



**Vocabulary Size and Vocabulary Learning Strategies of
Thai University Students**

Supika Nirattisai

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Master of Arts in Teaching English as an International Language
Prince of Songkla University**

2014

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Thesis Title Vocabulary Size and Vocabulary Learning Strategies of Thai
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ชื่อวิทยานิพนธ์	ปริมาณคำศัพท์และกลวิธีการเรียนรู้คำศัพท์ของนักศึกษาไทย
ผู้เขียน	นางสาวศุภิกา นิรติชัย
สาขาวิชา	การสอนภาษาอังกฤษเป็นภาษานานาชาติ
ปีการศึกษา	2556

บทคัดย่อ

งานวิจัยนี้มีจุดประสงค์เพื่อ 1) ศึกษาปริมาณคำศัพท์เพื่อการรับรู้ (receptive vocabulary) และคำศัพท์เพื่อการใช้ (productive vocabulary) ของนักศึกษาไทย 2) ศึกษาความพร้อมของปริมาณคำศัพท์ของนักศึกษาไทย 3) ศึกษาความสัมพันธ์ระหว่างการใช้กลวิธีการเรียนรู้คำศัพท์และปริมาณคำศัพท์ของนักศึกษาไทย 4) ศึกษาระดับการใช้กลวิธีการเรียนรู้คำศัพท์ของนักศึกษาไทย กลุ่มตัวอย่างที่ทำการศึกษาได้แก่ นักศึกษามหาวิทยาลัยสงขลานครินทร์ ใน 6 สาขาวิชา ซึ่งจะได้รับผลกระทบอย่างมากจากการเปิดการค้าเสรีอาเซียน ในปี 2558 ได้แก่ สาขาวิชา แพทยศาสตร์ ทันตแพทยศาสตร์ พยาบาลศาสตร์ การบัญชี วิศวกรรมศาสตร์ และการบริการและการท่องเที่ยว ข้อมูลวิจัยได้เก็บรวบรวมจากเครื่องมือจำนวน 4 ชิ้น คือ 1) ข้อสอบวัดปริมาณคำศัพท์เพื่อการรับรู้ (receptive vocabulary) 2) ข้อสอบวัดระดับปริมาณคำศัพท์เพื่อการใช้ (productive vocabulary) 3) แบบสอบถามเกี่ยวกับกลวิธีการเรียนรู้คำศัพท์ 4) การสัมภาษณ์ที่มีการวางแผนผลการวิจัยพบว่า กลุ่มตัวอย่างรวมทุกสาขาวิชามีปริมาณคำศัพท์เพื่อการรับรู้ (receptive vocabulary) และคำศัพท์เพื่อการใช้ (productive vocabulary) เท่ากับ 5751.58 และ 1609.56 ตระกูลศัพท์ (word families) ตามลำดับ ในส่วนความพร้อมของปริมาณคำศัพท์ พบว่า ทั้งปริมาณคำศัพท์เพื่อการรับรู้ (receptive vocabulary) และคำศัพท์เพื่อการใช้ (productive vocabulary) ของกลุ่มตัวอย่าง ยังไม่เพียงพอสำหรับการใช้ภาษาที่มีประสิทธิภาพ นอกจากนี้ยังพบว่า การใช้กลวิธีการเรียนรู้คำศัพท์และปริมาณคำศัพท์ของกลุ่มตัวอย่าง มีความสัมพันธ์กันอย่างมีนัยสำคัญ ($p < .01$) และกลุ่มตัวอย่างใช้กลวิธีการเรียนรู้คำศัพท์ในระดับน้อย

Thesis Title	Vocabulary Size and Vocabulary Learning Strategies of Thai University Students
Author	Miss Supika Nirattisai
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ABSTRACT

The purposes of the present study were to: 1) examine the receptive and productive vocabulary size of Thai University students, 2) investigate the readiness of the students' vocabulary knowledge, 3) explore the relationship between the students' use of vocabulary learning strategies and their vocabulary size, and 4) identify the students' frequency of vocabulary learning strategy use. The subjects of this study were 347 Prince of Songkla University students in the 6 fields of study who would be highly affected by the upcoming ASEAN Economic Community (AEC) in 2015: medicine, dentistry, nursing, engineering, accounting, hospitality and tourism. The research data were obtained through 4 instruments: the bilingual English-Thai version of vocabulary size test, the productive vocabulary levels test, vocabulary learning strategy questionnaire, and semi-structured interview. The study revealed that the receptive and productive vocabulary size of the subjects in all fields were 5751.58 and 1609.56 word families, respectively. In terms of the readiness of the subjects' vocabulary knowledge, their receptive and productive vocabulary size was below the sufficient levels for effective language use. Significant correlations were found between the subjects' use of vocabulary learning strategies and their receptive and productive vocabulary size ($p < .01$). The subjects reported employing vocabulary learning strategies at a low level.

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LIST OF PAPERS

This thesis is based on the following papers, which will be referred to in the text by their Roman numerals:

- I. Vocabulary Learning Strategies of Thai University Students and Its Relationship to Vocabulary Size
- II. The Contribution of Vocabulary Learning Strategies to University Students' Vocabulary Size

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April 2, 2014

Dear Supika Nirattisai & Thanyapa Chiramanee,

Thanks for your submission to *International Journal of English Language Education*.

We have the pleasure to inform you that your manuscript has been accepted for publication. It has been published on the Vol. 2, No. 1, in March 2014.

Title: Vocabulary Learning Strategies of Thai University Students and Its Relationship to Vocabulary Size

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If you have any questions, please do not hesitate to contact with us.

Sincerely,

A handwritten signature in cursive script that reads 'Nancy Bronte'.

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April 23, 2014

Dear Supika Nirattisai,

Your research article entitled “The Contribution of Vocabulary Learning Strategies to University Students’ Vocabulary Size” has been accepted for publication in the Silpakorn University Journal of Social Sciences, Humanities, and Arts, Volume 14 Number 2 (May-August) 2014.

Thank you for your contribution to Silpakorn University Journal of Social Sciences, Humanities, and Arts.

Sincerely yours,

A handwritten signature in cursive script that reads "T. Lertcharnrit".

(Associate Professor Thanik Lertcharnrit, Ph.D)

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1. Introduction

With the launch of the ASEAN Economic Community (AEC) in 2015, the free trade and services of all countries in South East Asia will be opened up and the competition of economies in the region will rapidly increase from the expansion of investment. Its effect will lead the labor market to become more open for member countries' workers. Skilled workers, especially in eight specific professions, namely, engineering, nursing, medicine, dentistry, architecture, hotel & tourism, surveying, and accounting will be allowed to work freely within the member countries. Thus, both work skills and English proficiency will become important factors for the labor force in terms of qualification requirement and employment opportunities. In Thailand, there are many concerns regarding getting Thai workers ready for the AEC and one of the concerns is their English proficiency (Saraithong & Chancharoenchai, 2012). To gain benefit from this open trade, it is necessary for Thai workers to be competent in English communication.

It has long been recognized that English proficiency and vocabulary knowledge are closely related (e.g., Laufer, 1998; Nation & Meara, 2002). Many researchers have considered vocabulary knowledge as an essential element in developing learners' language proficiency (e.g., Laufer, 1986; Knight, 1994; Hermann, 2003). According to Dubin and Olshtain (1986), a high vocabulary repertoire is a key to effective language use and low word knowledge can prevent learners from achieving language communication. Thus, vocabulary is an important factor in reflecting learners' English language skills.

There have been many attempts to distinguish between different types of vocabulary knowledge. For instance, Henriksen (1999) classifies this knowledge into three dimensional models: partial vs. precise, shallow vs. deep, and receptive vs. productive. Palmer (1921) and West (1938) use the terms receptive and productive vocabulary. Out of many proposed models of vocabulary knowledge, most models distinguish between receptive and productive vocabulary knowledge (Laufer, 1998). Nation (1990) and Schmitt (2010) define receptive vocabulary as the ability to recognize word form and retrieve the meaning of words while listening or reading.

Productive vocabulary is the ability to retrieve and produce the appropriate forms through speaking or writing. These two types of vocabulary represent different aspects of knowledge; receptive word knowledge involves the ability to read or listen while productive vocabulary involves the ability to write or speak.

The measuring of students' receptive and productive vocabulary size is important for a number of reasons. For instance, information about students' vocabulary size can be a benefit for teachers to design a course syllabus or material for each particular group of students. If teachers know students' receptive and productive vocabulary levels, they will be able to plan how much time they should spend on teaching vocabulary or what type of vocabulary knowledge learners should focus on. In addition, the results of learners' vocabulary size can predict their proficiency in other language skills. Research has shown that vocabulary is a crucial component of any languages (Nation, 1993), so a lack of skill in this area can be the cause of poor performance of language skills.

With regard to the above discussion, researchers have paid attention to learners' vocabulary size and the required vocabulary level for effective use of language. A number of researchers have proposed ranges of necessary lexical knowledge for achieving English language proficiency. For example, Waring and Nation (1997) propose that 2000-3000 word families are needed for speaking and writing. Schmitt et al. (2001) suggest that the vocabulary knowledge of 2000 word families is necessary for oral communication and 5000 word families is needed for reading authentic texts. Laufer (1992) supports that word knowledge of around 5000 word families, which allows learners to know 95% of the running words in a text, enables students to read independently (Laufer, 1992). According to Hirsh and Nation (1992) and Hu and Nation (2000), learners need to know 98% of running words in the text for the adequate comprehension. Nation (2006) took the ideal text coverage of 98% to investigate the needed vocabulary size and the results showed that 6000-7000 word families are important for spoken text and around 8000-9000 word families are adequate for written text.

The number of unknown words in spoken or written texts can affect learners' reading and listening, so it is crucial to know what amount of text coverage is enough for language comprehension. Text coverage refers to the number of running words in spoken and written texts that are known by learners. Hirsh and Nation (1992) found that if learners know 80% of words in a text, they would likely have 20 unknown words in every 100 (or 2 unknown words per line). With text coverage of 90%, there are 10 unknown words in every 100 (or 1 unknown word in each line). With text coverage of 95%, there is 1 unknown word in every 20 (or 1 unknown word in every 2 lines). According to Hu and Nation's study (2000) on text coverage and reading proficiency, the ideal text coverage for comprehension was found to be 98% of running words. Learners with the knowledge of 98% of text coverage will get 1 unknown word in every 50 (or 1 unknown word in every 5 lines). However, Carver (1994) argued that text coverage of 98% does not usually make learners understand the text easily.

Much research on L2 learners' vocabulary size around the world has shown that their receptive vocabulary knowledge is less than 6000 word families and their productive vocabulary knowledge is lower than 2000 word families which are considered the sufficient vocabulary size for receptive and productive language skills, respectively (e.g., Laufer, 1998; Nurweni & Read, 1999; Zhiying, 2005). For example, Laufer's study (1998) showed that Israeli high school graduates have the receptive vocabulary of 3500 word families. Nurweni and Read (1999) revealed that the receptive vocabulary of Indonesian university students was at 1226 word families. In addition, Zhiying (2005) found that Chinese university students had receptive and productive vocabulary size of 3348 and 1456 word families, respectively, and receptive and productive vocabulary size of Thai university students was 3021 and 1118 word families, respectively.

As discussed above, vocabulary knowledge has been proved to positively and significantly affect learners' language achievement. Thus, it is worthwhile to study the receptive and productive vocabulary size of L2 learners as well as the readiness of their vocabulary knowledge for each language skill. In addition, this present study also aimed to contribute to the research on developing learners' vocabulary

knowledge. Therefore, vocabulary learning strategies, which are one of the best tools to enhance learners' vocabulary size (e.g., Cunningsworth, 1995; Nation, 2001), were one of the main focuses of this present study.

This present study focused on a group of Prince of Songkla University students studying in the 6 of 8 specific professional groups under the AEC agreements: engineering, nursing, medicine, dentistry, hotel & tourism, and accounting. University students were selected as participants in this study because they were considered to be representatives of a large proportion of skilled workers for the Thai labor market and the students in those 8 fields of study would be highly affected by the opening up of trade in 2015. This present research was limited to only 6, instead of 8, fields of study because Prince of Songkla University, where the research was conducted, offers only 6 fields of professionals.

2. Research Questions

1. How large is the receptive and productive vocabulary knowledge of Prince of Songkla University students in the 6 fields of study?
2. Is the students' vocabulary extensive enough?
3. Do vocabulary learning strategies contribute to the students' vocabulary size?
4. What extent do the students employ vocabulary learning strategies?

3. Significance of the Study

The present research was conducted to explore the vocabulary size of Prince of Songkla University students and their readiness of vocabulary knowledge for each language skill. The students' level of vocabulary learning strategy use and its relationship to their vocabulary size was also investigated. The overall findings of this study will be beneficial to language teachers, learners, and all parties involved including the university, the students' faculties, and the faculty responsible for teaching English.

The results of the students' vocabulary size will make teachers and all parties concerned become aware of their vocabulary level. The students themselves will be able to see the limitation of their own vocabulary knowledge. The findings about the students' vocabulary learning strategies will mainly provide useful information about types of effective vocabulary learning strategies for both teachers and students.

4. Research Methodology

4.1 Subjects

The subjects of this study were third-year undergraduate students studying in the 6 target fields of study which would be highly affected by the upcoming AEC in 2015, namely, medicine, dentistry, accounting, hospitality & tourism, engineering, and nursing, at Prince of Songkla University. The numbers of subjects in each field of study were 47 medical students, 29 dental students, 27 accounting students, 37 hospitality & tourism students, 152 engineering students, and 55 nursing students. These 347 subjects were drawn from a population of 1,352 using a combination of proportional stratified sampling and simple random sampling.

4.2 Research Instruments

The instruments used in this study were: 1) the bilingual English-Thai version of vocabulary size test, 2) the productive vocabulary levels test, 3) vocabulary learning strategy questionnaire, and 4) semi-structured interview.

4.2.1 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 vocabulary size test (Nation & 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 monolingual 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; Laufer & Shmueli, 1997). 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

4.2.2 The Productive Vocabulary Levels Test

This test was developed by Laufer and Nation (1999) aiming to measure the learners’ productive vocabulary size. The test had 90 items with 5 word levels, 2000, 3000, 5000, 10000, and the university word list (UWL). Each word level contained 18 items. Each item contained one meaningful sentence with one missing word (target word). The first letters of each target word were provided to prevent learners from filling untargeted words. The UWL was not included in the test because this study aimed to investigate learners’ productive vocabulary knowledge in general. In this test, learners were asked to fill in the missing word. Here is an example of item 51 from the 5th 1000 word level.

51. Nuts and vegetables are considered who_____ food.

4.2.3 Vocabulary Learning Strategy Questionnaire

The questionnaire was mainly used as the tool to study students’ vocabulary learning strategies. It was constructed in Thai language to avoid the confusion and

misinterpretation. The questionnaire was developed and given to the 2 experts on the related research field for checking the appropriateness and validity. The questionnaire was revised based on the comments of the experts before piloting them.

The questionnaire consisted of 66 items divided into 2 parts: 1) general information and 2) vocabulary learning strategies. The first part of the questionnaire aimed to gather general information of the subjects; there were 27 items in total. The second part, developed based on the vocabulary learning strategy questionnaire of Schmitt (1997) and Siriwan (2007), was used to investigate students' frequency of vocabulary learning strategy use. The total items of this part were 39 strategies divided into 5 strategy categories: 11 items of memory category – connecting a new word with formerly learned knowledge, 5 of cognitive category – similar to memory strategies but focusing on manipulative mechanical process, 9 of metacognitive category – processes of learning and making decisions about planning, monitoring, and evaluating the best way to study, 7 of determination category – used by individual to discover a word's meaning without consulting other people, and 7 of social category – a way to learn a new word by interacting with other people. The rating scale covered six numbers ranging from 0 (never) to 5 (always).

4.2.4 Semi-Structured Interview

This semi-structured interview was used to get in-depth information about the history of the subjects' English language learning and attitudes towards English. Eight high vocabulary subjects and 8 low vocabulary subjects on both receptive and productive vocabulary tests would be interviewed for about 15 minutes each. The interview was recorded and the researcher took notes during the interview.

4.3 Piloting Study

The pilot study was done before conducting the main research to test the reliability of the vocabulary learning strategy questionnaire. Fifty third-year undergraduate students majoring in Thai language at Prince of Songkla University participated in this pilot study. The reliability of this questionnaire was .92.

4.4 Data Collection

First, all the 347 subjects were required to take the bilingual English-Thai version of vocabulary size test and the productive vocabulary levels test. There was no time limit for these two tests. The subjects could spend as much time as they want because the objectives of the tests was to assess their vocabulary knowledge, not their speed in completing the test. Approximately, 2 hours were spent on the two tests. Later, the vocabulary learning strategy questionnaire was distributed to all subjects. Finally, 8 high vocabulary subjects and 8 low vocabulary subjects on both receptive and productive vocabulary knowledge tests were interviewed to get more information about their history of English language learning and their attitudes towards English language.

4.5 Data Analysis

4.5.1 Scoring Method of the Two Vocabulary Tests

In scoring the bilingual English-Thai version of vocabulary size test, a correct answer got 1 point and an incorrect answer got zero. The subjects who selected all the right answers from the 140 item test received full points of 140.

For the scoring of the productive vocabulary levels test, the subjects received 1 point for each correct word. The subjects got a score if though their answer was grammatically wrong or had minor spelling mistakes which had the same pronunciation or did not deform the word (“raor” was used in place of “roar”). However, the word was marked as incorrect if its meaning did not match the provided sentence. The subjects answering with wrong spelling such as confusing the use of “l” and “r” received zero.

4.5.2 Estimating Vocabulary Size

To establish the subjects’ receptive vocabulary size, their total scores from the bilingual English-Thai version of vocabulary size test needed to be multiplied by 100 (Nation & Beglar, 2007). For the subject who scored 35 out of 140, his receptive vocabulary size was 3500 word families.

The estimation of productive vocabulary size in this present study was based on Laufer (1998). The subjects' scores from the productive vocabulary levels test were calculated as follows:

$$[(2000 \text{ productive score} * 2) + 3000 \text{ productive score} + 5000 \text{ productive score} + ((3000 \text{ productive score} + 5000 \text{ productive score}) / 2) + ((5000 \text{ productive score} + 10000 \text{ productive score}) / 2 * 4) + 10000 \text{ productive score}] / 180 * 10000$$

4.5.3 Statistical Analysis

Descriptive statistics were used to compute the mean scores and standard deviations of two research data: 1) the subjects' receptive and productive vocabulary size and 2) the subjects' frequency of vocabulary learning strategy use. 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 as "very high use".

Pearson correlation coefficient was applied to test the relationships between the subjects' vocabulary learning strategies and their receptive and productive vocabulary size. The interpretation of the correlation coefficient was based on Ratner (2011). The values 0 - 0.29 indicate a weak relationship, 0.30 - 0.69 a moderate relationship, and 0.70 - 1.0 a strong relationship.

5. Results

Research Question 1: How large is the receptive and productive vocabulary knowledge of Prince of Songkla University students in the 6 fields of study?

1. Receptive Vocabulary

Table 1 and Figure 1 illustrate the receptive vocabulary size of Prince of Songkla University (PSU) student subjects in the six fields of study.

Table 1: Receptive vocabulary size of PSU students in the 6 fields of study

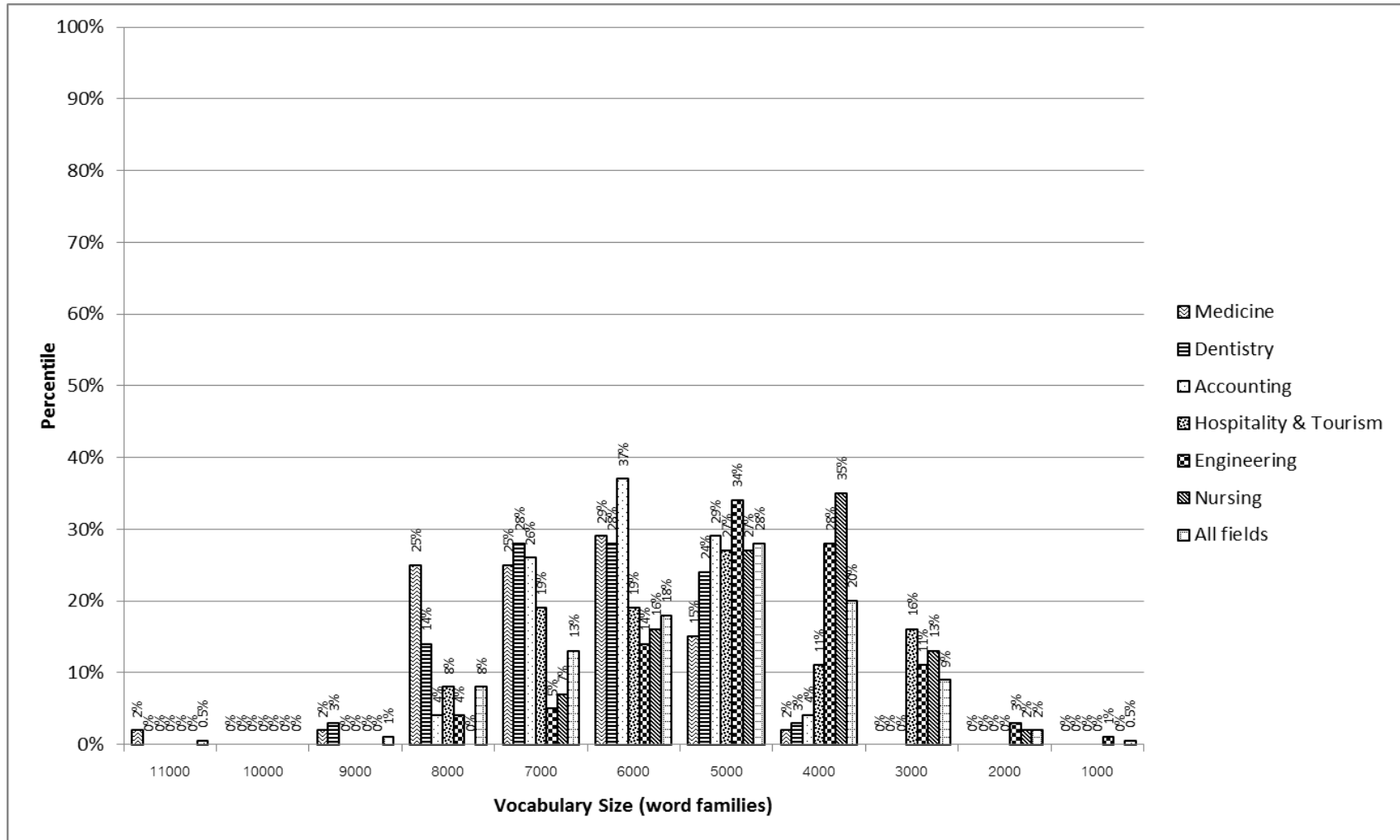
Vocabulary size (word families)	Number of students						
	Medicine N = 47	Dentistry N = 29	Accounting N = 27	Hospitality & Tourism N = 37	Engineering N = 152	Nursing N = 55	All fields N=347
11000 (11000-11999)	2%	-	-	-	-	-	0.5%
10000 (10000-19999)	-	-	-	-	-	-	-
9000 (9000-9999)	2%	3%	-	-	-	-	1%
8000 (8000-8999)	25%	14%	4%	8%	4%	-	8%
7000 (7000-7999)	25%	28%	26%	19%	5%	7%	13%
6000 (6000-6999)	29%	28%	37%	19%	14%	16%	18%
5000 (5000-5999)	15%	24%	29%	27%	34%	27%	28%
4000 (4000-4999)	2%	3%	4%	11%	28%	35%	20%
3000 (3000-3999)	-	-	-	16%	11%	13%	9%
2000 (2000-2999)	-	-	-	-	3%	2%	2%
1000 (1000-1999)	-	-	-	-	1%	-	0.5%
Mean	7236.17	6789.65	6411.11	5843.24	5197.37	5081.82	5751.58
S.D.	1270.64	1115.27	901.42	1523.62	1297.78	1113.90	1475.59

According to Table 1, the average receptive vocabulary size of the subjects in the six fields was 5751.58 word families. The average receptive vocabulary size of the subjects in each field was also considered. The subjects from medicine had the highest vocabulary size among all fields (7236.17 word families), followed by the subjects from dentistry (6789.65 word families), accounting (6411.11 word families), hospitality and tourism (5843.24 word families), engineering (5197.37 word families), and nursing (5081.82 word families), respectively.

The majority of the subjects (28%) in all fields had a receptive vocabulary level of 5000 word families. For consideration of the subjects in each field, the majority of subjects from dentistry (28%) had a receptive vocabulary level of 7000 word families, the majority of subjects from medicine and accounting (29%, 37%, respectively) acquired a receptive vocabulary level of 6000 word families, the majority of subjects in the two fields, namely, hospitality and tourism and engineering

(27% and 34% , respectively) had a receptive vocabulary level of 5000 word families, and the majority of the subjects from nursing (35%) acquired a receptive vocabulary level of 4000 word families.

Figure 1: Receptive vocabulary size of PSU students in the 6 fields of study



The results of the subjects' highest and lowest receptive vocabulary levels are presented in Table 2.

Table 2: Maximum and minimum receptive vocabulary levels of PSU students in the 6 fields of study

Fields of study (N)	Maximum vocabulary size		Minimum vocabulary size	
	Word families	Number of students	Word families	Number of students
Medicine (47)	11000	2%	4000	2%
Dentistry (29)	9000	3%	4000	3%
Accounting (27)	8000	4%	4000	4%
Hospitality & Tourism (37)	8000	8%	3000	16%
Engineering (152)	8000	4%	1000	1%
Nursing (55)	7000	7%	2000	2%
All fields (347)	11000	0.5%	1000	0.5%

The highest receptive vocabulary level of the subjects in the six fields was 11000 word families. Only 0.5 percent of subjects scored at this level. The lowest receptive vocabulary level was 1000 word families. Zero point five percent of the subjects scored at this level.

When the highest and lowest receptive vocabulary knowledge of the subjects in each field was examined, the findings showed that the subjects from medicine had the highest level at 11000 word families, which was the highest level among all fields, dentistry at 9000 word families, accounting, hospitality and tourism, and engineering at 8000 word families each. The subjects from nursing acquired the highest receptive vocabulary level of 7000 word families, being the lowest compared to the other fields.

The lowest receptive vocabulary level of the subjects from medicine, dentistry, and accounting was 4000 word families each, hospitality and tourism 3000 word families, nursing 2000 word families, and engineering 1000 word families, being the lowest compared to other fields of study.

2. Productive Vocabulary

The analytical results of productive vocabulary knowledge of Prince of Songkla University (PSU) student subjects in the six fields of study are shown in Table 3 and Figure 2.

Table 3: Productive vocabulary size of PSU students in the 6 fields of study

Vocabulary size (word families)	Number of students						
	Medicine N = 47	Dentistry N = 29	Hospitality & Tourism N = 37	Accounting N = 27	Engineering N = 152	Nursing N = 55	All fields N=347
6000 (6000-6999)	2%	-	-	-	-	-	0.5%
5000 (5000-5999)	2%	-	-	-	-	-	0.5%
4000 (4000-4999)	6%	7%	-	-	1%	-	2%
3000 (3000-3999)	24%	28%	19%	-	3%	-	9%
2000 (2000-2999)	55%	31%	49%	15%	8%	-	20%
1000 (1000-1999)	11%	34%	32%	63%	41%	44%	37%
Below 1000 (0-999)	-	-	-	22%	47%	56%	31%
Mean	2826.83	2599.14	2324.32	1466.05	1135.42	947.47	1609.56
S.D.	999.15	841.11	786.92	513.41	740.37	359.43	1020.60

As shown in Table 3, the average productive vocabulary size of the subjects in all six fields equaled to 1609.56 word families. When a closer look was taken at the productive vocabulary size of the subjects in each field, it was found that the subjects in medical field had the highest average productive vocabulary size (2826.83 word families), followed by the subjects in dentistry (2599.14 word families), hospitality and tourism (2324.32 word families), accounting (1466.05 word families), engineering (1135.42 word families), and nursing (947.47 word families), respectively.

The majority of the subjects in all fields (37%) had a productive vocabulary level of 1000 word families. When each field of study was considered, the majority of the subjects from medicine, and hospitality and tourism (55% and 49%, respectively) acquired a productive vocabulary level of 2000 word families, the majority of the

subjects from dentistry and accounting (34% and 63%, respectively) 1000 word families, and the majority of the subjects from engineering and nursing (47% and 56%, respectively) below 1000 word families.

Figure 2: Productive vocabulary size of PSU students in the 6 fields of study

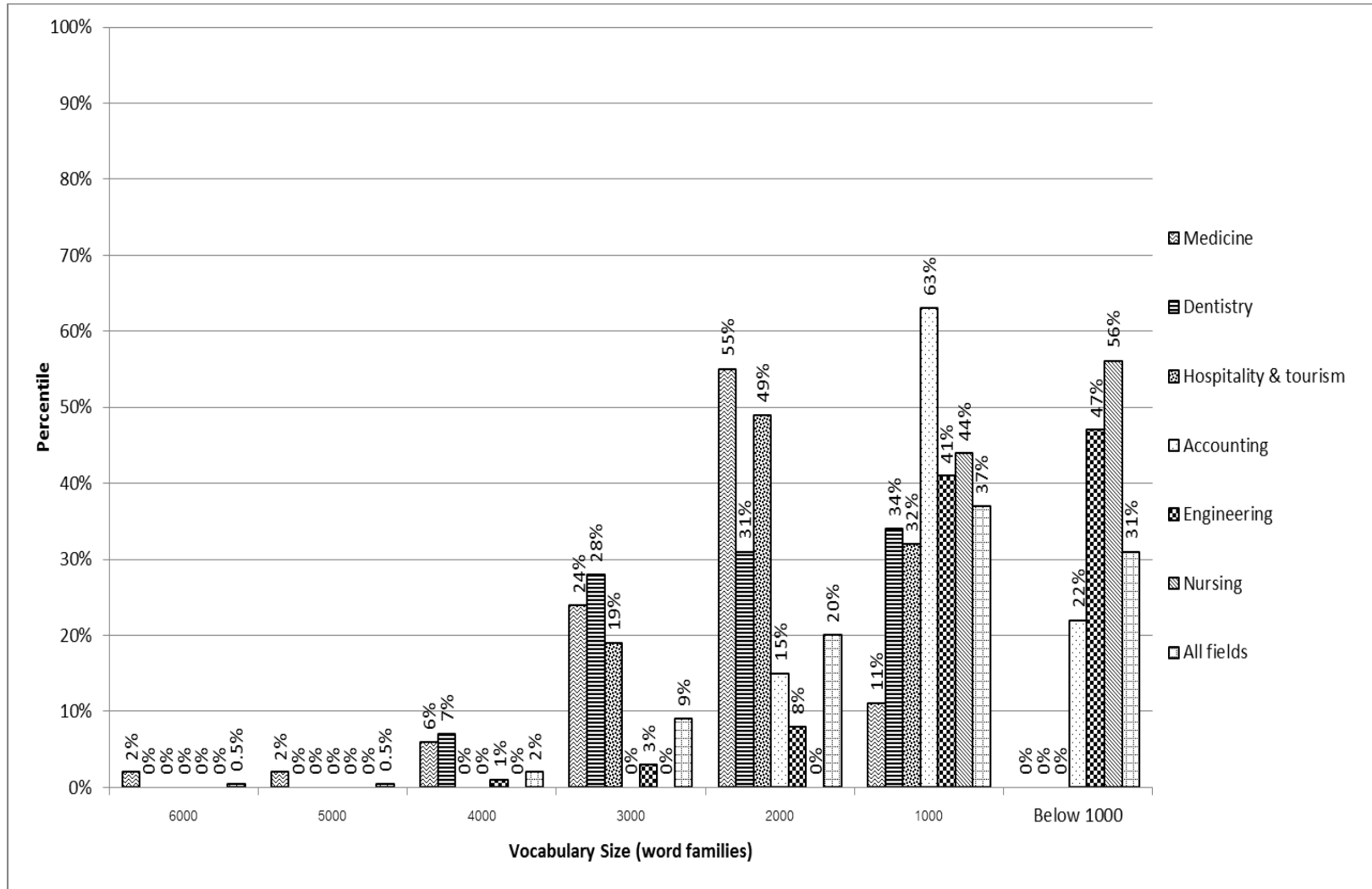


Table 4 presents the highest and lowest productive vocabulary levels of the subjects in the six fields of study.

Table 4: Maximum and minimum productive vocabulary levels of PSU students in the 6 fields of study

Fields of study (N)	Maximum vocabulary size		Minimum vocabulary size	
	Word families	Number of students	Word families	Number of students
Medicine (47)	6000	2%	1000	11%
Dentistry (29)	4000	7%	1000	34%
Hospitality & Tourism (37)	3000	19%	1000	32%
Accounting (27)	2000	15%	Below 1000	22%
Engineering (152)	4000	1%	Below 1000	47%
Nursing (55)	1000	44%	Below 1000	56%
All fields (347)	6000	0.5%	Below 1000	31%

As shown in Table 4, only 0.5 percent of the subjects in all fields acquired the highest productive vocabulary level at 6000 word families, while 31 percent of them had the lowest levels of below 1000 word families.

When the highest and lowest productive vocabulary levels of the subjects in each field were considered, the findings showed that the subjects from medicine had the highest vocabulary level of 6000 word families, which was the highest level compared to the other fields. The subjects from dentistry and engineering had the highest productive vocabulary level of 4000 word families, hospitality and tourism 3000 word families, accounting 2000 word families, and nursing 1000 word families which was the lowest among all fields.

The lowest productive vocabulary level of the subjects from medical, dental, and hospitality and tourism fields was the same, at 1000 word families. Furthermore, the lowest productive vocabulary of the other three fields, namely, accounting, engineering, and nursing was below 1000 word families which was the lowest compared to the other fields. It is interesting to note that the highest productive

vocabulary level of the subjects from nursing was equal to the lowest level of the subjects from medicine, dentistry, and hospitality and tourism.

According to the results of the receptive and productive vocabulary size of the subjects in each field, it could be seen that the subjects in the medical field obtained the highest level of both types of vocabulary knowledge, followed by subjects from dentistry, while the subjects from nursing had the lowest level of both types of vocabulary compared to the subjects in the other fields.

Research Question 2: Is the students' vocabulary extensive enough?

Receptive vocabulary knowledge affects learners' reading and listening skills. Those with high receptive vocabulary knowledge are more successful in reading and listening than those with low receptive vocabulary knowledge (Golkar & Yamini, 2007). In order to listen and read effectively, a reader or listener should have receptive vocabulary knowledge that covers 98 % of the running words in texts (Hu & Nation, 2000). According to the 98% coverage level, a receptive vocabulary of at least 6000 word families is required for effective listening and 8000 word families for reading (Nation, 2006).

In addition, a productive vocabulary level is critical to the ability to speak and write (Laufer & Nation, 1995; Schmitt, 2000; Daller et al., 2003). The productive vocabulary knowledge that is sufficient for writing and speaking is more than 2000 word families (Waring & Nation, 1997). Productive vocabulary knowledge of below 2000 word families made it difficult for students to speak or write effectively.

The percentages of the subjects obtaining a receptive and productive vocabulary of above the sufficient vocabulary for reading, listening, speaking, and writing are shown in Table 5.

Table 5: Number of PSU students with a receptive vocabulary size of above 6000 and 8000 word families and with the productive vocabulary size of above 2000 word families

Fields of study (N)	Receptive vocabulary size (word families)			Productive vocabulary size (word families)	
	Average	above 6000	above 8000	Average	above 2000
		(≥ 6000)	(≥ 8000)		(≥ 2000)
Medicine (47)	7236.17	83%	29%	2826.83	89%
Dentistry (29)	6789.65	73%	17%	2599.14	66%
Accounting (27)	6411.11	67%	4%	1466.05	15%
Hospitality & Tourism (37)	5843.24	46%	8%	2324.32	68%
Engineering (152)	5197.37	23%	4%	1135.42	12%
Nursing (55)	5081.82	23%	0%	947.47	0%
All fields (347)	5751.58	40.5%	9.5%	1609.56	32%

The results shown in Table 5 demonstrate that the average receptive vocabulary size of the subjects in all six fields was 5751.58 word families. This amount of receptive vocabulary was lower than 6000 and 8000 word families considered to be the needed size for listening and reading, respectively. There were 40.5 percent of the subjects, who acquired receptive vocabulary knowledge higher than 6000 word families, and only 9.5 percent had receptive vocabulary knowledge higher than 8000 word families. In terms of productive vocabulary, the average productive vocabulary size of the subjects was 1609.56 word families, which was lower than 2000 word families considered to be sufficient for speaking and writing. Only 32 percent of the subjects had productive vocabulary knowledge higher than 2000 word families.

As a result, 59.5 percent of the subjects in all six fields would have problems with listening, 90.5 percent with reading, and 68 percent with speaking and writing. These problems occurred because the subjects had a receptive and productive vocabulary size lower than the required amount in the various English skills. Of the 347 subjects in the six fields of study, it was found that the subjects with sufficient

vocabulary and with no problems in listening were medical students (7236.17 word families), dentistry students (6789.65 word families), and accounting students (6411.11 word families). Fields with adequate vocabulary size to use in speaking and writing were medicine (2826.83 word families), dentistry (2599.14 word families), and hospitality and tourism (2324.32 word families). It is interesting to note that the subjects of all fields would have difficulty with reading because their average receptive vocabulary size was lower than 8000 word families.

In each field of study, the subjects from medical field acquired an average receptive vocabulary size of 7236.17 word families which was higher than the adequate level for listening at 6000 word families, but still below the needed level for reading at 8000 word families. Eighty-three percent of the subjects from medicine had a receptive vocabulary size of more than 6000 word families, and 29 percent had a receptive vocabulary size above 8000 word families. Regarding productive vocabulary, the average productive vocabulary size of the subjects from this field was 2826.83 word families, which was higher than the needed amount for speaking and writing at 2000 word families. There were 89 percent who acquired productive vocabulary higher than 2000 word families.

It may be concluded that two thirds of the subjects from medicine would have difficulty with reading because they had receptive vocabulary knowledge of less than 8000 word families. Although their average vocabulary size was enough for listening (7236.17 word families), speaking and writing (2826.83 word families), 17 percent of them would have problems with listening, and 11 percent would have problems with speaking and writing.

The subjects in dental field acquired the average receptive vocabulary size of 6789.65 word families which was higher than 6000 word families considered to be essential for listening but still below the sufficient level for reading at 8000 word families. Only 17 percent of the subjects in this field had receptive vocabulary knowledge higher than 8000 word families while 73 percent higher than 6000 word families. A closer look at the amount of productive vocabulary knowledge of the subjects showed that their average size was 2599.14 word families, which was higher

than the sufficient level to speak and write at 2000 word families. There were 66 percent of the subjects who had a productive vocabulary size of more than 2000 word families.

So, based on the data mentioned above, it may be concluded that 4 in 5 of the subjects in dentistry would face problems with reading which was caused by a lack of receptive vocabulary knowledge at 8000 word families. Although their average receptive and productive vocabulary was adequate for listening (6789.65 word families), speaking and writing (2599.14 word families), one third of them had vocabulary less than the adequate vocabulary size to be used effectively in the skills of listening, speaking, and writing.

The average receptive vocabulary size of the subjects from accounting was 6411.11 word families. This was higher than 6000 word families which is essential for effective listening but less than the sufficient level for effective reading at 8000 word families. Sixty-seven percent of the subjects acquired receptive vocabulary knowledge of more than 6000 word families, and only 4 percent had receptive vocabulary of more than 8000 word families. Their average productive vocabulary knowledge was 1466.05 word families which was below the sufficient size for speaking and writing at 2000 word families. Only 15 percent acquired a productive vocabulary size of above 2000 word families.

Therefore, based on their receptive and productive vocabulary knowledge, 96 percent of the subjects from accounting would have difficulty with reading, 85 percent with speaking and writing. Although the average amount of their vocabulary was enough for effective listening, one third of them acquired receptive vocabulary knowledge of below 6000 word families, and this results in a problem with listening.

The subjects from hospitality and tourism had the average receptive vocabulary size of 5843.24 word families which was below the level that could be used in effective listening (6000 word families) and reading (8000 word families). Forty-six percent of them acquired a receptive vocabulary size of above 6000 word families, and only 8 percent had a receptive vocabulary of above 8000 word families.

In terms of the average productive vocabulary of the subjects in this field, their average productive vocabulary size was 2324.32 word families which was higher than the adequate number for speaking and writing at 2000 word families. Out of all these subjects, there were sixty-eight percent who had a productive vocabulary size of more than 2000 word families.

From the two types of vocabulary knowledge, it may be concluded that 92 percent of the subjects from hospitality and tourism would have problems using vocabulary in reading, 54 percent would have problems with adopting vocabulary in listening because of a lack of the adequate receptive vocabulary knowledge. Although the average amount of the subjects' productive vocabulary size did not demonstrate the problems of subjects' speaking and writing (2324.32 word families), there were still many individual subjects, one of three, who would have problems with speaking and writing.

In terms of the receptive and productive vocabulary knowledge of the subjects from engineering, it was found that they acquired the average receptive vocabulary size of 5197.37 word families that fell below the required vocabulary size in the skills of listening and reading which required vocabulary knowledge of 6000 and 8000 word families, respectively. There were only 23 percent of the subjects who had a receptive vocabulary size greater than 6000 word families and only 4 percent had vocabulary more than 8000 word families. The average productive vocabulary knowledge of the engineering subjects was 1135.42 word families. It was lower than the adequate number of 2000 word families required for effective speaking and writing. Only 12 percent of the subjects had a productive vocabulary size higher than 2000 word families.

It may be concluded that as many as 77 percent of the subjects from engineering would have problems with listening, 96 percent with reading, and 88 percent with speaking and writing due to a low level of their receptive and productive word knowledge.

Last, the average receptive vocabulary of the subjects from nursing field was 5081.82 word families which was less than the 6000 and 8000 word families necessary for the English skills of listening and reading. Out of all subjects in this field, only 23 percent of them had receptive vocabulary knowledge of above 6000 word families and no subjects had a receptive vocabulary size of more than 8000 word families. According to the average productive vocabulary size, the findings showed that their average vocabulary size was 947.47 word families, which was lower than the adequate size for speaking and writing at 2000 word families. Of all subjects in this field, no subject had a productive vocabulary size of more than 2000 word families.

Based on these results, two third of the subjects in nursing field would have trouble with listening. It is interesting to note that all subjects in this field would face problems with the skills of reading, speaking and writing.

Research question 3: Do vocabulary learning strategies contribute to the students' vocabulary size?

To see the contribution of vocabulary learning strategies to the subjects' vocabulary size, the relationships between students' use of vocabulary learning strategies and their receptive and productive vocabulary size were examined. In data collection, the vocabulary learning strategy questionnaire was used. However, only 257 from 347 subjects completed and returned the questionnaires.

The correlation analysis between 257 subjects' use of vocabulary learning strategies and their receptive and productive vocabulary size are shown in Table 6. The interpretation of the correlation coefficient was based on Ratner (2011). The values 0 - 0.29 indicate a weak relationship, 0.30 - 0.69 a moderate relationship, and 0.70 - 1.0 a strong relationship.

Table 6: Relationships between vocabulary learning strategies and vocabulary size

Strategies	Relationships between vocabulary learning strategies and vocabulary size			
	Receptive vocabulary		Productive vocabulary	
	r	Level of Correlation	r	Level of Correlation
Memory	.373**	moderate	.209**	low
Cognitive	.275**	low	.093*	low
Metacognitive	.395**	moderate	.264**	low
Determination	.355**	moderate	.243**	low
Social	.333**	moderate	.168**	low
Overall	.388**	moderate	.217**	low

** Significant at the .01 level

* Significant at the .05 level

In Table 6, the correlations between the two sets of data: 1) the subjects' use of vocabulary learning strategies and their receptive vocabulary size and 2) the subjects' use of vocabulary learning strategies and their productive vocabulary size were found to be significant at a moderate level and a low level, respectively ($r = 0.388$ and $.217$, $p < .01$). It means that students with high frequency of vocabulary learning strategy use had higher receptive and productive vocabulary size, and vice versa.

The use of four strategy categories: *metacognitive*, *memory*, *determination*, and *social* strategies were significantly correlated with the subjects' receptive vocabulary size at a moderate level ($r = .395$, $.373$, $.355$, and $.333$, respectively; $p < .01$) while *cognitive* strategies were significantly related to their receptive vocabulary size at a low level ($r = .275$, $p < .01$). The relationships between the subjects' use of all five main categories and their productive vocabulary size were significant at a low level (*metacognitive* $r = .264$, $p < .01$; *determination* $r = .243$, $p < .01$; *memory* $r = .209$, $p < .01$; *social* $r = .168$, $p < .01$; and *cognitive* $r = .093$, $p < .05$).

Interestingly, among all strategy categories, *metacognitive* strategies had the highest correlation with both receptive and productive vocabulary knowledge while *cognitive* strategies had the lowest correlation with both types of vocabulary.

Research Question 4: What extent do the students employ vocabulary learning strategies?

The frequency of vocabulary learning strategies used by 257 subjects is presented in Table 7. The interpretation of ratings in the questionnaire was based on Best (1981). Scores below 1.50 indicate as a very low use, 1.50 – 2.49 as a low use, 2.50 – 3.49 as a moderate use, 3.50 – 4.49 as a high use, and scores above 4.49 as a very high use.

Table 7: Frequency of vocabulary learning strategy use

Strategies	Mean	S.D.	Level of use
Memory	2.43	0.97	low
Cognitive	2.37	1.07	low
Metacognitive	2.58	1.06	moderate
Determination	2.80	1.02	moderate
Social	2.29	0.98	low
Overall strategies	2.49	0.91	low

According to Table 7, the subjects slightly employed the overall vocabulary learning strategies with the mean score of 2.49 (S.D. = 0.91). In other words, the subjects were found to be low strategy users for the overall vocabulary learning strategies.

Among 5 main strategy categories, the subjects used *determination* strategies the most (mean = 2.80, S.D. = 1.02), followed by *metacognitive* strategies (mean = 2.58, S.D. = 1.06), *memory* strategies (mean = 2.43, S.D. = 0.97), *cognitive* strategies (mean = 2.37, S.D. = 1.07), and *social* strategies (mean = 2.29, S.D. = 0.98), respectively. In terms of the levels of use, the subjects employed *determination* and

metacognitive strategies at a moderate level while *memory*, *cognitive*, and *social* strategies at a low level.

The study also looked at the vocabulary learning strategies used by the subjects with different vocabulary proficiency. According to Nation (2006), the receptive vocabulary size of 6000 – 7000 and 8000 - 9000 word families is considered a sufficient vocabulary size for listening and reading skills, respectively. Waring and Nation (1997) suggest that the productive vocabulary size of 2000 – 3000 word families is needed for speaking and writing. Therefore, the receptive vocabulary size of above 6000 word families and the productive vocabulary size of above 2000 word families were taken as a level to divide the 257 subjects into 2 groups: high and low vocabulary subjects. There were 68 subjects in the high group and 189 subjects in the low group. The frequency of vocabulary learning strategies used by the high and low vocabulary subjects is presented in Table 8.

Table 8: Vocabulary learning strategies used by the students with high and low vocabulary size

Strategies	High group (N = 68)			Low group (N = 189)		
	Mean	S.D.	Level of use	Mean	S.D.	Level of use
Memory	2.83	1.03	moderate	2.33	0.92	low
Cognitive	2.48	1.21	low	2.34	1.04	low
Metacognitive	3.08	1.04	moderate	2.45	1.03	low
Determination	3.22	1.07	moderate	2.49	0.98	low
Social	2.59	1.12	moderate	2.21	0.92	low
Overall	2.87	0.94	moderate	2.40	0.88	low

According to Table 8, the high vocabulary subjects employed the overall vocabulary learning strategies at a moderate level (mean = 2.87, S.D. = 0.94) while the low vocabulary subjects at a low level (mean = 2.40, S.D. = 0.88).

The high group used 4 strategy categories at a moderate level: *memory* (mean = 2.83, S.D. = 1.03), *metacognitive* (mean = 3.08, S.D. = 1.04), *determination* (mean = 3.22, S.D. = 1.07), and *social* (mean = 2.59, S.D. = 1.12) while *cognitive* category at a low level (mean = 2.48, S.D. = 1.21). The low group used all strategy categories

at a low level: *memory* (mean = 2.33, S.D. = 0.92), *cognitive* (mean = 2.34, S.D. = 1.04), *metacognitive* (mean = 2.45, S.D. = 1.03), *determination* (mean = 2.49, S.D. = 0.98), and *social* (mean = 2.21, S.D. = 0.92).

The interview

Eight high vocabulary subjects on both receptive and productive vocabulary size tests and another 8 low vocabulary subjects on the two types of vocabulary tests were chosen to take an interview about their history of English language learning and their attitudes towards English language.

The history of English learning of the subjects interviewed revealed certain interesting points. Four out of 8 high vocabulary subjects studied in an English high school program where all courses were taught in English by foreign teachers except for the Thai courses. The other 4 high vocabulary subjects studied in a normal Thai program, one of which attended Christian schools, which focus on learning English. Additionally, 5 high vocabulary subjects took extra English classes with English native teachers; one had the opportunity to attend a summer course abroad every year. In contrast, all 8 low vocabulary subjects studied in a regular Thai high school program; only one took extra English classes.

In terms of attitudes towards English, the high vocabulary subjects tended to have positive attitudes towards English while the low vocabulary subjects had negative attitudes. Six out of 8 high vocabulary subjects liked English; the other 2 were neutral. However, only 1 out of 8 low vocabulary subjects liked English; 2 subjects were indifferent; and the other 5 did not like English at all.

6. Conclusion and Discussion

The research findings are summarized and discussed as follows:

6.1 Vocabulary Size and Readiness of Vocabulary Knowledge for Language Skills

The receptive and productive vocabulary knowledge of Prince of Songkla University subjects in the six fields of study showed that their vocabulary knowledge

was below the sufficient vocabulary size, reflecting the fact that they were not yet ready for effective communication in different language skills. Even among the subjects in medicine and dentistry who had the highest and second highest vocabulary size of all fields, 17 percent of medicine and 27 percent of dentistry had vocabulary knowledge below the needed vocabulary size for effective listening, 71 percent of medicine and 83 percent of dentistry below the adequate vocabulary for reading, and 11 percent of medicine and 34 percent of dentistry below the sufficient vocabulary for speaking and writing. The subjects in nursing had the lowest receptive and productive vocabulary size among all fields. No subjects from this field had the adequate amount of vocabulary for effective reading, speaking, and writing; only 23 percent of them had the sufficient vocabulary for effective listening.

The findings that Prince of Songkla University students had the receptive and productive vocabulary knowledge below the sufficient vocabulary size for effective language use are in line with many scholars who found that L2 learners' receptive and productive vocabulary size was below 6000 and 2000 word families which are considered the needed vocabulary size for receptive and productive vocabulary skills, respectively. For example, Nurweni and Read (1999) investigated the receptive vocabulary knowledge of Indonesian university students and found that they had the average vocabulary size of 1226 word families. Laufer (1998) found that Israeli high school graduates acquired a receptive vocabulary size of 3500 word families. Zhiying (2005) revealed that Chinese and Thai university students had a receptive vocabulary size of 3348 and 3021 word families, respectively; their productive vocabulary size was 1456 and 1118 word families, respectively.

This study revealed some factors that are likely to affect the amount of the subjects' vocabulary knowledge, both receptive and productive vocabulary. Information obtained from interviews with 8 high vocabulary subjects and 8 low vocabulary subjects showed that the factors likely to affect the vocabulary ability of the subjects were their exposure to English language and their attitudes towards English language.

The high vocabulary subjects had more opportunities to study abroad, study in English programs, and had extra English classes with foreign teachers, so they had more chances to practice English listening, speaking, reading, and writing. The use of such skills would provide the opportunity to use both receptive and productive vocabulary knowledge better. This is another way to incidental vocabulary learning which is recognized by many researchers as the most effective way to develop vocabulary knowledge (Nagy et al., 1985; Hucking & Coady, 1999; Ahmad, 2011).

The analysis suggests that attitudes towards English language played an important role in the subjects' success in learning vocabulary. The interview revealed that the high vocabulary subjects tended to have positive attitudes towards English language while the low vocabulary subjects tended to have negative attitudes towards the language. There have been several studies that examined the influence of learners' attitudes towards learning the target language, including research by Gardner and Lambert (1972) and Ellis (1994) which notes that positive attitudes towards learning a second language affect the development of learners' language skills and could push the learners to succeed in language learning. Negative attitudes towards learning the language are a barrier to the development of learners' English language skills to the expected level.

6.2 Vocabulary Learning Strategies

The subjects' use of the overall vocabulary learning strategies was significantly related to their receptive and productive vocabulary size. There were significant correlations between all five categories and the two types of vocabulary knowledge: receptive and productive vocabulary. Out of 5 main strategy categories, the subjects' use of *metacognitive* strategies had the highest contribution to their receptive and productive vocabulary size while *cognitive* strategies had the lowest contribution to both types of vocabulary knowledge. The subjects reported employing the overall vocabulary learning strategies at a low level. The most frequently used strategies were *determination* strategies, followed by *metacognitive* strategies, *memory* strategies, *cognitive* strategies, and *social* strategies, respectively. The high vocabulary subjects employed the overall vocabulary learning strategies more

frequently than the low vocabulary subjects. The former used the vocabulary learning strategies at a moderate level while the latter used them at a low level.

The significant relationships between the subjects' use of vocabulary learning strategies and their receptive and productive vocabulary size found in this present research are in line with many researchers. For example, Gu and Johnson (1996), Komol and Sripetpun (2011), and Waldvogel (2011) found that the use of vocabulary learning strategies were correlated with learners' receptive and productive vocabulary size. In other words, learners with high frequency of vocabulary learning strategy use have higher receptive and productive vocabulary size, and vice versa.

The subjects' low frequency of vocabulary learning strategy use found in this study is in consistent with Hamzah, Kafipour, and Abdulla's (2009) and Asgari and Mustapha's (2011) study. These researchers reported that L2 learners tended to slightly employ vocabulary learning strategies.

In this present study, the subjects' low use of vocabulary learning strategies may be caused by the lack of emphasis on vocabulary learning in Thailand. In Asian countries, including Thailand, teaching four macro skills: reading, listening, speaking, and writing has been highly emphasized while vocabulary skill is given little emphasis (Carter & McCarthy, 1988; Fan, 2003; and Siriwan, 2007). As a result, various techniques or strategies for learning new vocabulary are slightly introduced to students, making students unfamiliar with many vocabulary learning strategies and lead them to the low frequency of vocabulary learning strategy use.

Of all five main strategy categories, *determination* strategies were found to be the most frequently used strategies among the subjects and *social* strategies were the least frequently used. These findings are consistent with Sarani and Kafipour (2008), Komol and Sripetpun (2011) who supported that learners seem to be interested in using *determination* strategies more than the other strategy categories and *social* strategies were usually found the least use among L2 learners. The low use of social strategies may be because English learning in Thai context does not serve much social learning. Thai teachers mostly employ the traditional teacher-centered method in

classroom (Rattanaich, 2013). In this learning environment, teachers play a primary role in class; the activities are mostly centered on teachers and students only follow the teachers' instructions. As a result, students would have a few opportunities to discuss with classmates, to work with friends, or use other social activities in class.

The finding that the high vocabulary subjects employed the overall vocabulary learning strategies more often than the low vocabulary subjects is in agreement with previous research which showed that more successful learners reported employing vocabulary learning strategies more frequently than less successful learners (e.g., Gu & 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 the amount of English exposure. The interview with the high and low vocabulary subjects, 8 each, revealed that the high vocabulary subjects had more opportunities to practice English skills than the low vocabulary ones because most of the 8 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 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.

7. Implications

The results of this present research illustrated the vocabulary problems of 3rd year students of Prince of Songkla University who will graduate and enter the workforce in 2015. According to McCarthy (1990) and Waring and Nation (1997), insufficient vocabulary knowledge will obstruct students to achieve high language performances of 4 skills: reading, listening, writing, and speaking, thus students need the high vocabulary size to use language effectively. These findings about the PSU

students' vocabulary size will be beneficial for all parties involved: the university, the students' faculties, and the faculty responsible for teaching English. They should be aware of the students' problems; more efforts should be put to develop students' vocabulary knowledge to an adequate level for communication. Most importantly, students themselves should be aware of the limitations of their own vocabulary knowledge and try every possible way to improve their vocabulary knowledge to a sufficient level for effective language use.

This present study revealed that there were a significant relationship between the use of vocabulary learning strategies and the receptive and productive vocabulary size. In other words, the use of vocabulary learning strategies can lead students to large receptive and productive vocabulary size. As a result, all parties involved should realize how and what important vocabulary learning strategies are and encourage students to apply them in vocabulary learning. Students themselves need to be informed of the benefits of vocabulary learning strategies and employ them more frequently.

8. Further Studies

The main objectives in this study were to look at the subjects' vocabulary size and their vocabulary learning strategies. First, this research aimed to quantify the vocabulary knowledge of Prince of Songkla University students in 6 out of 8 professional groups under the AEC agreements. For future study, the research should be done for all 8 professional groups and all universities. The obtained results can then be compared and use to further improve new generations of Thai graduates. Second, this study also investigated the vocabulary learning strategies used by Prince of Songkla University students. For further investigation, research should be conducted on students in other universities for greater understanding of vocabulary learning strategies, which significantly contribute to learners' vocabulary size. In addition, more research instruments such as observation, journal writing, etc. together with questionnaire and interview as used in this present study should be included in future studies 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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APPENDIX A

The Bilingual English-Thai Version of Vocabulary Size Test

Instruction: Choose the letter a-e with the closest meaning to the key word in the question.

First 1000

- | | |
|---|---|
| <p>1 see: They saw it.
a. ตัด
b. รอ
c. ดู / มอง
d. เริ่มต้น
e. ไม่ทราบคำตอบ</p> | <p>6 drive: He drives fast.
a. ว่ายน้ำ
b. เรียนรู้
c. ข้างลูกบอล
d. ขับรถยนต์
e. ไม่ทราบคำตอบ</p> |
| <p>2 time: They have a lot of time.
a. เงิน
b. อาหาร
c. ชั่วโมง
d. เพื่อน
e. ไม่ทราบคำตอบ</p> | <p>7 jump: She tried to jump.
a. ลอยตัวเหนือพื้นน้ำ
b. ฟุ้งตัวจากพื้นอย่างรวดเร็ว
c. หุตุรถยนต์ตรงขอบถนน
d. เคลื่อนที่อย่างรวดเร็ว
e. ไม่ทราบคำตอบ</p> |
| <p>3 period: It was a difficult period.
a. คำถาม
b. ช่วงเวลา
c. สิ่งที่ต้องทำ
d. หนังสือ
e. ไม่ทราบคำตอบ</p> | <p>8 shoe: Where is your shoe?
a. ผู้ที่ดูแลคุณ
b. สิ่งที่คุณใช้ใส่เงิน
c. สิ่งที่คุณใช้เขียน
d. สิ่งที่คุณสวมใส่ที่เท้า
e. ไม่ทราบคำตอบ</p> |
| <p>4 figure: Is this the right figure?
a. คำตอบ
b. สถานที่
c. เวลา
d. จำนวน
e. ไม่ทราบคำตอบ</p> | <p>9 standard: Her standards are very high.
a. เศษของที่ติดอยู่ใต้รองเท้าทางด้านหลัง
b. คะแนนสอบ
c. จำนวนเงินที่ขอ
d. ระดับต่างๆที่ได้รับหรือทำได้
e. ไม่ทราบคำตอบ</p> |
| <p>5 poor: We are poor.
a. ไม่มีเงิน
b. รู้สึกมีความสุข
c. รู้สึกสนใจอย่างมาก
d. ไม่ชอบทำงานหนัก
e. ไม่ทราบคำตอบ</p> | <p>10 basis: This was used as the basis.
a. คำตอบ
b. สถานที่สำหรับพักผ่อน
c. ขั้นตอนต่อไป
d. ส่วนประกอบหลัก
e. ไม่ทราบคำตอบ</p> |

Second 1000

- 11 maintain: Can they **maintain** it?
- รักษาไว้ในสภาพเดิม
 - ทำให้ใหญ่ขึ้น
 - เอาอันที่ดีกว่าอันนี้
 - ได้มา, ได้รับ
 - ไม่ทราบคำตอบ
- 12 stone: He sat on a **stone**.
- สิ่งที่แข็ง
 - เก้าอี้ประเภทหนึ่ง
 - วัสดุนุ่มบนพื้น
 - ส่วนหนึ่งของต้นไม้
 - ไม่ทราบคำตอบ
- 13 upset: I am **upset**.
- เหนื่อย
 - มีชื่อเสียง
 - รวย
 - ไม่มีความสุข
 - ไม่ทราบคำตอบ
- 14 drawer: The **drawer** was empty.
- กล่องที่สามารถเลื่อนไป-มาได้
 - สถานที่ใช้จอดเก็บรถยนต์
 - ตู้ที่ใช้สำหรับเก็บรักษาสิ่งของให้เย็น
 - ที่อยู่ของสัตว์
 - ไม่ทราบคำตอบ
- 15 patience: He has no **patience**.
- รอคอยอย่างไม่มีความสุข
 - ไม่มีเวลาว่าง
 - ไม่มีความศรัทธา
 - ไม่รู้ว่าจะอะไรคือความยุติธรรม
 - ไม่ทราบคำตอบ
- 16 nil: His mark for that question was **nil**.
- แถมมาก
 - ไม่มีอะไร
 - ดีมาก
 - กลางๆ
 - ไม่ทราบคำตอบ
- 17 pub: They went to the **pub**.
- สถานที่ที่ผู้คนดื่มและพูดคุยกัน
 - สถานที่สำหรับเก็บรักษาเงิน
 - อาคารขนาดใหญ่ที่มีร้านค้ามากมาย
 - อาคารที่ใช้สำหรับการว่ายน้ำ
 - ไม่ทราบคำตอบ
- 18 circle: Make a **circle**.
- ภาพร่างหยาบๆ
 - พื้นที่ว่าง
 - รูปร่างกลม
 - รูขนาดใหญ่
 - ไม่ทราบคำตอบ
- 19 microphone: Please use the **microphone**.
- เครื่องสำหรับทำให้อาหารร้อน
 - เครื่องที่ใช้เพิ่มความดังของเสียง
 - เครื่องที่ทำให้สิ่งของดูมีขนาดใหญ่ขึ้น
 - โทรศัพท์ขนาดเล็กสำหรับพกพา
 - ไม่ทราบคำตอบ
- 20 pro: He's a **pro**.
- บุคคลผู้ถูกจ้างมาเพื่อสืบความลับสำคัญ
 - คนโง่เขลา
 - คนเขียนข่าวหรือบทความต่างๆในหนังสือพิมพ์
 - คนที่ได้รับคำตอบแทนจากการเล่นกีฬา
 - ไม่ทราบคำตอบ

Third 1000

- 21 soldier: He is a **soldier**.
- ผู้ทำงานในแวดวงธุรกิจ
 - นักเรียน, นักศึกษา
 - ผู้ใช้โลหะ
 - ผู้ทำงานในกองทัพ, ทหาร
 - ไม่ทราบคำตอบ
- 22 restore: It has been **restored**.
- พูดถึงอีกครั้ง
 - ให้กับอีกคนหนึ่ง
 - ขายถูกกว่า/ให้ในราคาที่ถูกลงกว่า
 - ทำให้เหมือนใหม่อีกครั้ง
 - ไม่ทราบคำตอบ
- 23 jug: He was holding a **jug**.
- ภาชนะสำหรับเทของเหลว
 - การอภิปรายแบบไม่เป็นทางการ
 - หมวกนี้่มๆ
 - อาวุธที่ใช้ระเบิด
 - ไม่ทราบคำตอบ
- 24 scrub: He is **scrubbing** it.
- ทำให้เกิดร่องตื้นๆ
 - ซ่อมแซม
 - ขัดถูอย่างแรงเพื่อทำความสะอาด
 - วาดภาพมันอย่างง่ายๆ
 - ไม่ทราบคำตอบ
- 25 dinosaur: The children were pretending to be **dinosaurs**.
- โจรผู้ปล้นสะดมในทะเล
 - สิ่งมีชีวิตขนาดเล็กที่มีร่างกายเป็นคนแต่มีปีก
 - สิ่งมีชีวิตขนาดใหญ่ ที่มีปีกและฟันไฟ
 - สัตว์ซึ่งมีชีวิตอยู่เมื่อนานมาแล้ว
 - ไม่ทราบคำตอบ
- 26 strap: He broke the **strap**.
- กำมันสัญญา
 - ฝาปิดด้านบน
 - จานกันคลื่น ใช้ใส่อาหาร
 - วัสดุที่เป็นเส้นยาว ใช้รัดสิ่งของเข้าด้วยกัน
 - ไม่ทราบคำตอบ
- 27 pave: It was **paved**.
- ห้ามผ่าน
 - แบ่งออกเป็นส่วนๆ
 - มีกรอบทองคำ
 - ปูด้วยวัสดุที่มีพื้นผิวแข็ง
 - ไม่ทราบคำตอบ
- 28 dash: They **dashed** over it.
- เคลื่อนที่อย่างรวดเร็ว
 - เคลื่อนที่อย่างช้าๆ
 - ต่อสู้
 - มองอย่างรวดเร็ว
 - ไม่ทราบคำตอบ
- 29 rove: He couldn't stop **roving**.
- เมาเหล้า
 - เคลื่อนไหวไป-มา
 - การผิวกาย
 - ทำงานหนัก
 - ไม่ทราบคำตอบ
- 30 lonesome: He felt **lonesome**.
- ไม่สำนึกในบุญคุณ
 - เหนื่อขมก
 - เหงา
 - เต็มไปด้วยพลัง
 - ไม่ทราบคำตอบ

Fourth 1000

- 31 compound: They made a new **compound**.
- การตกลง, ข้อตกลง
 - สิ่งที่ประกอบด้วย 2 ส่วน หรือมากกว่า
 - กลุ่มคนที่ร่วมทำธุรกิจ
 - การคาดเดาโดยอาศัยประสบการณ์ในอดีต
 - ไม่ทราบคำตอบ
- 32 latter: I agree with the **latter**.
- ผู้ที่ทำงานในโบสถ์หรือศาสนจักร
 - เหตุผลที่ให้
 - อันหลัง, อันสุดท้าย
 - คำตอบ
 - ไม่ทราบคำตอบ
- 33 candid: Please be **candid**.
- ระมัดระวัง
 - แสดงความเห็นอกเห็นใจ
 - ให้ความยุติธรรมกับทั้งสองฝ่าย
 - พูดในสิ่งที่คุณคิดจริงๆ
 - ไม่ทราบคำตอบ
- 34 tummy: Look at my **tummy**.
- ผ้าที่ใช้คลุมศีรษะ
 - ท้อง
 - สัตว์มีขนขนาดเล็ก
 - นิ้วหัวแม่มือ
 - ไม่ทราบคำตอบ
- 35 quiz: We made a **quiz**.
- สิ่งที่ใช้เก็บ/ใส่ลูกศร
 - พิศพลาดร้ายแรง
 - ชุดคำถาม
 - กล่องสำหรับใส่ธนบัตร
 - ไม่ทราบคำตอบ
- 36 input: We need more **input**.
- ข้อมูล, พลังงาน และอื่นๆ ที่ใส่หรือป้อนเข้าไป
 - คนงาน
 - วัสดุประดิษฐ์ที่ใส่เข้าไปเพื่ออุดช่องในเนื้อไม้
 - เงิน
 - ไม่ทราบคำตอบ
- 37 crab: Do you like **crabs**?
- สัตว์ทะเลซึ่งเคลื่อนตัวไปทางด้านข้าง
 - เล็กชิ้นบางขนาดเล็ก
 - ปลอกคอแข็งตึงแน่น
 - แมลงสีดำตัวใหญ่ที่ส่งเสียงร้องในเวลาค่ำคืน
 - ไม่ทราบคำตอบ
- 38 vocabulary: You will need more **vocabulary**.
- คำศัพท์
 - ทักษะ
 - เงิน
 - ปืน
 - ไม่ทราบคำตอบ
- 39 remedy: We found a good **remedy**.
- วิธีการแก้ปัญหา
 - สถานที่รับประทานอาหารเช้า
 - วิธีการเตรียมอาหาร
 - กฎที่ใช้สำหรับจำนวน, ตัวเลข
 - ไม่ทราบคำตอบ
- 40 allege: They **alleged** it.
- อ้างความเป็นเจ้าของโดยไม่ได้รับการพิสูจน์
 - ขโมยความคิดคนอื่น
 - ให้ข้อเท็จจริงเพื่อพิสูจน์
 - โต้แย้งข้อเท็จจริงที่สนับสนุนมัน
 - ไม่ทราบคำตอบ

Fifth 1000

- 41 deficit: The company had a large **deficit**. 46 cube: I need one more **cube**.
- a. ใช้จ่ายมากกว่ารายรับอย่างมาก a. สิ่งของมีคมใช้เชื่อมสิ่งของเข้าด้วยกัน
b. ราคาตกลงอย่างมาก b. ก้อนของแข็งรูปสี่เหลี่ยม
c. มีแผนการใช้จ่ายที่ต้องใช้เงินจำนวนมาก c. ถ้วยลักษณะสูง ไม่มีจานรอง
d. มีเงินจำนวนมากในธนาคาร d. กระดาษแข็งพับครึ่ง
e. ไม่ทราบคำตอบ e. ไม่ทราบคำตอบ
- 42 weep: He **wept**. 47 miniature: It is a **miniature**.
- a. จบหลักสูตร a. สิ่งที่มีขนาดเล็กมากๆเมื่อเทียบกับของของ
b. ร้องไห้ อย่างเดียวกับชิ้นอื่นๆ
c. ตาย b. อุปกรณ์สำหรับดูสิ่งของขนาดเล็ก
d. กังวล c. สิ่งมีชีวิตขนาดเล็กมากๆ
d. กังวล d. เส้นขนาดเล็กที่เชื่อมต่อตัวอักษรที่เขียนเป็นลายมือ
e. ไม่ทราบคำตอบ e. ไม่ทราบคำตอบ
- 43 nun: We saw a **nun**. 48 peel: Shall I **peel** it?
- a. สิ่งมีชีวิตมีลักษณะหอมขาว ที่อาศัยอยู่ในดิน a. แขนงน้ำไว้เป็นเวลาาน
b. อุบัติเหตุร้ายแรง b. ปอกเปลือกออก
c. สตรีซึ่งปฏิบัติตามหลักศาสนาอย่างเคร่งครัด c. ทำให้เป็นสีขาว
d. แสงสว่างประหลาดที่เกิดขึ้นบนท้องฟ้า d. ตัดเป็นชิ้นบางๆ
e. ไม่ทราบคำตอบ e. ไม่ทราบคำตอบ
- 44 haunted: The house is **haunted**. 49 fracture: They found a **fracture**.
- a. เต็มไปด้วยเครื่องตกแต่ง a. การแตก, รอยแตก
b. มีคนเช่าแล้ว b. ชิ้นขนาดเล็ก
c. ว่าง c. เลือกลุ่มสั้นๆ
d. เต็มไปด้วยผี d. เพชรพลอยหายาก
e. ไม่ทราบคำตอบ e. ไม่ทราบคำตอบ
- 45 compost: We need some **compost**. 50 bacterium: They didn't find a single **bacterium**.
- a. การสนับสนุนช่วยเหลืออย่างเต็มที่ a. สิ่งมีชีวิตขนาดเล็กซึ่งทำให้เกิดโรค
b. ช่วยให้ผู้รู้สึกดีขึ้น b. พืชซึ่งมีดอกสีแดงหรือสีส้ม
c. วัสดุแข็งทำขึ้นจากหินและดินทรายผสมกัน c. ลัทธิซึ่งบรรทุกน้ำไว้บนหลัง
d. สิ่งที่เกิดจากการเน่าเปื่อยของพืช d. สิ่งที่ถูกขโมยและนำไปขายต่อให้กับร้านค้า
e. ไม่ทราบคำตอบ e. ไม่ทราบคำตอบ

Sixth 1000

- 51 devious: Your plans are **devious**.
- มีเล่ห์เหลี่ยม
 - ซึ่งพัฒนามาอย่างดี
 - ขาดการไตร่ตรอง
 - ราคาแพงเกินความจำเป็น
 - ไม่ทราบคำตอบ
- 52 premier: The **premier** spoke for an hour.
- คนที่ทำงานในศาล
 - อาจารย์ในมหาวิทยาลัย
 - นักผจญภัย
 - ผู้นำรัฐบาล
 - ไม่ทราบคำตอบ
- 53 butler: They have a **butler**.
- คนใช้ผู้ชาย
 - เครื่องตัดต้นไม้
 - ครูสอนส่วนตัว
 - ห้องมีดและเข็น ที่อยู่ชั้นใต้ดินของบ้าน
 - ไม่ทราบคำตอบ
- 54 accessory: They gave us some **accessories**.
- เอกสารอนุญาตให้เข้าประเทศ
 - คำสั่งทางราชการ
 - ความคิดเห็นสำหรับให้เลือกใช้
 - ชั้นที่ได้เกินมา
 - ไม่ทราบคำตอบ
- 55 threshold: They raised the **threshold**.
- ธง
 - จุดหรือเส้นที่เกิดการเปลี่ยน
 - หลังคาในตัวอาคาร
 - ค่าธรรมเนียมในการขีมนเงิน
 - ไม่ทราบคำตอบ
- 56 thesis: She has completed her **thesis**.
- รายงานการศึกษานานาชาติเพื่อใช้ประกอบการรับปริญญา
 - ค่าเฉลี่ยของผู้ที่พากษาเมื่อจบการพิจารณาคดี
 - ปีแรกของการทำงานในฐานะอาจารย์
 - การขยายเวลาของการรักษา
 - ไม่ทราบคำตอบ
- 57 strangle: He **strangled** her.
- ฆ่าเธอโดยการรัดคอ
 - ให้ทุกสิ่งทุกอย่างที่เธอต้องการ
 - เอาตัวเธอไปโดยการบังคับ
 - ชื่นชมเธออย่างมาก
 - ไม่ทราบคำตอบ
- 58 cavalier: He treated her in a **cavalier** manner.
- ไม่เอาใจใส่ หรือ ไม่ดูแล
 - อย่างสุภาพ
 - อย่างนุ่มนวล
 - อย่างที่ผู้ชายคนหนึ่งควรจะทำ
 - ไม่ทราบคำตอบ
- 59 malign: His **malign** influence is still felt.
- ชั่วร้าย
 - ดี
 - สำคัญมาก
 - เป็นความลับ
 - ไม่ทราบคำตอบ
- 60 veer: The car **veered**.
- เปลี่ยนทิศทางอย่างฉับพลัน
 - เคลื่อนที่อย่างไม่มีมั่นคง
 - ทำเสียงดังมาก
 - ไหลออกด้านข้าง โดยที่ล้อไม่ได้หมุนตาม
 - ไม่ทราบคำตอบ

Seventh 1000

- 61 olive: We bought **olives**.
- ผลไม้ซึ่งมีน้ำมัน
 - ดอกไม้สีชมพูหรือแดง มีกลิ่นหอม
 - ชุดว่ายน้ำผู้ชาย
 - อุปกรณ์สำหรับชุดลอนวีซพีซ
 - ไม่ทราบคำตอบ
- 62 quilt: They made a **quilt**.
- ข้อความซึ่งระบุว่าผู้ใดควรได้รับทรัพย์สินเมื่อเจ้าของสมบัติเสียชีวิต
 - ข้อตกลงที่แน่นอน
 - ผ้าคลุมเตียงหนาและอบอุ่น
 - ปากกาทำจากขนนก
 - ไม่ทราบคำตอบ
- 63 stealth: They did it by **stealth**.
- การใช้เงินจำนวนมาก
 - ทำร้ายผู้อื่นอย่างมากจนผู้นั้นต้องขอมงาน
 - เคลื่อนไหวลับๆ ด้วยความระมัดระวังและความเงียบอย่างมาก
 - ไม่สังเกตว่ามีปัญหา, ไม่รู้ว่ามีปัญหา
 - ไม่ทราบคำตอบ
- 64 shudder: The boy **shuddered**.
- พูดด้วยเสียงเบาๆ
 - เกือบจะหลับสนิท
 - สั่น
 - เรียกเสียงดัง
 - ไม่ทราบคำตอบ
- 65 bristle: The **bristles** are too hard.
- คำถาม
 - คนที่มีความขัดแย้งและสับสน
 - เตียงแบบพับได้
 - พื้นรองเท้า
 - ไม่ทราบคำตอบ
- 66 bloc: They have joined this **bloc**.
- วงดนตรี
 - กลุ่มหัวขโมย
 - ทหารกลุ่มเล็กๆที่ถูกส่งเพื่อเป็นทัพหน้า
 - กลุ่มประเทศซึ่งมีเป้าหมายเดียวกัน
 - ไม่ทราบคำตอบ
- 67 demography: This book is about **demography**.
- การศึกษาเกี่ยวกับรูปแบบการใช้พื้นที่
 - การศึกษาการใช้ภาพในการแสดงข้อเท็จจริงเกี่ยวกับตัวเลข
 - การศึกษาเกี่ยวกับการเคลื่อนที่ของน้ำ
 - การศึกษาเกี่ยวกับประชากร
 - ไม่ทราบคำตอบ
- 68 gimmick: That's a good **gimmick**.
- สิ่งที่ใช้ขึ้นเพื่อทำงานในที่ที่สูงจากพื้นดิน
 - สิ่งของขนาดเล็ก ที่มีกระเป๋าสตางค์ใส่เงิน
 - การกระทำหรือสิ่งที่ใช้เพื่อเรียกความสนใจ
 - แผนหรือกลยุทธ์ที่ชาญฉลาด
 - ไม่ทราบคำตอบ
- 69 azalea: This **azalea** is very pretty.
- ต้นไม้ขนาดเล็ก มีดอกเป็นช่อ
 - วัสดุน้ำหนักเบาทำจากเส้นใยธรรมชาติ
 - ผ้าชั้นขาว ที่หญิงชาวอินเดียสวมใส่
 - หอยซึ่งมีรูปร่างคล้ายพัด
 - ไม่ทราบคำตอบ
- 70 yoghurt: This **yoghurt** is disgusting.
- โคลนสีเทาซึ่งพบได้ที่ก้นแม่น้ำ
 - ผลเปิดที่ดูไม่ดี
 - นมซึ่งขึ้นมีรสเปรี้ยว ส่วนมากมีน้ำตาลและการปรุงแต่งรสชาติ
 - ผลไม้สีม่วงขนาดใหญ่ที่มีเนื้อนุ่ม
 - ไม่ทราบคำตอบ

Eighth 1000

- 71 erratic: He was **erratic**.
- ไม่มีข้อบกพร่อง
 - แถมมาก
 - สุภาพมาก
 - ไม่มั่นคง เปลี่ยนแปลงง่าย
 - ไม่ทราบคำตอบ
- 72 palette: He lost his **palette**.
- ตะกร้าสำหรับใส่ปลา
 - ความอยากอาหาร
 - ผู้ช่วยเป็นเพื่อนที่เป็นผู้หญิงสาว
 - งานผสมสีของศิลปิน
 - ไม่ทราบคำตอบ
- 73 null: His influence was **null**.
- ได้ผลลัพธ์ที่ดี
 - ไม่มีประโยชน์
 - ไม่มีผลใดๆ
 - ยาวนาน, ยืนยาว
 - ไม่ทราบคำตอบ
- 74 kindergarten: This is a good **kindergarten**.
- กิจกรรมที่ทำให้คุณลืมความกังวล
 - สถานที่ที่เรารู้สำหรับเด็กที่อายุไม่ถึงเกณฑ์เข้าโรงเรียน
 - กระเป๋าทรงสูงแข็งแรง ใช้สะพายหลัง
 - สถานที่ที่คุณขี้นหนังสือได้
 - ไม่ทราบคำตอบ
- 75 eclipse: There was an **eclipse**.
- ลมแรง
 - เสียงดังที่เกิดจากการที่บางสิ่งกระทบน้ำ
 - การฆ่าผู้คนจำนวนมาก
 - ดวงอาทิตย์ถูกดาวเคราะห์บัง
 - ไม่ทราบคำตอบ
- 76 marrow: This is the **marrow**.
- สัญลักษณ์นำโชคของทีม
 - ส่วนนุ่มๆตรงกลางของกระดูก
 - เครื่อง/แผงควบคุมเครื่องบิน
 - การขึ้นเงินเดือน
 - ไม่ทราบคำตอบ
- 77 locust: There were hundreds of **locusts**.
- แมลงมีปีก
 - ผู้ช่วยซึ่งไม่ได้รับคำตอบแทน
 - ผู้ที่ไม่กินเนื้อสัตว์
 - ดอกไม้ป่า ที่มีสีส้มสวยงามสดใส
 - ไม่ทราบคำตอบ
- 78 authentic: It is **authentic**.
- จริง
 - เสียงดังมาก
 - แก่, เก่า
 - เหมือนทะเลทราย
 - ไม่ทราบคำตอบ
- 79 cabaret: We saw the **cabaret**.
- ภาพวาดที่ใหญ่ปิดผนังทั้งหมด
 - การแสดงการร้องเพลงและการเต้น
 - แมลงคลานขนาดเล็ก
 - คนที่มีลักษณะครึ่งปลา ครึ่งหญิงสาว
 - ไม่ทราบคำตอบ
- 80 mumble: He started to **mumble**.
- คิดอย่างใคร่ครวญ
 - สั้นอย่างควบคุมไม่อยู่
 - อยู่ด้านหลังผู้อื่นอย่างมาก
 - พูดไม่ชัดถ้อยชัดคำ
 - ไม่ทราบคำตอบ

Ninth 1000

- 81 hallmark: Does it have a **hallmark**?
- การประทับตราเพื่อระบุเวลาการใช้งานของสิ่งๆนั้น
 - การประทับตราเพื่อแสดงถึงคุณภาพของสิ่งของ
 - เครื่องหมายที่ใช้แสดงว่าสิ่งนั้นได้รับการรับรองโดยราชวงศ์
 - เครื่องหมายหรือร่องรอยที่ลอกออกไม่ได้ ใช้เพื่อป้องกันการเลียนแบบ
 - ไม่ทราบคำตอบ
- 82 puritan: He is a **puritan**.
- ผู้ที่ชอบให้ผู้อื่นสนใจ
 - ผู้ที่เคร่งครัดในศีลธรรมจรรยา
 - ผู้ที่อาศัยอยู่ในบ้านที่สามารถเคลื่อนย้ายได้
 - บุคคลที่ไม่ชอบใช้จ่ายเงิน
 - ไม่ทราบคำตอบ
- 83 monologue: Now he has a **monologue**.
- เล่นคนเดียวใช้ส่องให้เห็นชัดขึ้น
 - การพูดโดยคนเดียวเป็นระยะเวลาชานาน โดยไม่มีการขัดจังหวะ
 - ตำแหน่งที่มีอำนาจเบ็ดเสร็จ
 - ภาพที่สร้างขึ้นโดยใช้ตัวอักษรต่อกัน ด้วยวิธีที่น่าสนใจ
 - ไม่ทราบคำตอบ
- 84 weir: We looked at the **weir**.
- ผู้ที่มีพฤติกรรมแปลกๆ
 - พื้นที่เต็มไปด้วยโคลน, เปียกชื้น และมีพืชน้ำขึ้น
 - เครื่องดนตรีทำจากโลหะโบราณ เล่นโดยการเป่า
 - สิ่งที่สร้างขวางแม่น้ำ เพื่อควบคุม
 - ไม่ทราบคำตอบ
- 85 whim: He had lots of **whims**.
- เหรียญทองโบราณ
 - ม้าเทศเมีย
 - ความคิดที่แปลก โดยไม่มีสาเหตุหรือแรงจูงใจ
 - ก้อนเนื้อที่บวมแดงและเจ็บ
 - ไม่ทราบคำตอบ
- 86 perturb: I was **perturbed**.
- ถูกบังคับให้ยอมรับหรือตกลงยินยอม
 - กลัวใจ, กังวลใจ
 - ประหลาดใจอย่างมาก
 - เปียกมาก
 - ไม่ทราบคำตอบ
- 87 regent: They chose a **regent**.
- บุคคลซึ่งขาดความรับผิดชอบ
 - ผู้ดูแลการจัดการประชุมเป็นครั้งๆไป
 - ผู้สำเร็จราชการแทนพระมหากษัตริย์
 - บุคคลผู้เป็นตัวแทนกลุ่ม
 - ไม่ทราบคำตอบ
- 88 octopus: They saw an **octopus**.
- นกขนาดใหญ่ ที่หากินในเวลากลางคืน
 - เรือที่สามารถเคลื่อนตัวภายใต้ท้องน้ำได้
 - เครื่องจักรซึ่งบินโดยการหมุนของใบพัด
 - สิ่งมีชีวิตใต้ท้องน้ำ ที่มี 8 ขา
 - ไม่ทราบคำตอบ
- 89 fen: The story is set in the **fens**.
- พื้นที่ต่ำ ที่บางส่วนปกคลุมด้วยน้ำ
 - พื้นที่สูง ที่มีต้นไม้ไม่มาก
 - กลุ่มบ้านคุณภาพต่ำในเขตเมือง
 - เมื่อนานมาแล้ว
 - ไม่ทราบคำตอบ
- 90 lintel: He painted the **lintel**.
- กานซึ่งอยู่เหนือประตูหรือหน้าต่าง
 - เรือขนาดเล็กใช้สำหรับเดินทางจากเรือใหญ่ขึ้นฝั่ง
 - ต้นไม้สวยงาม ที่มีกิ่งก้านสาขาและผลสีเขียว
 - ฉากแสดงในโรงละคร
 - ไม่ทราบคำตอบ

Tenth 1000

- 91 awe: They looked at the mountain with **awe**. 96 cranny: We found it in the **cranny**!
- a. ความกังวล
b. ความสนใจ
c. ความแปลกใจ
d. ความเคารพ
e. ไม่ทราบคำตอบ
- a. การขายสินค้าที่ไม่ต้องการแล้ว
b. ซอกเล็กซอกน้อย
c. ที่เก็บของใต้หลังคาบ้าน
d. ถ่องไม้ขนาดใหญ่
e. ไม่ทราบคำตอบ
- 92 peasantry: He did a lot for the **peasantry**. 97 pigtail: Does she have a **pigtail**?
- a. คนท้องถิ่น
b. สถานที่ที่ใช้การบูชา
c. สมาคมนักธุรกิจ
d. ชาวไร่ ชาวนาผู้มีรายได้น้อย
e. ไม่ทราบคำตอบ
- a. ทรงผมที่เกิดจากการถักเกลียวผมเข้าด้วยกัน
b. ผ้าจำนวนมากที่แขวนอยู่ด้านหลังเสื้อชุด
c. ต้นไม้ที่มีช่อดอกสั้นสีชมพูอ่อน
d. คนรัก
e. ไม่ทราบคำตอบ
- 93 egalitarian: This organization is **egalitarian**. 98 crowbar: He used a **crowbar**.
- a. ไม่เปิดเผยข้อมูลของบริษัทส่วนใหญ่ต่อ
สาธารณชน
b. ไม่ชอบการเปลี่ยนแปลง
c. มักร้องขอให้ศาลช่วยตัดสินความ
d. ปฏิบัติต่อทุกคนในที่ทำงานราวกับว่าเท่าเทียมกัน
e. ไม่ทราบคำตอบ
- a. แท่งเหล็กที่มีน้ำหนักรวมมีส่วนปลายโค้ง
b. ช้อนปกลม
c. เครื่องมือสำหรับเจาะผนัง
d. ไม้เท้าทำจากโลหะน้ำหนักเบา
e. ไม่ทราบคำตอบ
- 94 mystique: He has lost his **mystique**. 99 ruck: He got hurt in the **ruck**.
- a. ร่างกายที่มีสุขภาพแข็งแรง
b. วิธีกลับซึ่งทำให้ผู้อื่นเชื่อว่าบุคคลผู้นั้นมีพลังวิเศษ
c. หญิงที่เป็นคนรักของเขา ขณะที่เขามีภรรยาแล้ว
d. ขนหนวดเหนือริมฝีปากบน
e. ไม่ทราบคำตอบ
- a. ที่ว่างระหว่างกระเพาะอาหารและโคนขา
b. การผลัดและการดัน
c. กลุ่มผู้เล่นซึ่งรวมล้อมลูกบอลในเกมส์
กีฬาที่เล่นโดยใช้ลูกบอล
d. การแข่งขันข้ามลานหิมะ
e. ไม่ทราบคำตอบ
- 95 upbeat: I'm feeling really **upbeat** about it. 100 lectern: He stood at the **lectern**.
- a. ไม่สบายใจ
b. รู้สึกดี
c. รู้สึกเจ็บปวด
d. รู้สึกสับสน
e. ไม่ทราบคำตอบ
- a. แท่นวางหนังสือในระดับสำหรับการอ่าน
b. โต๊ะหรือแท่นใช้สำหรับการทำพิธีบูชาในโบสถ์
c. สถานที่สำหรับซื้อเครื่องดื่ม
d. สุดขอบ, ริมสุด
e. ไม่ทราบคำตอบ

Eleventh 1000

- 101 excreted: This was excreted recently.
- ผลึก หรือ ส่งออก
 - ทำให้สะอาด, ชัดเจน
 - ถูกค้นพบด้วยวิธีทดลองทางวิทยาศาสตร์
 - รวบรวมรายชื่อสิ่งผิดกฎหมาย
 - ไม่ทราบคำตอบ
- 102 mussel: They bought **mussels**.
- ลูกบอลแก้วขนาดเล็ก ใช้ในการเล่นเกมส์
 - สัปดาห์จำพวกที่มีเปลือก
 - ผลไม้สีม่วงขนาดใหญ่
 - กระดาษนุ่มใช้สำหรับป้องกันการเลอะระหว่างรับประทานอาหาร
 - ไม่ทราบคำตอบ
- 103 yoga: She has started **yoga**.
- งานฝีมือทำโดยการถักเส้นใย
 - การออกกำลังกายชนิดหนึ่ง เพื่อพัฒนาร่างกายและจิตใจ
 - เกมส์การเล่นโดยเตะลูกชนไถระหว่างผู้เล่นสองคน
 - การเดินรำประเภทหนึ่ง ที่มาจากประเทศทางตะวันออก
 - ไม่ทราบคำตอบ
- 104 counterclaim: They made a **counterclaim**.
- ข้อเรียกร้องของผู้ความฝ่ายหนึ่งให้สอดคล้องกับข้อเรียกร้องของอีกฝ่ายหนึ่ง
 - การขอคืนสินค้าซึ่งมีตำหนิ
 - ข้อตกลงระหว่าง 2 บริษัทในการแลกเปลี่ยนงาน
 - ผ้าคลุมเตียง
 - ไม่ทราบคำตอบ
- 105 puma: They saw a **puma**.
- บ้านขนาดเล็ก สร้างจากอิฐซึ่งทำจากโคลน
 - ต้นไม้จากประเทศเขตร้อนและแล้ง
 - ลมที่มีพลังสูง ซึ่งดูดทุกสิ่งอย่างที่อยู่บนเส้นทางที่มันผ่าน
 - แมวป่าขนาดใหญ่
 - ไม่ทราบคำตอบ
- 106 pallor: His **pallor** caused them concern.
- อุณหภูมิร่างกายที่สูงกว่าปกติ
 - การขาดความสนใจในทุกสิ่งทุกอย่าง
 - กลุ่มเพื่อน
 - ความขาวซีดของผิวหนัง
 - ไม่ทราบคำตอบ
- 107 aperitif: She had an **aperitif**.
- แก้อิยาสำหรับเอนนอน มีที่พกเงินหนึ่งล้าน
 - ครูสอนร้องเพลงส่วนตัว
 - หมวกขนาดใหญ่ ปักขนนกขาว
 - เครื่องคั้นซึ่งคั้นก่อนมีอาหาร
 - ไม่ทราบคำตอบ
- 108 hutch: Please clean the **hutch**.
- แท่นโลหะซึ่งใช้กันสิ่งสกปรกลงไปในท่อ
 - พื้นที่ทำรถยนต์สำหรับวางกระเป๋า
 - ชั้นส่วนโลหะ ตรงส่วนกลางของตู้จักรเย็บผ้า
 - ทรงสำหรับสัตว์ขนาดเล็ก
 - ไม่ทราบคำตอบ
- 109 emir: We saw the **emir**.
- นกที่มีขนหางโค้งยาว
 - ผู้หญิงผู้ดูแลเด็กเล็กในประเทศทางตะวันออก
 - ผู้ครองนครในประเทศตะวันออกกลาง
 - บ้านที่สร้างจากก้อนน้ำแข็ง
 - ไม่ทราบคำตอบ
- 110 hessian: She bought some **hessian**.
- ปลาซึ่งมีน้ำมันมาก สัตว์ก่อนข้างชมพู
 - วัตถุที่สร้างความสุขใจ
 - ผ้าเนื้อหยาบ
 - รากพืชสชาติจัด ใช้ปรุงแต่งรสชาติอาหาร
 - ไม่ทราบคำตอบ

Twelfth 1000

- 111 haze: We looked through the **haze**.
- หน้าต่างรูปทรงกลม ขนาดเล็กบนเรือ
 - อากาศหมอกมัว
 - แผ่นไม้หรือแผ่นพลาสติกขาว ใบบังหน้าต่าง
 - บัญชีรายชื่อ
 - ไม่ทราบคำตอบ
- 112 spleen: His **spleen** was damaged.
- กระดูกขา
 - อวัยวะอยู่ใกล้กระเพาะอาหาร
 - ท่อระบายน้ำเสียออกจากตัวบ้าน
 - นับถือตัวเอง
 - ไม่ทราบคำตอบ
- 113 soliloquy: That was an excellent **soliloquy**!
- เพลงสำหรับร้องโดย 6 คน
 - คำคมสั้นๆ ที่มีความหมายลึกซึ้ง
 - ความบันเทิง ที่ใช้แสงสีและเสียงดนตรีประกอบ
 - การพูดของนักแสดงที่แสดงคนเดียวฉากในโรงละคร
 - ไม่ทราบคำตอบ
- 114 reptile: She looked at the **reptile**.
- หนังสือเขียนมือ ซึ่งมีอายุเก่าแก่
 - สัตว์เลือดเย็น มีผิวหนังแข็งหุ้มร่างกาย
 - ผู้ชายสินค้า ที่เกาะประตูตามบ้าน
 - รูปภาพ ที่ทำขึ้นโดยการประดิษฐ์ต่อชิ้นส่วนขนาดเล็กๆ ซึ่งมีสีต่างๆเข้าด้วยกัน
 - ไม่ทราบคำตอบ
- 115 alum: This contains **alum**.
- สิ่งมีพิษจากพืชที่พบได้ทั่วไปชนิดหนึ่ง
 - วัสดุนุ่ม ทำขึ้นจากเส้นใยสังเคราะห์
 - ผงยาเส้นที่เมื่อก่อนใช้สำหรับอุดเข้าไปในจมูก
 - สารประกอบทางเคมีในกลุ่มอลูมิเนียม
 - ไม่ทราบคำตอบ
- 116 refectory: We met in the **refectory**.
- ห้องรับประทานอาหาร
 - สำนักงานสำหรับการลงนามในเอกสารทางกฎหมาย
 - ห้องนอนรวม
 - เรือนกระจกสำหรับปลูกพืช
 - ไม่ทราบคำตอบ
- 117 caffeine: This contains a lot of **caffeine**.
- สารซึ่งทำให้มีอาการง่วงนอน
 - เส้นใยจากใบพืชที่แข็ง
 - ความคิดซึ่งไม่ถูกต้อง
 - สารซึ่งทำให้มีอาการตื่นตัวและกระฉับกระเฉง
 - ไม่ทราบคำตอบ
- 118 impale: He nearly got **impaled**.
- ถูกดำเนินคดีด้วยข้อหารุนแรง
 - คิดถูก
 - แทงด้วยของมีคม
 - มีส่วนร่วมในความขัดแย้ง
 - ไม่ทราบคำตอบ
- 119 coven: She is the leader of a **coven**.
- นักร้องกลุ่มเล็กๆ
 - ธุรกิจซึ่งคนงานหรือผู้ปฏิบัติเป็นเจ้าของกิจการ
 - สมาคมลับ
 - กลุ่มผู้หญิงผู้ปฏิบัติตามหลักศาสนาอย่างเคร่งครัด
 - ไม่ทราบคำตอบ
- 120 trill: He practised the **trill**.
- ส่วนเสริมในดนตรี
 - ชนิดของเครื่องดนตรีประเภทสาย
 - วิธีการขึงลูกบอล
 - การเดิน โดยใช้การหมุนตัวอย่างรวดเร็วบนปลายนิ้วเท้า
 - ไม่ทราบคำตอบ

Thirteenth 1000

- 121 ubiquitous: Many weeds are **ubiquitous**. 126 plankton: We saw a lot of **plankton**.
- a. กำจัดยาก
b. มีรากยาวและแข็งแรง
c. พบได้ในประเทศส่วนใหญ่
d. ตายในช่วงฤดูหนาว
e. ไม่ทราบคำตอบ
- a. วัชพืชมียักษ์ซึ่งขยายพันธุ์อย่างรวดเร็ว
b. พืชหรือสัตว์น้ำขนาดเล็กมาก
c. ต้นไม้ซึ่งให้เนื้อไม้แข็ง
d. ดินเหนียวสีเทาซึ่งเป็นสาเหตุของดินถล่ม
e. ไม่ทราบคำตอบ
- 122 talon: Just look at those **talons**! 127 skylark: We watched a **skylark**.
- a. จุดสูงของภูเขา
b. กรงเล็บที่แหลมคมของนกนักล่า
c. เลือดลมที่มาจากโลหะหนักใช้เพื่อป้องกันอาวุธ
d. บุคคลซึ่งทำอะไรเงาโดยไม่รู้ตัว
e. ไม่ทราบคำตอบ
- a. การแสดงการบินผาดโผนของเครื่องบิน
b. วัตถุที่มนุษย์สร้างขึ้น ซึ่งเคลื่อนที่รอบโลก
c. ผู้เล่นกลเพื่อสร้างความสนุกสนาน
d. นกขนาดเล็กซึ่งบินสูงขณะร้องเพลง
e. ไม่ทราบคำตอบ
- 123 rouble: He had a lot of **roubles**. 128 beagle: He owns two **beagles**.
- a. หินสีแดง ที่มีค่ามาก
b. ญาติห่างๆ
c. เงินตราของประเทศรัสเซีย
d. ความรู้สึกผิดชอบหรือความขากล้าบางอย่างที่
เกิดขึ้นในใจ
e. ไม่ทราบคำตอบ
- a. รถยนต์เคลื่อนที่เร็ว มีหลังคาพับได้
b. ปืนขนาดใหญ่ซึ่งใช้ยิงคนหลายคน ได้อย่าง
รวดเร็ว
c. หมาขนาดเล็ก มีหูยาว
d. บ้านซึ่งสร้างในสถานที่พักผ่อน
e. ไม่ทราบคำตอบ
- 124 jovial: He was very **jovial**. 129 atoll: The **atoll** was beautiful.
- a. มีสถานะต่ำในสังคม
b. ชอบวิจารณ์หรือจับผิดผู้อื่น
c. เต็มไปด้วยความสนุกสนาน
d. เป็นมิตร
e. ไม่ทราบคำตอบ
- a. เกาะที่เกิดจากการก่อตัวของปะการังมีรูปร่าง
เหมือนวงแหวน โดยมีทะเลน้ำตื้นอยู่ตรงกลาง
b. งานศิลปะที่เกิดจากถักทอภาพด้วยเส้นด้าย
c. มงกุฎขนาดเล็กประดับด้วยอัญมณีมีค่า
ซึ่งสตรีสวมใส่ในเวลากลางวัน
d. สถานที่ที่แม่น้ำไหลผ่านช่วงที่แคบๆ ซึ่ง
เต็มไปด้วยก้อนหินขนาดใหญ่
e. ไม่ทราบคำตอบ
- 125 communiqué: I saw their **communiqué**. 130 didactic: The story is very **didactic**.
- a. รายงานสำคัญเกี่ยวกับองค์กร
b. ส่วนซึ่งสมาชิกหลายคนในชุมชนเป็นเจ้าของ
c. สิ่งพิมพ์ที่ใช้สำหรับการโฆษณา
d. การประกาศของทางการ
e. ไม่ทราบคำตอบ
- a. มีความพยายามอย่างมากที่จะให้ข้อคิด
b. ขากที่จะเชื่อ
c. เกี่ยวข้องกับการกระทำที่น่าตื่นเต้น
d. เขียนในลักษณะที่ทำให้คนอ่านไม่แน่ใจ
ว่าหมายความว่าอย่างไร
e. ไม่ทราบคำตอบ

Fourteenth 1000

- 131 canonical: These are **canonical** examples. 136 gauche: He was **gauche**.
- a. ตัวอย่างที่แหกกฎระเบียบ
b. ตัวอย่างที่ได้จากหนังสือทางศาสนาหรือคัมภีร์
c. ตัวอย่างซึ่งเป็นที่ยอมรับกันอย่างกว้างขวาง
d. ตัวอย่างที่ค้นพบเมื่อเร็ว ๆ นี้
e. ไม่ทราบคำตอบ
- a. พูดมาก
b. ยึดหยุ่นได้
c. จุ่มง่าม
d. ตัดสินใจแน่วแน่
e. ไม่ทราบคำตอบ
- 132 atop: He was **atop** the hill. 137 thesaurus: She used a **thesaurus**.
- a. ด้านล่างของ
b. ด้านบนของ
c. ด้านข้างของ
d. ด้านที่อยู่ไกลของ
e. ไม่ทราบคำตอบ
- a. พจนานุกรมประเภทหนึ่ง
b. สารประกอบทางสารเคมี
c. วิธีการพูดแบบพิเศษ
d. การลัดเข้าไปได้ตัวหนึ่ง
e. ไม่ทราบคำตอบ
- 133 marsupial: It is a **marsupial**. 138 erythrocyte: It is an **erythrocyte**.
- a. สัตว์ซึ่งมีกีบเท้า
b. พืชซึ่งมีอายุยืน
c. พืชซึ่งมีดอกหันไปทางพระอาทิตย์
d. สัตว์มีกระเป๋าหน้าท้องสำหรับลูกอ่อน
e. ไม่ทราบคำตอบ
- a. ขาเพื่อลดความปวด
b. ส่วนที่เป็นสีแดงของเลือด
c. โลหะสีขาออกแดง
d. สมาชิกของครอบครัวปลาฉลาม
e. ไม่ทราบคำตอบ
- 134 augur: It **augured** well. 139 cordillera: They were stopped by the **cordillera**.
- a. สัญญาว่าจะเกิดสิ่งดีในอนาคต
b. เป็นไปตามความคาดหวัง
c. มีสีสันซึ่งเข้ากับสิ่งอื่น
d. ทำให้เกิดเสียงใสและไพเราะ
e. ไม่ทราบคำตอบ
- a. กลุ่มเขาพิเศษ
b. เรือคิดอวูธ
c. แนวเทือกเขา
d. โอรสคนโตของกษัตริย์
e. ไม่ทราบคำตอบ
- 135 bawdy: It was very **bawdy**. 140 limpid: He looked into her **limpid** eyes.
- a. คาคการณ์ไม่ได้, ไม่สามารถคาคการณ์ได้
b. นำผลิตเพลิน
c. เร่งรีบ
d. หยาบคาย
e. ไม่ทราบคำตอบ
- a. ชัดเจนหรือใส
b. น้ำตาร่วง
c. สีนํ้าตาลเข้ม
d. สวขงาม
e. ไม่ทราบคำตอบ

APPENDIX B

The Productive Vocabulary Levels Test

Instruction: Complete the underlined words as in the following example.

He was riding a bi_____.

He was riding a bicycle.

THE 2,000 WORD LEVEL

- 1 They will restore the house to its orig_____ state.
- 2 My favourite spo_____ is football.
- 3 Each room has its own priv_____ bath and WC.
- 4 The tot_____ number of students at the university is 12,347.
- 5 They met to ele_____ a president.
- 6 Many companies were manufac_____ computers.
- 7 In AD 636 an Arab army won a famous vict_____ over another army.
- 8 The lakes become ice-free and the snow mel_____.
- 9 They managed to steal and hi_____ some knives.
- 10 I asked the group to inv_____ her to the party.
- 11 She shouted at him for spoi_____ her lovely evening.
- 12 You must spend less until your deb_____ are paid.
- 13 His mother looked at him with love and pri_____.
- 14 The wind roa_____ through the forest.
- 15 There was fle_____ and blood everywhere.
- 16 She earns a high sal_____ as a lawyer.
- 17 The sick child had a very high tempe_____.
- 18 The bir_____ of her first child was a difficult time for her.

THE 3,000 WORD LEVEL

- 19 They need to spend less on adminis and more on production.
- 20 He saw an ang from heaven.
- 21 The entire he of goats was killed.
- 22 Two old men were sitting on a park ben and talking.
- 23 She always showed char towards those who needed help.
- 24 He had a big house in the Cape Prov.
- 25 Oh Harold darl, I am sorry. I did not mean to upset you.
- 26 Judy found herself listening to the last ec of her shoes on the hard floor.
- 27 He cut three large sli of bread.
- 28 He sat in the shade beneath the pa trees.
- 29 He had a crazy sch for perfecting the world.
- 30 They get a big thr out of car-racing.
- 31 At the beginning of their journey they encoun an English couple.
- 32 Nothing illus his selfishness more clearly than his behaviour to his wife.
- 33 He took the bag and tos it into the bushes.
- 34 Every year she looked forward to her ann holiday.
- 35 There is a defi date for the wedding.
- 36 His voice was loud and sav, and shocked them all to silence.

THE 5000-WORD LEVEL

- 37 Some people find it difficult to become independent. Instead they prefer to be tied to their mother's ap strings.
- 38 After finishing his degree, he entered upon a new ph in his career.
- 39 The workmen cleaned up the me before they left.
- 40 On Sunday, in his last se in Church, the priest spoke against child abuse.
- 41 I saw them sitting on st at the bar drinking beer.
- 42 Her favorite musical instrument was a tru.
- 43 The building is heated by a modern heating appa.
- 44 He received many com on his dancing skill.
- 45 The government raised extra rev through tax..
- 46 At the bottom of a blackboard there is a le for chalk.
- 47 After falling off his bicycle, the boy was covered with bru.
- 48 The child was holding a doll in her arms and hu it.
- 49 We'll have to be inventive and de a scheme for earning more money.
- 50 The picture looks nice; the colours bl really well.
- 51 Nuts and vegetables are considered who food.
- 52 The garden was full of fra flowers.
- 53 Many people feel depressed and gl about the future of the mankind.
- 54 She ski happily down the path.

THE 10000-WORD LEVEL

- 55 He wasn't serious about art. He just da in it.
- 56 Her parents will never acq to such an unsuitable marriage.
- 57 Pack the dresses so that they won't cre.
- 58 Traditionally, men were expected to nu women and children.
- 59 Religious people would never bl against God.
- 60 The car sk on the wet road.
- 61 The politician delivered an arrogant and pom speech.
- 62 The Romans used to hire au troops to help them in their battles.
- 63 At the funeral, the family felt depressed and mo.
- 64 His pu little arms and legs looked pathetic.
- 65 A vol person will change moods easily.
- 66 The debate was so long and tedious that it seemed int.
- 67 Drink it all and leave only the dre.
- 68 A hungry dog will sa at the smell of food.
- 69 The girl's clothes and shoes were piled up in a ju on the floor.
- 70 Some monks live apart from society in total sec.
- 71 The enemy suffered heavy cas in the battle.
- 72 When the Xmas celebrations and rev ended, there were plenty of drunk people everywhere.

APPENDIX C

Vocabulary Learning Strategy Questionnaire

The main objective of this questionnaire is to study the vocabulary learning strategies of Prince of Songkla University students in the six fields of study who would be highly affected by the upcoming AEC in 2015: medicine, dentistry, nursing, engineering, accounting, and hospitality & tourism. This questionnaire is divided into 2 parts as follows:

Part I. Students' personal information and their English language skills

Part II. Students' vocabulary learning strategies

Part I: General Information

1. Personal Information

Instruction: Please provide information or put ✓ in the space with true information

1. First Name: Last Name:

Age: Sex Female Male

Email address: Contact Number:

2. What is your field of study?

Medicine Dentistry Nursing

Engineering Management Hospitality and Tourism

Major

2. English Language Skills

Instruction: Please assess your English proficiency by putting the mark ✓ in the space according to your opinions.

Statement	Level				
	Very High	High	Medium	Low	Very Low
1	Your level of English skills				
Listening					
Speaking					
Reading					
Writing					
Vocabulary					
Grammar					
2	Your readiness to use English skills				
Listening					
Speaking					
Reading					
Writing					
Vocabulary					
Grammar					
3	Your confidence in using English skills at work				
Listening					
Speaking					
Reading					
Writing					
Vocabulary					
Grammar					

Part II: Use of Vocabulary Learning Strategies

Instruction: Please rate your frequency of use of each vocabulary learning strategy below with a “✓” in the corresponding space. The rating scale covers six numbers ranging from 0 to 5.

5 = Always (you use the vocabulary learning strategy every day or almost every day)

4 = Often (you use the vocabulary learning strategy 3 – 4 times a week)

3 = Sometimes (you use the vocabulary learning strategy 1 – 2 times a week)

2 = Seldom (you use the vocabulary learning strategy less than once a week but more than once a month)

1 = Rarely (you use the vocabulary learning strategy less than once a month)

0 = Never (you have never used the vocabulary learning strategy)

Strategies		Level of Use					
		5	4	3	2	1	0
Memory Strategies							
1	Study words with pictures						
2	Make a group of words by topic for reviewing						
3	Make a group of words by alphabetical order for reviewing						
4	Say words aloud when studying						
5	Stick the word and its meaning in a place where it can be obviously seen						
6	Use words in sentences						
7	Connect words to personal experiences						
8	Learn words of an idiom together						
9	Connect the word to its synonyms and antonyms						

Strategies		Level of Use					
		5	4	3	2	1	0
10	Associate the word with other words you have learned						
11	Remember the word from its “root”, “prefix”, and “suffix”						
Cognitive Strategies							
12	Learn words through verbal repetition						
13	Learn words through written repetition						
14	Listen to a tape of word lists						
15	Keep a vocabulary notebook wherever you go						
16	Use vocabulary flashcards						
Metacognitive Strategies							
17	Listen to English songs						
18	Watch English television programs / English films						
19	Use English printed matter						
20	Use English websites						
21	Test yourself with word tests						
22	Translate the meanings of words from English into Thai						
23	Translate the meanings of words from Thai into English						
24	Play vocabulary games						
25	Study words over time						
Determination Strategies							
26	Analyze parts of speech to guess the meanings of words						
27	Analyze affixes and roots to guess the meanings of words						
28	Guess the meanings of words from textual context						
29	Analyze any available pictures or gestures to understand the meanings of words						

Strategies		Level of Use					
		5	4	3	2	1	0
30	Look up words in an English-English dictionary						
31	Look up words in an English-Thai dictionary						
32	Look up words in a Thai-English dictionary						
Social Strategies							
33	Ask teachers to translate the meanings of words						
34	Ask classmates to translate the meanings of words						
35	Ask other people to translate the meanings of words						
36	Discover new meanings through group work activities						
37	Interact with classmates						
38	Interact with English teachers						
39	Interact with native English speakers						
Strategies in learning English vocabulary apart from the above (if any, please specify)							
40						

41 From the list above, which vocabulary learning strategies do you like the most? Please specify 3 strategies.

First preference:

Second preference:

Third preference:

** Thank you for your cooperation **

APPENDIX D**Semi-Structured Interview**

First name: Last name:

Faculty: Major:

1. How do you learn English and how much time do you spend?

.....

2. When did you start learning English? Please talk about your history of English learning.

.....

3. Do you like English and do you think it is important? Give reasons.

.....

4. What do you do or will you do to improve your English?

.....

5. Two – three questions on vocabulary learning strategy use (varying according to subjects)

.....

PAPER 1

Vocabulary Learning Strategies of Thai University Students and Its Relationship to
Vocabulary Size

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Vocabulary Learning Strategies of Thai University Students and Its Relationship to Vocabulary Size

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Abstract

The present study aimed to investigate vocabulary learning strategies employed by Thai university students. The relationship between the students' vocabulary learning strategies and their vocabulary size was also explored. The subjects of this study were 257 Prince of Songkla University students in the 6 fields of study: medicine, dentistry, nursing, engineering, accounting, hospitality and tourism which will be highly affected by the forthcoming ASEAN Economy Community (AEC) in 2015. The research data were obtained from 2 instruments: the vocabulary learning strategy questionnaire and the bilingual English-Thai version of vocabulary size test. The study revealed that the subjects slightly employed the overall vocabulary learning strategies. Out of 39 vocabulary learning strategies, the subjects employed 2 strategies at a high level, 18 strategies at a moderate level, and 19 strategies at a low level. The subjects' use of the overall vocabulary learning strategies was moderately correlated with their vocabulary size. Seventeen vocabulary learning strategies were correlated with their vocabulary size at a moderate degree while the rest at a low degree.

Keywords: Vocabulary learning strategies, vocabulary size, Thai university students

1. Introduction

English is a common language in many different fields including business and education (Crystal, 1997). No one denies the prominence of English language in the present time as a universal language. With the effect of AESAN Economic Community (AEC) in 2015, English will increasingly become more important for member countries' workers in terms of employment opportunities, especially Thais, whose English proficiency was founded to be at "a very low proficiency level" according to the EF English Proficiency Index (EF EPI, 2013). In order to take the benefit of this open trade, Thai workers need to have an adequate English proficiency for communication.

English proficiency has been found to be closely related to vocabulary knowledge (e.g., Laufer, 1998; Nation and Meara, 2002). This strong relationship can be explained by the role of vocabulary in language learning. Vocabulary is considered as a very essential component of any languages (Waring and Nation, 1997). To be able to achieve high language performance, learners need large and rich vocabulary repertoire to use language effectively (McCarthy, 1990 and 1998). Lack of vocabulary obstructs learners' language development as a higher language level requires a higher amount of words (Waring and Nation, 1997, Hu and Nation, 2000). Nandy (1994) asserts that "The more words one is able to use correctly, the better one will be able to express oneself easily and with self-confidence and to understand the world one lives in" (p. 1). Insufficient vocabulary emerges as a major problem among L2 learners, including Thai learners, causing their poor language performance in 4 skills: reading, listening, speaking, and writing skills (Sawangwarorose, 1984 and Sukkrong, 2010).

Consequently, in recent years many researchers have paid more attention on finding ways to develop learners' vocabulary level. Using vocabulary learning strategies is one of effective tools to enhance learners' vocabulary size (e.g., Cunningsworth, 1995; Nation, 2001). According to Nation (2001), large vocabulary can be acquired with the help of vocabulary learning strategies and they are useful for learners in all language proficiencies. Cunningsworth (1995) also stated that helping learners develop their vocabulary learning strategies is a powerful approach to help learners acquire large vocabulary repertoire.

The main advantage of vocabulary learning strategies is that they allow learners to take more control of their own learning (Scharle and Szabo, 2000; Nation, 2001) and also develop "learner autonomy, independence, and self-direction" (Oxford and Nyikos, 1989, p. 291). A number of scholars, for example, Gairns and Redman (1986) and Sokmen (1997), have recognized the importance of learners' independence in vocabulary learning. According to Gairns and Redman (1986), after the elementary level where students are provided with plenty of new English words in class, it is difficult for teachers to select all useful words to them, so learners must have more responsibilities for their own learning of vocabulary. Sokmen (1997) believes that it is impossible for learners to remember all words they need in class and to acquire large vocabulary they need to take responsibilities for their own learning.

As discussed above, vocabulary learning strategies have been shown to help learners develop their vocabulary knowledge. Thus, it is worthwhile to study vocabulary learning strategies used by Prince of Songkla University students and to see the relationship between vocabulary

learning strategies and the students' vocabulary size.

2. Literature Review

2.1 Definition and Classification of Vocabulary Learning Strategies

Vocabulary learning strategies are considered a part of language learning strategies (Nation, 2001). For Cameron (2001), vocabulary learning strategies are “the actions that learners take to help themselves understand and remember vocabulary items” (p. 92). Catalan (2003), based on Rubin's (1987), Wenden's (1987), Oxford's (1990), and Schmitt's (1997) definition, defines vocabulary learning strategies as “the mechanism used in order to learn vocabulary as well as steps or actions taken by students (a) to find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode” (p. 56). According to Intaraprasert (2004), vocabulary learning strategies are “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).

Many classifications of vocabulary learning strategies have been proposed by scholars (e.g., Oxford, 1990; Gu and Johnson, 1996; Schmitt, 1997). Among these classifications, one of the well-known and well-accepted among researchers (e.g., Hamzah and Kafipour and Abdulla, 2009; Sripetpun, 2000) is that by Schmitt (1997) who divides vocabulary learning strategies into 5 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.

3. Research Questions

1. What is the frequency of vocabulary learning strategy used by Prince of Songkla University students?
2. What are the relationships between vocabulary learning strategies and vocabulary size?

4. Methodology

4.1 Subjects

The subjects of this study were 257 Prince of Songkla University students in the 6 fields of study which will be highly affected by the opening of ASEAN Economy Community (AEC). These 257 subjects were 39 from medicine, 29 from dentistry, 48 from nursing, 90 from engineering, 25 from accounting, and 26 from hospitality and tourism.

4.2 Research Instruments

4.2.1 Vocabulary Learning Strategy Questionnaire

The purpose of this questionnaire was to investigate students' frequency of vocabulary learning strategy use. The questionnaire was adapted from that of Schmitt (1997) and Siriwan (2007). The reliability coefficient of this questionnaire was .92. All 39 items in the questionnaire were divided into 5 main categories of vocabulary learning strategies: 11 items in memory category, 5 items in cognitive category, 9 items in metacognitive category, 7 items in determination category, and 7 items in social category. The rating scale covered six numbers ranging from 0 (never) to 5 (always).

The interpretation of ratings in the questionnaire was based on Best (1981). Scores 0 - 1.5 indicate as a very low use, 1.50 – 2.49 as a low use, 2.50 – 3.49 as a moderate use, 3.50 – 4.49 as a high use, and 4.50 – 5.00 as a very high use.

4.2.2 The Bilingual English-Thai Version of Vocabulary Size Test

The bilingual version of vocabulary size test adopted from the monolingual English version of vocabulary size test by Nation and Beglar (2007) was used to measure students' vocabulary size. This bilingual version test was a multiple-choice format consisting of 14th 1000 word levels with a total of 140 items – there were 10 items from each 1000 word level. 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. ช่วยให้ผู้รู้สึกดีขึ้น
- c. วัสดุซึ่งทำขึ้นจากหินและดินทรายผสมกัน
- d. สิ่งที่เกิดจากการนำปุ๋ยของพืช
- e. ไม่ทราบคำตอบ

To estimate students' vocabulary size, their total scores from the bilingual English-Thai version of vocabulary size test need to be multiplied by 100. If a student scores 35 out of 140, their vocabulary size will be 3500 word families (Nation and Beglar, 2007).

4.3 Data Collection

The vocabulary learning strategy questionnaire and the bilingual English-Thai version of vocabulary size test were distributed after the research purposes were explained to 257 subjects. Then, the subjects completed these 2 research instruments.

4.4 Data Analysis

To answer the first research question, descriptive statistics was used to compute the mean and standard deviations of the subjects' use of vocabulary learning strategies. To answer the second research question, Pearson correlation was applied to test the relationship between vocabulary learning strategies and vocabulary size.

5. Results

Research Question 1: What is the frequency of vocabulary learning strategy used by Prince of Songkla University students?

The frequency of vocabulary learning strategy use reported by 257 Prince of Songkla University students is presented in Table 1.

Table 1. Frequency of vocabulary learning strategy use

Strategies	Mean	S.D.	Level of use
Determination	2.80	1.02	Medium
Metacognitive	2.58	1.06	Medium
Memory	2.43	0.97	Low
Cognitive	2.37	1.07	Low
Social	2.29	0.98	Low
Overall strategies	2.49	0.91	Low

In Table 1, Prince of Songkla University subjects used the overall vocabulary learning strategies at a low level with the mean score of 2.49 (S.D. = 0.91). In other words, the students were found to be low strategy users for the overall vocabulary learning strategies.

Determination strategies were the most frequently used strategies by the students (mean = 2.80, S.D. = 1.02), followed by metacognitive strategies (mean = 2.58, S.D. = 1.06), memory strategies (mean = 2.43, S.D. = 0.97), cognitive strategies (mean = 2.37, S.D. = 1.07), and social strategies (mean = 2.29, S.D. = 0.98), respectively. In terms of levels of use, the subjects employed the determination and metacognitive strategies at a moderate level while memory, cognitive, and social strategies at a low level.

There were a total of 39 vocabulary learning strategies under the 5 above-mentioned strategy categories. The subjects employed 39 strategies at different degrees: a high degree, a moderate degree, and a low degree.

Table 2 shows the vocabulary learning strategies which were highly employed by the subjects.

Table 2. The high frequently used strategies

No.	Strategies	Category	Mean	S.D.
1	Look up words in an English-Thai dictionary	Determination	3.56	1.19
2	Listen to English songs	Metacognitive	3.55	1.35

As table 2 displays, there were only 2 out of 39 vocabulary learning strategies which were

highly used by the subjects and these 2 strategies were “listen to English songs” (Item 1) in metacognitive category, and “look up a word in an English-Thai dictionary” (Item 2) in determination category.

The vocabulary learning strategies moderately employed by the subjects are shown in Table 3.

Table 3. The moderate frequently used strategies

No.	Strategies	Category	Mean	S.D.
3	Use English websites	Metacognitive	3.41	1.41
4	Watch English television programs / English films	Metacognitive	3.21	1.54
5	Learn words through verbal repetition	Cognitive	3.00	1.13
6	Ask classmates to translate the meanings of words	Social	2.98	1.24
7	Guess the meanings of words from textual context	Determination	2.96	1.32
8	Learn words through written repetition	Cognitive	2.86	1.23
9	Look up words in a Thai-English dictionary	Determination	2.85	1.23
10	Say words aloud when studying	Memory	2.82	1.26
11	Analyze affixes and roots to guess the meanings of words	Determination	2.80	1.39
12	Make a group of words by topic for reviewing	Memory	2.77	1.12
13	Analyze parts of speech to guess the meanings of words	Determination	2.77	1.37
14	Study words with pictures	Memory	2.75	1.07
15	Analyze any available pictures or gestures to understand the meanings of words	Determination	2.74	1.31
16	Translate the meanings of words from English into Thai	Metacognitive	2.72	1.24
17	Use English printed matter	Metacognitive	2.69	1.40
18	Play vocabulary games	Metacognitive	2.62	1.38
19	Associate the word with other words you have learned	Memory	2.59	1.34
20	Connect words to personal experiences	Memory	2.54	1.39

In Table 3, of these 18 vocabulary learning strategies which were moderately employed by the subjects, 5 strategies were in memory category (Items 10, 12, 14, 19, and 20), 5 strategies in metacognitive category (Items 3, 4, 16, 17, and 18), 5 strategies in determination category (Items 7, 9, 11, 13, 15, and 17), 2 strategies in cognitive category (Items 5 and 8), and 1 strategy in social category (Item 6).

The strategies slightly employed by the subjects are displayed in Table 4.

Table 4. The low frequently used strategies

No.	Strategies	Category	Mean	S.D.
21	Remember the word from its “root”, “prefix”, and “suffix”	Memory	2.41	1.38
22	Discover new meanings through group work activities	Social	2.40	1.21
23	Connect the word to its synonyms and antonyms	Memory	2.38	1.24
24	Ask teachers to translate the meanings of words	Social	2.35	1.28
25	Translate the meanings of the words from Thai into English	Metacognitive	2.30	1.30
26	Look up words in an English-English dictionary	Determination	2.25	1.33
27	Test yourself with word tests	Metacognitive	2.23	1.30
28	Learn words of an idiom together	Memory	2.21	1.45
29	Make a group of words by alphabetical order for reviewing	Memory	2.17	1.22
30	Listen to a tape of word lists	Cognitive	2.14	1.27
31	Keep a vocabulary notebook wherever you go	Cognitive	2.14	1.34
32	Interact with classmates	Social	2.19	1.29
33	Use words in sentences	Memory	2.09	1.23
34	Stick the word and its meaning in a place where it can be obviously seen	Memory	2.03	1.38
35	Interact with an English teacher	Social	1.95	1.42
36	Ask other people to translate the meanings of words	Social	1.97	1.36
37	Interact with native English speakers	Social	1.94	1.36
38	Study words over time	Metacognitive	1.88	1.19
39	Use vocabulary flashcards	Cognitive	1.70	1.41

From these 19 vocabulary learning strategies slightly used by the subjects, 6 strategies belong to memory category (Items 21, 23, 28, 29, 33, and 34), 6 strategies belong to social category (Items 22, 24, 32, 35, 36, and 37), 3 strategies belong to cognitive category (Items 30, 31, and 39), 3 strategies belong to metacognitive category (Items 25, 27, and 38), and 1 strategy belongs to determination category (Item 26).

Research Question 2: What are the relationships between vocabulary learning strategies and vocabulary size?

The correlations between the 257 subjects’ use of vocabulary learning strategies and their vocabulary size are shown in Table 5. 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 5. Relationship between vocabulary learning strategies and vocabulary size

Strategies	r	Sig	Level of correlation
Metacognitive	.395	.000**	Moderate
Memory	.373	.000**	Moderate
Determination	.355	.000**	Moderate
Social	.333	.000**	Moderate
Cognitive	.275	.000**	Weak
Overall	.388	.000**	Moderate

** Significant at the .01 level

As shown in Table 5, the correlation between the subjects' use of the overall vocabulary learning strategies and their vocabulary size was significant at a moderate level ($r = 0.388$, $p < .01$). In other words, subjects with high frequency of vocabulary learning strategy use had greater vocabulary repertoire, and vice versa, indicating that the higher use of vocabulary learning strategies leads subjects to the greater vocabulary size.

The 4 strategy categories: metacognitive, memory, determination, and social strategies were correlated with vocabulary size at a moderate level ($r = .395$, $.373$, $.355$, and $.333$), respectively; metacognitive strategies had the highest correlation among them. Only cognitive strategies were correlated with vocabulary size at a weak level ($r = .275$).

The relationships between 39 vocabulary learning strategies and vocabulary size were at two different levels: a moderate level and a low level. Table 6 shows the vocabulary learning strategies which have a moderate contribution to the subjects' vocabulary size.

Table 6. The vocabulary learning strategies which moderately contributed to the students' vocabulary size

No.	Strategies	categories	r	Sig
1	Remember the word from its "root", "prefix", and "suffix"	Memory	.414	.000**
2	Guess the meanings of words from textual context	Determination	.397	.000**
3	Analyze affixes and roots to guess the meaning of words	Determination	.388	.000**
4	Learn words through verbal repetition	Cognitive	.386	.000**
5	Use English printed matter	Metacognitive	.386	.000**
6	Analyze parts of speech to guess the meanings of words	Determination	.371	.000**
7	Learn words of an idiom together	Memory	.357	.000**
8	Associate the word with other words you have learned	Memory	.354	.000**

** Significant at the .01 level

Table 6. (Continued)

No.	Strategies	categories	r	Sig
9	<i>Watch English television programs / English films</i>	Metacognitive	.346	.000**
10	<i>Use English websites</i>	Metacognitive	.344	.000**
11	Connect the word to its synonyms and antonyms	Memory	.338	.000**
12	Listen to English songs	Metacognitive	.335	.000**
13	Connect words to personal experiences	Memory	.332	.000**
14	Learn words through written repetition	Cognitive	.318	.000**
15	Use vocabulary flashcards	Cognitive	.316	.000**
16	Interact with English teachers	Social	.352	.000**
17	Play vocabulary games	Metacognitive	.305	.000**

** Significant at the .01 level

In Table 6, 17 out of 39 vocabulary learning strategies were correlated with the subjects' vocabulary size at a moderate level: the strategy "remember the word from its root, prefix, and suffix" had the highest correlation with the subjects' vocabulary size; the strategies "guess the meanings of words from textual context" and "analyze affixes and roots to guess the meaning of words" had the second and the third highest correlation. The rest of the other strategy items were correlated with the subjects' vocabulary size at a weak level.

It should be noted that among these 17 strategies, only one social strategy "interact with English teachers" was found to be moderately correlated with the subjects' vocabulary size while the others were slightly correlated with their vocabulary size.

6. Conclusion

The findings of the present investigation are summarized as follows:

1. Prince of Songkla University subjects employed the overall vocabulary learning strategies at a low level. The most frequently used strategies were determination strategies, followed by metacognitive strategies, memory strategies, cognitive strategies, and social strategies, respectively. Among 39 vocabulary learning strategies, the subjects highly used 2 strategies, moderately used 18 strategies, and slightly used 19 strategies.
2. The overall use of vocabulary learning strategies was moderately correlated with the subjects' vocabulary size. Seventeen out of 39 vocabulary learning strategies were correlated with vocabulary size at a moderate level while the rest of the strategy items at a low level.

7. Discussion

The finding that the subjects employed the overall vocabulary learning strategies at a low level is consistent with previous studies (Hamzah and Kafipour and Abdulla, 2009; Asgari and Mustapha, 2011) which found that L2 learners tend not to highly employ vocabulary learning strategies. The subjects' low frequency of vocabulary learning strategy use may be due to the low attention on teaching and learning vocabulary. Carter and McCarthy (1988),

Fan (2003), and Siriwan (2007) stated that in Asean countries including Thailand, vocabulary is usually given little emphasis in teaching and learning context; the focus is mostly on reading, listening, speaking, and writing skills. As a result, teachers do not pay attention to introducing students to various learning techniques or strategies to develop vocabulary knowledge, making students unfamiliar with many vocabulary learning strategies and lead to their low frequency of use.

Moreover, English learning in Thai context is primarily a teacher-centered approach. In this learning environment, students rely heavily on teachers and slightly on themselves (Rattanavich, 2013). It seems that teacher-centered approach makes Thai students take fewer responsibilities or initiations of their own learning and this could impact students' low level of vocabulary learning strategy use. According to Oxford and Nyikos (1989), vocabulary learning strategies are methods that allow learners to enhance their learning autonomy, independence, and self-direction so the level of vocabulary learning strategy use highly depend on students themselves. Students with more control of their own learning will employ strategies more frequently.

Among 5 main strategy categories, the subjects reported that determination strategies were the most frequently used strategies and social strategies were the least used strategies. This finding is in line with several studies (e.g., Sarani and Kafipour, 2008; Komol and Sripetpun, 2011) which supported that learners are interested in using determination strategies more than other strategy categories and the social strategies were generally found the least use among L2 learners. The least use of social strategies may be because Thai educational university curriculum does not provide much social learning context. Thai university teachers generally adopted the more traditional teacher-centered or lecture-based approach in classroom (Rattanavich, 2013); the activities in class are mostly centered on teachers and students only follow the teachers' instructions. Thus, students would have fewer opportunities to use social strategies such as discussion or group work in their learning, including vocabulary learning.

The finding that there was a moderate relationship between the overall vocabulary learning strategies and vocabulary size is in agreement with many scholars, e.g., Gu and Johnson (1996) Komol & Sripetpun (2011), and Waldvogel (2011), who supported that the use of vocabulary learning strategies seems to relate to learners' vocabulary knowledge. In the other words, students with high frequently use of vocabulary learning strategies have greater vocabulary size, and vice versa.

Among 17 vocabulary learning strategies with a moderate contribution to vocabulary size, only one strategy "listen to English songs" was highly employed by the subjects. The high level of use of this strategy may be because songs are readily available and easy to access. Moreover, the researchers such as Bada and Okan (2000), Ghada et al. (2011) found that L2 students have highest preference for auditory learning and listening to songs is one of the activities that students prefer.

Interestingly, the subjects reported employing the strategy "look up a word in an English-Thai dictionary" at a high degree while this strategy only slightly contributed to their vocabulary size. The finding about the high use of this strategy is in line with Schmitt (1997) who found

that L2 learners utilize a bilingual dictionary as a useful resource in learning vocabulary and they often consult a bilingual dictionary when they encounter unfamiliar words. However, Komol and Sripetpun's (2011) revealed that Thai university students tend to have problem with finding the right words from an English-Thai dictionary. Thus, this problem might explain the low contribution of this strategy to learners' vocabulary size.

The subjects moderately employed 11 out of 17 effective vocabulary learning strategies. These strategies were "analyze parts of speech to guess the meanings of words", "analyze affixes and roots to guess the meanings of words", "learn words through verbal repetition", "use English printed matter", "guess the meanings of words from textual context", "associate the word with other words you have learned", "watch English television programs / English films", "use English websites", "connect word to personal experiences", "learn words through written repetition", and "play vocabulary games".

The subjects slightly used 5 out of 17 high effective vocabulary learning strategies. They were "remember the word from its root, prefix, and suffix", "learn words of an idiom together", "connect the word to its synonyms and antonyms", "use vocabulary flashcards", and "interaction with English teachers".

It is interesting that although the strategy "remember the word from its root, prefix, and suffix" was the most important contribution to students' vocabulary size compared to other vocabulary learning strategies, it was slightly employed by the subjects. The low frequency of use may be because students had difficulty with identifying word parts or were not taught to make use of roots, prefixes, and suffixes. There are three types of word parts: prefixes, roots, and suffixes which put together to create a thousand of words. The knowledge of word parts will help students to remember unknown words. However, it is not easy to unlock them. This is because there are a number of prefixes, suffixes in English language and some word parts are not recognized by students. Moreover, the prefixes and suffixes of some words are hardly identified such as the words decode (de + code), relative (relate + tive). Laufer (1990) and Kocic (2008) also found that suffix synforms tended to be major problems for L2 learners. Thus, this strategy needs to be effectively taught to students.

The findings that the subjects employed many vocabulary learning strategies at a low level might not be due to the fact that they did not realize the contribution of vocabulary learning strategies to their vocabulary knowledge. Although, a number of studies on vocabulary learning strategies have been conducted in Thailand, the findings about their significant roles are not known to general learners. In addition, vocabulary learning is not a subject in school itself; students learn vocabulary as a part of other skills such as reading, listening, writing, and speaking. In other words, vocabulary is not explicitly taught as a subject. Students learn them as assigned in their other language subjects or even expected to acquire incidentally or their own.

As a result, teachers should realize how and what important vocabulary learning strategies are and encourage learners to apply them in vocabulary learning. Students themselves need to be informed of the benefits of vocabulary learning strategies, to know their limitation in using vocabulary learning strategies, and to take more responsibility for their own vocabulary

learning. The use of vocabulary learning strategies can lead students to large vocabulary size. According to McCarthy (1990) and Hu and Nation (2000), insufficient vocabulary knowledge will obstruct students to achieve high language performances of 4 skills: reading, listening, writing, and speaking, thus students need the high vocabulary size to use language effectively.

8. Further Studies

This study aimed to examine the vocabulary learning strategies of Prince of Songkla University students. More research should be done with various groups of university students to better understand the roles of vocabulary learning strategies. In addition to using the questionnaire, further studies should include other methods such as interview, observation, journal writing in order to get in-depth information about students' use of vocabulary learning strategies. This may also allow researchers to discover further aspects such as students' attitudes towards learning English, students' problems with the use of vocabulary learning strategies, etc.

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PAPER 2

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

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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. ช่วยให้รู้สึกลึกลับ
- c. วัสดุแข็งทำขึ้นจากหินและดินทรายผสมกัน
- d. สิ่งที่เกิดจากการนำปุ๋ยของพืช
- 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**	low
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
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

** Significant at the .01 level

* Significant at the .05 level

Table 2: (Continued)

Items	Strategies	r	Level of correlation
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**

** 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	
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**
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	3.05	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**

** Significant at the .01 level

* Significant at the .05 level

Table 5: (Continued 1)

Items	Strategies	High group (N = 99)		Low group (N = 158)		T- value
		Mean	Level of use	Mean	Level of use	
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
	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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