

The Contribution of Vocabulary Learning Strategies to University Students' Vocabulary Size

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Abstract

The present study aimed to investigate the relationship between students' vocabulary learning strategies and their vocabulary size. The frequency of vocabulary learning strategies used by the high and low vocabulary students was also explored. The subjects of this study were 257 Prince of Songkla University students in the 6 fields of study who would be highly affected by the opening of ASEAN Economic Community (AEC) in 2015: medical, dental, nursing, engineering, accounting, and hospitality and tourism fields. The research instruments were the vocabulary learning strategy questionnaire, the bilingual English-Thai version of vocabulary size test, and a semi-structured interview. The results revealed that the subjects' use of vocabulary learning strategies was moderately correlated with their vocabulary size. The subjects in the high vocabulary group employed certain strategies significantly more often than those in the low vocabulary group ($p < .01$). Determination strategies were the most frequently used strategies and social strategies were the least used strategies.

Keywords: vocabulary learning strategies, vocabulary size, relationship, contribution, university students

Introduction

English is considered a prominent language in different fields, including international trade, banking, education, industry, and diplomacy (Crystal, 1997). With the effect of ASEAN Economic Community (AEC) in 2015, English has increasingly become a more important factor for Thai workers in terms of qualification requirements and job opportunities. To take the benefits of this open trade, Thai workers need to have certain level of English proficiency.

Vocabulary knowledge plays an important role in effective language use (Nation, 1993). Inadequate vocabulary knowledge has been repeatedly found to be one of the factors that influence learners' unpleasant language performance (McCarthy, 1998; Fan, 2003). A lack of sufficient vocabulary knowledge tends to be one of the major problems among Thai learners, causing their difficulties in reading, listening, speaking, and writing skills (Sawangwaroros, 1984; Sukkrong, 2010).

Much research to date has focused on exploring ways to develop learners' vocabulary knowledge; one of best methods employed is to use vocabulary learning strategies. It has long been recognized that vocabulary learning strategies are an effective tool to improve learners' vocabulary skill (e.g. Cunningsworth, 1995; Gu and Johnson, 1996; Nation, 2001). According to Nation (2001), learners can obtain large vocabulary repertoire with the help of vocabulary learning strategies and these strategies will be useful for learners in all language levels. Cunningsworth (1995) also states that a powerful approach to improve learners' vocabulary knowledge is to develop their own vocabulary learning strategies. Furthermore, Gu and Johnson (1996) indicate that successful vocabulary learners tend to use vocabulary learning strategies more frequently than less successful ones.

Vocabulary learning strategies allow learners to take more control of their own vocabulary learning (Nation, 2001) and also to develop their learning autonomy, independence, and self-direction (Oxford and Nyikos, 1989). A number of researchers have acknowledged the importance of learner independence in vocabulary learning. Sokmen (1997), for example, asserts that it is not possible for learners to remember all words they need

in the classroom. So, in order to acquire large vocabulary repertoire, learners need to take their own responsibilities in vocabulary learning. Gairns and Redman (1986) also believe that learners must take responsibilities of their learning. This is because, after elementary level, learners will encounter thousands of unfamiliar words and it would be very difficult for teachers to choose which words are useful for students. In Ranalli's view (2003), learners' vocabulary learning process will be better when they choose words to remember themselves.

Since vocabulary learning strategies have been shown to enhance vocabulary knowledge, it is worthwhile to study vocabulary learning strategies employed by Prince of Songkla University students. The objectives of this present study were to examine the relationship between the students' vocabulary learning strategies and their vocabulary size. The frequency of vocabulary learning strategies employed by the high and low vocabulary students was also investigated.

Literature Review

1. Definition of vocabulary learning strategies

Vocabulary learning strategies are considered a part of language learning strategies (Nation, 2001). The different definitions of vocabulary learning strategies have been proposed by many scholars (Sokmen, 1997; Camerol, 2001; Catalan, 2003). Sokmen (1997) defines vocabulary learning strategies as the learners' action used to help them to know the meaning of words. Cameron (2001) describes vocabulary learning strategies as "the actions that learners take to help themselves understand and remember vocabulary items" (p. 92). According to Intaraprasert (2004), vocabulary learning strategies refer to "any set of techniques or learning behaviors, which language learners reported using in order to discover the meaning of new word, to retain the knowledge of newly-learned words, and to expand one's knowledge of vocabulary" (p. 53).

2. Classification of vocabulary learning strategies

There have been many taxonomies of vocabulary learning strategies proposed by researchers, for example, Oxford (1990), Schmitt (1997),

Nation (2001). Among these many classifications, Schmitt's vocabulary learning strategy taxonomy is widely known and well accepted among scholars in the field of vocabulary acquisition (e.g., Hamzah, Kafipour, and Abdullah, 2009; Sripetpun, 2000). Schmitt's taxonomy consists of five sub-categories: (1) memory strategies – connecting a new word with formerly learned knowledge, (2) cognitive strategies – similar to memory strategies but focusing on manipulative mechanical process, (3) metacognitive strategies – processes of learning and making decisions about planning, monitoring, and evaluating the best way to study, (4) determination strategies – used by individual to discover a word's meaning without consulting other people, and (5) social strategies – a way to learn a new word by interacting with other people.

Research Questions

1. What are the relationships between the students' use of vocabulary learning strategies and their vocabulary size?
2. What is the frequency of vocabulary learning strategies employed by the high and low vocabulary students?

Subjects

The subjects of this study were 257 third-year undergraduate students consisting of 39 medical students, 29 dental students, 48 nursing students, 90 engineering students, 25 accounting students, and 26 hospitality & tourism students at Prince of Songkla University. Students in these 6 fields of study were chosen to participate in this study because they would be highly affected by the upcoming AEC in 2015.

Research Instruments

1. Vocabulary Learning Strategy Questionnaire

The questionnaire was used to investigate students' frequency of vocabulary learning strategy use. It was developed based on the vocabulary learning questionnaire of Schmitt (1997) and Siriwan (2007). The reliability coefficient of the questionnaire was .92. The total items of this questionnaire

were 39 strategies divided into 5 categories of vocabulary strategies: 11 items of memory category, 5 of cognitive category, 9 of metacognitive category, 7 of determination category, and 7 of social category. The rating scale covered six numbers ranging from 0 (never) to 5 (always).

The interpretation of data in the questionnaire was based on Best (1981). Scores below 1.50 were determined as “very low use”, 1.50 - 2.49 as “low use”, 2.50 - 3.49 as “medium use”, 3.50 - 4.49 as “high use”, and scores above 4.49 determined as “very high use”.

2. The bilingual English-Thai version of vocabulary size test

The bilingual English-Thai version of vocabulary size test adapted from the monolingual English version of the vocabulary size test by Nation and Beglar (2007), aimed to measure learners’ receptive vocabulary size. It was a multiple-choice format consisting of 140 items with 10 items from each of fourteen 1000 word levels. The English-Thai version test kept all features of the English version test except for the language used in the choices. In other words, the alternatives in the English version test were translated into Thai. This translation decreases the influence of the unknown words appearing in the choices and increases the validity of the test (Lado, 1967). Furthermore, the fifth option “I don’t know” was added to the test to prevent guessing. The translation of the test from English into Thai was checked by 2 experienced translation specialists. In this test, learners were asked to choose the closest definition to the target word. Here is an example, item 45 from the 5th 1000 word level.

45. compost: We need some **compost**.

- a. การสนับสนุนช่วยเหลืออย่างเต็มที่
- b. ช่วยให้รู้สึกดีขึ้น
- c. วัสดุแข็งทำขึ้นจากหินและดินทรายผสมกัน
- d. สิ่งที่เกิดจากการเน่าเปื่อยของพืช
- e. ไม่ทราบคำตอบ

3. Semi-structure Interview

The interview was used to get in-depth information about vocabulary learning strategy use and attitudes towards English of 8 high and 8 low

vocabulary subjects. This semi-structured interview took about 15 minutes for each subject. It was recorded and the researcher took notes during the interview.

Data Collection

The two instruments: the vocabulary learning strategy questionnaire and the bilingual English-Thai version of vocabulary size test were administered to the 257 subjects. Furthermore, 8 subjects who were randomly selected from 99 high vocabulary subjects and another 8 subjects from 158 low vocabulary subjects were interviewed to get more information about the use of vocabulary learning strategies and attitudes towards English.

Data Analysis

Pearson correlation coefficient was calculated to see the relationship between the subjects' vocabulary learning strategies and their vocabulary size. Descriptive statistics was used to compute the mean scores and standard deviations of the high and low subjects' frequency of vocabulary learning strategy use. The independent sample t-test was used to test the differences in the level of vocabulary strategy use between the high and low vocabulary subjects.

Results

Research Question 1: What are the relationships between the students' use of vocabulary learning strategies and their vocabulary size?

The correlation analysis between 257 subjects' use of vocabulary learning strategies and their vocabulary size is shown in Table 1. The interpretation of the correlation coefficient was based on Ratner (2011). The values 0 to 0.3 indicate a weak relationship, 0.3 to 0.7 a moderate relationship, and 0.7 to 1.0 a strong relationship.

Table 1: Relationships between vocabulary learning strategies and vocabulary size

Strategies	r	Sig	Level of Correlation
Memory	.373	.000**	moderate
Cognitive	.275	.000**	weak
Metacognitive	.395	.000**	moderate
Determination	.355	.000**	moderate
Social	.333	.000**	moderate
Overall	.388	.000**	moderate

** Significant at the .01 level

In Table 1, the correlation between the subjects' overall vocabulary learning strategies and their vocabulary size was significant at a moderate level ($r = 0.388$, $p < .01$). It means that students with high frequency of vocabulary learning strategy use had a higher vocabulary size, and vice versa.

The use of four categories: metacognitive, memory, determination, and social strategies were correlated with the vocabulary size at a moderate level ($r = .395$, $.373$, $.355$, and $.333$, respectively); metacognitive strategies had the highest correlation among all four types. Only cognitive strategies had a low correlation with the vocabulary size ($r = .275$).

Table 2 shows the correlation levels between the subjects' use of 39 vocabulary learning strategies and their vocabulary size.

Table 2: Relationships between 39 vocabulary learning strategies and vocabulary size

Items	Strategies	r	Level of correlation
	Memory strategies		
1	Study words with pictures	.155*	weak
2	Make a group of words by topic for reviewing	.190**	weak
3	Make a group of words by alphabetical order for reviewing	.150*	weak
4	Say words aloud when studying	.254**	weak
5	Stick the word and its meaning in a place where it can be obviously seen	.226**	weak
6	Use words in sentences	.272**	weak
7	Connect words to personal experiences	.332**	moderate
8	Learn words of an idiom together	.357**	moderate
9	Connect the word to its synonyms and antonyms	.338**	moderate
10	Associate the word with other words you have learned	.354**	moderate
11	Remember the word from its “root”, “prefix”, and “suffix”	.414**	moderate
	Cognitive strategies		
12	Learn words through verbal repetition	.386**	moderate
13	Learn words through written repetition	.318**	moderate
14	Listen to a tape of word lists	.308**	weak
15	Keep a vocabulary notebook wherever you go	.295**	weak
16	Use vocabulary flashcards	.316**	moderate
	Metacognitive strategies		
17	Listen to English songs	.355**	moderate
18	Watch English television programs / English films	.346**	moderate
19	Use English printed matter	.386**	moderate
20	Use English websites	.344**	moderate
21	Test yourself with word tests	.274**	weak
22	Translate the meanings of words from English into Thai	.300**	weak

** Significant at the .01 level * Significant at the .05 level

Table 2: (Continued)

Items	Strategies	r	Level of correlation
23	Translate the meanings of words from Thai into English	.258**	weak
24	Play vocabulary games	.305**	moderate
25	Study words over time	.238**	weak
	Determination strategies		
26	Analyze parts of speech to guess the meanings of words	.371**	moderate
27	Analyze affixes and roots to guess the meanings of words	.388**	moderate
28	Guess the meanings of words from textual context	.397**	moderate
29	Analyze any available pictures or gestures to understand the meanings of words	.280**	weak
30	Look up words in an English-English dictionary	.236**	weak
31	Look up words in an English-Thai dictionary	.231**	weak
32	Look up words in a Thai-English dictionary	.002	weak
	Social strategies		
33	Ask teachers to translate the meanings of words	.150*	weak
34	Ask classmates to translate the meanings of words	.272**	weak
35	Ask other people to translate the meanings of words	.246**	weak
36	Discover new meanings through group work activities	.236**	weak
37	Interact with classmates	.238**	weak
38	Interact with English teachers	.273**	weak
39	Interact with native English speakers	.309**	moderate

** Significant at the .01 level * Significant at the .05 level

The correlations between the subjects' use of 39 vocabulary learning strategies and their vocabulary size were between .414 and .002. The strategy "remember the word from its root, prefix, and suffix" (Item 11) had the highest correlation among all strategies, "guess the meaning of words from textual context" (Item 28) the second highest, and "analyze affixes and roots to guess the meanings of words" the third highest. Out of 39 vocabulary learning strategies, 38 strategies were found to be significantly correlated with subjects' vocabulary size ($p < .05$) while the strategy "look up words

in a Thai-English dictionary” (Item 32) was not significantly correlated with the vocabulary size.

As shown in Table 2, 17 out of 39 vocabulary learning strategies had a moderate relationship with the subjects’ vocabulary size: 5 strategies in memory category (Items 7, 8, 9, 10, and 11), 3 in cognitive category (Items 12, 13, and 16), 5 in metacognitive category (Items 17, 18, 19, 20, and 24), 3 in determination category (Items 26, 27, and 28), and 1 in social category (Item 39). The rest of vocabulary learning strategy items were reported at a low correlation.

Research Question 2: What is the frequency of vocabulary learning strategies employed by the high and low vocabulary students?

According to Nation (2006), the 6000 word families were asserted to be a minimum sufficient vocabulary size for effective receptive skills. Therefore, this size was used to divide students into 2 groups: high vocabulary students and low vocabulary students according to their scores on the bilingual English-Thai version of vocabulary size test. There were 99 subjects in the high vocabulary group and 158 subjects in the low group. Table 3 illustrates this.

Table 3: Vocabulary size of the high and low vocabulary groups

Vocabulary size	High group (N = 99)		Low group (N = 158)		T-value	Sig
	Mean	SD	Mean	SD		
Total (word families)	7180.28	76.06	4761.95	59.27	25.38	.000**

** Significant at the .01 level

As shown in Table 3, the average vocabulary size of the high and low vocabulary subjects was 7180.28 word families (SD = 76.06) and 4761.95 word families (SD = 59.27), respectively. The vocabulary size of the high vocabulary subjects was significantly greater than that of the low vocabulary subjects ($p < .01$).

The frequency of the vocabulary learning strategy use reported by the high and low vocabulary subjects is presented in Table 4.

Table 4: The vocabulary learning strategies used by the students with high and low vocabulary size

Strategies	High group (N = 99)			Low group (N = 158)			T-value	Sig
	Mean	SD	Level of use	Mean	SD	Level of use		
Memory	2.82	0.99	medium	2.19	0.87	low	5.330	.000**
Cognitive	2.66	1.16	medium	2.18	0.98	low	3.577	.000**
Metacognitive	3.04	0.98	medium	2.29	1.00	low	5.939	.000**
Determination	3.21	1.01	medium	2.55	0.94	medium	5.330	.000**
Social	2.63	1.07	medium	2.09	0.85	low	4.487	.000**
Overall	2.87	0.91	medium	2.26	0.83	low	5.573	.000**

** Significant at the .01 level

In Table 4, the high vocabulary subjects employed the overall vocabulary learning strategies significantly more often than the low vocabulary subjects (mean = 2.87 and 2.26, respectively; $p < .01$). Furthermore, the high vocabulary subjects used all five strategy categories: memory (mean = 2.82 and 2.19), cognitive (mean = 2.66 and 2.18), metacognitive (mean = 3.04 and 2.29), determination (mean = 3.21 and 2.55), and social categories (mean = 2.63 and 2.09) significantly greater than the low vocabulary subjects. Interestingly, both high and low vocabulary subjects employed determination strategies the most while social strategies the least.

In terms of the level of use, the high vocabulary subjects employed the overall strategy categories at a moderate level while

the low vocabulary subjects at a low level. The former used all 5 strategy categories at a moderate level while the latter used only determination strategies at a moderate level, the rest at a low level.

Table 5 shows the frequency of 39 vocabulary learning strategies employed by the high and low vocabulary subjects.

Table 5: Thirty-nine vocabulary learning strategies used by the high and low vocabulary students

Items	Strategies	High group (N = 99)		Low group (N = 158)		T-value
		Mean	Level of use	Mean	Level of use	
	Memory strategies					
1	Study words with pictures	2.90	medium	2.66	medium	.068
2	Make a group of words by topic for reviewing	2.97	medium	2.65	medium	.024*
3	Make a group of words by alphabetical order for reviewing	2.29	low	2.09	low	.205
4	Say words aloud when studying	3.16	medium	2.61	medium	.001**
5	Stick the word and its meaning in a place where it can be obviously seen	2.23	low	1.90	low	.059
6	Use words in sentences	2.45	low	1.87	low	.000**
7	Connect words to personal experiences	3.16	medium	2.16	low	.000**
8	Learn words of an idiom together	2.89	medium	1.79	low	.000**
9	Connect the word to its synonyms and antonyms	2.84	medium	2.09	low	.000**
10	Associate the word with other words you have learned	3.13	medium	2.25	low	.000**
11	Remember the word from its “root”, “prefix”, and “suffix”	3.00	medium	2.04	low	.000**
	Cognitive strategies					
12	Learn words through verbal repetition	3.43	medium	2.73	medium	.000**
13	Learn words through written repetition	3.19	medium	2.65	medium	.000**
14	Listen to a tape of word lists	2.44	low	1.95	low	.002**

** Significant at the .01 level

* Significant at the .05 level

Table 5: (Continued)

Items	Strategies	High group (N = 99)		Low group (N = 158)		T- value
		Mean	Level of use	Mean	Level of use	
15	Keep a vocabulary notebook wherever you go	2.33	low	2.01	low	.062
16	Use vocabulary flashcards	1.91	low	1.56	low	.055
	Metacognitive strategies					
17	Listen to English songs	3.94	high	3.00	medium	.000**
18	Watch English television programs / English films	3.74	high	2.79	medium	.000**
19	Use English printed matter	3.27	medium	2.32	low	.000**
20	Use English websites	3.81	high	2.84	medium	.000**
21	Test yourself with word tests	2.60	medium	2.00	low	.000**
22	Translate the meaning of words from English into Thai	3.10	medium	2.48	low	.000**
23	Translate the meaning of words from Thai into English	2.72	medium	2.04	low	.000**
24	Play vocabulary games	3.25	medium	2.35	low	.000**
25	Study words over time	2.20	low	1.67	low	.000**
	Determination strategies					
26	Analyze parts of speech to guess the meanings of words	3.34	medium	2.45	low	.000**
27	Analyze affixes and roots to guess the meanings of words	3.39	medium	2.43	low	.000**
28	Guess the meanings of words from textual context	3.45	medium	2.65	medium	.000**
29	Analyze any available pictures or gestures to understand the meanings of words	3.19	medium	2.45	low	.000**
30	Look up words in an English-English dictionary	2.56	medium	2.06	low	.003**
31	Look up words in an English-Thai dictionary	3.97	high	3.04	medium	.001**
32	Look up words in a Thai-English dictionary	2.95	medium	2.79	medium	.314

** Significant at the .01 level

* Significant at the .05 level

Table 5: (Continued)

Items	Strategies	High group (N = 99)		Low group (N = 158)		T- value
		Mean	Level of use	Mean	Level of use	
	Social strategies					
33	Ask teachers to translate the meanings of words	2.48	low	2.27	low	.217
34	Ask classmates to translate the meanings of words	3.27	medium	2.79	medium	.002**
35	Ask other people to translate the meanings of words	2.61	medium	2.04	low	.001**
36	Discover new meanings through group work activities	2.23	low	1.76	low	.006**
37	Interact with classmates	2.74	medium	2.19	low	.000**
38	Interact with English teachers	2.57	medium	1.95	low	.000**
39	Interact with native English speakers	2.51	medium	1.60	low	.000**

** Significant at the .01 level

* Significant at the .05 level

As shown in Table 5, the high vocabulary subjects employed the vocabulary learning strategies with the mean frequency scores between 3.94 and 1.91 and the low vocabulary subjects used the strategies with the frequency between 3.00 and 1.56. The strategy “look up words in an English-Thai dictionary” (Item 31) was the most frequently used strategy by both the high and low vocabulary subjects; the strategies “listen to English songs” (Item 17) and “use English websites” (Item 20) were the second and the third most frequently used strategies by both groups. The least frequently used strategy by both groups was “use vocabulary flashcards”.

Out of 39 vocabulary learning strategies, the high vocabulary subjects employed 32 strategies significantly more frequently than the low vocabulary subjects ($p < .01$). No significant difference was found in the 6 strategies (Items 1, 3, 5, 15, 16, 32, and 33).

Eight high vocabulary subjects and another 8 low vocabulary ones were chosen to take an interview about their vocabulary learning strategies.

The interview was focused on getting more in-depth information on the 3 most frequently used strategies employed by both groups: “look up words in an English-Thai dictionary”, “listen to English songs”, and “use English websites”. The interview was also aimed to investigate the subjects’ attitudes towards English.

The results from the interview were consistent with the subjects’ questionnaire responses which reported the high and low vocabulary subjects frequently employed these 3 vocabulary learning strategies: “look up words in an English-Thai dictionary”, “listen to English songs”, and “use English websites”. However, 5 high vocabulary subjects and all low vocabulary subjects revealed problems with “look up words in an English-Thai dictionary”. They reported having problems finding the right words from an English-Thai dictionary.

The interview reveals the differences between the high and low vocabulary subjects in 2 strategies: “listen to English songs” and “use English websites”. Five out of 8 high vocabulary subjects tended to look up the meanings of unknown words appearing in songs while only 2 low vocabulary subjects did. Four high vocabulary subjects tried to find the meanings of unfamiliar words when they saw them on websites while only 2 low vocabulary subjects did.

In terms of attitudes towards English, the high vocabulary subjects tended to have positive attitudes towards English while the low vocabulary subjects tended to have negative attitudes. Six out of 8 high vocabulary subjects liked English; the other 2 were neutral. However, only one low vocabulary subject liked English; 2 subjects were indifferent; and the other 5 did not like English at all.

Conclusion and Discussion

The findings of the present investigation are summarized as follows:

1. The subjects’ use of the overall vocabulary learning strategies was moderately correlated with their vocabulary size. Of the 39 vocabulary learning strategies, 17 strategies significantly and moderately contributed to the subjects’ vocabulary size while the others slightly contributed to

vocabulary size.

The finding that the subjects' use of the overall vocabulary learning strategies and their vocabulary size was correlated is consistent with much research which have revealed that vocabulary learning strategies seem to relate to learners' vocabulary size (e.g., Gu and Johnson, 1996; Komol & Sripetpun, 2011; Waldvogel, 2011). This means that students with high frequency of vocabulary learning strategy use have higher vocabulary size, and vice versa. Therefore, teachers should be aware of the importance of vocabulary learning strategies in developing students' vocabulary size and encourage students to use the strategies more frequently. Students themselves should try to use the vocabulary learning strategies on their own. Moreover, teachers should make students aware of 17 vocabulary learning strategies which were found to have a moderate contribution to the subjects' vocabulary size and encourage them to frequently employ these strategies.

2. The high vocabulary subjects employed vocabulary learning strategies significantly more frequently than the low vocabulary subjects. The determination strategies were the most frequently used strategies and the social strategies were the least used strategies by the subjects in both high and low vocabulary groups.

The finding that high vocabulary subjects employed the overall vocabulary learning strategies significantly more often than the low vocabulary subjects is in line with previous research which revealed that more successful learners reported employing vocabulary learning strategies significantly more frequently than less successful learners (e.g., Gu and Johnson, 1996; Chen, 1998; Fan, 2003).

This present study reveals a possible factor which could be used to explain why the high vocabulary subjects employed vocabulary learning strategies more frequently than the low vocabulary subjects. This is their attitudes toward English. The interview revealed that the high vocabulary subjects seemed to have positive attitudes towards English while the low vocabulary subjects seemed to have negative attitudes towards the language. Much research (e.g., Gardner and Lamber, 1972; Littlewood, 1983; Haitema, 2002) supports that students with positive attitudes towards the target

languages are likely to put more effort to learn the languages. This may mean that positive attitudes towards English make students frequently employ the vocabulary learning strategies.

Moreover, the amount of English exposure may be another factor which affected the subjects' level of vocabulary learning strategy use. According to Nirattisai and Chiramanee's study (2014), high vocabulary subjects had more opportunities to practice English skills than the low vocabulary ones because most high vocabulary subjects had studied in an English high school program and attended extra English classes; one of them had attended a summer course abroad. Their extra exposure to English could have provided them with greater chances to employ various vocabulary learning strategies more frequently than the low vocabulary subjects. The language activities such as reading English textbooks, listening to English spoken texts, speaking English with people are activities which allow learners to get more English exposure and these activities are part of strategies in vocabulary learning. It can be concluded that learners with more exposure to English language tend to have greater frequency of vocabulary learning strategy use.

Among all five main strategy categories, the findings that the determination strategies were most frequently used by the two subject groups and social strategies were the least used strategies are consistent with several studies (e.g. Sarani and Kafipour, 2008; Komol and Sripetpun, 2011), which found that learners used determination strategies more frequently than the other strategy categories and the social strategies were generally found the least used among them. The low use of social strategies may be explained by Rattanavich (2013) who found that Thai university teachers generally adopted the more traditional teacher-centered or lecture-based approach in classroom. Thus, activities in class are centered on teachers; students only follow the teachers' instruction. This approach would cause students to have fewer opportunities to use social strategies. Moreover, learners themselves probably are not aware of the role of social strategies in their language learning.

Thus, in order to increase learners' use of vocabulary learning

strategies, teachers should find teaching techniques or activities that would create students' positive attitudes towards English and encourage them to have wide exposure to English. Teachers should point out to students the importance of using the social strategies and provide them with more opportunities to use social vocabulary learning, such as classroom discussion, group work, etc.

Of 39 vocabulary learning strategies, this present study found that the strategy "look up words in an English-Thai dictionary" was the highest frequently used strategy by the two subject groups; the strategies "listen to English songs" and "use English websites" were the second and the third highest frequently used. The least frequently used strategy was "use vocabulary flashcards".

Interestingly, both groups reported employing the vocabulary learning strategy "look up words in an English-Thai dictionary" at a highest level while this strategy only slightly contributed to subjects' vocabulary size. However, the high and low vocabulary subjects reported having problems finding the right words from an English-Thai dictionary. This problem may be caused by learners' inadequate knowledge in using dictionaries. This finding is in line with Sarani and Kafipour (2008), who reported that L2 learners did not use dictionaries appropriately.

Although "listen to English songs" and "use English websites" were found to be the second and the third highest frequently used strategies for the two subject groups, the low vocabulary subjects tended to ignore the meanings of unknown words appearing in songs and on English website. This was not the case with the high vocabulary subjects who paid attention to unfamiliar words. It seems that the low vocabulary subjects did not employ such vocabulary learning strategies as effectively as the high vocabulary subjects. This is in agreement with Nation (2001) who found that many vocabulary learning strategies are misused by learners.

The strategy "use vocabulary flashcards" is the least used strategy among the high and low vocabulary subjects in spite of the high correlation between this strategy and vocabulary size. It can be said that the subjects were not aware of the high contribution of using flashcards to their vocabulary

size. The crucial role of this strategy is supported by Nation (1990) who found that average learners can acquire a large number of words by using vocabulary flashcards.

In short, learners, especially underachieving ones, need guidance or suggestions in order to employ the strategies properly and effectively. Also, teachers should make students aware of the role of vocabulary learning strategies in vocabulary acquisition.

Further Studies

This study aimed to investigate the vocabulary learning strategies used by Prince of Songkla University students. For further investigation, research should be conducted on learners in other universities for greater understanding of vocabulary learning strategies. In addition, more research instruments such as observation, journal writing, etc. should be included in future studies in order to get in-depth information about learners' use of vocabulary learning strategy. This may also allow researchers to discover other interesting aspects.

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