affective strategy.

c. Social Strategies

Mohan (2011) highlights the importance of these methods for learners who are acquiring a second language. As a result, social strategies like working with peers are essential for making the learning process easier. However, Rabadi (2019) revealed that social-affective strategies

were the least often used language acquisition strategies by participants. This was attributed to a lack of English language exposure outside of English lessons, and learners were not required to utilise more social-affective strategies to communicate in English. Chan & Aziz (2021), on the other hand, discovered that respondents who deployed social strategies were those who had a low academic achievement. When acquiring vocabulary, low-achieving students mostly employed social strategies because they require more assistance from people who are more knowledgeable.

Vocabulary Size
Knowing a student's overall vocabulary size is useful because it may be connected to the vocabulary demands of the material with which the learner need to engage with (Le & Nation, 2011). It is essential to have accurate estimation of the vocabulary sizes required to function in various settings and applications of a language, as these figures are useful to create vocabulary learning objectives for language students. A low estimate might result in pedagogical goals being lowered, resulting in learners not acquiring adequate vocabulary to be able to use the language competently. An overly estimate would be unduly discouraging to students, and it may include terms that are so uncommon that they have no practical use in everyday conversation. Nation's 2006 study is without a doubt the most significant paper in this field to date. Using a mini-corpus of five English novels, Nation determined that a student would need to know around 4,000 of the most common word families plus proper nouns to achieve 95 percent lexical coverage, and approximately 8,000–9,000 families plus proper nouns to achieve 98 percent coverage. For a corpus of newspapers, he discovered comparable figures.

For learners who want to cope with a wide range of unsimplified spoken and written materials, the aim of about 8,000 word families is essential. Unassisted understanding is achievable when learners achieve 98% covering of a text (Hu & Nation, 2000). Vocabulary size tests can assist a teacher in determining whether vocabulary size is a factor in poor performance of a certain language skill (Le & Nation, 2011). Another purpose to measure vocabulary size is to be able to track a learner's vocabulary progress. The Vocabulary Size Test (Nation and Beglar, 2007) was developed as a competence measure of total vocabulary size for English language learners. Based on a frequency count of word families in the British National Corpus, this test comprises 140 items, with 10 items from each of fourteen 1,000-word levels.

Method and Materials
Research Design
This correlational study aims to determine the relationship between two variables, specifically the impact of vocabulary learning strategies (IV) and vocabulary size (DV). Participants are selected from Form 4 ESL students in a secondary school with 10 years of learning experience since primary school. This quantitative study will consider correlation between the vocabulary learning strategies with regard to vocabulary size of the learners. This methodology will be accomplished through a survey questionnaire and a vocabulary size test completed by the students via online platform. The strength of the correlation between independent and dependent variables is measured using Pearson's Correlation Coefficient. The correlation enables researcher to establish the statistical pattern between two seemingly interconnected variables.

Population and Samples

The respondents of this research are Form 4 ESL students from a suburban secondary school in Penang. The total number of form 4 population at the school is 190 students. Out of these students, 60 students from two classes were chosen through convenient sampling as the researcher has the access to these two classes. For the purpose of the study, one of the classes which was a good achieving class and the other one was a low achieving class were chosen as the samples to show the comparison of vocabulary learning strategies and vocabulary size between the two groups while one mediocre group with the same characteristics as the samples were selected for a pilot test. According to Cohen (1988), 20% of the population may be selected for a pilot study. Thus, 30 students from the population were involved in the study. Furthermore, only two classes were accessible for the main study due to pandemic situation and permission granted. Prior to this current study, a vocabulary size test was conducted to one of the form 4 groups. The results showed that 66.67% of the students scored below 8,000-word families which considered as desirable vocabulary size a second language learner must have (Nation, 2001). This indicates that more than half of the students are below the recommended vocabulary size and due to that finding, the researcher decided to conduct the major study.

Instruments

The first instrument for this study is Strategy Inventory Language Learning (SILL) developed by (Oxford, 1990). A majority of researchers used Oxford's SILL to evaluate the efficiency of a certain language learning approach (Carson & Longhini, 2002; Hsiao & Oxford, 2002; Lee, 2010; Murray, 2010; Nisbet et al., 2005; Park, 1997; Wharton, 2000). It has been decided to employ the SILL as a research tool in the current study to identify Form 4 ESL learners' usage of LLS in vocabulary learning because of its widespread use and the fact that it covers a large number of LLS. Before answering questionnaire concerning the strategies, there are demographic questions to be completed by the students. The demographic questions aim at identifying the respondents' name, and gender. The identification of the respondents' names is useful to show the relation with the vocabulary size test later on.

The second section of the questionnaire comprises of 30 items that come from six strategy categories, with 5 items for each category. Out of 50 items in SILL, only 30 items that were related to vocabulary learning were adopted and adapted to cater to the research objectives and research questions. The six strategy categories are divided into two main categories, direct strategies and indirect strategies. For direct strategies, the categories are memory strategies, cognitive strategies and compensation strategies. Meanwhile for indirect strategies, the items fall into metacognitive strategies, affective strategies and social strategies. The items in the questionnaire are not directly divided into divisions to imply their strategy categories as not to influence the respondents when weighing the answers. They are multiple-choice questions and graded by the 5-point scale ranging from "never or almost never true of me", "usually not true of me", somewhat true of me", "usually true of me" and "always or almost always true of me" to assess vocabulary learning strategies used. The questionnaire is distributed through Google Form online application and the respondents have to give responses virtually by filling in the form.

The second instrument in the research is the Vocabulary Size Test (VST), developed by Nation and Beglar (2007) to measure the ESL learners' vocabulary size in English. The VST version used for this study is the 14,000-monolingual version. There are two versions of the test which are 14,000 version and 20,000 version. The 14,000 version of the test is chosen

instead of one of the 20,000 versions in order to suit the mediocre proficiency of the respondents. In the test, participants are required to answer 140 multiple-choice items, with 10 items from each 1000 word family level.

Data Collection Procedure and Data Analysis
As an online self-administered survey, participants are given the URL addresses that link to the questionnaire and the vocabulary size test. The participants are encouraged to complete the questionnaire in 20 minutes and the test in 40 minutes. Students need to submit both sets of questions within one-hour timeframe. For the SILL questionnaire, after the data collection is completed, statistical analyses using SPPS-26 software application is performed. Descriptive statistics such as means and standard deviations are obtained to see the overall patterns of vocabulary learning strategies adopted by the students. After both data has been collected, Pearson's Correlation analysis is conducted between the independent variable – vocabulary learning strategies, and the dependent variable – vocabulary size, to see how various strategies affect students' vocabulary size.

Validity and Reliability
In order to determine the content validity of the SILL questionnaire items, an expert review has been done by a teacher with 15 years' teaching experience in the area. To determine the internal consistency of the items within each construct, the Cronbach's alpha of the SILL constructions was studied in a pilot study. Despite the fact that the Cronbach's alpha coefficients for compensation and affective strategies were below the acceptable alpha value of.60, the alpha values for the other construct, which is memory, is extremely high and for cognitive, metacognitive, and social strategies, the values are generally consistent (Hair et al., 1998; Landau & Everitt, 2004). This finding demonstrates that the SILL items, in part or in whole, evaluate similar aspects of language learning strategies.

	Total	Direct	Memory	Cognitive	Comp.	Indirect	Meta.	Affective	Social
Cronbach's α	.81	.79	.98	.62	.47	.84	.69	.56	.60

Table 1. Cronbach's α of the Constructs of the SILL

Findings
Vocabulary Size
Table 1
Vocabulary size of the Form 4 ESL high achievers

Vocabulary Size (Word families)	Frequency	Percentage (%)
Below 5000	0	0
5000 - 5999	2	6.67
6000 - 6999	7	23.33
7000 - 7999	12	40.00
8000 - 8999	8	26.67
9000 - 9999	0	0
Above 10,000	1	3.33

Table 1 shows the vocabulary size of high achiever group of the form 4 ESL students. From the results of the test, the students were categorized into 5 groups. Out of 30 students, 2 of them (6.67%) had a vocabulary size between 5000 - 5999 word families. Moreover, 7 students (23.3%) were found to have a vocabulary between 6000 - 6999 word families. 12 of them

(40.0%) scored between 7000 – 7999 word families while 8 (26.67%) scored between 8000 - 8999 word families. Meanwhile only one student was categorized into group of 10,000 word families and above. Even though these students are categorized as high achieving group, however according to the findings, only 30% of them achieve the 8000-word family level as noted by Nation (2006), which is the required vocabulary size for comprehending unsimplified spoken and written materials. This is perhaps Nation's standard of vocabulary size is too high for ESL learners.

Table 2
Vocabulary size of the Form 4 ESL low achievers

Vocabulary Size (Word families)	Frequency	Percentage (%)
Below 5000	10	33.33
5000 - 5999	16	53.33
6000 - 6999	4	13.33
7000 - 7999	0	0
8000 - 8999	0	0
9000 - 9999	0	0
Above 10,000	0	0

According to Table 2 which refers to low achieving group, all students in this group scored below than 8000-word family level and they were categorized into 3 groups. From 30 students, 10 of them (13.33%) scored within 6000 – 6999 word families, 16 of them (53.33%) scored within 5000 – 5999 word families and 4 of them (33.33%) of them scored below than 5000-word family level. These figures infer a conclusion that majority of the students were having problem to understand their English lesson especially speaking and writing.

Most and Least Frequently Used Vocabulary Learning Strategies
Table 3
Comparison between low achievers and high achievers

Strategy Category	Low achievers (N=30)						High Achievers (N=30)									
	Below 5000		5000 - 5999		6000 - 6999		5000 - 5999		6000 - 6999		7000 - 7999		8000 - 8999		Above 10,000	
	x̄	f	x̄	f	x̄	f	x̄	f	x̄	f	x̄	f	x̄	f	x̄	f
Direct Strategies																
Memory	2.62	M	2.96	M	2.80	M	2.80	M	2.94	M	3.33	M	3.60	H	3.20	M
Cognitive	2.82	M	3.13	M	3.65	H	3.20	M	3.54	H	3.63	H	3.63	H	3.40	M
Compen	2.66	M	3.01	M	3.25	M	3.10	M	3.31	M	3.28	M	3.38	M	2.80	M
	2.70	**M**	**3.03**	**M**	**3.23**	**M**	**3.03**	**M**	**3.26**	**M**	**3.41**	**M**	**3.54**	**H**	**3.13**	**M**
Indirect Strategies																
Metacog	2.62	M	3.23	M	3.10	M	2.90	M	3.43	M	3.82	H	3.80	H	3.20	M
Affective	2.66	M	2.90	M	3.05	M	3.00	M	2.80	M	3.67	H	3.40	M	1.80	L
Social	3.04	M	3.61	H	3.20	M	3.40	M	3.97	H	4.13	H	3.98	H	2.80	M
	2.77	**M**	**3.25**	**M**	**3.12**	**M**	**3.10**	**M**	**3.40**	**M**	**3.87**	**H**	**3.73**	**H**	**2.60**	**M**
Overall	**2.74**	**M**	**3.14**	**M**	**3.18**	**M**	**3.07**	**M**	**3.33**	**M**	**3.64**	**H**	**3.63**	**H**	**2.87**	**M**

Table 3 shows the mean scores for each strategy category. The mean scores were divided into eight columns as each column represents each group of student level according to the vocabulary size test results. In frequency (f) columns, H means high frequency to show the strategy category that is highly used by the students, while M is for moderately used strategy and L is for lowly used strategy category. According to Likert (1931), mean score between 0.00-1.50 is considered as very low, 1.51-2.50 is low, 2.51-3.50 is moderate, 3.51-4.50 is high and 4.51-5.00 is high.

According to the data, for the first group of low achievers which is the group of below 5000 word family, all the mean scores are between 2.51-3.50. All students in the group moderately used vocabulary learning strategies for all strategy categories. The second group for low achievers scored moderate mean scores for five categories and high mean score (3.61) for social strategy. For the group of low achievers, the mean score is high (3.65) for cognitive strategy and moderate for other strategies.

For high achievers, the first group which is group of 5000-5999 word family, all the mean scores for six strategy categories are between 2.51.-3.5, which means moderate frequency. The second group of high achievers shows high mean scores for two strategy categories which are cognitive strategies (3.54) and social strategies (3.97). The other four strategy categories show moderate frequency. For the third group, the mean scores are slightly different as four strategy categories show high frequency; cognitive (3.63), metacognitive (3.82), affective (3.67) and social strategies with a distinctive score which is 4.13. The same pattern can be seen from the score of the fourth group with four strategy categories have high frequency which are memory (3.60), cognitive (3.63), metacognitive (3.80) and social strategies (3.98). Whereas, with only one student categorized in the group, the group of above 10000-word family does not follow the pattern as there is one low mean score (1.80) for affective strategies and five moderate mean scores for other strategies.

Correlations
Table 4
Pearson's Correlations between vocabulary size and vocabulary strategies used

Strategy Category	Pearson Correlation	Sig. (2-tailed)
Direct Strategies		
Memory	.469	.000
Cognitive	.416	.001
Compensation	.337	.008
Indirect Strategies		
Metacognitive	.492	.000
Affective	.383	.003
Social	.355	.005

Table 4 shows the degree of correlation between the variables and significant values of the correlation. All strategy categories have moderate positive correlation with vocabulary size of the students with correlation scores between 0.30-0.49; memory strategy category scores .469, cognitive category scores .416, compensation category scores .337, metacognitive category scores .492, affective category scores .383 and social category scores .355. Moreover, significant values for all strategy categories are below than 0.01 to show their significant relationship.

Discussion

As far as the overall pattern of vocabulary learning strategies is concerned, students from high achieving group use vocabulary learning strategies to learn vocabulary more than students in low achieving group. These results are parallel with the hypothesis that the more strategies used by learners, the bigger vocabulary size they will have. The data shows that students with higher vocabulary size scored higher means of frequency. Perez & Alvira (2017) found that utilising memory strategies to acquire vocabulary helped nearly all of the participants in their study, including those who had never used any strategies previously. A study by Nshiwi (2020) also revealed a positive correlation between memory strategies and long-term retention. However, memory strategies are not a preference in this study especially among the low achievers. Seven out of eight groups of the students moderately use memory strategies in learning vocabulary. Moreover, Pearson's correlation test shows moderate positive correlation between memory strategies with vocabulary size test of the students.

Rabadi (2019) found out that cognitive methods were ranked as the second most commonly utilised strategy by the participants in his research. Additionally, Tian (2019) also discovered a substantial positive association between cognitive strategies and vocabulary size in a research in Chinese universities. This finding is supported by Hasram & Singh (2021) who identified cognitive strategy as the preferred LLS among international secondary school learners. These results are in line with the findings in this study especially among the high achievers. Four out of eight groups highly use cognitive strategies to learn vocabulary. Despite being moderately used, the mean of frequency for the other four groups are high moderate. This shows the students use a variety of cognitive strategies to learn vocabulary. For the correlation test, the results show moderate positive correlation between cognitive strategies with vocabulary size.

Moving on to compensation strategies, Karbalaei & Negin Taji (2014) stated that in expressing their intended meanings, Iranian EFL students tended to employ a variety of compensatory strategies. Shakarami (2017) also performed a study on language learning strategies among third-millennium ESL learners, and found that participants employed compensatory strategies often. However, these findings are against the results in this study. Compensation strategy category appears to be the least preferred category by the respondents. The students are found not in favour of guessing new words to facilitate them in improving the second language. Furthermore, the results from Pearson's correlation test show weak correlation between compensation strategies with vocabulary size.

Chan & Aziz (2021) discovered that metacognitive strategies were strongly linked to students' academic success at a Chinese primary school. A study by Ghalebi, Sadighi & Bagheri (2020) among university students also found metacognitive strategies as the most frequently used strategy by postgraduate students. Furthermore, according to Wang (2018), successful learners were able to do selective attention, review notes taken, and manage one's vocabulary which are categorized as metacognitive strategies. Most successful learners use metacognitive strategies through directing the reception and production of language and they affect language skills in different degrees (Ansarin et al., 2012; O'Malley & Chamot, 1990; Oxford, 2011). In spite of these findings, this current study reveals a contrast where metacognitive strategies are not a preference by majority of the students. Only two out of eight group of the students highly use the strategies while six groups moderately used the strategies. Pearson's correlation test indicated moderate positive correlation between the strategies with vocabulary test.

Proceeding to the next strategy, affective strategies appear to be the second least strategies used by the students. With one group from high achieving students that highly used the strategies, these results support the findings by Roboh & Tedjaatmadja (2016) that among high proficiency learners, the first and second parts of affective strategies, namely "lowering your anxiety" and "encouraging yourself," were more commonly utilised. Notwithstanding the results, surprisingly one student in above 10000-word family group has a very low use of affective strategies and followed by moderate use among other six groups of students. These students perhaps are not in favour of motivating themselves to learn vocabulary as because they are not familiar with the strategies. Findings by Hasram & Singh (2021) are in line with these results as affective strategy is the least preferred and used strategy in an international secondary school. In spite of that, the results of Pearson's correlation test demonstrated low positive relationship between the strategies and vocabulary test.

Rabadi (2019) revealed in his study that social-affective strategies were the least often used language acquisition strategies by participants. This result is in contrast with this study as social strategies are the highest strategies used for six out of eight groups of students with high frequency for four groups especially among the high achieving students. Apparently, Chan & Aziz (2021) discovered that respondents who deployed social strategies were those who had a low academic achievement. This is true in this study as most of the students have low vocabulary size score in the vocabulary size test even though they are from high achieving group. When acquiring vocabulary, low-achieving students mostly employed social strategies because they require more assistance from people who are more knowledgeable. Correlation between social strategies and vocabulary size is proven to be low positive correlation in Pearson's correlation test.

Findings show that there is a significant relationship between students' language learning strategies for vocab and vocabulary size. This implies that if a suitable language learning strategies is used, students' vocabulary size will increase. Therefore, students have to be aware of the availability of the strategies they can use in learning vocabulary and choose the best strategies that best suit them to develop vocabulary. Moreover, it is recommended that teachers should ensure that students use language learning strategies in learning vocabulary. Teachers can also create the best pedagogical practices that could help students to learn vocabulary effectively. Besides that, administrators at the school, district and state levels can contribute to the development of vocabulary among the students by organizing appropriate activities for them. Likewise, teacher training institutions can plan suitable courses to support the teachers in the area.

For future research, it recommended to replicate this research but with different research design, different samples and different sample size as well as different instruments to get different data that may help develop further discovery in the area. The research design can be improvised to a mixed-method design by including interviews to get extensive data of the subject. This may also help researcher to get personal views from the samples about the strategies that they use to learn vocabulary. Furthermore, with bigger sample size, teachers and administration will be able to obtain more accurate data. With more accurate data, more effective steps can be initiated to help the students. Previous literature has highlighted that sample size is one of the key limitations of empirical studies published in top journals (Green et al., 2016; Uttley, 2019).

Conclusion

In this study, the students use a variety of strategies from six strategy categories as proposed by Oxford (1990) to learn vocabulary. The vocabulary size of the students is linked to the use of vocabulary learning strategies by the students. The theoretical concept from Bandura's social learning theory (1977) contributes to the study through four processes that facilitate the learning, as the processes are attention, reproduction, retention and motivation. These four processes act as the bases and steps as how the learning should take place.

According to the statistics of Pearson's correlation test, the results show positive significant relationship between ESL learner's language learning strategies for vocabulary with their existing vocabulary size even though the data signify low and moderate relationship. From the correlation results, it implies that strategies used correlate with students' vocabulary size. The more strategies used by students, the bigger vocabulary size they have. From the notation, teachers should know the students' preferences in vocabulary learning strategies and provide more systematic instruction on vocabulary learning for the students while teaching English vocabulary. To make the lessons more engaging and effective, teachers should pay more attention to social-based activities. Students are expected to improve their vocabulary size with social learning strategies.

The objectives of this paper are to show the relationship between vocabulary learning strategies used with vocabulary size of the students and to identify the most and least strategies used by them. The data provides an illustration to answer the research questions. The data has been used to demonstrate this relationship and the frequency of strategies used. In this study, there are several limitations that should be noted for improvement in future researches. The study is limited by the samples who are Form 4 students in a suburban school. Caution has to be taken when interpreting the results as the findings may not be reflective of urban or rural schools. *This study is also limited by the instrument because the items in the questionnaire only cover the issue raised. There are no other issues out of the range covered in the items can be relate to the findings of the study.*

References

Afzal, N. (2019). A study on vocabulary-learning problems encountered by BA English majors at the university level of education.

Ahmad, H., Yunus, M. M., & Hasan, N. H. (2016). English Vocabulary Size and Vocabulary Learning Strategies of UiTM Pre-Diploma Students. In *International Conference on Language, Education, Humanities and Innovation* (pp. 150-170).

Aisyah, D. N. (2017). The vocabulary teaching and vocabulary learning: Perception, strategies, and influences on students' vocabulary mastery. *Jurnal Bahasa Lingua Scientia*, *9*(2), 293-318.

Alahmad, G. (2020). Vocabulary Learning Strategies and their Relation to Vocabulary Size in Saudi Female Undergraduate EFL Learners. *International Journal of Linguistics, Literature and Translation*, *3*(6), 208-213.

Bandura, A. (1986). Social foundations of thought and action. *Englewood Cliffs, NJ*, *1986*(23-28).

Bandura, A. (2005). The evolution of social cognitive theory. *Great minds in management*, 9-35.

Beglar, D. (2010). A Rasch-based validation of the Vocabulary Size Test. *Language testing*, *27*(1), 101-118.

Bessai, N. A. (2018). Using Oxford's Strategy Inventory of Language Learning (SILL) to Assess the Strategy Use of a Group of First and Third Year EFL Algerian University Students. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, *42*(1), 166-187.

Chan, C. H., & Aziz, A. A. (2021). Employment of Language Learning Strategies by Chinese School Learners in Learning ESL Vocabulary. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, *6*(3), 330-339.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences–second edition. 12 Lawrence Erlbaum Associates Inc. *Hillsdale, New Jersey*, *13*.

Delice, A. (2010). The Sampling Issues in Quantitative Research. *Educational Sciences: Theory and Practice*, *10*(4), 2001-2018.

Edinyang, S. D. (2016). The significance of social learning theories in the teaching of social studies education. *International Journal of Sociology and Anthropology Research*, *2*(1), 40-45.

Ghalebi, R., Sadighi, F., & Bagheri, M. S. (2020). Vocabulary learning strategies: A comparative study of EFL learners. *Cogent Psychology*, *7*(1), 1824306.

Goundar, P. (2015). An Analysis of Vocabulary Learning Strategies of Adult English as a Foreign Language (EFL) Learners. International Journal of Humanities and Cultural Studies, Vol.2 (3), pp.354-395.

Green, J. P., Tonidandel, S., & Cortina, J. M. (2016), "Getting Through the Gate: Statistical and Methodological Issues Raised in the Reviewing Process", Organizational Research Methods, Vol. 19 No. 3, pp. 402-432.

Hasram, S., & Singh, B. K. A. (2021). Vocabulary Learning Strategies of Good Language Learners From An International School.

Hill, R. (1998). What sample size is "enough" in internet survey research. *Interpersonal Computing and Technology: An electronic journal for the 21st century*, *6*(3-4), 1-12.

Horsburgh, J., & Ippolito, K. (2018). A skill to be worked at: using social learning theory to explore the process of learning from role models in clinical settings. *BMC medical education*, *18*(1), 1-8.

Hussin, N. I. S. M., Nimehchisalem, V., Kalajahi, S. A. R., & Yunus, N. (2016). Evaluating the presentation of new vocabulary items in Malaysian form three English language textbook. Malaysian Journal of Languages and Linguistics (MJLL), 5(1), 60-78.

Karbalaei, A., & Negin Taji, T. (2014). Compensation Strategies: Tracking Movement in EFL Learners' Speaking Skills. *Gist Education and Learning Research Journal*, *9*, 88-102.

Khatimah, N. H. (2018). *The Correlation between Students' Vocabulary Learning Strategies and Their Vocabulary Size* (Doctoral dissertation, UNIVERSITAS NEGERI MAKASSAR).

Lavasani, M. G., & Faryadres, F. (2011). Language Learning Strategies and Suggested Model in Adults Processes of Learning Second Language. Procedia-Social and Behavioral Sciences, 15, 191-197.

Le Thi Cam Nguyen, & Nation, P. (2011). A bilingual vocabulary size test of English for Vietnamese learners. *RELC Jour*

Lee, C. K. (2010). An overview of language learning strategies. *Annual Review of Education, Communication & Language Sciences*, *7*.

Likert, R. (1931). A technique for the measurement of attitudes. Archives of Psychology, 22(140), 1-55.

Liu, J. (2010). Language learning strategies and its training model. *International Education Studies*, *3*(3), 100-104.

Linda, A., & Shah, P. M. (2020). Vocabulary Acquisition Style in the ESL Classroom: A Survey on the Use of Vocabulary Learning Strategies by the Primary 3 Learners. *Creative Education*, *11*(10), 1973.

Luszczynska, A., & Schwarzer, R. (2015). Social cognitive theory. *Fac Health Sci Publ*, 225-51.

Jamal, A. (2016). Vocabulary Learning Theories-A Keen Perspective. *Global Journal for*.

Mandasari, B., & Oktaviani, L. (2018). English Language Learning Strategies: An Exploratory Study of Management and Engineering Students. Premise: Journal of English Education and Applied Linguistics, 7, 61-78.

Mashhadia, F., & Jamalifar, G. (2015). Second language vocabulary learning through visual and textual representation. ProcediaSocial and Behavioral Sciences, 192, 298-307.

Marzban, A., & Kamalian, K. (2013). Effects of implicit versus explicit vocabulary instruction on intermediate EFL learners' vocabulary knowledge. *ELT Voice*, *3*(6), 84-95.

Memis, M. R. (2018). The Relationship between Vocabulary Learning Strategies and Vocabulary of Learners of Turkish as Foreign or Second Language. *Educational Policy Analysis and Strategic Research*, *13*(4), 164-185.

Muhajirah, M. (2020). Basic of Learning Theory:(Behaviorism, Cognitivism, Constructivism, and Humanism). *International Journal of Asian Education*, *1*(1), 37-42.

Nation, P. (2001). Learning Vocabulary In Another Language, Cambridge: Cambridge University Press. Nation, P. (2006). How large a vocabulary is needed for reading and listening? Canadian Modern Language Review, 63(1), pp. 59–82.

Nation, I. S. P., & Beglar, D. (2007) A vocabulary size test. *The Language Teacher, 31*(7), 9-13.

Nawawi, N. M., Zuhaimi, N., Sabu, K., Mahamud, N. S. R., & Nasir, N. A. M. (2021). CEFR for Languages and Its Effective Implementation in Secondary Schools in Malaysia. *Asian Journal of Assessment in Teaching and Learning*, *11*(1), 63-72.

Nshiwi, D. (2020). The Effect of Different Approaches to Learning Strategy Instruction on Vocabulary Development by EFL learners. *| IRJE| Indonesian Research Journal in Education|*, 204-222.

Park, G. P. (2011). The Validation Process of the SILL: A Confirmatory Factor Analysis. *English Language Teaching*, *4*(4), 21-27.

Pérez, L. M., & Alvira, R. (2017). The acquisition of vocabulary through three memory strategies. *Colombian Applied Linguistics Journal*, *19*(1), 103-116.

Rabadi, R. I. (2019). The Relationship Between Language Learning Strategies and Vocabulary Size Among High School ELL Students. *International Journal of English Linguistics*, *9*(1), 120-134.

Roboh, A. G., & Tedjaatmadja, H. M. (2016). Affective strategies used by high proficiency learners at hand fortuna center. *Kata Kita*, *4*(2), 80-85.

Samsudin, Z., Shamsudin, Z., Arif, M., & Faisal, M. (2017). The application of Bandura's social learning theory in the teaching of academic writing. *Global Journal of Business & Social Science Review*, *5*(2), 1-9.

Schmitt, N., Cobb, T., Horst, M., & Schmitt, D. (2017). How much vocabulary is needed to use English? Replication of van Zeeland & Schmitt (2012), Nation (2006) and Cobb (2007). *Language Teaching*, *50*(2), 212-226.

Schober, Patrick & Boer, Christa & Schwarte, Lothar. (2018). Correlation Coefficients: Appropriate Use and Interpretation. Anesthesia & Analgesia. 126. 1. 10.1213/ANE.0000000000002864.

Shakarami, A., Hajhashemi, K., & Caltabiano, N. (2017). Compensation still matters: language learning strategies in the third millennium ESL learners. *Available at SSRN 3032963*.

Sheridan, R., & Markslag, L. (2017). Effective strategies for teaching vocabulary: An introduction to engaging cooperative vocabulary card activities. PASAA: Journal of Language Teaching and Learning in Thailand, 53, 214–229.

Tian, T. (2019). The Use of Vocabulary Learning Strategies in Relation to Vocabulary Size of Students in Chinese Universities. *Linguistics*, *5*(4), 80-85.

Uttley, J. (2019), "Power Analysis, Sample Size, and Assessment of Statistical Assumptions—Improving the Evidential Value of Lighting Research", LEUKOS, Vol. 15 No. 2-3, pp. 143-162.

Varisoglu, M. C. (2016). The importance of strategies of social language learning and cooperative learning in the process of teaching Turkish as a foreign language. *Educational Research and Reviews*, *11*(10), 981-986.

Viera, R. T. (2017). The importance of vocabulary knowledge in the production of written texts : A case study on EFL language learners, 30(3), 89–105.

Wong, A. S. C., & Lee, J. Y. V. (2020). Investigating the Predictive Role of Vocabulary in Written Performance.