

**ENGLISH VOCABULARY LEARNING STRATEGIES
EMPLOYED BY THAI TERTIARY-LEVEL STUDENTS**

Nathaya Boonkongsan



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the Degree of Doctor of Philosophy in English Language Studies**

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การใช้กลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษของนักศึกษาไทย
ในระดับอุดมศึกษา



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มหาวิทยาลัยเทคโนโลยีสุรนารี

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Thesis Examining Committee

(Dr. Dhirawit Pinyonattakarn)

Chairperson

(Assoc. Prof. Dr. Channarong Intaraprasert)

Member (Thesis Advisor)

(Asst. Prof. Dr. Nawamin Prachanant)

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Vice-Rector for Academic Affairs
and Innovation

(Dr. Peerasak Siriyothin)

Dean of Institute of Social Technology

นัฐยา บุญกองแสน : การใช้กลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษของนักศึกษาไทย
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งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษา (1) ความถี่ของการใช้กลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษของนักศึกษาไทยที่กำลังศึกษาในสถาบันอุดมศึกษา ในภาคตะวันออกเฉียงเหนือ (2) การใช้กลวิธีการเรียนรู้คำศัพท์ตามตัวแปร 5 ด้าน ได้แก่ เพศ ประเภทของสถาบันการศึกษา สาขาวิชา ประสบการณ์การเรียนรู้ภาษาอังกฤษ และความสามารถด้านคำศัพท์ (3) ปัจจัยของการใช้กลวิธีการเรียนรู้คำศัพท์และ (4) เหตุผลของการใช้กลวิธีที่ใช้บ่อยและใช้ไม่บ่อย กลุ่มตัวอย่างในงานวิจัยนี้คือนักศึกษาจำนวน 905 คนที่กำลังศึกษาใน 11 สถาบันอุดมศึกษา ประจำปีการศึกษา 2556 เครื่องมือหลักในการเก็บรวบรวมข้อมูลประกอบด้วย แบบสอบถาม และการสัมภาษณ์แบบกึ่งโครงสร้าง นอกจากนี้ ยังมีแบบทดสอบความสามารถทางคำศัพท์ การเก็บข้อมูลมีสองขั้นตอน ในขั้นตอนที่หนึ่ง กลุ่มตัวอย่าง 905 คนที่ได้จากการสุ่มแบบแบ่งชั้นและการสุ่มแบบเจาะจงเป็นผู้ทำแบบทดสอบคำศัพท์และตอบแบบสอบถาม ในขั้นตอนที่สอง กลุ่มตัวอย่าง 48 คนที่ได้จากการสุ่มแบบตามสะดวกจาก 905 คนในขั้นตอนที่หนึ่ง เป็นผู้เข้ารับการสัมภาษณ์ แบบสอบถามได้รับการตรวจสอบความเที่ยงตรงภายในด้วยค่าสัมประสิทธิ์อัลฟาหรือ ครอนบัท (α) แบบสอบถามมีความเชื่อมั่นที่ระดับ .94 สถิติที่ใช้ในการวิเคราะห์ข้อมูลคือ ค่าเฉลี่ย (\bar{x}) ค่าเบี่ยงเบนมาตรฐาน (S.D.) การทดสอบความแปรปรวน (ANOVA) การทดสอบสอบไค-สแควร์ (χ^2) และการวิเคราะห์ปัจจัย (Factor Analysis) ข้อมูลจากการสัมภาษณ์ได้รับการวิเคราะห์ด้านเนื้อหา (Content Analysis)

ผลการศึกษา พบว่านักศึกษาไทยที่กำลังศึกษาอยู่ในระดับอุดมศึกษา ในภาคตะวันออกเฉียงเหนือ ใช้กลวิธีการเรียนรู้คำศัพท์ในระดับปานกลาง ในภาพรวมและ 3 กลวิธีหลัก นอกจากนี้ยังพบว่า การใช้กลวิธีการเรียนรู้คำศัพท์ในภาพรวม กลวิธีหลัก และรายชื่อ ของนักศึกษา มีความสัมพันธ์กับทั้ง 5 ตัวแปรที่ศึกษา การวิเคราะห์ปัจจัยพบว่า 5 ปัจจัยมีความสัมพันธ์กับการใช้กลวิธีการเรียนรู้คำศัพท์ ผลการวิเคราะห์ด้านเนื้อหาพบว่ามี 7 เหตุผลหลักที่นักศึกษาใช้บางกลวิธีบ่อย และมี 9 เหตุผลหลักที่นักศึกษาใช้บางกลวิธีไม่บ่อย

NATHAYA BOONKONGSAEN : ENGLISH VOCABULARY LEARNING
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VOCABULARY LEARNING/VOCABULARY LEARNING STRATEGIES/THAI
TERTIARY LEVEL STUDENTS

The present investigation aims to (1) investigate the frequency of English vocabulary learning strategies (VLSs) reported being employed by Thai tertiary-level students studying in the Northeast of Thailand; (2) examine whether the choices of VLS use vary significantly by the students' gender, type of institution, field of study, language learning experience and level of vocabulary proficiency, as well as identify the significant variation patterns of VLS use at different levels with reference to the five variables; (3) explore the underlying dimensions of the students' VLS use; and (4) explore why the students reported employing certain strategies frequently and other strategies infrequently.

The participants were 905 undergraduates studying at 11 institutions in the Northeast of Thailand in the academic year 2013. The VLS questionnaire and semi-structured interview were the main methods used for data collection. Moreover, the vocabulary proficiency test was constructed to assess the students' vocabulary proficiency level. In the first step of data collection, 905 participants selected through technique participated in the interview session. For the internal consistency of the VLS questionnaire, the Alpha Coefficient (α) or Cronbach alpha was used with the

estimate value of .94. The statistical methods performed to analyse the data obtained through the VLS questionnaire included the mean score (\bar{x}), standard deviation (S.D.), percentage, an Analysis of Variance (ANOVA), the Chi-square Test and the factor analysis. The data obtained through the semi-structured interviews were analysed by the content analysis.

The findings reveal that students studying at the tertiary-level in the Northeast of Thailand, reported medium frequency of the overall VLS use, and use of VLSs to discover the meaning or other aspects of vocabulary items, retain knowledge of newly-learned vocabulary items and expand knowledge of vocabulary. The findings also reveal that the students' overall VLS use, use of VLSs by the three main categories and use of individual VLSs varied significantly according to the five investigated variables. The results of factor analysis indicate that 5 factors were the underlying dimensions of the students' VLS use. All factors were found to be strongly related to the investigated variables.

The results of the content analysis reveal that 7 categories emerged as the reasons for using certain VLSs frequently, while 9 categories emerged as the reasons for using certain strategies infrequently.

School of Foreign Languages

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Student's Signature_____

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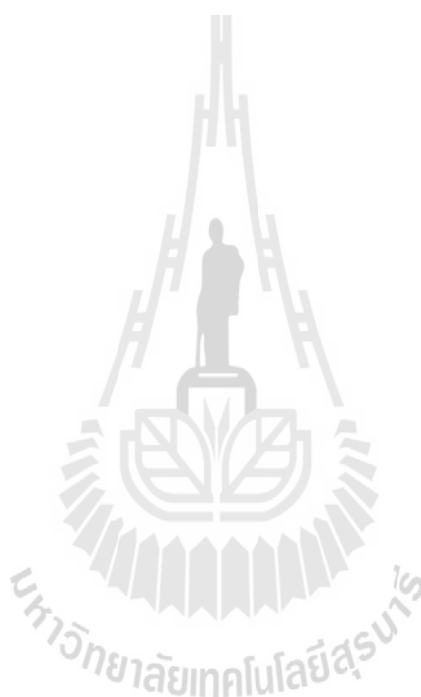


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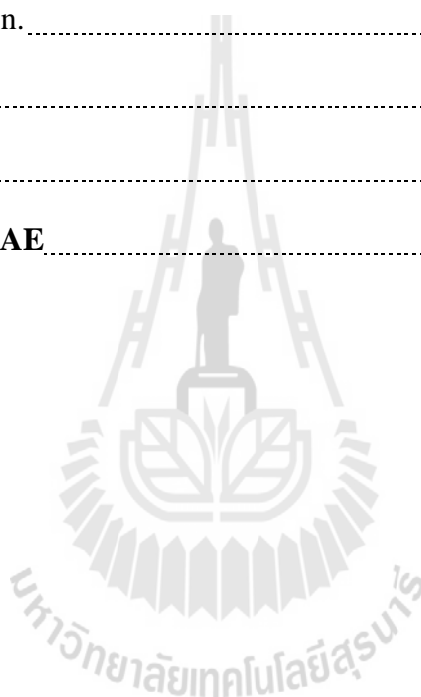
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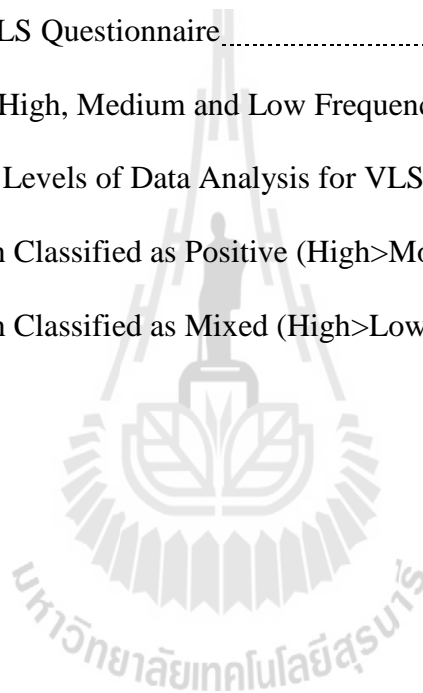
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LIST OF ABBREVIATIONS

ANOVA	=	Analysis of Variance
Arts	=	Arts-oriented Field
Bu	=	Business-oriented Field
DMV	=	Discovery of Meaning or Other Aspects of Vocabulary Items
EKV	=	Expansion of Knowledge of Vocabulary Items
EFL	=	English as a Foreign Language
ESL	=	English as a Second Language
FL	=	Foreign Language
L1	=	First Language
L2	=	Second Language
Li	=	Limited to Formal Classroom Instructions
NNSE	=	Non-native Speaker of English
Non-Li	=	Non-limited to Formal Classroom Instructions
N.S.	=	Not Significant
NSE	=	Native Speaker of English
PBU	=	Public /Autonomous Public University, Private College/ University,
PVC/U	=	Private College/ University

LIST OF ABBREVIATIONS (Continued)

RKV	=	Retention of Knowledge of Newly-Learned Vocabulary Items
RMUTT	=	Rajamangala University of Technology
RU	=	Rajabhat University
Sci	=	Science-oriented Field
SPSS	=	Statistical Package for the Social Sciences
S.D.	=	Standard Deviation
TEFL	=	Teaching English as a Foreign Language
VLS	=	Vocabulary Learning Strategy
VLSQ	=	Vocabulary Learning Strategy Questionnaire
VPT	=	Vocabulary Proficiency Test



CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Introduction

This chapter provides the background of the present investigation. It begins with the introduction, followed by the terms used in the present investigation. Then the English language teaching and learning at the tertiary level and background of the four types of institution are addressed. This chapter ends with the research objectives, the benefits of the present investigation, the outline of the thesis and the summary of this chapter.

It is acknowledged that vocabulary serves as a fundamental tool for communication. It plays a prominent role in understanding a language as Wilkins (1972, p. 111) states “without grammar little can be conveyed, without vocabulary nothing can be conveyed”. In learning any languages, vocabulary seems to be the focal point of acquisition (Asgari and Mustapha, 2011). In the context of English as a second (ESL) or a foreign language (EFL), vocabulary plays a key role to language learning process as it is one of the important language elements that can support the four skills, i.e., listening, speaking, reading and writing. For L2 learners, vocabulary is considered a key to understand what they are reading as Nation (2009) points out that reading requires knowledge and skill. This knowledge includes recognising the letters and words of the language, having substantial vocabulary, grammatical and textual knowledge. In addition, the reader must be able to bring

knowledge of the word to the reading task. Tertiary-level students are expected to be able to read general English texts and the texts related to their fields of study. With adequate vocabulary knowledge in the target language, students might be able to cope with their reading. Having insufficient vocabulary knowledge, students might face the problems in comprehending and producing other skills in the target language (Jahan and Jahan, 2011). According to Stæhr (2008, p.1), “vocabulary knowledge is generally assumed to be a good predictor of language proficiency in a second or a foreign language.” We might say that one of the factors that might hinder tertiary-level students’ language performance is the inadequacy of their vocabulary knowledge.

In the context of English as a foreign language in Thailand, “vocabulary in every unit is not presented fully in class because the amount of the subject matter of each unit far exceeds the teaching time available” (Tassana-ngam 2004, p.18). From the researcher’s teaching experience at the tertiary level for many years, the students are likely to learn and memorise a new word once it has been indirectly taught. Some students may look up the meaning of new words they encounter in a bilingual dictionary, and others may inevitably struggle to memorise the English words and their meanings. It is noted that students may forget the new words they come across easily. So, it is necessary for them to hear and use the vocabulary over and over before they are able to remember the vocabulary items. The fact is that Thai students do not have many opportunities to experience English language and this is consistent with what has been suggested by Maesin, Mansor, Shafie and Neyan (2009, p. 71) that “in second language learning, students find the difficulties to utilise the language skills outside the classrooms as there are fewer opportunities to do so due to poor

language environment.” In addition, some Thai students are taught to repeat the words spoken and memorise the words’ spelling and meaning in a teaching method which seems to be passive (Khuvasanond, Sildus, Hurford and Lipka, 2012).

As mentioned above, we can see that vocabulary learning has received little attention. These situations are consistent with Fan (2003) that in Asian countries, vocabulary seems to be given little emphasis in the university curriculum. This may account to the inadequacy of vocabulary knowledge among some Thai tertiary-level students. However, there are other students who can tackle the vocabulary problems on their own. They seem to have sufficient vocabulary knowledge and are considered better English language learners. For these students, vocabulary learning strategies (VLSs) may help facilitate their vocabulary learning as asserted by Nation (2001) that a large and rich vocabulary can be acquired with the help of VLSs. Different learners may employ different techniques or strategies to learn vocabulary. How the individual learners studying at the tertiary level deal with their own vocabulary learning is what interests the researcher of the present investigation.

Previous research works in the field of vocabulary learning strategies (VLSs) carried out in other countries have examined the students’ VLS use with and without taking any variables into consideration. In the context of English as a foreign language in Thailand, a small number of research works have been carried out to investigate the students’ VLS use. One research work conducted by Intaraprasert (2004) is considered a preliminary exploratory investigation. In his study, types of VLSs have been reported without any variables taken into account. Other research works by Mingsakoon (2002), Siriwan (2007) and Suppasetseree and Saitakham (2008) have been carried out to examine whether the students’ VLS use is related to

the investigated variables. No empirical research work in the area of VLSs has been carried out in a wider context as in a tertiary level. The present investigation seeks to fill out the gaps by investigating how the students studying at the tertiary level deal with their vocabulary learning. The main purpose of the present investigation is to investigate VLSs employed by tertiary-level students in the Northeast in relation to their gender, type of institution, field of study, language learning experience and the levels of vocabulary proficiency. Furthermore, the reasons behind the students' strategy choices have been uncovered in order to get a comprehensive picture of the students' VLS use.

In conclusion, the five variables have been carefully selected to examine the effects on the students' VLS use. The findings of the present investigation may contribute to vocabulary learning as well as the factors affecting the strategy choices among Thai EFL students at the tertiary level. Understanding a comprehensive picture of students' VLS use might enable EFL teachers to improve the vocabulary teaching methods as well as introduce VLSs and some appropriate techniques to their students. Consequently, it might help students develop some strategies and ways to become independent learners by recognising the strategies they possess and those they may lack.

1.2 Terms Used in the Present Investigation

The terms used in the present investigation are defined below;

1.2.1 Vocabulary Learning Strategies (VLSs)

The term 'vocabulary learning strategies' refers to as "any set of techniques including actions or mental processes that Thai students studying at the tertiary level

reported employing in order to facilitate their English vocabulary learning with the purpose of enhancing their vocabulary knowledge”.

1.2.2 Type of Institution

‘Type of institution’ in this study refers to the four types of institution offering formal education mainly for the tertiary level. It encompasses the institutions established under the jurisdiction of the Office of Higher Education Commission (OHEC), the main agency responsible for the education at the tertiary level in Thailand. They are public/autonomous public university, private college/ university, Rajabhat University and Rajamangala University of Technology.

1.2.3 Tertiary-Level Students

The term ‘tertiary-level students’ refers to the undergraduate students who have been studying in a regular programme on offer at the four types of institution.

1.2.4 Field of Study

‘Field of study’ refers to the three fields of study in which all four types of institutions have offered. They are arts-oriented, science-oriented and business-oriented fields.

1.2.5 Language Learning Experience

Language learning experience has been classified as limited and non-limited to formal classroom instructions. The students whose language learning experience is ‘limited to formal classroom instructions’ refers to the students who have an exposure to the English language within the formal classroom instructions only or hardly ever have an exposure to the English language beyond the formal classroom instructions. The students whose language learning experience is ‘not limited to the formal

classroom instructions' refers those who have an exposure to the English language within and beyond the formal classroom instructions.

1.2.6 Students' Vocabulary Proficiency

Three different levels of students' vocabulary proficiency have been defined by the researcher for this particular study as high, moderate and low proficiency. The students' vocabulary proficiency test scores have been determined by the students' test scores obtained through the researcher-constructed vocabulary proficiency test.

1.3 English Language Teaching and Learning at the Tertiary

Level and Background of the Four Types of Institution

The previous section has presented the operational definitions of the present investigation. This section provides English language teaching and learning at the tertiary level as well as background of the four types of institution, including 1) public/autonomous public university; 2) private college/university; 3) Rajabhat University; and 4) Rajamangala University of Technology.

1.3.1 English Language Teaching and Learning at the

Tertiary Level

Tracking back the historical background of English in Thailand during the reign of King Rama III (1824-1851), English was used only for higher court officials and administrators. Then in 1921, English became a compulsory course for students beyond Prathomsuksa 4. Later in 1977, all foreign languages were considered as elective courses due to the belief that a second language should be introduced after students had mastered their first language (Foley, 2005). Foley points out further that during that time, the students studying at the tertiary level were required to study for

six language credits in which English language was the most popular among others. Furthermore, in 1996, English was considered a compulsory course beginning with the primary level.

The main aim of English language courses at the tertiary level is to enhance the students' communicative competence in English both in social language and academic language (Ministry of Education, 2001). English education in Thailand can be seen as a paradigm shift starting as an elective course to a compulsory course. At present, its emphasis is on autonomous learning and innovations in English language teaching (Wongsothorn, Hiranburana and Chinnawongs 2003; Khamkhien, 2010). At the tertiary level, English language courses are often provided by the Faculties of Arts, Humanities and Social Sciences depending on the organisational arrangements of each institution (Intaraprasert, 2000). Different institutions provide their students with different English courses, such as Business English, English for Tourism, English for Hotel and Tourism, English for Journalism and English for Business Communication.

1.3.2 Background of the Four Types of Institution

The National Education Act B. E. 2542 enacted in 1999 then amended in 2002 has stipulated that Thai people have equal rights to receive basic education of quality and free of charge for at least twelve years. For this reason, Thai students throughout the country have taken basic education covering six years of primary and six years of secondary for free since 2002. The education for the tertiary level is optional. Whether or not students pursue their education at the tertiary level will depend on their affordability (UNESCO-IBE, 2011). As the population of the present investigation will be students studying at the tertiary level, it is imperative to bring up

background of the four types of institution offering education mainly for the tertiary level as presented below;

1.3.2.1 Public/Autonomous Public Universities

A public university is considered the most prestigious institution in Thai education system. Traditionally, all public universities were fully supported by the government. Currently, some public universities have been out of the Civil Services and become autonomous public universities (Kirtikara, 2002). According to Thai education system, most secondary graduates expect to be able to attend public universities in which some of them are now autonomous public universities. Public university is considered the first alternative institution among others for secondary graduates. Therefore, the entrance examination competitions are quite intense. In accordance with the educational purpose of public universities, different universities have academic freedom to offer various fields of study based on their own academic strength, such as Laws, Engineering, Liberal Arts, Science and Technology, Mass Communication, etc.

Regarding English language learning and teaching, English as a foreign language is provided to students as compulsory and elective courses. Students need to obtain at least 12 credits for English language courses. English is offered in different courses, such as English fundamental courses in general education (GE), English for academic purposes (EAP), English for specific purpose (ESP) (Ministry of Education, 2001). Students are required to pass English in fundamental courses before taking their elective courses. In public universities, students need to earn six or nine credits for English fundamental courses before choosing elective courses. Students are allowed to choose the elective courses they favor or which they think will be useful

for their future career (Tassana-ngam, 2004). Most public universities offer an English major program. The secondary graduates can choose to attend the English major program provided by the Faculty of Arts or Education.

1.3.2.2 Private Colleges/Universities

A private college or university is an institution which is not operated by the government. Private colleges or universities in Thailand were rooted differently. According to Praphamontipong (2008), the emergence of private higher education institutions are classified into three different forms, i.e., pluralising religious-oriented, semi-elite and demand-absorbing. For the religious-oriented institutions, they were rooted from religious foundations. The semi-elite institutions were founded by business elites, while the demand-absorbing institutions were normally established to absorb the students' demands. The entrance examination competitions of private colleges/universities are less intense than those of public universities. In accordance with the educational purpose of private colleges and universities, many private colleges and universities tend to provide the high-demand programs in response to economic and job market. Some are likely to offer inexpensive programs, such as Business, Laws, and Arts. However, others are starting to offer programs in science like Nursing Science, Public Health among others.

In relation to English language learning and teaching at private colleges or universities, English as a foreign language is provided to students as compulsory and elective courses. According to the official announcement regarding the policy of English teaching and learning at the tertiary level (Ministry of Education, 2001), students studying at the tertiary level are required to take at least four courses or twelve credits for English language courses. Like public universities,

private colleges and universities have to follow the regulations stipulated by the Ministry of Education.

1.3.2.3 Rajabhat Universities

Rajabhat University was formerly recognised as the teachers' college mostly offering education programs. Later legitimised by Rajabhat Institute Act 1995, the teachers' college became Rajabhat Institutes. Then in 2004, all Rajabhat Institutes gained the approval for a status upgrade and became Rajabhat Universities (Rajabhat Maha Sarakham University's student handbook, 2004). At present, apart from their education programs, Rajabhat Universities offer various professional programs, such as Nursing Science, Laws, Engineering, etc. The prospective students need to take an entrance examination as administered by the individual institutions or acquire qualifications stipulated by those institutions.

In accordance with English language learning and teaching at Rajabhat Universities, English is provided as both compulsory and elective courses for students studying in both English and non-English majors. Like in other types of institution, students in Rajabhat Universities are required to obtain at least four courses or twelve credits for English language courses, six to nine credits for compulsory courses and the other three to six credits for elective courses. The English major program is offered by the Faculty of Humanities and Social Sciences at Rajabhat Universities. Some Rajabhat Universities, such as Roi-Et Rajabhat University offers students some additional English programs like Business English (Roi-Et Rajabhat University's student handbook, 2011).

1.3.2.4 Rajamangala Universities of Technology

Rajamangala University of Technology was first founded in 1975 under the name of the Institute of Technology and Vocational Education (ITVE). Later, the Institute of Technology and Vocational Education along with its clusters found nationwide was renamed as Rajamangala Institute of Technology (RIT) in 1988. Then in 2005, RIT gained the approval for a status upgrade and became Rajamangala University of Technology (RMUT). RMUT and its cluster focuses on developing science and technology professionals with quality and capacity essential for their careers. RMUT aims to enhance qualified and ethical national workforce as well as highly capable technologists to serve the nation's needs (RMUT Thanyaburi Council, 2006). The prospective student is required to take the entrance examination administered by the National Institute of Education Testing Service (NIET). In addition, in direct admission, RMUT and its clusters can independently admit the students by stipulating their own specific rules and requirements for direct admission.

With respect to English learning and teaching at RMUT and its clusters, English is offered as both compulsory and elective courses. Like the students in other types of institutions, students studying at RMUT are required to obtain at least 12 credits for English language courses. RMUT and its cluster offers three fundamental English courses and one for English for Specific Purposes or ESP (Somsai, 2011).

To summarise, it is apparent that the four types of institution are rooted differently and their educational purposes are not exactly the same. They are likely to have different learning environment and facilities to support their students. Regarding the policy of English Education at the tertiary level, students in all types of

institutions are required to obtain at least twelve credits during a four-year study. However, different types of institutions have academic freedom to design their own English language courses, as well as set their own criteria on how English language performance is measured. Reviewing background of the four types of institutions might help the readers get a clearer picture of learning environment in the four different types of institution. This learning environment might have an effect on the students' strategy use more or less.

1.4 Research Objectives

The present investigation aims at investigating English VLSs employed by students studying at the tertiary level in relation to their gender, type of institution, field of study, language learning experience and vocabulary proficiency level. In addition, the reasons why students reported employing certain strategies frequently and other strategies infrequently are included within the study. Specifically, the purposes of the present investigation are;

1. To investigate the frequency of VLSs employed by students studying at the tertiary level in the Northeast of Thailand;
2. To examine whether the choices of VLS use vary significantly by the five variables and identify a significant variation pattern at different levels with reference to the five variables;
3. To explore the underlying dimensions of the students' VLS use and;
4. To explore why students reported employing certain VLSs frequently and other VLSs infrequently.

1.5 Benefits of the Present Investigation

To date a number of empirical research works on VLSs have been carried out both in other countries and in the Thai context. However, through an extensive review of the available research works on VLSs in Thailand, we have found that three variables, namely type of institutions, field of study and language learning experience have rarely been taken into consideration by previous researchers

In addition, the other two variables: gender and vocabulary proficiency level have been investigated by very few Thai researchers. To the best of the researcher's knowledge, gender and vocabulary proficiency level have been taken into consideration by Siriwan (2007). Therefore more research works are needed to reconfirm the results of these two investigated variables.

As far as the setting of the present study is concerned, very few research works on VLSs have been conducted in Thailand. To the best of the researcher's knowledge, Siriwan (2007) has conducted the studies with Rajabhat University students, while Suppasetseree and Saitakham (2008) have conducted the studies with students studying at two public universities. As a result, the present investigation is considered the first research work conducted in a large scale as a tertiary level in the Thai context.

The present investigation is considered to be an exploratory and descriptive study which aims to explore and describe the VLSs used by Thai tertiary-level students in the Northeast. It is hoped that the findings will be significant for both EFL teachers and students, at least in the context of the tertiary-level in Thailand. For EFL teachers, knowledge contributed may shed light on the VLS teaching or training, as well as increase the awareness on the factors which may have an impact on the

students' VLS use. For EFL students, the results of the present investigation may benefit them in terms of identifying the VLSs they have already possessed and those they may lack.

1.6 Outline of the Thesis

Chapter 1 describes the background to the present investigation. It begins with the introduction, the terms used in the present investigation, English language teaching and learning at the tertiary level and background of the four types of institutions. Towards the end of the chapter, the research objectives, the benefits of the present investigation, the outline of the thesis and the summary of the chapter are proposed.

Chapter 2 elaborates the theoretical background and past research works related to VLS studies. The theoretical background is presented in two sections, including vocabulary learning and vocabulary learning strategies. In vocabulary learning section, defining word and vocabulary, the importance of vocabulary, frameworks of vocabulary knowledge and vocabulary learning approach are mentioned. In the section of vocabulary learning strategies, definitions of VLSs, factors affecting choice of VLSs and the classification of VLSs are described. The second part of chapter reviews the previous research works on VLSs covering research works conducted in other countries and in Thailand.

Chapter 3 presents the conceptual framework, as well as the research methodology of the present investigation. To indicate how the conceptual framework of the present investigation is developed, rationales for selecting and rejecting the variables are elaborated. To illustrate the research methodology of the present

investigation, sampling techniques, characteristics of the research participants and methods of data collection are presented. Towards the end of the chapter, the data analysis, as well as the interpretation of the obtained data are presented.

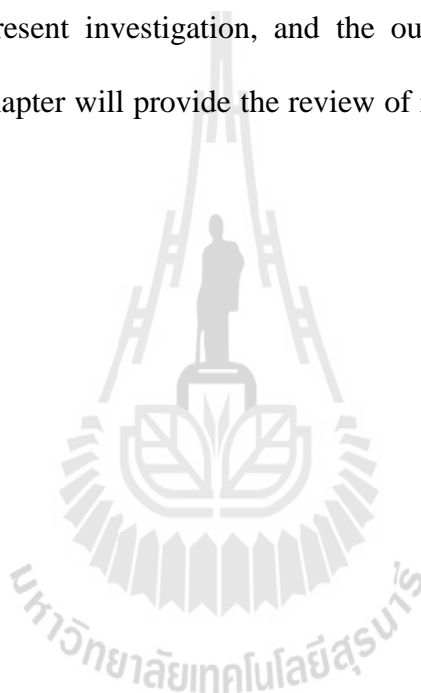
Chapter 4 presents the results of an analysis of quantitative data for VLS use obtained through the VLS questionnaire. It provides the results responded to by 905 tertiary-level students, describing the overall VLS use, use of overall VLSs by the three main categories, and use of 40 individual VLSs. Moreover, the significant variation patterns in frequency of 905 students' overall VLS use, use of VLSs by the three main categories, and use of individual VLSs in association with the five investigated variables are presented. In this chapter, the variations in students' reported overall strategy use and the VLS use by the three categories are described through an Analysis of Variance (ANOVA). The Chi-square tests were employed to examine the significant variations of students' reported strategy use at the individual level. In addition, the factor analysis was performed to uncover the underlying dimensions of the students' VLS use.

Chapter 5 reports the findings obtained through the semi-structured interviews which were conducted with 48 participants based on their convenience and availability. This chapter provides explanations for why students reported using certain strategies frequently and certain strategies infrequently.

Chapter 6 summarises and discusses the research findings in response to Research Questions 1-4 which were proposed in Chapter 3. Towards the end of the chapter, the implications, contributions, limitations and proposals for future research, as well as conclusion are presented.

1.7 Summary

In this chapter, the researcher has given a description of background of the present investigation. To ensure the common understanding of the terms used in the present investigation, the working definitions have been proposed. This chapter has provided the overview of English language teaching and learning at the tertiary level, as well as background of the four types of institution. Finally, the research objectives, the benefits of the present investigation, and the outline of the thesis have been presented. The next chapter will provide the review of related literature in the field of VLS studies.



CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1 Introduction

The main purpose of this chapter is to review the theoretical background and the related literature on VLSs for the present investigation and present readers the knowledge based upon which the present investigation is built. First, the chapter presents vocabulary learning which includes defining word and vocabulary, the importance of vocabulary and frameworks vocabulary knowledge. Then vocabulary learning including definitions of vocabulary learning strategies, factors affecting choices of VLSs and the VLS classifications are elaborated. Finally, a review of the related past research works carried out in other countries and in Thailand are presented.

For many EFL learners, they often perceive vocabulary learning as boring, as they have to memorise unfamiliar words and spelling (Nguyen and Khuat, 2003). Vocabulary learning is largely dependent upon the efforts of the learners (Catalán, 2003). Equipped with a range of different VLSs, learners probably decide on how to deal the unknown words exactly. Learners' VLS use has been examined by many researchers over the past decades (Celik and Topas, 2010). Some researchers have examined the VLSs employed by EFL or ESL learners (e.g. Suppasetseree and Saitakham, 2008; Kameli, Mustapha and Bali, 2012). Others have examined the VLSs employed by native speakers of English who are learning a foreign language,

such as Chinese (e.g. Winke and Abduhl, 2007). Different researchers in the area of VLS studies have presented their views in defining and classifying VLSs based upon their particular interests and contexts of the studies. These have made the contributions to the knowledge related to VLSs. Before discussing the contributions to VLS studies, it is imperative to provide an overview of vocabulary learning in which there are many aspects involved.

2.2 Vocabulary Learning

“Vocabulary learning is one of the major challenges that foreign language learners face during the process of learning a language” (Ghazal 2010, p. 84). It is a continual process of encountering new vocabulary items in meaningful and comprehensible language contexts (Harmon, Wood, and Kiser, 2009). Further, it is a more complex process than simply memorising the meanings of words because it encompasses seeing, hearing and using words in meaningful contexts (Bintz, 2011; Daniels and Zemelman, 2004). The main purpose of this section is to provide the background of vocabulary learning which consists of many aspects involved as shown in the subsequent sections.

2.2.1 Defining ‘Word’ and ‘Vocabulary’

A few scholars, e.g. Read (2000), Richards, Platt and Platt (1992) have proposed ‘*word*’ and ‘*vocabulary*’ in a comparative way. According to Read’s viewpoint (Read 2000, p. 1), words are “the basic building blocks of language, the units of meaning from which larger structures, such as sentences, paragraphs and whole texts are formed”, whereas vocabulary consists of “more than just single words”. The phrasal verb, such as ‘get across’ or ‘move out’ are recognised as

“lexical units consisting of more than one word form” (Read 2000, pp. 20-21). According to Richards et al., (1992, p. 406), a word is “the smallest semantically independent linguistic unit which can occur in speech or writing”, while vocabulary is defined as “a set of lexemes which includes single and compound words as well as idioms” (p. 400). More definitions of the terms ‘word’ and ‘vocabulary’ proposed by different scholars are presented below:

According to Carter (1998, p. 4), a definition of a word is “any sequence of letters (and a limited number of other characteristics, such as hyphen and apostrophe) bounded on either side by a space or punctuation mark.” However, Carter argues that the most accurate definition of a word will be a definition with regard to the meaning of a word that is “the minimum meaningful unit of language” (Carter 1998, p. 5).

Sheeler and Markley (2000, p. 2) define a word as “a unit formed of sounds or letters that have a meaning.”

Brown (2001, p. 1127) sees a word as “a single distinct meaningful element of speech or writing, used to form sentences with others.”

Richards and Schmidt (2003, p. 558) offer a definition of a word as “the smallest of the linguistic units which can occur on its own in speech or writing.”

Hornby (2005, p. 1758) defines a word as “a single unit of language which means something and can be spoken or written.”

Procter (2009, p. 2020) views a word as “a single group of letters that are used together with a particular meaning.”

Based on the scholars’ viewpoints above, the term ‘word’ has been defined in a variety of ways. The precise definition is sometimes difficult to ascertain as Singleton (1990, p. 10) states “what is meant by the term word will depend very much

on the level of abstraction at which a given speaker/writer is operating, the linguistic ‘level(s)’ being discussed and the extent to which semantic content is being treated as criteria.” Therefore, it is not surprising that different scholars do not propose definitions of the term ‘word’ in the exact manner. As observed by the researcher of the present study, the scholars have agreed upon the view that a word is a form which can occur alone known to have meaning by itself. Regarding ‘vocabulary’, different scholars have defined this term based upon different perspectives as follows:

Procter (1995, p. 1628) defines vocabulary as “all the words used by a particular person or all the words which exist in a particular language or subject.”

Simpson and Weiner (1998, p. 721) view vocabulary as “a collection or list of words with brief explanations of their meanings.”

Brown (2001, p. 1098) sees vocabulary as “the body of words used in a particular language or in a particular sphere.”

Lehr, Osborn and Hiebert (2004, p. 2) define vocabulary as “knowledge of words and word meaning.”

Neuman and Dwyer (2009, p. 385) offer a definition of vocabulary as “the words we must know to communicate effectively: words in speaking (expressive vocabulary) and words in listening (receptive vocabulary).”

By looking at the abovementioned definitions, we can see that the term ‘vocabulary’ has been defined in a variety of ways. No two scholars have defined this term in the exact way. Based on the scholars’ view points of vocabulary, vocabulary concerns a word or set of words as well as various aspects related to it, such as meaning and knowledge. ‘Word’ can be a part of vocabulary. Vocabulary learning in the present study can be referred to as “learning a word or a set of words

along with its various aspects related to it, such as forms, meanings and functions”. Although the definitions of word and vocabulary are not identical, they share a characteristic given that ‘word’ and ‘vocabulary’ can be a unit which has the meaning by itself. Thus, the terms ‘word’ and ‘vocabulary’ presented hereafter will be used interchangeably.

2.2.2 The Importance of Vocabulary

In the sphere of second language learning, vocabulary is an indispensable part of the four language skills. Without vocabulary, the skills of language learning including listening, speaking, reading and writing may not be successfully achieved (Zhi-liang, 2010). Further, in recent years, vocabulary has attracted interest from many researchers, scholars and language teachers as “vocabulary learning is central to language acquisition, whether the language is first, second or foreign” (Decarrico 2001, p. 285). The main purpose of this section is to review the importance of vocabulary in language learning, particularly in the skills of reading, writing, speaking and listening. The significant points of vocabulary in the four language skills will be discussed in the subsequent sections.

2.2.2.1 Vocabulary and Listening

“Spoken production does not need as big a vocabulary as listening” (Nation 2008, p. 37). It is accepted that a broad range of vocabulary will help the listener to understand more. Stæhr (2008) finds a positive correlation between a receptive vocabulary size and listening comprehension. This indicates that a wide array of vocabulary knowledge helps increase one’s potential in listening comprehension. Adolphs and Schmitt (2004) estimate that at least a vocabulary of 2,000 word families has to be mastered in order to understand around 90% and 94%

of spoken discourse in different contexts. Nation (2006) argues that a vocabulary size of 6,000 to 7,000 word families is required for the comprehension of spoken text, if 98% coverage of a text is desired. It can be seen that the more words are learned by learners, the better their listening performance will be. Vocabulary plays a fundamental role in the listening process and contributes greatly to the listener's comprehension. Listening comprehension partly depends upon the vocabulary knowledge that the listeners possess.

2.2.2.2 Vocabulary and Speaking

Mastery of vocabulary is very important for L2 learners as vocabulary can support them when they communicate in the target language. Vocabulary serves as a useful tool in communication. Learners who lack vocabulary knowledge may find it difficult to find the right words to communicate in the target language. They may, however, express their meaning with gestures and mere sounds. A person's language proficiency is closely related to both size and depth of his/her vocabulary and the lexical richness can be displayed when a person speaks or writes (Daller and Xue, 2007). The number of words that learners need to know depends on their goal. Approximately 2,000 word families are the threshold for basic conversations (Schmitt, 2000). McCarthy (1990, p. viii) reveals the significance of vocabulary to communication, stating that "no matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wider range of meanings, communication in L2 just cannot happen in any meaningful way." It is clearly seen that vocabulary plays a key role in communication. We can say that knowing a wide range of vocabulary items adds richness to speaker's speech and allows the speaker to communicate effectively.

2.2.2.3 Vocabulary and Reading

As all text types are made up of vocabulary items, vocabulary knowledge is considered important and useful for the readers. Many language teachers encourage their students to learn new vocabulary items so that the students are able to comprehend the readings they come across. If the language learners' vocabulary knowledge is inadequate, a paragraph, a story or an article they read is probably incomprehensible for them. It can therefore be said that vocabulary and reading comprehension are closely related (Stahl, 1990). This is consistent with Chall (1987) stating that the relationship between vocabulary and reading is not a one way direction. Vocabulary helps reading and reading promotes vocabulary growth. Although learners may not be able to understand the sentence pattern in reading, they can still catch enough words that can help them put the pieces together to understand the meaning of what they are reading. According to Hu and Nation (2000), if 95%-98% of running words in a text are familiar to the learners, there is no burden to them to understand the text. With this, it can be seen that vocabulary has been directly linked to reading. The more words a student/learner knows, the better s/he is able to understand the readings that s/he will come across.

2.2.2.4 Vocabulary and Writing

Vocabulary is necessary for writing skill as it helps provide the writer's ideas. According to Baba (2009), L2 learners are aware that their limited vocabulary will hinder a good quality of writing. They perceive the importance of vocabulary knowledge to their writing performance. When language learners are assigned to write a composition, vocabulary is a necessary tool for them to complete the task. If the learners have a lot of vocabulary items in their repertoire, they will be able to choose

the right words to convey the meanings and their ideas in writing. In an academic setting, writing is often used as a means to assess learners' language performance. It is imperative for them to be able to show their productive vocabulary knowledge. According to Nation (2008), a small number of around 2,000-3000 words can be used effectively to convey a number of ideas. In the view of these facts, it can be understood that vocabulary is given great importance in writing. Not knowing a wide range of vocabulary can severely limit one's writing ability. For L2 learners, the limitation of vocabulary knowledge can be the biggest frustration when writing.

In brief, vocabulary plays a prominent role in learning the target language and communication. Lack of vocabulary knowledge may affect the development of the four skills. It is undeniable, especially after learning the facts presented in this section, that vocabulary is closely related to language proficiency. Therefore, it is imperative for language learners to have individual techniques or strategies to tackle unknown or unfamiliar vocabulary items.

2.2.3 Frameworks of Vocabulary Knowledge

In recent decades, different scholars have proposed different frameworks of vocabulary knowledge. They have suggested word knowledge in various aspects. In order to get a clear picture of vocabulary knowledge as well as to look at what vocabulary knowledge language learners need to know, this section presents the frameworks of vocabulary knowledge proposed by Richards (1976); Ellis and Sinclair (1989); Cook (2001); Nation (2005) and Taylor (2007).

2.2.3.1 Vocabulary Knowledge by Richards (1976)

Richards (1976) proposes aspects of what is meant by knowing a word as follows:

1. To know the degree of probability of encountering that word in speech or print (knowledge dealing with some words are more familiar than others, e.g., the word 'book' is more frequently found than 'manual' or 'directory')

2. To know the limitations imposed on the use of the word according to variations of function and situation (knowledge dealing with the constraints of function and situation on word choice, e.g., "Hi, John" the word 'Hi' is the appropriate choice for personal name while "Good morning, Mr. Smith" 'Good morning' is the appropriate choice to be used with formal name.)

3. To know the syntactic behavior associated with that word (knowledge dealing with the specific structural and grammatical properties associated with the word, e.g., the word 'build' can only be used transitively.)

4. To know the underlying form of a word and the derivations that can be made from it (knowledge dealing with knowing how to build up different forms of word or different words, e.g., for example, the word 'walked', 'walking', 'walks' are derived from 'walk'.)

5. To know the network of associations between that word and other words in language (knowledge dealing with some words can be related to other words in terms of their meaning, e.g., the word 'cabbage' is associated with 'vegetable'.)

6. To know the semantic value of a word (knowledge dealing with minimal meaning features of the word, e.g., we can say "the table was damaged", but not "the table was hurt". The speaker knows that 'table' is +inanimate+non human.)

7. To know many of the different meanings associated with a word (knowledge dealing with different meanings of the word based upon the context in which it is used, e.g., the word 'scan' means to glance at quickly and to read in detail. The speaker of a language must know the appropriate meaning of the word in which it is used.)

2.2.3.2 Vocabulary Knowledge by Ellis and Sinclair (1989)

Ellis and Sinclair (1989) summarise aspects of knowing a word as presented:

1. To understand a word when it is written and/or spoken
2. To recall the word when we need it

3. To use the word with its correct meaning
4. To use the word in a grammatically correct way
5. To pronounce the word correctly
6. To know which other words can be used with it
7. To spell it correctly
8. To use it in the right situation
9. To know if it has positive or negative association (e.g, 'set in' has negative connotation because its main collocate includes 'decay', 'inflection', etc. While 'career' has positive connotation as it mostly collocates with 'satisfying', 'good', etc.)

2.2.3.3 Vocabulary Knowledge by Cook (2001)

Cook (2001) proposes that knowing a word involves four aspects as follows:

- | | |
|---------------------------|---|
| 1. Form of the word | To know how to pronounce and spell a word; |
| 2. Grammatical properties | To know the grammatical category possible and impossible structures and idiosyncratic grammatical information |
| 3. Lexical properties | To know the word combinations and appropriateness |
| 4. Meaning | To know the general and specific meaning of a word |

2.2.3.4 Vocabulary Knowledge by Nation (2005)

Nation (2005) classifies a word knowledge into three main aspects and divides each aspect into receptive (R) and productive (P) knowledge as can be seen below:

- | | |
|----------|---------------------------------|
| 1. Form | |
| • Spoken | R To know the sound of the word |

	P	To know the pronunciation of a word
• Written	R	To know what the word looks like
	P	To know how a word is written or spelt
• Word parts	R	To know what parts of the word can be easily recognised
	P	To know what parts of a word are needed in expressing its meaning
2. Meaning		
• Form and meaning	R	To know the meaning that the word form signals
	P	To know the appropriate word form that can be used to express its meaning
• Concepts and referents	R	To know the word that can be included in a concept
	P	To know the items that the concept refers to
• Associations	R	To know the other words that could come up to mind when thinking of a certain word
	P	To know the other words that can be used in place of a certain word

3. Use

- Grammatical functions

R To know the patterns where the word can be found

P To know the patterns where the word can be used

- Collocations

R To know the words or types of word it comes along with

P To know the words or types of word that should be used with it

- Constrains on use

R To know where, when and how often can the word be expected to be encountered

P To know where, when and how often can the word be used

2.2.3.5 Vocabulary Knowledge by Taylor (2007)

Taylor (2007) suggests nine aspects to know a word. They are dealing with:

- 1.The spoken form
- 2.The written form
- 3.The grammatical behavior
- 4.The word's derivations
- 5.The collocations of the word
- 6.The registers of the word
- 7.The connotations of the word

8. The word's frequency

9. The meaning(s)

In summary, knowing a word involves not only telling its form and meaning but also several elements or aspects of a word. A few scholars have grouped word knowledge into two distinctions like receptive and productive knowledge. Many scholars clarify word knowledge into several elements based on their perspectives. To be precise, knowing a word involves knowing several dimensions of a word along with knowing various aspects associated with the word. This implies that knowing vocabulary items is a complex process as there are many facets to know them. We can say that vocabulary learning is challenging. Therefore, language learners, particularly at the tertiary level, need to invest a lot of time and efforts in order to have sufficient vocabulary knowledge at the level they are required to know.

2.2.4 Vocabulary Learning Approach

The focal point of this section is to discuss how language learners acquire a number of vocabulary items. In general, there are two vocabulary learning approaches, i.e. direct learning and indirect learning or explicit learning and implicit learning. This section highlights these two strands. Before proceeding to the discussion, it should be clarified that no approach has been proven a single best approach for vocabulary learning. There are many different factors that can affect vocabulary learning, such as age, amount of exposure, motivation and culture (Schmitt, 2000). The right approach in one situation may not be the right approach for other situations.

In direct vocabulary learning, learners do exercises and activities that focus their attention on vocabulary. Such exercises include word-building exercises, guessing words from context, learning words in the lists, and vocabulary games. Time may be set aside for the learning of strategies and the learners' mastery of strategies may be monitored and evaluated as well (Nation, 1990; Coady and Huckin, 1997). This approach has been called 'explicit learning' as it focuses attention directly on the information to be learned (Schmitt, 2000; Decarrico, 2001). The terms 'intentional' and 'explicit learning' have been used interchangeably. Ellis (2001) has proposed that intentional learning is a planned method involving the use of task or activity designed to elicit forms which have been selected ahead by the teachers. In other words, intentional learning of vocabulary deals with learning vocabulary by using tools to bring the learners' attention to the vocabulary.

In an indirect approach, vocabulary will not be the main learning goal of the activities. Teachers incorporate vocabulary learning into other language learning skills, such as listening to stories and information gap activities (Coady and Huckin, 1997). According to Decarrico (2001), this approach can be called 'implicit learning' because the learner's attention is focused elsewhere. For example, the teacher brings the learners' attention to understanding a text or using language for communicative purposes. Implicit and incidental learning have been used interchangeably by many scholars. The incidental learning is associated with learning without specific attention to focus on the vocabulary (Nation, 2001). Even though there is no specific attention to the vocabulary, a considerable size of vocabulary learning can occur (Nation, 1990). This is consistent with Laufer and Hulstijn (2001) who state that in the

incidental learning, students can develop vocabulary knowledge subconsciously while being engaged in any language activities.

The difference between incidental and intentional learning is based on the distinction between focal and peripheral attentions. According to Ellis (1999, pp. 45-46) “Intentional learning requires focal attention to be placed deliberately on the linguistics code (i.e., on form or form-meaning connection)” while “incidental learning requires peripheral attention to be directed on meaning (i.e., message context)”. Nagy, Perman and Anderson (1985) suggest that vocabulary growth mostly occurs incidentally rather than intentionally. Further, incidental vocabulary learning is considered efficient and effective in which twenty-five to fifty percent of annual vocabulary growth can be attributed to incidental learning from the meaningful context of the reading (Nagy, Anderson and Herman, 1987).

To summarise, there are two general ways in which the learners learn vocabulary, that is direct (or explicit or intentional vocabulary learning) and indirect (or implicit or incidental vocabulary learning). Both approaches may have their merits and demerits in vocabulary learning. The direct approach is usually adopted for the beginners, whereas the indirect approach is usually adopted for the learners who are in advanced level of English courses. There is no single best approach for vocabulary learning. The two approaches are supportive of each other and necessary for the vocabulary learners.

2.3 Vocabulary Learning Strategies (VLSs)

Mastery of vocabulary items in a language does not take place in a short time. This process has to be accumulated over time and requires considerable efforts. The language learners may employ different techniques or VLSs to facilitate their vocabulary learning. Many researchers in the field of VLS studies have come up with their VLS definition. This section reviews the definitions of VLSs proposed according to the previous researchers. Then the working definition is proposed for the context of the present investigation.

2.3.1 Definitions of VLSs

The term ‘vocabulary learning strategies’ (VLSs) has been defined by different researchers according to their personal perception. Some researchers have proposed VLS definition while others have opted for listing the important steps of vocabulary learning or listing characteristics of learning strategies so as to clarify the meaning of VLSs. Different definitions proposed by different researchers are presented accordingly.

Hatch and Brown (1995, p. 373) point out the important steps of vocabulary learning below:

1. Having sources for encountering new words
2. Getting a clear image, whether visual or auditory or both, for the
forms the new word
3. Learning the meaning of words
4. Making a strong memory connection between the forms and
meaning of the words
5. Using the words

Ellis (1994, p. 553) defines VLSs as “specific strategies for learning vocabulary.”

Nation (2001, p. 217) states that “vocabulary learning strategies are language learning strategies which in turn are part of general learning strategies”. Nation does not explicitly state what he means by VLSs however, he proposes a list of characteristics of VLSs below:

- involve choices - that is, there are several strategies to choose from
- be complex - that is, there are several steps to learn
- require knowledge and benefits from training
- increase the efficiency of vocabulary learning and vocabulary use

Cameron (2001, p. 92) defines VLSs as “the actions that learners take to help themselves understand and remember vocabulary items.”

Catalán (2003, p. 56) purposes the definition of VLSs based on the ideas of different researchers, such as Rubin (1987); Wenden (1987); Oxford (1990) and Schmitt (1997). It has been defined as “knowledge about the mechanisms (processes, strategies) used in order to learn vocabulary as well as steps or actions taken by students to (a) 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”.

Intaraprasert (2004, p. 9) defines VLSs as “any set of techniques or learning behaviors, which language learners reported using in order to discover the meaning of a new word, to retain the knowledge of newly-learned words, and to expand their knowledge of vocabulary”.

Takač (2008, p. 52) views VLSs as “specific strategies utilised in the isolated task of learning vocabulary in the target language”.

Hamzah, Kafipour and Abdullah (2009) define VLS from three different angles: 1) it can be any actions the learners take to aid the learning process of new vocabulary; 2) this action must be able to improve the efficiency of vocabulary learning; and 3) VLS is conscious actions taken by the learners in order to study new words.

To sum up, defining ‘VLSs’ is very subjective and can be different by the context of the researchers. Some researchers view VLSs as steps or actions or behaviors to learn vocabulary. Some see VLSs as knowledge about mechanism to deal with unknown vocabulary items. Other researchers see VLSs as specific techniques to cope with vocabulary items. We can see that the term ‘vocabulary learning strategies’ has been used on a number of occasions by different researchers to refer to steps or actions or behaviors or knowledge or techniques the learners employ with the purpose to facilitate their vocabulary learning. The researcher of the present investigation has specifically defined the term ‘vocabulary learning strategies’ that suits the context of the present investigation as “any set of techniques, including actions or mental processes that the Thai students studying at the tertiary level report employing in order to facilitate their English vocabulary learning with the purpose of enhancing vocabulary knowledge.”

2.3.2 Factors Affecting Choices of VLSs

VLSs play an important role to learners’ vocabulary learning. Learners have been found to vary in employing VLSs due to many factors. Research works on VLSs have revealed a number of factors believed to constitute a source of variations of the learners’ VLS use. The main focus of this section is to present the factors that are closely related to the investigated variables. Factors affecting VLSs discussed in

this section are grouped under Ellis's framework (1994) which proposes a range of factors affecting learning strategies, including individual learner difference factors, situational and social factors, and learners' learning outcomes. A range of factors affecting choices of VLSs are reviewed in the subsequent sections.

2.3.2.1 Individual Learner Difference Factors

The individual learner difference factors constitute one source of variations in the use of VLSs. The sub-factors under individual learner difference factor that are closely related to the five investigated variables include belief, motivation and past language learning experience. Each factor is considered in the following subsections.

• Belief

From the review of the previous research works, it appears that students' belief seems to be related to their VLS use. For example, Gu and Johnson (1996) found that Chinese learners did not value rote memorisation strategies as highly as other strategies. Consequently, they reported employing more meaning-oriented strategies than rote strategies in learning vocabulary. In another study carried out by Peng and Srikhao (2009), Chinese learners who believed that words should be studied and put to use employed a wider range of VLSs than those who believed that words should be acquired in context. According to Gu and Johnson (1996) and Peng and Srikhao (2009), the students' strategy use seems to relate to the beliefs they held. However, the evidence from Wei's findings (2007) suggested that what the students believed contradicted their actual VLS use. Chinese learners concentrated too much on form and meaning while they believed that speaking and writing in an with positive attitudes towards vocabulary learning were likely to employ a variety of

VLSs when they came across new words either to discover the meaning of the new words or to consolidate the words.

● **Motivation**

Students' motivation seems to positively correlate with their VLS use. For example, Fu's findings (2003) revealed that inherent interest motivation(learners' inherent interest in vocabulary learning) positively correlated with the students' VLS use. Other research work that confirms the relationship between students' motivation and their VLS use was carried out by Marttinen (2008). The findings indicated that the highly motivated students usually employed a wider range of VLSs than the less motivated ones.

● **Language Learning Experience**

Language learning experience is another key factor discussed to be associated with the students' VLS use. For example, Porte(1988) proved that the students' VLS use was connected with their language learning experience. The evidence from the interviews revealed that EFL learners in private language schools in London used strategies they had used at schools in their native countries. The other evidence was revealed by Siriwan(2007) indicating that more experienced students made more use of VLSs than their less experienced counterparts.

2.3.2.2 Social and Situational Factors

The social and situational factors are also the sources that affect the learners' choices of VLS use. Social and situational variables include, for example, field of study, gender, and language learning environment. These factors are discussed below:

• Field of Study

Considerable evidence supports the link between the learners' field of study and their VLS use. For example, Gu's findings (2002) revealed the difference in a strategy employing between arts and science students in which science students tended to employ strategies like relying on visual coding more frequently than arts students. According to Wei's studies (2007), Chinese students majoring in English generally reported making more use of VLSs than those majoring in non-English major. More evidence to support the link between students' VLS use and field of study was revealed by Bernardo and Gonzales (2009) indicating that students' VLS use was significantly different in terms of types and frequency across five disciplines: Liberal Arts and Education; Computer Science and Engineering; Business Education; Hospitality Management and Allied Medical Science.

• Gender

Gender has emerged as a factor affecting the way the strategies are used. Catalán (2003) reported that female and male students differed significantly in strategy employment. This is consistent with Marttinen who (2008) revealed the difference in terms of number of the strategies employed by male and female students. On the other hand, Liu (2010) showed no significant difference in strategy employment between male and female students in terms of types and frequency.

• Language Learning Environment

Students' language learning environment also affects their VLS use however, the investigation for this area seems scarce. The only available research work carried out by Kameli, Mostapha and Baki (2012) revealed that language learning environment like the role of teachers, peers and class room influenced

Malaysian students' strategy choice. For example, students were encouraged by teachers to learn new word by focusing on the pronunciation of a word.

2.3.2.3 Learners' Learning Outcomes

The VLS use has been examined in relation to learners' learning outcomes. Learners' learning outcomes encompass level of language achievement, language proficiency and vocabulary proficiency.

• Language Achievement

The previous research works have evidenced that students' language achievement affects their VLS use. For example, Gidey's findings (2008) revealed that the high achievers had greater overall use of VLSs than the low achievers. The other evidence to support the relationship between students' language learning achievement and their VLS use was revealed by Suppasetserree and Saitakham (2008). The results highlighted that the high achievers of both English and non-English majors most frequently employed 'guessing strategy', whereas the low achievers of both English and non-English majors were likely to use 'dictionary strategy'.

• Language Proficiency

Level of language proficiency can function as a variable that affects the students' VLS use. Language proficiency test, like the Test of English for International Communication (TOEIC) was examined in relation to VLS use as revealed by Mizumoto and Takeuchi (2008). The results indicated that 'metacognitive strategies' (Self-management and Input seeking) highly correlated with the level of TOEIC scores. The other evidence that supports the link between students' language proficiency and their VLS use was Lachini (2008) which indicated that 'creative'

(creative learning), ‘reflective’(reflective learning)and ‘effective strategies’ (effective learning) highly correlated with students’ language proficiency level.

● **Vocabulary Proficiency**

Level of students’ vocabulary proficiency has been examined in relation to VLS use. Most researchers take Nation’s vocabulary level test as a predictor of students’ vocabulary proficiency level. For example, Tilfarlioglu and Bozgeyik’s (2012) findings showed that students’ VLS use positively correlated with students’ vocabulary level test. Very few researchers constructed the vocabulary test by themselves to measure the students’ vocabulary proficiency. One of them was Siriwan (2007) who constructed the vocabulary test and studied in connection with students’ VLS use. The findings indicated that students with high vocabulary proficiency made greater use of overall VLSs than those with lower vocabulary proficiency.

To conclude, it is apparent that learners’ VLS use has been influenced by a number of factors divided into three main groups: individual learner difference factors, situational and social factors and learners’ learning outcomes. The investigated factors having been reviewed should not be neglected as they play an important role to learners’ vocabulary learning. Reviewing the factors affecting the students’ VLS use may help the readers get closer to a comprehensive understanding of students’ VLS use.

2.3.3 The Classification of VLSs

Over the past thirty years, different scholars have classified VLSs based on their different perspectives. Some of the VLS classifications have been identified as the results of research works on VLSs in different context. The main purpose of this section is to review and provide a brief description of VLS classifications that have

been purposed by different scholars. These include; Schmitt (1997); Hedge (2000); Decarrico (2001); Nation (2001, 2005); Pemberton (2003); Intaraprasert (2004); Siriwan (2007); Winke and Abduhl (2007); Griva, Kamaroudis and Geladari (2009); Srimanee (2010); and Asgari and Mustapha (2011) as presented below;

2.3.3.1 VLS Classification by Schmitt (1997)

Schmitt (1997, pp. 207-208) develops VLS classification based on Oxford's language learning strategy taxonomy (1990). In organising VLS classification, the total of 600 VLS questionnaires was given to junior high school students, high school students, university students and adult learners in Japan. The investigated strategies were grouped under two main categories, i.e., 'Strategies for the Discovery of a New Word's Meaning', and 'Strategies for Consolidating a Word Once it Has Been Encountered'. Fifty eight individual VLSs are presented under four main strategies. Some of them are shown:

Category 1: Strategies for the Discovery of a New Word's Meaning

1. Determination Strategies (DET)

- Analyse part of speech
- Analyse affixes and roots
- Analyse any available pictures or gestures

2. Social Strategies (SOC)

- Ask teacher for a sentence including the new word
- Ask classmates for meaning
- Discover meaning through group work activity

Category 2: Strategies for Consolidating a Word Once it Has Been Encountered

1. Social Strategies (SOC)

- Study and practice meaning in a group
- Teach check student's flash cards or word lists for accuracy

- Interact with native speakers

2. Memory Strategies (MEM)

- Study a word with a pictorial representation of its meaning
- Connect word to a personal experience
- Connect word to a personal experience; storyline
- Study the spelling of a word
- Study the sound of a word

3. Cognitive Strategies

- Use verbal repetition
- Use written repetition
- Use wordlists
- Put English labels in physical objects
- Keep a vocabulary notebook
- Use English Language media (songs, movies, newscasts, etc);
- Test oneself with word tests
- Use spaced word practice

2.3.3.2 VLS Classification by Hedge (2000)

Hedge (2000, pp.117-118) suggests two main strategies dealing with vocabulary learning, namely 'Cognitive' and 'Metacognitive' strategies. Two main strategies for learning vocabulary items are presented below:

Category 1: Cognitive Strategies

- Make associations
- Learn words in groups
- Explore a range of meaning
- Use key words
- Read on for evidence in the context of the text
- Use inference strategy

Category 2: Metacognitive Strategies

- Consciously collect words from authentic context
- Make word cards
- Categorise words into lists

- Reactivate vocabulary in internal dialogue
- Make a word-network of vocabulary associated with a particular item

Hedge (2000) mentions that ‘Cognitive’ strategies are concerned with working on new words in order to understand, categorise, and keep them in mental lexicon, whereas ‘Metacognitive’ strategies are dealing with indirect strategies which facilitate vocabulary learning.

2.3.3.3 VLS Classification by Decarrico (2001)

Decarrico (2001, pp.290-292) collects VLSs which were most often discussed in the literature then purposes four main categories dealing with vocabulary learning. These include;

Category 1: Guessing Meaning from Context;

Category 2: A Mnemonic Device or the Keyword Method;

Category 3: Vocabulary Notebooks;

- Keep a tally of every time when hearing or seeing new words
- Learn roots and derivatives by studying what affixes are used to change its part of speech
- Make notes on stylistic aspects of word
- Write a sentence illustrating its use

Category 4: Other Learner Strategies:

- Check for an L1 cognate
- Study and practice in peer groups
- Connect a word to personnel experience or previous learning
- Say a new word aloud when studying
- Use verbal and written repetition
- Engage in extended rehearsal (review new material soon after initial learning and then at gradually increasing intervals)

2.3.3.4 VLS Classification by Nation (2001, 2005)

Strategies for dealing with vocabulary items purposed by Nation (2001, pp. 217-222; 2005, pp. 589-593) are put together and can be grouped under three classes of strategies as seen below:

Category 1: Planning: (Choosing what to focus on and when to focus on it)

- Choose words
- Choose the aspects of word knowledge
- Choose strategies
- Plan repetition

Category 2: Sources: (Finding information about words)

- Analyse the word
- Use word parts
- Learn from word cards
- Use context
- Use a dictionary
- Consult a reference source in L1 and L2
- Use parallels in L1 and L2

Category 3: Processes: (Establishing knowledge)

- Notice
- Retrieve
- Generate

Nation (2001; 2005) classifies VLSs into three main categories, namely 'Planning', 'Sources', and 'Processes'. The 'Planning' category consists of four subcategories. The 'Sources' category includes seven subcategories, and the 'Processes' category comprises three subcategories.

2.3.3.5 VLS Classification by Pemberton (2003)

Forgetting is a serious problem for vocabulary learning. To solve this problem, Pemberton purposes twenty three VLSs under two the main categories. Some of VLSs proposed by Pemberton are presented below:

Category 1: Strategies for Learning Vocabulary**1. Memorisation:**

- Say or write the words one is learning
- Record the words/phrases one is learning on tape, MD or as audio files, and play them to himself/herself whenever he/she has some spare time
- Ask a native or fluent speaker to record target words for one to practice listening and pronouncing
- Play audiotapes or videotapes repeatedly (e.g. songs or parts of a movie)

- Use one's knowledge of the parts or roots of words to remember the meaning

2. Word Using

- Create sentences of one's own for the words he/she is learning
- Write a story that includes all the words one has learned
- Write about the topic using the vocabulary learned, or have a discussion with a partner

3. Word Recycling

- Follow a news story that is printed or broadcast every day
- Focus on one type of news story that occurs almost every day
- Watch movies or read books or magazines on particular topics

Category 2: Strategies for Reducing the 'Forgetting Problem'

- Learn words repeatedly, with increasing intervals between learning Sessions
- Set aside a regular time for vocabulary learning or memorising (e.g. just before going to bed)
- Spend more time on the words that one finds difficult

Pemberton (2003, p.1) states that "one of the big problems with vocabulary learning is that what's learned today is often forgotten tomorrow". To solve this problem, Pemberton suggests two main categories, namely 'Strategies for Learning Vocabulary' and 'Strategies for Reducing the 'forgetting problem''. Pemberton mentions that the word remembered correctly should be tested less frequently than the word remembered incorrectly.

2.3.3.6 VLS Classification by Intaraprasert (2004)

Intaraprasert (2004, pp. 55-56) classifies VLSs based on the information obtained through the open-ended questionnaires provided by 133 Thai EFL students into three main categories. These include;

Category 1: Strategies to Discover the Meaning of New Vocabulary Items (DMV)

- Use a Thai-English dictionary
- Use an English-Thai dictionary
- Use an English-English dictionary

- Guess the meaning from the context
- Ask one's classmate or friend
- Ask one's teacher
- Ask someone other than one's teacher, classmate or friend
- Look at the word roots, prefixes or suffixes
- Use an on-line dictionary
- Use an electronic dictionary

Category 2: Strategies to Retain the Knowledge of Newly-learned Vocabulary Items

- Memorise with or without a word list
- Keep a vocabulary notebook
- Group words based on the synonymity or antonymity
- Associate new words with the already-learned ones
- Use new words in writing
- Use new words to converse with peers
- Speak Thai with English loan-words

Category 2: Strategies to Retain the Knowledge of Newly-learned Vocabulary Items (cont.)

- Keep words as the computer background
- Keep word cards or word charts in one's bedroom
- Keep words as rhymes or songs
- Use picture

Category 3: Strategies to Expand the Knowledge of Vocabulary Items (RKV)

- Listen to a radio programme in English especially the one for language learning
- Watch a television programme in English especially the one for language learning
- Surf the Internet especially the websites for language learning
- Read different types of different English printed materials. e.g. leaflets, brochures, textbooks or newspapers
- Play games in English, e.g. crossword, or hangman
- Practice translating from Thai into English and vice versa
- Watch an English-speaking film with Thai-narrated scripts
- Attend classes of every module regularly
- Listen to English songs
- Do extra vocabulary exercises from different sources, e.g. newspapers or the Internet

Strategies for dealing with vocabulary items proposed by Intaraprasert (2004) were grouped under the three main categories, namely 'Strategies to Discover

the Meaning of New Vocabulary Items' (DMV), 'Strategies to Retain the Knowledge of Newly-Learned Vocabulary' and 'Strategies to Expand the Knowledge of Vocabulary Items' (RKV).

2.3.3.7 VLS Classification by Winke and Abduhl (2007)

Winke and Abduhl (2007, pp. 704-705) develop a taxonomy for Chinese VLSs based on the information obtained through classroom observation, focus-group interview, and the questionnaire. The participants were nine students studying Chinese as a foreign language. Twenty-four VLSs were put under three categories. Some of VLSs are presented.

Category 1: Input-Based Strategies :

- Listen (in class or outside of class) and try to understand
- Listen (in class or outside of class without of class)without trying to understand
- Read, review, or study from the book (or from handouts)
- Use or access Chinese music, TV, Karaoke, Web sites, newspapers
(Popular culture)
- Ask for Chinese culture context
- Learn words through traditional culture (literature, calligraphy, poems, etc.)

Category 2: Output-Based Strategies

- Repeat with a focus on pronunciation
- Repeat with a focus on tones
- Write pinyin in class or outside of class
- Write tones on pinyin or on characters
- Write characters down in class or outside of class to practice the characters
- Learn words through practice of aesthetic art forms
- Design one's own personal flash cards with Chinese characters and/or pinyin
- Take note in the book

Category 3: Cognition-Based Strategies

- Guess to fill in a gap in knowledge
- Use context to derive meaning
- Memorise passively or actively
- Compare learning Chinese to learning other language

- Practice with flash cards
- Note how to pronounce in one's own way
- Make pictures in one's mind of the words or phrases to aid comprehension or recall

Winke and Abduhl (2007) divide VLSs into three categories including 'Input-Based Strategies', 'Output-Based Strategies' and 'Cognition-Based Strategies'. Winke and Abduhl (2007) affirm that these three board strategies were fundamental to the learners who learned Chinese as a foreign language.

2.3.3.8 VLS Classification by Griva, Kamaroudis and Geladari (2009)

Griva, Kamaroudis and Geladari (2009, p. 26) propose sixteen VLSs obtained through think-aloud protocols and interviews. The participants were twenty-two Greek-speaking students studying in the sixth grade of state primary schools in North-Western Greece.

- Do written repetition
- Do oral repetition
- Use a synonym
- Associate with already known words
- Translate in mother tongue
- Place new words in sentential context
- Underline the words in the text
- Look up the words in the dictionary
- Use imagery
- Use word parts
- Switch to mother tongue
- Guess from context
- Cooperate with peers
- Ask teacher for clarification
- Group words in patterns
- Evaluate oneself in word learning

2.3.3.9 VLS Classification by Srimanee (2010)

Srimanee (2010, p. 7) classifies VLSs based on the information obtained through the interviews. The participants were ten students who received the highest scores in word translation test. VLSs were put under four main categories.

VLS Classification by Srimanee (2010)(cont.)

Category 1: Information Sources

- Guess from the context
- Ask for L1 translation from peers
- Ask for L1 translation from tutors
- Ask for L1 translation from siblings
- Ask for L1 translation from teachers
- Ask for L1 translation from parents

Category 2: Dictionary Use

- Use bilingual dictionary
- Use monolingual dictionary

Category 3: Memorization and Practice

- Search for example use
- Write and repeat newly learned words
- Learn from familiar roots/ stems
- Learn from synonym/ antonym
- Analyse the word by its suffix
- Determine type of word

Category 4: Other Strategies

- Encounter while taking other tests
- Encounter while taking other tests
- Encounter on TV
- Learn from a product label

2.3.3.10 VLS Classification by Asgari and Mustapha (2011)

Asgari and Mustapha (2011, pp. 87-89) propose five categories of VLSs based on the information obtained through the interviews. The participants were ten students studying at University Putra Malaysia. The VLSs under the five categories are presented.

VLS Classification by Asgari and Mustapha (2011) (cont.)

Category 1 : Learning New Words Through Reading

- Guess from contextual context

Category 2: Using Dictionary

- Use monolingual dictionary
- Use bilingual dictionary

Category 3: Applying New English Words in Their Daily Speaking

- Practice new words among friends
- Ask questions in classrooms
- Interact with native speakers

Category 4 : Using Media

- Use songs
- Use movies
- Use internet
- Use games
- Use TV program

Category 5 : Social Strategies

- Share problems with others when one could not find sources to learn unknown words

This section has presented VLS classifications proposed by different researchers. Through the extensive review of VLS classifications, it appears that, most researchers have made distinctive categories, while a few researchers only made lists of VLSs. The previous researchers have classified VLSs differently based upon their different contexts. Classifying VLSs may base upon the researcher's personal interests, research purposes and research contexts where the research works have been conducted. The whole picture of VLS classifications indicates that VLSs can be classified in terms of knowledge-oriented and skill-oriented (Siriwan, 2007). However, Winke and Abdulh (2007) have classified VLSs differently. Their VLSs have been classified in terms of input-based, output-based and cognition-based strategies. It can be seen that the presented VLS classifications are different in

numbers of the main categories and individual strategies. On the whole, there is no single perfect classification which can apply to every situation (Intaraprasert, 2000). The presented VLS classifications help provide clarification for VLS classification and can be used as a guideline for the researcher to judge and classify the VLSs investigated in the context of present investigation.

2.4 Research Works on VLS

The contributions to the area of VLSs have been made for more than two decades. At present, VLS studies still attract more and more interest from L2 researchers and language teachers. Most initial studies of VLSs were directed at examining VLSs employed by language learners learning a target language, mainly English, in different contexts and in the different parts of the world. Some were directed at examining VLSs employed by the native speakers of English learning a foreign language. Many of these studies have come up with different findings. The focal point of this section is to review the past research works on VLSs carried out by different researchers in different contexts during the past two decades. Research works on VLSs conducted in other countries and in Thailand are presented precisely in the tables so as to know how past researchers devised their procedures of data collection, what factors affected the strategy used, as well as the results on how language learners coped with their vocabulary learning.

Table 2.1 Research Works on VLSs Conducted in Other Countries

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
1) Catalán (2003)	NNSE learning Basque and English as L2	The difference of VLS use	Tertiary	VLSQ	Gender
Results:					
<ol style="list-style-type: none"> 1. Male and female students differed significantly in the number of VLS use 2. Eight out of ten most frequent strategies were shared by male and female students 3. A close analysis of data revealed differences on female's greater use of formal rule strategies, input elicitation strategies, rehearsal strategies and planning strategies and male's greater use of image VLSs. 					
2) Wei (2007)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	1. Gender, 2. Field of study 3. Self-rated proficiency level 4. Attitudes 5. Beliefs 6. Perception of Vocabulary problem
Results:					
<ol style="list-style-type: none"> 1. Significant differences existed in strategy use by field of study and self-rated proficiency level, not by gender. 2. Students who were more positive towards vocabulary learning employed VLSs more frequently than those who had negative attitude towards vocabulary learning. 3. There were discrepancies between strategy use and beliefs on vocabulary learning. 4. There was a moderate negative relationship between vocabulary problem rating and VLS use. 					

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
3) Winke and Abduhl (2007)	NSE learning Chinese as FL	Overall VLS use	Tertiary	1.Observations, 2.Focus-group interviews 3.VLSQ	No variables focused
Results:					
<ol style="list-style-type: none"> 1. Twenty-five distinct vocabulary acquisition strategies emerged from the data. 2. Input-based, cognition- based and output-based strategies were essential to study of Chinese as a foreign language. Examples of input-based strategies were listening (in class or outside of class) and trying to understand as well as asking direct questions. Examples of cognitive-based strategies were guessing to fill in a gap and using context to derive meaning. Output-based included writing '<i>pinyin</i>' in class or outside class and writing tones on '<i>pinyin</i>' or on characters and so on. 					
4) Gidey (2008)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	Language learning achievement
Results:					
<ol style="list-style-type: none"> 1. The high achievers had greater overall use of VLSs than the low achievers. 2. The high achievers employed the VLSs, such as analysing the part of speech, using monolingual dictionary, and guessing meaning from context greater than the low achievers. 					
5) Lachini (2008)	NNSE learning EFL	The difference of VLS use	Upper intermediate	1.VLSQ 2. Language proficiency test 3. Vocabulary size test	1.Language proficiency 2.Vocabulary size
Results:					
The CREAM strategies for learning vocabulary, particularly in creative, reflective and effective VLSs were highly correlated with the students' proficiency level and the vocabulary size.					

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
6) Marttinen (2008)	NNSE learning EFL	The difference of VLS use	Upper secondary	VLSQ	1.Gender 2.Motivation
Results:					
<ol style="list-style-type: none"> 1. The three most common strategies among the students were verbal repetition, written repetition and translation. 2. Females used discovery strategies significantly more often than males, while males used metacognitive significantly more often than females. 3. The high motivated students employed a wider range of VLSs than the less motivated ones. 					
7) Bernardo and Gonzales (2009)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	Disciplines of study
Results:					
<ol style="list-style-type: none"> 1. There were statistically significant differences in the use of determination and social VLSs across the disciplines. 2. There was no significant difference in using memory, cognitive and metacognitive strategies. 3. There was a significant difference between Allied Medical Science and Computer Science and Engineering with Allied Medical Science employing social VLSs less frequently 					
8) Chang Tsai and Chang (2009)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	1.Gender, 2.Major type 3.English proficiency
Results:					
<ol style="list-style-type: none"> 1. Dictionary use strategies were used most frequently, while vocabulary perceptions were used least frequently. 					

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
8) Tsai and Chen (2009)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	1.Gender, 2.Major type 3.English proficiency
(cont.)	Results: <ol style="list-style-type: none"> Students with high proficiency level in both English and non-English major employed VLSs more frequently than those with intermediate proficiency level. In addition, students with intermediate proficiency level employed VLSs more frequently than those with low proficiency level. There was no significant difference in VLS use between male and female students. 				
9) Hamzah, Kafipour, and Abdullah (2009)	NNSE learning EFL	The difference of VLS use	Tertiary	1.VLSQ 2.Vocabulary size test	Vocabulary size
	Results: <ol style="list-style-type: none"> Determination strategies were the most frequently used by the learners followed by memory, metacognitive, cognitive and social strategies. Nine out of forty-one strategies showed a correlation and significant contribution towards the learners' total vocabulary size, such as using physical action when learning a word, interacting with native speakers. 				

Notes: EFL stands for English as a foreign language; ESL: English as a second language; VLS: vocabulary learning strategy; VLSQ: vocabulary learning strategy questionnaire; AFL: Arabic as a foreign language; L1: first language; L2 second language, FL: Foreign language, TEFL : teaching English as a foreign language; NSE: native speaker of English; NNSE: non-native speaker of English

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
10) Nemati (2009)	NNSE learning EFL	The difference of teaching effects	Pre-university	1.Teaching vocabulary through memory strategies 2.Teaching vocabulary through memory strategies as well as giving a kind of strategies awareness	No variable focused
Results: Having been taught through memory strategies and given strategy awareness, students in the experimental group outperformed the control group both in short-term and long-term retention scores.					
11) Peng, and Srikhao (2009)	NNSE learning EFL	The difference of VLS use	Senior high school	1. VLSQ 2. Interview	1.Belief 2.Gender
Results: <ol style="list-style-type: none"> 1. The majority of students tended to adopt cognitive strategies in their vocabulary learning compared with metacognitive, social/affective and translation strategies. 2. The majority of students believed that the integrated model with bottom-up and top-down should be used in vocabulary learning instead of memorizing an isolated word. 3. Male students tended to use more strategies from cognitive, social affective, metacognitive and translation strategies than their female counterparts. 					

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
14) Asgari and Mustapha (2011)	NNSE learning ESL	Overall VLS use	Tertiary	1.VLSQ 2.Interview	No variables focused
Results:					
Malaysian students frequently employed the strategies, such as learning a new word through reading, the use of monolingual dictionary, the use of various English language media and applying new English word in daily conversation. These strategies were related to memory, determination and metacognitive strategies respectively.					
15) Cengizhan (2011)	NNSE learning EFL	The difference of VLS use	Upper secondary School	VLSQ	1.Class level 2. Gender
Results:					
<ol style="list-style-type: none"> 1. The metacognitive strategies were the most frequently used VLSs among the students in the tenth and eleventh classes, whereas cognitive strategies were the least commonly applied among students. 2. The most frequently used VLSs among male students were metacognitive strategies, whereas determination strategies were the most frequently used strategies among female students. 					
16) Doczi (2011)	NNSE learning EFL	The difference of VLS use	1.Secondary School 2.Tertiary	VLSQ	Class level
Results:					
The number of strategies for practicing on regular basis and using word lists for consolidation decreased as the level of students improved. While the strategies for skipping a new word, putting words into sentences and pronunciation were increasing as students became more advanced.					

Table 2.1 Research Works on VLSs Conducted in Other Countries (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
17) Waldvogel (2011)	NSE learning Spanish as FL	The difference of VLS use	Adult	1.VLSQ 2.Vocabulary size test	Vocabulary size
Results:					
Different patterns in VLS use were discovered between advanced students with high and low vocabulary test scores. Those with higher vocabulary test scores significantly used more social and metacognitive learning strategies, while those with lower vocabulary test scores resorted to memorization and other less cognitively demanding strategies in learning Spanish vocabulary.					
18) Kameli, Mustapha and Bali (2012)	NNSE learning ESL	The VLS use	Tertiary	Interview	Learning environment
Results:					
Three main themes emerged from the interview data; language learning environment which consisted of the role of teachers, role of peers and role of class room influenced VLS choice of Malaysian students.					
19) Uzun (2013)	NSE learning English as FL	The effects of 4 difference treatment	Tertiary	1.Questionnaire 2.Vocabulary test	1.Gender 2.Learning condition
Results:					
The extra information recording related to the unknown words and regular feedback provided by the instructor improves vocabulary acquisition and the effect of vocabulary notebook keeping. On the other hand, no significant difference was found between the impact of treatment on female and male students.					

Table 2.1 illustrates VLS research works from 2003 up to 2013. Through an extensive review of research works on VLSs, the focal points are highlighted as follows;

Beginning with the participants, they were classified in two main groups as

1) the non-native speakers of English learning English as either a foreign language or a second language (e.g. Doczi, 2011; Cengizhan, 2011) and 2) the native speakers of English learning a foreign language (e.g. Waldvogel, 2011).

Taking into account the focus of study, a few researchers aimed at investigating the overall VLS strategy use without taking any variables into consideration, such as Winke and Abduhl (2007), while most researchers attempted to compare the difference of strategy use affected by different variables. Examples were Wei (2007), Bernardo and Gonzales (2009). Only one researcher, Nemat (2009) conducted an experimental study comparing the effects of VLS teaching.

Regarding the participants' education level, most researchers conducted the studies with students studying at the tertiary level, such as Wei (2007), Gidney (2008). Other researchers conducted the studies with secondary school students. Examples were Marttinen, (2008), Peng (2009). A few researchers conducted the studies with adult learners, such as Waldvogel (2011).

When taking the research instrument into consideration, we found that there were different types of research instruments that researchers utilised to examine the learners' strategy use. Most researchers made use of VLS questionnaire for data collection. Some conducted interviews to supplement the data obtained through the questionnaire. Examples were Peng and Srikhao (2009), Asgari and Mustapha (2011). A few researchers, such as Winke and Abduhal (2007) used three instruments, i.e.,

questionnaire, observation and think-aloud to triangulate the data obtained in their studies.

With respect to the investigated variables, most researchers aimed at establishing the relationship between the strategy use and the investigated variables which are 1) individual learner difference variables, including belief, attitude, motivation, and perceptions of vocabulary problems; 2) situational and social variables including, field of study, class level, course type, gender, language learning environment, and 3) learners' learning outcomes, including language learning achievement, language proficiency and vocabulary proficiency. Some researchers discovered the significant differences between the strategy use and investigated variables as can be seen below;

1. Individual Learner Difference Variables

- Belief (Wei, 2007)
- Attitude (Wei, 2007)
- Motivation (Marttinen, 2008)
- Perception of vocabulary problems (Wei, 2007)

2. Situational and Social Variables

- Field of study (Wei, 2007; Bernardo and Gonzales, 2008 and Tsai and Chen, 2009)
- Class level (Cengizhan, 2011 and Doczi, 2011)
- Gender, (Catalán, 2003; Marttinen, 2008; Liu, 2010 and Cengizhan, 2011; Uzun, 2013)

3. Learners' Learning Outcomes

- Language proficiency (Lachini, 2008; Tsai and Chen, 2009; Celik and Toptas, 2010 and Liu, 2010)
- Language achievement (Gidney, 2008)
- Vocabulary proficiency (Lachini, 2008; Hamzah, Kalfipour and Adullah, 2009 and Waldvogel, 2011)

A few researchers, however, explored learners' strategy use without taking any variables into account (Winke and Abduhl, 2007; Asgari and Mustapha, 2011).

Table 2.2 Research Works on VLSs Conducted in Thailand

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
1) Mingsakoon (2002)	NNSE learning EFL	The difference of VLS use	Secondary	1.VLSQ 2.Interview 3.Think-aloud 4.Vocabulary test 5.Placement test	Programme type

Results:

1. Based on the questionnaire and the interview data, the science students liked using English-Thai dictionary to look up the meanings of words, asking their classmates as a vocabulary knowledge resource to learn English words, and learning words through traffic signs, product label and computer games. On the other hand, arts students liked using an English-Thai dictionary, working in groups and listening to English songs in order to learn English vocabulary
2. According the think-aloud data, science students used their background knowledge and context clues to identify the meanings of words in the texts. Whereas the arts students tend to use an English-Thai dictionary and often ignored the difficult words.

Table 2.2 Research Works on VLSs Conducted in Thailand (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
2) Intara prasert (2004)	NNSE learning EFL	Overall VLS use	Tertiary	VLSQ	No variables focused
Results:					
Thirty one individual VLSs were reported being employed by the students. They were grouped into three main categories; the strategies to discover the meaning of a new word, the strategies to retain the knowledge of newly-learned vocabulary items and the strategies to expand their knowledge of the vocabulary.					
3) Tassana-ngam (2004)	NNSE learning EFL	The effects of two teaching tasks	Tertiary	1.VLS training 2. Extra reading task 3.Pre and post tests 4. Think-aloud 5.Interviews	Language ability
Results:					
Having been introduced VLS training, the experimental group significantly outperformed the control group in their ability to learn words. Regarding the attitude towards VLS training, the students had a positive attitude towards it. Besides, students showed an increased awareness of the need to select the appropriate VLSs to help remember the vocabulary items.					

Table 2.2 Research Works on VLSs Conducted in Thailand (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
4) Siriwan (2007)	NNSE learning EFL	The difference of VLS use	Tertiary	1.VLSQ 2. Interview	1.Gender 2.Field of study 3. Previous language learning experience 4.Type of academic program 5.Vocabulary proficiency
Results:					
<ol style="list-style-type: none"> 1. The students reported the medium frequency of strategy use for their vocabulary learning. 2. The frequency of students' overall reported use of strategies varied significantly according to gender, major field of study, previous language learning experience, type of academic programme of study and level of vocabulary proficiency. 					
5) Suppaset-seree and Saitakham (2008)	NNSE learning EFL	The difference of VLS use	Tertiary	VLSQ	1.Major type 2.Language learning achievement
Results:					
High achievers of both English and non-English majors most frequently used guessing strategies, whereas low achievers of both English and non-English majors were likely to use dictionary strategies for learning English vocabulary.					

Table 2.2 Research Works on VLSs Conducted in Thailand (Cont.)

Researcher	Language Learner (LL)	Focus of Study	Educational Level	Instrument(s)	Investigated Variable(s)
6) Mongkol (2008)	NNSE learning EFL	The difference of VLS use	Tertiary	1. Questionnaire 2. Interview 3. Think-aloud	Year of study
Results:					
The use of VLS reported by the first and second year students was significantly different. Guessing the meaning was reported being used more often by the second year students. While learning new words by remembering the parts of speech and paraphrasing the word's meaning were used more by the first year students.					
7) Srimanee (2008)	NNSE learning EFL	Overall VLS use	Secondary	Interview	No variable focused
Results:					
The top ten highest achievers were interviewed to provide their VLS use to acquire thirty target words incidentally. The two most popular strategies adopted by the highest achievers were guessing word meaning from context and asking for L1 translation from peers respectively.					

Table 2.2 illustrates the research works available in Thailand. The main points will be summarised in different aspects as presented in the subsequent paragraphs.

Starting with the research participants, all participants of the past research works were Thai students studying English as a foreign language. Most of them studied at the tertiary level except the participants in Mingsakul's studies (2002) who were primary school students.

Taking into account the focus of study, it is apparent that most researchers investigated the students' strategy use affected by different variables. Examples are

Mingsakool (2002), Siriwan (2007), Suppasetseree and Saitakham (2008), Mongkol (2008). Only one researcher, i.e. Intaraprasert (2004) examined the learners' strategy use without taking any factors into consideration.

Concerning the research instrument, vocabulary strategy questionnaire was a popular means to examine learners' strategy use. Most researchers made use of rating scales for the main method of data collection. Some researchers, i.e. Mingsakul (2002) and Mongkul employed three methods to assess students' strategy use, i.e. questionnaire, interview and think-aloud. One researcher, Intaraprasert (2004) administered an open-ended questionnaire to explore the students' VLS use. No researcher selected observation to serve their research purposes. In relation to the investigated variables, most researchers examined the relationship between VLS use and such variables as : 1) individual learners' difference variable, including previous language learning experience; 2) situational and social variables including, field of study, course type, and gender, and 3) learners' learning outcomes including language learning achievement and vocabulary proficiency. With respect to the research findings, it was found that the students' VLSs were related to many factors. The past researchers in the Thai context discovered the significance of strategy use according to many investigated variables as shown below:

1. Individual Learner Difference Variables

- Previous language learning experience (Siriwan, 2007)

2. Situational and Social Variables

- Field of study (Mingsakoo, 2002 and Siriwan, 2007)
- Class level (Mongkol, 2008)
- Course type (Siriwan, 2007)

2. Situational and Social Variables (cont.)

- Gender (Siriwan, 2007)

3. Learners' Learning Outcomes:

- Language learning achievement (Suppasetserree and Saitakham, 2008)
- Vocabulary proficiency (Siriwan, 2007)

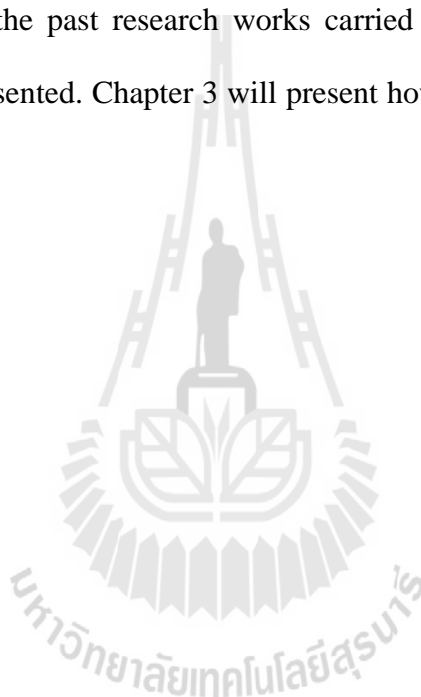
Intaraprasert (2004) did not take any variables into his consideration. Three main categories emerged based on the data reported by the participants. These include: 1) to discover the meaning of new vocabulary; 2) to retain the knowledge of newly-learned vocabulary and 3) to expand the knowledge of vocabulary. The findings in the experimental research work conducted by Tassana-ngam (2004) revealed that having been trained to use VLSs, the participants significantly outperformed the control group in their ability in learning vocabulary items.

In summary, the past research works were carried out in a variety of settings, target populations, means of data collection and the focal points of the studies. The findings could contribute to better understanding of the students' VLS strategy use to some extents. However, some aspects of students' VLS use still need more research works to further scrutinise or fill the gaps, i.e. the rationales behind the students' strategy choices. Particularly in the Thai context, the investigation in this aspect seems scarce.

2.5 Summary

This chapter has been devoted to provide a clear picture of the literature related to VLSs. It consists of two main sections, i.e., the theoretical background and the past research works. In order to provide a comprehensive view of the theoretical

background, two main sections, i.e., vocabulary learning and vocabulary learning strategies have been presented. In the vocabulary learning section, the terms ‘word’ and ‘vocabulary’, the importance of vocabulary, frameworks of vocabulary knowledge and vocabulary learning approach have been addressed. In the vocabulary learning strategies section, the definitions of VLSs, the factors affecting students’ VLS use, the VLS classifications have been proposed. In the second part of the chapter, a review of the past research works carried out in other countries and in Thailand has been presented. Chapter 3 will present how the present investigation has been carried out.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The main purpose of this chapter is to discuss the conceptual framework, as well as the research methodology of the present investigation. To present how the conceptual framework of the present investigation is developed, rationales for selecting and rejecting the variables are elaborated. To illustrate the research methodology of the present investigation, research questions, sampling techniques, characteristics of the research participants and methods of data collection are addressed. Towards the end of the chapter, the data analysis, as well as the interpretation of the obtained data are shown.

When conducting research, it is crucial for a researcher to think carefully about the research purposes. In social research, there are three common purposes which are exploration, description and explanation (Babbie, 2008). In practice, the research studies can have more than one purpose as Nueman (2006, p. 33) remarks “research studies may have multiple purposes, e.g. both to explore and to describe, but one purpose is usually dominant.” Three main research purposes proposed by Babbie (2008) are clarified below;

1. *Exploration*: The researcher aims at examining a new interest. The participants of the research studies are relatively new. The exploratory studies yield new insights into the topic under study.

2. *Description:* The researcher aims at describing situations or events. The researcher observes then describes what has been observed. The descriptive studies answer the questions of what, where, when and how. Many qualitative research studies primarily aim at description.

3. *Explanation:* The researcher aims at explaining things. Thus, the researcher usually addresses ‘why’ questions. With the help of statistics, the researcher is able to get a clearer explanation of the topics under study.

In accordance with the research purposes noted above, it is apparent that the present investigation is classified as exploratory and descriptive which aims to describe the types and frequency of English VLSs in which Thai students studying at the tertiary level in the Northeast reported employing. In addition to research purposes, it is imperative for the researcher to select the type of research design that best serves the purposes of the research work. Creswell (2009) classifies the types of research design into three broad categories, namely quantitative, qualitative and mixed methods. The characteristics of each type of research design are concisely described subsequently.

Creswell (2009, p.4) views quantitative research as “a means for testing objective theories by examining the relationship among variables.” While qualitative research is regarded as “a means for exploring and understanding the meaning of individuals or groups ascribed to a social or human problem.” Regarding “mixed method”, it is a mixing of both qualitative and quantitative approaches in a study. A merit for employing mixed method is that the researcher can obtain a greater strength of research results compared with employing either qualitative or quantitative method alone in a research work (Creswell, 2009).

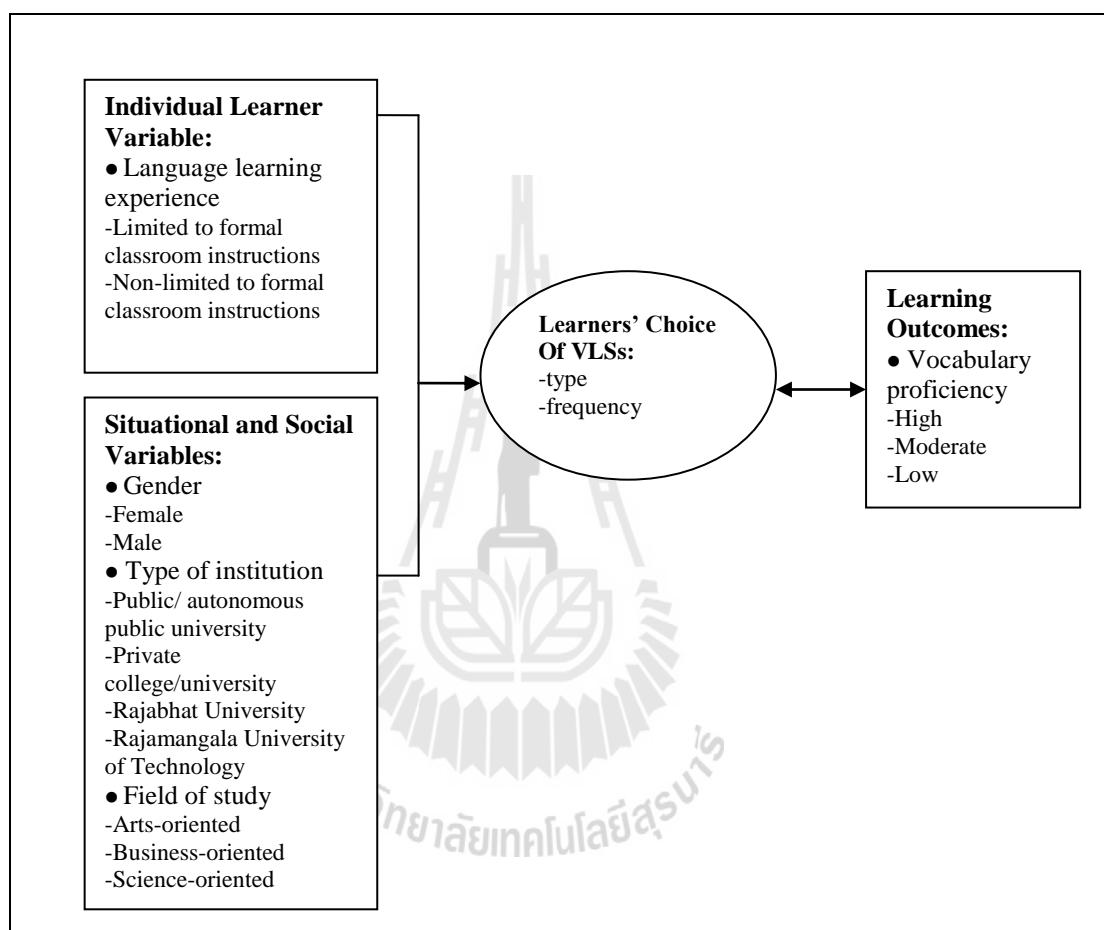
In the light of what has been stated about research design, the present investigation has employed more than one approach to help broaden the understanding on the results of the present investigation. While the present investigation's main concentration is on quantitative analysis, a qualitative approach is also employed. That is, the interviews were analysed qualitatively. Based on the aforementioned research design, the mixed method is considered the method that can best serve the present investigation purposes. The following section elaborates the conceptual framework and rationales for selecting and rejecting the variables of the present investigation.

3.2 The Conceptual Framework and Rationales for Selecting and Rejecting Variables for the Present Investigation

In this section, the researcher has set out the conceptual framework of the present investigation through the extensive review of related literature on VLSs in Chapter 2. It is helpful for the researcher of the present investigation to look at the evidence from the related literature that helps develop a theoretical framework and creates the rationales for selecting and rejecting variables of the present investigation. The main purpose of the present investigation is to examine the students' VLS use in relation to the five variables. These include: 1) gender of students: male and female; 2) type of institution: public/autonomous public university, private college/university, Rajabhat University (RU), and Rajamangala University of Technology (RMUT); 3) field of study: arts-oriented, science-oriented and business-oriented; 4) language learning experience: limited to formal classroom instructions only and non-limited to

formal classroom instructions; and 5) level of vocabulary proficiency: high, moderate and low proficiency.

The conceptual framework of the present investigation adapted from Ellis (1994) is illustrated in Figure 3.1.



(Source: Adapted from Ellis, 1994, p. 530)

Figure 3.1 Conceptual Framework of the Present Investigation

The conceptual framework as illustrated in Figure 3.1 shows that the learners' VLS use has been hypothesised to have a one directional relationship with the variables, namely; gender, type of institution, field of study and language learning experience. On the other hand, the learners' VLS use has been hypothesised to have a bi-directional relationship with vocabulary proficiency.

Among the situational and social variables, gender seems to receive the widest attention from the previous researchers in other countries. However, the results are still inconclusive. It can be said that the effects of gender on students' VLS use vary based upon the context of investigation. With regard to the study of VLSs in the Thai context, only one empirical research work has been carried out to see the effects of gender on students' VLS use. The results indicated that gender contributed the significant variation patterns in the use of VLS among Rajabhat University students. There is a need to explore more in a wider context in Thailand, i.e. to explore the VLS use in relation to gender among students studying at the tertiary level in order to reconfirm that students' gender has an impact on their VLS use. Thus, the researcher of the present investigation selected gender as one of the five variables so as to come to the conclusions of the effects of gender on the students' VLS use based on the context of the present investigation. The researcher hopes that the research findings would contribute to language teaching and learning in the context of the present investigation.

Type of institution in the present investigation can be described as situational and social variables. Through the related literature, learning environment can affect the learners' VLS use (Kamali, Mostapha and Baki, 2012). The researcher of the present investigation attempts to make a connection between learning environment and types of institution. Through the literature reviews dealing with VLSs to date, no researcher in the field appeared to have taken the types of institution into consideration as one of the factors which may affect students' VLS use. For this reason, the researcher of the present investigation aims to examine the effects of learning environment as type of institution on the students' VLS use in order to

provide more evidence to prove whether the variable, namely type of institution can have an impact on the students' VLS use or not.

In relation to the field of study in Thai context, previous research works have been examined only with English major, science and non science-oriented fields. Arts and business-oriented fields have been neglected by the past researchers. For this reason, the researcher has included arts, business and science-oriented fields to examine the significant variation patterns of VLSs employed by students studying in different fields.

The previous research works suggest that language learning experience affects the learners' VLS use. In the present investigation, language learning experience has been categorised into two aspects, namely; limited to formal classroom instructions only and non-limited to formal classroom instructions. No empirical research work has been categorised students' language learning experience into these aspects. Hence, there is a need to examine the effects of language learning experience on the students' VLS use to prove whether language learning experience is one source of the variations in the use of VLSs or not.

Learning outcomes are hypothesised to have some sort of relationship with learners' VLS use. In the present investigation, the students' level of vocabulary proficiency has been hypothesised to have a bi-directional relationship with learners VLS use as illustrated in Figure 3.1. A researcher-constructed vocabulary proficiency test was administered to classify the participants' levels of vocabulary proficiency into high, moderate and low groups based on the score obtained from the vocabulary proficiency test (VPT). Then the effects of vocabulary proficiency levels on the students' VLS use were examined.

To be precise, the range of factors affecting learners' VLS use have been considered from three angles: individual learner differences (i.e. language learning experience), situational and social variables (i.e. gender, type of institution, field of study) and learning outcomes (i.e. level of vocabulary proficiency). The next section addresses the basic assumptions about the relationship between students' VLS use and the five variables based on the conceptual framework, related literature, the past researchers' opinions, as well as the researcher's own justification of the selected variables in the present investigation.

3.2.1 Students' Use of VLSs and Gender

Gender has been hypothesised by some researchers as one of the key factors influencing students' VLS use (e.g., Catalán, 2003; Siriwan, 2007; Tsai and Chen, 2009 and Liu, 2010). The effects of gender on students' VLS use have been reported in the research findings which have been discovered both in other countries and in the Thai context. Through the extensive review of the related research works, the results show mixed conclusions.

For examples, Catalán (2003) conducted a study of gender differences in L2 VLSs. The participants were 581 Spanish-speaking students learning Basque and English as a foreign language (279 males and 302 females). The results revealed that female and male students differed significantly in the numbers of their strategy employing. Female students reported greater use of formal rule strategies, input elicitation strategies, rehearsal strategies and planning strategies than male students, whereas male students reported greater use of image VLSs than their female counterparts. Another study carried out to examine the effects of students' gender and their VLS use is Marttinen's (2008). The participants were 31 males and 19

females who were in the upper secondary school studying English as a second language. The findings revealed that females reported using discovery strategies significantly more frequently than males, whereas males reported using metacognitive strategies significantly more frequently than females.

However, Tsai and Chen (2009) reported the opposite results to the research works mentioned earlier. Both authors investigated the VLSs employed 440 male and 235 female students studying in Nan Kai University of Technology, Taiwan. The results showed no significant difference between male and female students in their VLS use. Recently, Liu (2010) examined English VLSs employed by 390 non-English major students studying in Beihai College of Beihang University, China. The findings revealed that female students employed VLSs more frequently than their male counterparts. The researcher explained further that male students did not pay attention on vocabulary learning. Whereas female students tended to spend more time learning vocabulary and putting it into practice.

In the Thai context, students' gender has received little attention as one of the key factors influencing their VLS use. One available research work conducted by Siriwan (2007) discovered that female students reported employing the strategies to discover the meaning of new vocabulary items and the strategies to expand the knowledge of vocabulary items more frequently than male students in the overall strategy use.

Based on the research works conducted outside Thailand, the effects of students' gender on their VLS use are still inconclusive; whereas, the conclusions from one available research work in the Thai context reported that students' gender contributed the significant variation patterns in their use of VLSs. More research

works dealing with the effects of students' gender on their VLS use are needed to reconfirm those conclusions. Therefore, the researcher of the present investigation takes students' gender as one of the proposed variables to examine the effects of students' gender on their VLS use among the students studying at the tertiary level in the Northeast of Thailand.

3.2.2 Students' Use of VLSs and Type of Institution

'Type of institution' in the present investigation refers to the four different types of institution offering education mainly for the tertiary level. They are public/ autonomous public university, private college/ university, Rajabhat University (RU) and Rajamangala University of Technology (RMUT). According to Kamali, Mostapha and Baki (2012), teaching methods, quality of materials, peer groups, teacher-student relationship, and classroom atmosphere are considered as learning environment and it can affect the learners' VLS use. In reality, different types of institution do not provide students learning environment exactly the same.

In terms of teaching and learning condition, the institutions have freedom to design English language courses for their students. They may set their own criteria by which English performance is measured. In addition, the language learning facilities equipped by the institutions may not be of the same standard as they gain financial support from different sectors. Further, as each type of institutions might have its own academic strengths, the prospective students of each type of instruction as well as the nature of current students are, therefore, likely to be different. The researcher of the present investigation has attempted to examine the link between students' VLS use and their learning environment, namely types of institution. No previous empirical research work in Thailand has examined the connection between the students' VLS

use and their type of institutions. In this sense, type of institutions should be taken into consideration by the researcher of the present investigation.

3.2.3 Students' Use of VLSs and Field of Study

Apart from gender, field of study is often considered amongst the major factors influencing VLSs. To the best of the researcher's knowledge, only a small number of previous researchers take this factor into account (e.g., Gu, 2002; Siriwan, 2007; Wei, 2007; Suppatseree and Saitakham, 2008 and Bernardo and Gonzales, 2009). For examples, Gu (2002) took students' academic major as one of his variables in the investigation for VLSs employed by Chinese EFL learners. The findings revealed that the learners' academic major was found to be a less effective factor compared with the learners' gender. The differences of VLS use were found between arts and science learners, but such differences were less clear-cut. Gu did not report a significant difference in a strategy employing between arts and science learners.

Another researcher who took students' academic major as a key factor influencing their VLS use was Wei (2007) examining the differences in the VLS use between English and non-English major students. The results revealed that the students in English major generally reported making more use of VLSs than those who were non-English major students. The other research work investigated students' VLS use in relation to their academic major was conducted by Bernardo and Gonzales (2009). The two researchers studied the use of VLSs employed by 202 students across five disciplines: Liberal Arts and Education; Computer Science and Engineering; Business Education; Hospitality Management and Allied Medical Science. The results revealed significant differences in the use of determination and social strategies among the students across the disciplines.

With respect to the Thai context, a few research works are available. One of them was carried out by Siriwan (2007). The findings revealed that students' field of study had strong effects on their VLS use. That is, in the overall strategy use, English major students reported greater use of discovery of the meaning of new vocabulary items and expansion of one's knowledge of vocabulary categories than those majoring in science-oriented and non science-oriented fields. Apart from Siriwan (2007), Suppasetseree and Saitakham (2008) examined VLSs employed by 116 Thai EFL university students. The results showed no significant variation pattern in a strategy employing between English and non-English major students. Both English and non-English major students frequently used guessing strategies and infrequently used memory strategies.

As seen above, Siriwan (2007), Suppasetseree and Saitakham (2008) carried out the investigation exclusively in the context of Rajabhat universities and public universities respectively. They were two out of the four types of institutions offering education for the tertiary level. Students' field of study investigated by the past researchers did not cover the existing fields offered at the tertiary level. Therefore, the researcher of the present investigation aims to fill this gap by undertaking an exploratory investigation designed to examine the types and frequency of VLSs employed by students studying in different fields that are currently being offered at the tertiary level, i.e. arts-oriented, science-oriented and business-oriented.

3.2.4 Students' Use of VLSs and Language Learning Experience

It is an accepted fact that vocabulary learning is not instantaneously acquired. Learners gradually learn vocabulary over a period of time. According to Zhi-liang (2010), mastering vocabulary does not only take place in a classroom setting, but it

also has to be accumulated for a lifetime. Wu (2009) points out that outside the classroom, the role of the teacher may fade. Consequently, it is entirely up to the learners themselves to learn vocabulary incidentally. One of the effective ways for learners to learn vocabulary is to take responsibility for their own learning and become autonomous learners who are “deciding what words to learn, making decision about how to learn them and revise them, seeking out opportunities to use the language and keeping motivation to keep on with learning and using language” Nation (2008, p 7). This is consistent to Graves (1987) who suggests that most vocabulary learning will take place outside the classroom. In addition, Lawson and Hogben (1996) point out to this respect that learners’ learning experience can have an impact on the extent to which the learners will develop or employ effective vocabulary learning practices.

As mentioned above, the researcher of the present investigation attempts to examine a connection between students’ VLS use and their language learning experience, namely; limited to formal classroom instructions only and non-limited to formal classroom instructions. To date, no researchers in the field appear to have taken this variable into consideration. Therefore, there is a need to examine the effects of students’ language learning experience on their VLS use.

3.2.5 Students’ Use of VLSs and Level of Vocabulary Proficiency

In the field of VLSs, some previous researchers have examined the patterns and frequency of VLSs in connection with students’ language outcomes. Different researchers use different means to predict students’ language outcomes. For example, Suppasetseree and Saitakham (2008) took level of students’ language learning achievement to study in relation to students’ VLS use. The two researchers examined

VLSs employed by 116 Thai EFL university students with different levels of their English language learning achievement. The results of the comparison between high and low achievers showed significant difference between high and low achievers among English major students but no significant difference between high and low achievers among non-English major students.

Students' language proficiency and vocabulary proficiency have also received attention to study in connection with students' VLS use. For examples, Lachini (2008) discovered that creative, reflective and effective strategies employed by 120 students highly correlated with their language proficiency level. Nation's vocabulary level test was adopted in Zhang's studies (2009) as a means to tell students' vocabulary proficiency level. The findings revealed that some strategies, such as using dictionary for word learning, noting down usage positively correlated with students' vocabulary level, while visual repeating negatively correlated with their vocabulary level. Very few researchers constructed the vocabulary test to measure students' vocabulary knowledge. The available research work by Siriwan (2007) demonstrated that students with high vocabulary proficiency level reported employing VLSs significantly more frequently than those with low vocabulary proficiency level.

As can be seen from the previous research works, students' VLS use has been studied in relation to level of their language learning achievement, language proficiency and vocabulary proficiency. Based on the research works having been reviewed, the students' VLS use seems to be significantly different according to their language learning outcomes. As the students' vocabulary proficiency is directly related to students' VLS use, it was selected as a predictor of students' learning outcomes and was taken as one of the five variables which may affect the students' VLS use.

In summary, based on the research objectives, theoretical framework and the extensive literature review, the present investigation has investigated the five independent variables: 1) gender (male and female); 2) type of institution (public/autonomous public university, private college/ university, Rajabhat University and Rajamangala University of Technology); 3) field of study (arts-oriented, science-oriented and business-oriented); 4) language learning experience (limited to formal classroom instructions and non-limited to formal classroom instructions); and 5) level of vocabulary proficiency (high, moderate and low).

3.3 Research Questions

The present investigation has been designed to investigate the VLSs reported being employed by students studying at the tertiary level in the Northeast of Thailand and to examine the students' VLS use in relation to the five variables. Specifically, the research has been designed to answer the following questions:

- 1) What is the frequency of the VLSs reported being employed by the students studying at the tertiary level?
- 2) Do students' choices of VLSs vary significantly with their gender, type of institution, field of study, language learning experience, and vocabulary proficiency level? If they do, what are the main patterns of variation?
- 3) What are the underlying dimensions of the students' VLS Use?
- 4) Why do students report employing certain strategies frequently and other strategies infrequently?

3.4 Sampling Methods and Rationales for Choice of Participants

Sampling is important to social research since in this kind of research, “we make judgments about people, places and things on the basis of fragmentary evidence” (Robson 2011, p. 270). Further, the dependability of a survey depends upon the plan that the researcher uses to select the participants, usually referred to as ‘sampling plan’. A sampling plan cannot be independent from the research project. It should fit into its research questions and purposes (Punch, 2005). For these reasons, selecting the appropriate sampling method is one of the very important steps of conducting research that the researcher of the present investigation has taken into consideration. The main purpose of this section is to provide the sampling methods together with rationales in choosing the participants for the present investigation.

As a university lecturer in the Northeast of Thailand for many years, the researcher has experienced that some undergraduate students do not perform well on their English language exam. One of the factors that probably hinders their language achievement is due to the lack of vocabulary knowledge. However, other students are able to perform well on their English language achievement. They seem to have sufficient vocabulary knowledge. Different students may employ different techniques or strategies to deal with their vocabulary learning. How students studying at the tertiary level in the Northeast deal with their vocabulary learning has been left unexplored by the prior researchers. The Northeast or Isan region is the biggest part of Thailand. However, some provinces in this region have been received little attention from the government in terms of education and learning facilities. Many students in this region need to get their L2 developed urgently. The knowledge related to students’ vocabulary learning may help elevate this region in terms of its L2

teaching and learning condition. Consequently, the researcher decided to select the Northeast to be the area of the investigation and population of the present investigation was students studying at the tertiary level in the Northeast of Thailand.

It is imperative for the researcher of the present investigation to select the appropriate sampling method so as to yield accurate results. Creswell (2008) points out that the types of sampling which the researchers employ in their studies are based on the factors, such as the amount of rigor they seek for their studies, characteristics of the population and availability of the participants. The main purpose of the present investigation is to explore and describe the variations in the use of VLSs employed by students studying at tertiary level in the Northeast. To explore the VLSs employed by students studying at the tertiary level in the Northeast, two types of data collection were administered. A written questionnaire was used to obtain the data from the research participants, while a semi-structured interview was conducted to gain insights into why students employed certain strategies frequently and other strategies infrequently.

The population under this investigation was a group of 288,474 students studying at four different types of institutions. These data were provided by the website of the Office of Higher Education Commission (OHEC), the main agency responsible for the education at the tertiary level in Thailand. Therefore, stratified random sampling, a kind of probability sampling method was employed to elicit the students to participate in the first type of data collection so as to yield rigorous results. A stratified random sampling method was employed to ensure that the students studying at different types of institution were not excluded. (see Figure 3.2)

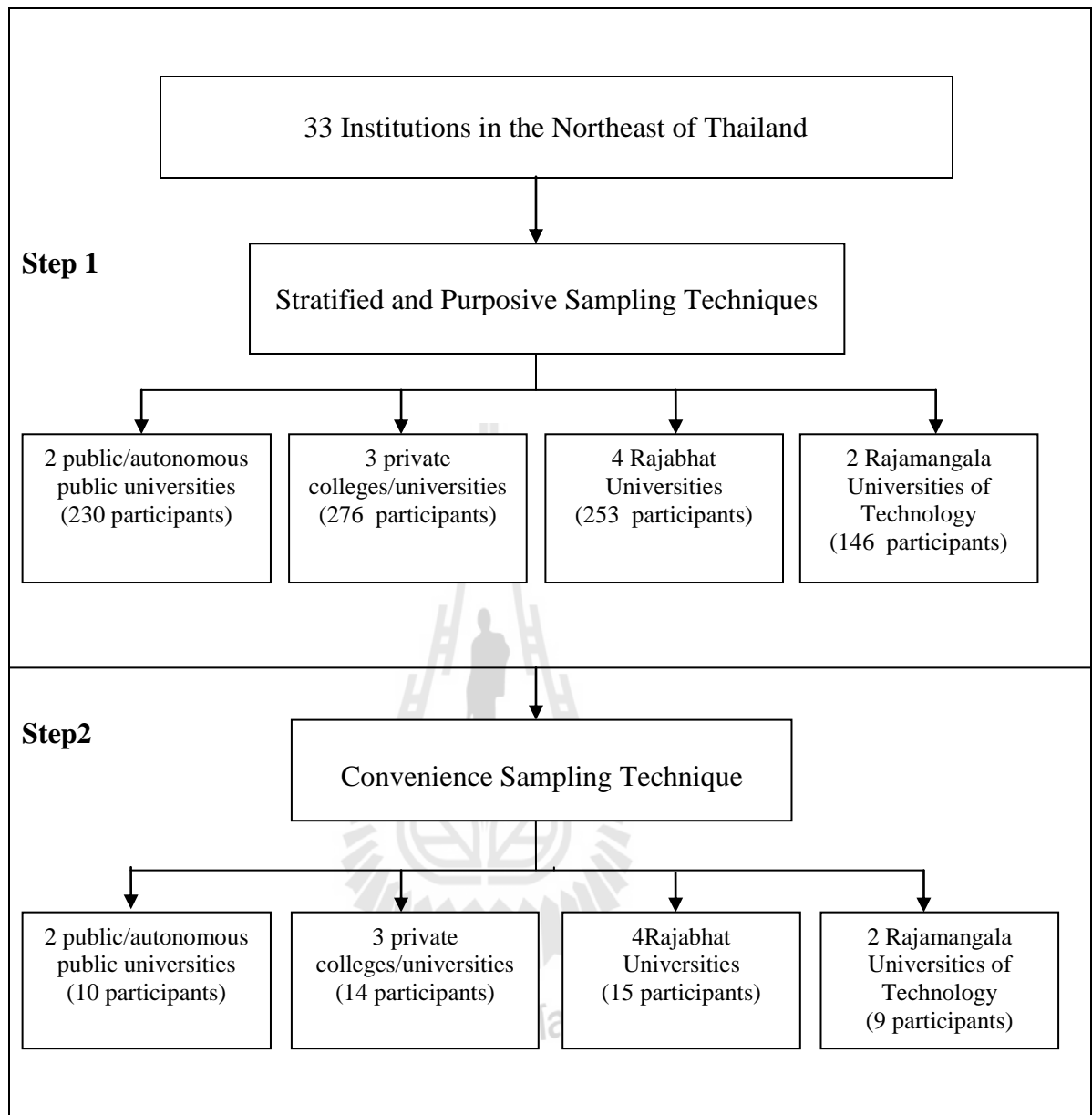


Figure 3.2 Sampling Methods for the Present Investigation

Altogether thirty-three institutions were the population of the present investigation. Through the stratified random sampling, eleven institutions were purposively selected to participate in the questionnaire session. The eleven institutions included two public/autonomous public universities, three private colleges/universities, four Rajabhat Universities and two Rajamangala Universities of

Technology. In order to obtain the information from the participants studying in arts-oriented, business-oriented, and science-oriented fields, purposive sampling method was employed to select the participants. With respect to the sample size, it must be noted that the sample size should not be too big to be manageable. According to Salkind (2006, p. 95), the concept “the larger the sample size, the better will be” does not make economic or scientific sense. Salkind remarks “too big a sample does not increase the precision of testing your question beyond the costs and trouble incurred in getting the size sample.” Regarding this respect, Dörnyei (2003, p. 73) states that “there are no hard and fast rules in setting the optimal sample size”. That is to say that the number of participants should be adequate and manageable.

Through the stratified random and purposive sampling techniques, 905 students took the vocabulary proficiency test and responded to the written questionnaire, while 48 participants were selected on the basis of convenience and availability to participate in the interviews (see Appendix E). Seventeen out of 48 participants were male students and 31 participants were female students. Through the use of both probability and non-probability sampling methods, the samples were good representatives of the entire population. The sample size was not too big to be manageable; however, it was not too small to provide enough information. The characteristics of the research participants in both types of data collection compassed the five variables, i.e. gender, type of institutions, field of study, language learning experience and the vocabulary proficiency. The next section describes the characteristics of the research participants in relation to the five investigated variables.

3.5 Characteristics of the Research Participants

In this section, the characteristics of research participants in the present investigation are described. Table 3.1 below illustrates the number of research participants related to each variable.

Table 3.1 Numbers of Research Participants in Relation to Each Variable

Variables		Number of Participants
Gender	Male	261
	Female	644
Type of Institution	PBU	230
	PVC/U	276
	RU	253
	RMUT	146
Field of Study	Arts-oriented field	369
	Business-oriented field	270
	Science-oriented field	266
Language Learning Experience	Non- Limited to formal classroom instructions	470
	Limited to formal classroom instructions	435
Vocabulary Proficiency Level	High proficiency	302
	Moderate proficiency	295
	Low proficiency	308

Notes: PBU stands for public/ autonomous public university, PVC/U : private college/university, RU : Rajabhat University, RMUT: Rajamangala University of Technology

Table 3.1 illustrates the number of students in each group of the five investigated variables. The characteristics of the participant distribution are discussed below:

1. The Proportion of Male and Female Participants

We can see from Table 3.1 that the proportion of participants in relation to gender was not well balanced, with a lot more female than male students. In Thailand at the present, the population of female students at the tertiary level is much greater than their male counterparts. As a result, a greater number of female students were sampled to participate in present investigation.

2. Proportion of Students' Type of Institution

The largest proportion of the research participants should fall into RUs followed by PVC/Us, PBUs and RMUTs. That is, the more participating intuitions there were, the more research participants also participated. Based on the distribution of the research participants mentioned, the second largest proportion of participants fell into RU. The researcher made every attempt to ask for the corporation from students. Before the data collection actually took place, an official letter requesting permission and cooperation was sent out to each institution. Every institution reconfirmed the permission and the cooperation. On the actual date of data collection, some research participants at RU were not available to provide the information as they had activities to do. This affected the number of participants from RUs.

3. Proportion of Students' Field of Study,

Proportion of students' fields of study was definitely not well balanced, with more participants studying in the arts-oriented than those studying in business and science-oriented fields. As there were two subgroups (English and non-English

majors) within arts-oriented field of study, the two majors were purposively sampled to participate in the present study resulted in greater number of sampled proportion in arts-oriented field. This affected the proportion of participants studying in the three different fields of study.

3.6 Data Collection Methods for the Present Investigation

In L2 research, one goal of research is to “uncover information about learner behavior or knowledge independent of the context of data collection” (Macky and Gass, 2005, p. 44). Further, the research findings are highly dependent on the data collection which is often known as “data elicitation.” There is no right or wrong elicitation measurement. Various types of data collection are being used in VLS studies, such as observation, written questionnaire, think-aloud and diary. This section aims to elaborate the research instruments used in the present investigation, including written questionnaire, oral interview and vocabulary proficiency test. To be more specific, the nature of each instrument and how it is employed in the present investigation are discussed in the subsequent sections.

3.6.1 Written Questionnaire

Written questionnaire is defined as “any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting them among existing answers” (Brown 2001, p. 6). Questionnaire is one of the most common means of collecting information on thoughts, feelings, attitudes, beliefs, values, perceptions, personality and behavioral intentions of research participants (Johnson and Christensen, 2012). Questionnaires are similar to interviews due to the fact that participants are required to answer to a set

of questions prepared in advance. However, the researchers cannot make interference as they do in the interviews (Takač, 2008). According to Dörnyei's viewpoint (2003), questionnaire is a highly structured data collection instrument since the items set in questionnaires are asking a specific piece of information and providing the options for the participants to choose from. To these essential characteristics, questionnaire is appropriate for being used to elicit the information for quantitative analysis. However, it is possible to devise questionnaires for qualitative analysis. By employing truly open-ended items in a questionnaire, the researcher can obtain the data which are qualitative and exploratory in nature.

Written questionnaires can yield three types of data: factual, behavioral and attitudinal. In terms of behavioral questions, a written questionnaire can be used to find out what the respondents are doing or have done in the past. Further, in L2 studies, written questionnaires can be used to ask about the particular strategy and the respondents' frequency of use (Dörnyei, 2003). Other than these qualifications, written questionnaire allows the researcher to collect data from a large group of people. Moreover, a questionnaire is able to provoke honest responses as it lacks personal interaction (Lowe, 2007).

There are many types of questionnaires. A common distinction is made between close and open-ended questionnaires. A closed-item is "one in which the range of possible answers is determined by the researcher" (Nunan, 1992). In other words, the researcher determines the possible answers. Hence, it requires less effort for the respondents to complete it. The respondents just select the provided answers from a given number of options. Wiersma and Jurs (2005, p. 169) emphasize that selected-response or forced-choice items in a close-ended questionnaire "enhance

consistency of response across respondents”. That is to say, the response can be given a number or a value so that a statistical interpretation for responses can be assessed. The response in close-ended questions seems to be more objective than in that of open-ended questions. Ary et al. (2006) state that constructing close-ended questions is time consuming. However, by restricting the response set, the close-ended questionnaire is easy to administer. It can be coded and then put into a computer for analysis. According to Robson (2011), a questionnaire can provide a relatively simple and straightforward approach to study on attitudes, values, beliefs and so on. It can be adapted to collect information from almost any human population. The data obtained through questionnaire are considered as high amount of standardization. In an open-ended question, the participants are allowed to express their own thoughts and ideas. Creswell (2005) suggests that open-ended question can be used when the researcher does not know the response possibilities and wants to explore the options of the responses. Furthermore, an open-ended question allows the researcher to get the responses within the participant settings rather than those in the researchers’ cultures and experiences.

With the advantages of a written questionnaire, it was employed as the main research instrument to collect the data. A large number of researchers have employed a written questionnaire to serve their research purposes including Gu and Johnson (1996), Schmitt (1997), Al-Shuwairkh (2001), Mingsakoon (2002), Catalán (2003), Intaraprasert (2004), Wei (2007), Winke and Abduhl (2007), Siriwan (2007), Gidey (2008), Marttinen (2008), Suppasetseree and Saitakham (2008), Bernardo and Gonzales (2009), Tsai and Chen (2009), Hamzah, Kafipour and Abdullah (2009),

Peng and Srikhao (2009), Celik and Toptas (2010), Liu (2010), Asgari and Mustapha (2011), Cengizhan (2011), Doczi (2011), and Waldvogel (2011).

3.6.1.1 The VLS Questionnaire Used in the Present investigation

The written questionnaire used in the present investigation consisted of both closed and open-ended questions. In the close-ended questions, a 4-point rating scale adapted from Oxford (1990) was used to value the frequency of strategy use. The scale was valued as 1,2,3, and 4. Figure 3.3 presents a sample of the questionnaire used as the first step of data collection for the present investigation.

Statements	Frequency of Your Own Vocabulary Learning Strategies Use			
	Always/ Almost always	Often	Sometimes	Never
38. Singing or listening to English songs				
39. Listening to English lectures, presentation, or English conversation				

Figure 3.3 Sample of the VLS Questionnaire

The main aim in employing a four-rating scale questionnaire is to draw out the frequency of the use of VLSs reported being employed by the students at the tertiary level. In open-ended questions, the research participants were given space to express in their own words of their observations on VLS use. This allows the researcher of the present investigation to better access the research participants' VLS

use. Above all, the researcher can obtain a more comprehensive picture of VLSs employed by the research participants.

The main VLS items were modified from Intaraprasert (2004) and Siriwan (2007). A few VLS items were modified from Schmitt (1997), Pemberton (2003), and Wink and Adulh (2007). Forty strategies altogether were singled out from the VLSs proposed by the scholars mentioned above. Some were adopted without modification (16 items), while others were adapted (24 items). Two categories of items are described as adopted items with no change and slightly changed items. Some samples of the items in these two categories are presented below:

Category 1: Adopted Items with No Change

- Look at real objects and associate them with vocabulary items

(from Siriwan, 2007)

- Use new words in writing (from Intaraprasert, 2004)

Category 2: Slightly Changed Items

Before changed :

- Record the words/ phrases one is learning on tape, MD or as audio files, and play them to himself/herself whenever he/she has some spare time (from Pemberton, 2003)

After changed:

- Record the words/phrases one is learning and play them to oneself, whenever one has some spare time

Category 2: Slightly Changed Items (cont.)

Before changed :

- Write vocabulary items with meanings on papers and stick them in one's bedroom (from Siriwan, 2007)

After changed:

- Write vocabulary items with meanings on papers and stick them on the wall in one's room

The main VLS items in a strategy questionnaire were modified from Intaraprasert (2004) who classifies VLS items in three categories, namely the Discovery of the Meaning of New Vocabulary Items (DMV), the Retention of Knowledge of Newly-Learned Vocabulary Items (RKV) and the Expansion of Knowledge of Vocabulary Items (EKV). These three categories were adopted to classify the VLSs in the present study. However, the first category was renamed as the Discovery of Meaning or other Aspects of New Vocabulary Items (DMV), while the two categories were kept the same names. A list of the VLS items in a VLS questionnaire is shown below:

1. Say or write the word with its meaning repeatedly (RKV1)
2. Say vocabulary items in rhymes (RKV2)
3. Write vocabulary items with meanings on papers and stick them on the wall in one's room (RKV3)
4. Look at real objects and associate them with vocabulary items (RKV4)
5. Play English games, such as scrabble, crossword puzzles (EKV1)
6. Use new words in writing (RKV5)
7. Associate newly-learned vocabulary items with previously-learned ones (RKV6)
8. Connect newly-learned vocabulary items to one's previous learning experience (RKV7)
9. Associate pictures to vocabulary items (RKV8)
10. Associate the target word in English with a word that sounds similar in Thai language (RKV9)
11. Guess the meaning by analysing the structure of words (prefixes, roots and suffixes) (DMV2)
12. Guess the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence (DMV3)
13. Guess the meaning from contexts, such as pronunciation and real situation (DMV4)
14. Read different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers (EKV2)
15. Review previous English lessons (RKV15)

16. Study vocabulary items from advertisements, public relations, notices, traffic signs, etc. (EKV3)
17. Study vocabulary section in one's textbook (EKV4)
18. Surf the Internet for the meaning or other aspects of vocabulary (DMV8)
19. Use a dictionary for the meaning or other aspects of vocabulary (DMV1)
20. Ask friends for the meaning or other aspects of vocabulary (DMV5)
21. Ask teachers for the meaning or other aspects of vocabulary (DMV6)
22. Ask other people or native speakers of English for the meaning or other aspects of vocabulary (DMV7)
23. Use vocabulary items to converse with friends (RKV10)
24. Use vocabulary items to converse with teachers of English or native speakers of English (RKV11)
25. Memorise with or without a word list (RKV13)
26. Record the words/phrases you are learning and play them to yourself whenever you have some spare time (RKV16)
27. Set aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) (RKV17)
28. Build a word network (EKV5)
29. Keep a vocabulary notebook (RKV14)
30. Group words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be group together (RKV12)
31. Do extra English exercises or tests from different sources, such as texts, magazines, internets, etc.(EKV6)
32. Attend classes of every module regularly (EKV7)
33. Learn words through literature, poems and traditional culture (EKV8)
34. Take an extra job or get trained by the companies where one can use English, such as tour offices, hotels, etc. (EKV9)
35. Watch English programme channels or listen to English radio programmes (EKV10)
36. Surf the Internet especially the websites for vocabulary learning (EKV11)
37. Watch an English-speaking film with subtitles (EKV12)
38. Sing or listen to English songs (EKV13)
39. Listen to English lectures, presentation, or English conversation (EKV14)
40. Practice translating vocabulary from Thai into English and vice versa (EKV15)

3.6.1.2 Piloting the VLS Questionnaire

The main purpose for conducting a pilot study is to make sure that the instrument can function in the way that it is intended (Loewen and Philp, 2012). Piloting the questionnaire is dealing with administering the questionnaire to a sample of participants whose characteristics are similar to the target population. A pilot study can help the researcher to 1) fine-tune the final version of the questionnaire in order to eliminate items that might be ambiguous; 2) improve the clarity of wordings; 3) finalise the layout; 4) rehearse the administration procedures; 5) dry run analysis in order to see whether the expected findings will emerge from the data; 6) check the time completion of the questionnaire; and 7) double check that there are no mistakes left in the questionnaire (Dörnyei and Csizer, 2012).

The English questionnaire version was translated into Thai by the researcher, and was then validated for the correct language usage by the two Thai teachers teaching English for more than ten years. The Thai questionnaire version was employed in the present study to ensure accuracy of the research results. The piloting of the VLS questionnaire was carried out in March 2013 to uncover any problems so that the researcher could make the necessary revision before the main stage was carried out. A written questionnaire was piloted with 40 students studying at Suranaree University of Technology and Vongchavalitkul University.

Having conducted the pilot study, it was found from an open-ended part of the VLS questionnaire that 5 students added the strategies they used. These include: “Memorise the words at least 3-5 words a day”, “Use words frequently”, “Link the words with object I like”, “Study the words in groups such as fruits, vegetables” and “Study the words before going to bed”. Having considered the items

obtained through the open-ended part of VLS questionnaire, the researcher decided to keep the same forty VLS items as the final version in the questionnaire to be used in the main stage. The five strategies found from the open-ended part of the questionnaire were in the cycle of VLS items in the strategy questionnaire. In addition, in the piloting stage, it was found that some wordings were ambiguous and needed refinement. Having been refined, the VLS questionnaire was ready to be used in the main stage. In the main stage, Alpha Coefficient (α) or Cronbach alpha was used to check the internal consistency of the questionnaire. The reliability estimate based on a 905-student sample in the main stage was .94, when compared with the reliability coefficient of .70, which is the rule of thumb for research purpose (Fraenkel and Wallen, 2000). (see Table 3.2)

Table 3.2 Reliability Estimate of VLS Questionnaire as a Whole and in Three Main Categories (DMV, RKV and EKV)

VLS Questionnaire	Whole VLSs	VLSs in DMV	VLSs in RKV	VLSs in EKV
Reliability Estimate (Alpha Coefficient)	.94	.81	.88	.86

Note: DMV stands for Discovery of the Meaning of or other Aspects of New Vocabulary Items, RKV : the Retention of Knowledge of Newly-Learned Vocabulary (RKV) and EKV : the Expansion of Knowledge of Vocabulary Items (EKV)

3.6.2 Oral Interview

Oral interviews are best appropriate for some research purposes. At first glance, interviews are similar to conversation. However, interviews are something more than just a conversation. Research interview needs arrangement (Denscombe, 2003). Interviews are very popular among qualitative researchers because they can be used to obtain the in-dept information concerning the participants' thoughts, beliefs, knowledge, reasoning, motivations and feelings about intended topics (Johnson and Christensen, 2012). Normally, there are three major types of interview including unstructured, structured and semi-structured interviews.

Unstructured interview can be considered as a conversational type of interview. It is sometimes known as “conversation with a purpose” (Ary et al. 2010, p. 438). In unstructured interview, the general area of interest and concern is prepared by the interviewer and then the conversation develops itself within the area. Conversely, the fixed questions, usually in a pre-set order, are predetermined by the interviewer in the structured interview. Regarding semi-structured interview, the interviewer has an interview guide serving as the checklist of topics to be covered. However, the wordings and the order of questions can be modified based on the flow of the interview (Robson, 2011). Interview is a means of data collection allowing the researcher to make an immediate follow-up and clarification of the participants' responses (Ary, Jacobs, Ashgar, and Sorensen 2006). To the view of Mackey and Gass (2005), interview allows the researchers to obtain the data in which they are probably unable to observe directly, such as self-reported perceptions or attitudes

Many researchers have gathered data on VLSs through interviews, including Al-Shuwairakh (2001), Mingsakoon (2002), Siriwan (2007), Winke and Abduhl

(2007), Gidey (2008), Peng and Srikhao (2009), Asgari, and Mustapha (2011) and Kamalie, Mustapha and Bali (2012). A few researchers have employed interviews to generate the VLS inventory. Most researchers employ interview to provide further insights into the participants' vocabulary use. In the present investigation, the semi-structured-interviews were employed to elicit the reasons behind the students' strategies choices. The next section describes how the semi-structured interviews were employed in the present investigation.

3.6.2.1 The Semi-structured Interviews Conducted in the Present investigation

The second type of data collection, a semi-structured interview was conducted in Thai in order to explore why the participants employed certain strategies frequently and other strategies infrequently. Gall et al. (2007, p. 228) indicates that the major advantages of the interview is that "a skilled interviewer can make an effort to build trust and rapport with respondents, thus making it possible to obtain information that the individual probably would not reveal by any other data collection method." In the present investigation, a semi-structured interview was used to follow up the research participants' answers obtained through the written questionnaire and clarify the reasons why they reported using certain strategies frequently and other strategies infrequently. According to Denscombe (2003), the advantage of one-on-one interview is that it allows the interviewer to locate specific ideas and the opinions. In addition, views expressed throughout the interview stem from one source. By employing the one-on-one interview, the researcher could elicit qualitative data concerning the participants' rationale in employing the top and the bottom five VLSs reported in their VLS questionnaire. The interview guide is presented:

1. What is your name/ nickname?
2. Do you use English language very often? How? Where?
3. What language element is important for you to acquire English language skill?
4. Why do you employ (this strategy) frequently?
5. Why do you employ (this strategy) infrequently?
6. Do you have any suggestions or comments for teaching and learning English vocabulary?

3.6.2.2 Piloting the Interview Guide

The main aim for piloting the interview guide is to enable the researcher to identify potential problems and revise them as needed before the main stage will be carried out. As the main purpose of the interview is to explore the interviewee's perspectives, and the interviewer should avoid dominating the interviewee. The role of the interviewer is to pose the questions to stimulate the reflections based on the topic and encourage the interviewee for further talk (Friedman, 2012). In order to ensure the validity and reliability of the interview questions, they were prepared under the guidance of the researcher's supervisor.

Five students studying at Suranaree University of Technology who participated in a piloting stage did not participate in the main stage. Before the actual interview, the participants were informed of the purpose of the interview. The interview lasted for approximately ten to fifteen minutes. The research participants were reassured of confidentiality in providing information to the interviewer in order to keep them relaxed and comfortable during the interview session. The interviews were recorded and transcribed. The transcriptions were

examined to see whether anything needed improvement in terms of data elicitation. Having examined the interview transcriptions, as well as the researcher's personal notes, the researcher decided to keep the same the interview guide as it was clear to be used in the main stage.

3.6.3 The Vocabulary Proficiency Test

Since the students' vocabulary proficiency level is one of the five variables, a vocabulary proficiency test was designed to determine students' level of proficiency. The vocabulary proficiency test (VPT) employed in this investigation must be supported firmly by theoretical foundation and the test must be carefully piloted and neatly revised. This section aims at describing how the VPT was constructed, beginning with the theoretical background for constructing such test, followed by the components of the VPT. This section ends with the piloting of the VPT.

3.6.3.1 Theoretical Background for Constructing the VPT

The main purpose of constructing a VPT is to measure the level of students' vocabulary proficiency. Hughes (1989) points out that the main aim of language proficiency tests is to measure one's ability in a language rather than to measure what one has been trained in that language. Proficient means "having sufficient command of the language for a particular purpose" (p. 9). The function of a proficiency test is to indicate whether the test takers have reached a certain standard with regard to certain abilities. Therefore, the proficiency test is a type of test that can best serve the purpose of the present investigation by measuring the vocabulary abilities of the research participants. In designing the VPT, many aspects of testing were considered as follows:

• Test Authenticity

One of the major consideration of conducting a language test is to make the language test authentic in what Bachman (1990) called real-life (RL) approach. In RL approach, authentic refers to “the extent to which test tasks replicate ‘real-life’ language use tasks” (p. 307). The test’s authenticity can have an effect on the test taker’s perceptions of the test task which affect their performance (Bachman, 2002). According to Brown (2004), test authenticity can be presented in terms of language, the test items and the topics used in the test. That is to say, the language used in the test should be as natural as possible. The test items should be contextualised rather than isolated. Further, the topics in the test must be meaningful and interesting for the learner.

Authenticity can be viewed as “a function of the interaction between the test taker, test task and testing context” (Brown and Hudson 2002, p. 115). Weir (2005) argues that the full authenticity may not be achievable in the classroom or language test. However, the setting selected for the classroom and test task should be made as realistic as possible in terms of its contextual feature. For example, “If we want to know how well the candidates can write composition, we get them to write composition.... If we want to know how well they pronounce a language, we get them to speak” Hughes (1989, p. 15). In the context of the present investigation, the VPT must be carefully designed to indicate the real English vocabulary proficiency level of the research participants. Moreover, selected source used in the test task must be natural and realistic in terms of language and the assessment of vocabulary knowledge.

• Test Validity

It is acknowledged that a good test must be valid. The concept of validity is dealing with “the extent to which a test measures what it is supposed to measure” (Bachman 1990, p. 289). According to McNamara (2000) validity is defined as “the relationship between evidence from test performance and the inferences about candidates’ capacity to perform in the criterion that are drawn from the evidence”(p.138). There are a few types of validity, such as content validity, criterion validity, and construct validity. Content validity or face validity refers to the specific domain of content and the test task must represent those specified domains (Bachman, 1990). Criterion validity refers to how closely the test taker’s performance on the specific assessment parallels their performance on another test (Cohen, 1994). Criterion validity is often divided into "concurrent" and "predictive" subtypes. If the test to be validated is correlated with another test at the same time, then it can be referred to as concurrent validity. If the correlation takes place at some future time, it can be referred to as predictive validity. Construct validity is associated with the degree to which scores on test can be inferred through the underlining trait (Cohen, 1994).

Bachman and Palmer (1996) assert that of all types of validity, content validity is considered the most important type for language testing. Regarding the content validity of the VPT, a questionnaire was given to experts in the field of English language teaching in order to validate content validity in terms of appropriacy of test tasks as well as the test formats. Tables 3.3-3.4 present the results of the questionnaire designed to validate the content validity obtained from the five experts.

Table 3.3 Appropriacy of Test Task in the VPT

Test Task	Experts' Opinion					Mean	Judgment
	Exp1	Exp2	Exp3	Exp4	Exp5		
1.Word Association	1	1	1	1	1	1	acceptable
2. Synonym	1	1	1	1	1	1	acceptable
3.Antonym	1	1	1	1	1	1	acceptable
4.Polyseme	1	1	1	1	1	1	acceptable
5.Collocation	1	1	0	1	0	0.6	acceptable
6.Vocabulary in Sentence	1	1	1	1	0	0.8	acceptable
7.Vocabulary in Paragraph Context	1	1	0	1	1	0.8	acceptable
8.Vocabulary in Passage Context	1	1	0	1	1	0.8	acceptable
Note: 1) Exp. stands for 'an expert' 2) 1 means 'valid'; and 0 'not at all valid'							

The results of the validity of the test task given by 5 experts reveal that all test tasks in the VPT were acceptable. One of the experts suggested that the directions be written in bigger font size. Some wordings should be underlined so that the students can see them more clearly. Apart from the validity of the test task, the appropriacy of the test format was also validated. Table 3.4 below presents the results of validity of the test format.

Table 3.4 Appropriacy of Test Format in the VPT

Test Format	Experts' Opinion					Mean	Judgment
	Exp1	Exp2	Exp3	Exp4	Exp5		
1. Multiple-choice	1	1	1	1	1	1	acceptable
2. Matching the Right Meaning	1	1	1	1	1	1	acceptable
3. Underlining the Right Word	1	1	0	1	0	0.6	acceptable
4. Finishing the Sentence	1	1	1	1	0	0.8	acceptable
5. Word Substitution	1	1	0	1	1	0.8	acceptable
6. Multiple-choice Paraphrase	1	1	1	1	1	1	acceptable
7. Gap-filling	1	1	1	1	1	1	acceptable

Note: 1) **Exp.** stands for 'an expert' 2) **1** means 'valid'; and **0** 'not at all valid'

The results of the validity of the test format reveal that all test formats including multiple choice, matching the right meaning, underlining the right word, finishing the sentence, word substitution, multiple-choice paraphrase and gap-filling are acceptable and appropriate to be used to test the students' vocabulary proficiency. Other than the results of the validity of VPT given by these 5 experts, 180 students as the testees were also asked to give their feedback in 4 aspects, including familiarity, difficulty, appropriacy of vocabulary items and the time provided for taking the VPT. The results of the test validity in these 4 aspects will be mentioned in the piloting VPT (Section 3.6.3.3).

• Test Reliability

One of the most important consideration of the test is test reliability, which refers to “the accuracy with which a test measures what it is supposed to measure” (Daller, Milton and Treffers-Daller 2007, p. 15). Test reliability can be seen as a test of consistency. For example, if we administer the same test several times to a testee whose vocabulary ability has not changed, we should obtain the same results and therefore can say that the test is reliable. Madsen (1983, p. 178) states that “the reliable test is one that produces essentially the same results consistently on different occasions when the conditions of the test remain the same.”

There are three ways of estimating test reliability, i.e., test-retest method, equivalent forms and internal consistency (Fraenkel and Wallen, 2007). Test-retest method involves administering the same test twice to the same group of testees after a certain time interval. The equivalent form is associated with two different but equivalent forms of the test which are administered to the same group of testees during the same time period. The last method looks at internal consistency. It requires a single administration of the test. Several ways used to measure internal consistency of a test, among them is split-half procedure which involves splitting a test into two equivalent halves then measuring the consistency of the scores across the two halves of the test (Christensen and Johnson, 2012)

• Item Analysis

Item analysis is the process of examining the testees’ responses to each test item to judge the quality of the test items (Mehrens and Lehman, 1978). Normally, test writers will have to look at the level of difficulty and discriminating ability of the test items in their test.

Regarding the level of the test difficulty, Fulcher and Davidson (2009) suggest that the test items should not be too easy or too difficult for the testees. There are many techniques to calculate the item difficulty. The present investigation employed the “Third Technique” as suggested by Madsen (1983) to measure the item difficulty of the VPT. In this technique, the test scores were arranged in order from highest to lowest. The scores were divided into three equal groups, the top scoring third, the middle scoring third and the bottom scoring third. The highest score obtained from the VPT was 58 while the lowest was 6. The top scoring group was within the range of 58-24, while the middle and the bottom scoring groups were within the range of 23-16 and 15-6, respectively. Then the top and bottom scoring third groups were selected to calculate the level of item difficulty. A formula used to calculate the level of the item difficulty is presented below:

$$\text{Difficulty} = \frac{R \times 100}{T}$$

R= number of the testees who answer the test item correctly

T= total number of the testees in the two groups (high and low)

(Adopted from Mehrens and Lehmann 1984, p. 191)

Discriminating ability refers to the ability of the test item to differentiate the testees who did well on the test from those who did not (Zurawski, 1998). In the present investigation, the researcher calculated the item discrimination by subtracting the number of correct items in the low group (R_L) from the number of correct items in the high group (R_H) dividing by the number of the testees in either group (Henning, 1987). A formula used to calculate the level of item discrimination is presented.

$$\text{Discrimination} = \frac{RH-RL}{(1/2)T}$$

(Adopted from Mehrens and Lehmann 1984, p. 192)

Only the test items that meet the criterion value of power of discrimination and the level of difficulty of the test items were employed in the main stage to assess to the students' vocabulary proficiency. The acceptable test items need to be within the range of 0.20-1.00 for the power of discrimination and 0.20-0.80 for the level of difficulty of the test items as suggested by Garrett (1996, cited in Castillo, 1990). The test items which were not in the suggested range needed to be improved or discarded. As the vocabulary test was piloted, the results of the item analysis provided the researcher the valuable information used to consider the quality of the test.

• Test Practicality

Test Practicality is referred to "a matter of the extent to which the demands of the particular test specifications can be met with the limits of existing resources" (Bachman and Palmer 2002, p. 36). In essence, a practical test must be developed based on the available resources. Brown (2004) suggests that practical tests must not be excessively expensive, take appropriate time to complete, easy to administer, mark and be evaluated. With regard to the present context of the present investigation, the VPT was administered to a large group of 905 research participants. The time constraint of administering the test should be taken into consideration, especially with large numbers of participants. Since the present study is a large-scale exploratory research work, it is probably impractical to test them through speaking and writing. Therefore, the VPT test was designed to measure the receptive vocabulary knowledge of the research participants only.

3.6.3.2 The Components of Vocabulary Proficiency Test

According to Read (2000), there are two different perspectives on vocabulary assessment. The first viewpoint is that vocabulary should be tested as an independent semantic unit. The other is that vocabulary should be tested in context. However, these two views are complementary. In the present study, the VPT was designed with the intention to incorporate the two perspectives. Words are tested both in isolation and with their contextual information in written passages. Thornbury (2007) suggests that to construct any vocabulary test, the various aspects of word knowledge must be involved. The VPT was designed to assess students' vocabulary knowledge in as many aspects as possible as shown in different test tasks. The draft of VPT consisted of 7 parts containing 77 items. Having been piloted, the results of the item analysis revealed that 66 items were acceptable. However, the 'Collocation' section was removed from the final version of the VPT as only four of them could discriminate between the good and poor test takers. Therefore, there were 62 test items left, but only 60 test items were used in the main stage (see Table 3.5).

Table 3.5 Test Formats and Test Tasks in the Vocabulary Proficiency Test

Test Format	Test Task	No. of Test Items
1. Multiple-choice	Word Association	1-8
	Synonym	9-14
	Antonym	15-21
2. Matching the Right Meaning	Polyseme	22-26
3. Finishing the Sentence	Vocabulary in Sentence Context	27-34
4. Word Substitution	Vocabulary in Sentence Context	35-44
5. Multiple-choice Paraphrase	Vocabulary in Paragraph Context	45-53
6. Gap-filling	Vocabulary in Passage Context	54-60

3.6.3.3 Piloting the Vocabulary Proficiency Test

The VPT has been carefully constructed and designed under the supervision of the researcher's supervisor. In conducting a pilot study, two stages were carried out as described below;

• The Pre-piloting Stage

The main aim of the pre-piloting stage is to find out the problems dealing with the test instructions, time allocations, the test layout so that all problems could be corrected before the piloting stage took place. In this stage, the questionnaire, as well as the VPT containing 77 items were administered to 40 students studying at Vongchavalitkul University. In the questionnaire, the students had provided the feedback that the test instructions should be written in Thai, while

the time allocation for 1 hour was appropriate to complete the VPT. At this stage, 38 out of 40 students reported that the test layout was well-designed.

• The Piloting Stage

The main purpose of the piloting stage is to validate the VPT in 4 aspects: 1) the familiarity of test tasks; 2) the familiarity of the test formats; 3) the difficulty of vocabulary items; and 4) the time provided for doing the whole test, as well as to examine the test reliability, item difficulty and discrimination. The test was administered to 180 students studying at autonomous public university, private university and Rajabhat University. The results of the test validity according to the 4 aspects mentioned are presented in Tables 3.6-3.9.

Table 3.6 Familiarity of Test Task in the VPT (n= 180)

Test Task	Familiar	Not at all familiar
1.Word Association	147 (81.6%)	33 (18.4%)
2. Synonym	175 (97.2%)	5 (2.8%)
3.Antonym	178 (98.8%)	2 (1.2%)
4.Polyseme	155 (86.1%)	17 (13.9%)
5.Collocation	99 (55.0%)	81 (45.0%)
6.Vocabulary in Sentence	131 (72.7%)	49 (27.3%)
7.Vocabulary in Paragraph Context	146 (81.1%)	34 (18.9%)
8.Vocabulary in Passage Context	152 (84.4%)	28(15.6%)

Concerning the familiarity of test tasks, the results reveal that most students as testees were familiar with the test tasks in the VPT. The reason for this is that the main test items were adapted from general vocabulary work books with which the majority of the students were familiar.

Table 3.7 Familiarity of Test Format in the VPT (n= 180)

Test Task	Familiar	Not at all familiar
1. Multiple-choice	165 (91.6%)	15 (8.4%)
2. Matching the Right Meaning	153 (85%)	27 (15%)
3. Underlining the Right Word	92 (51.1%)	89 (48.9%)
4. Finishing the Sentence	142 (78.8%)	38 (21.1%)
5. Word Substitution	157 (87.2%)	23 (12.8%)
6. Multiple-choice Paraphrase	166 (92.2%)	14 (7.8%)
7. Gap-Filling	165 (91.6%)	15 (8.4%)

Taking into account the familiarity of the test formats, we found that the majority of students was familiar with the test formats. The test formats being used in the VPT were general formats used in normal language testing. Therefore, students reported very high levels of familiarity with them.

Table 3.8 Difficulty of the Test Task in the VPT(n= 180)

Vocabulary Test items	Very Easy (1)	Easy (2)	Neither easy nor difficult (3)	Difficult (4)	Very difficult (5)
1.Word Association	25(13.89%)	35(19.44%)	78(43.33%)	30(16.67%)	12(6.67%)
2. Synonym	10(5.56%)	28(15.56%)	120(66.67%)	13(7.22%)	9(5%)
3.Antonym	11(6.11%)	24(13.33%)	111(61.67%)	15(8.33%)	19(10.56%)
4.Polyseme	5(2.78%)	21(11.67%)	77(42.78%)	51(28.33%)	26(14.44%)
5.Collocation	1(0.56%)	7(3.89%)	45(25%)	80(44.44%)	47(26.11%)
6.Vocabulary in Sentence	3(1.67%)	4(2.22%)	38(21.11%)	76(42.22%)	59(32.78%)
7.Vocabulary in Paragraph Context	2(1.11%)	5(2.78%)	41(22.78%)	61(33.89%)	71(39.44%)
8.Vocabulary in Passage Context	3(1.67%)	5(2.78%)	37(20.56%)	63(35%)	72(40%)
The Whole Test	0(0.00%)	2(1.11%)	60(33.33%)	90(50.00%)	28(15.56%)

In relation to the difficulty of the test tasks, Table 3.8 reveals that more than half of the testees reported that synonym and antonym tasks are neither easy or difficult. Vocabulary in sentence context, paragraph context, passage context test tasks seem to be very difficult for the majority of students. Collocation test task was considered difficult by the majority of students while polyseme test task was neither easy nor difficult for them. For the whole test, half of the testees considered that the test was difficult whereas only two people found that the test was easy.

Table 3.9 Appropriacy of Time Provided for the VPT(n= 180)

Time Provided	Insufficient	Fair/Moderate	Very Sufficient
The Whole Test	36 (20%)	130 (72.22%)	14 (7.78%)

In respect of the time provided for finishing the test, Table 3.9 reveals that the majority of the testees reported that the time provided was fair enough. Since the VPT was designed the test the testees the target words in isolation as well as their contextual information, therefore the testees considered that the time provided for doing the test was fair for them.

Regarding the test reliability, the researcher of the present investigation adopted the split-half method for estimating the test reliability of the VPT as it only requires a group of testees to take the test once. The result of the split-half procedure of the VPT was 0.78 which was above the acceptable criterion of 0.7 for test reliability as suggested by Fraenkel and Wallen (2000).

In selecting the acceptable test items, the researcher took the power of discrimination and the level of difficulty of the test items into consideration. For those items which did not meet the criteria as previously mentioned in Section 3.6.3.1(Item analysis) were required to be improved or discarded. The following are the results of the item analysis of 7 test tasks (Tables 3.10-3.17). The number of students in high and low groups who got the item correct are presented, as well as the values of level of difficulty and the power of discrimination of each items.

Table 3.10 Results of Item Analysis of Word a Association (items 1-8)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
1	1	34	22	0.5	0.2	acceptable
2	2	58	28	0.7	0.5	acceptable
3	3	57	40	0.8	0.3	acceptable
4	4	55	20	0.6	0.6	acceptable
5	5	57	36	0.8	0.4	acceptable
6	6	54	34	0.7	0.3	acceptable
7	7	44	15	0.5	0.5	acceptable
8	8	49	19	0.6	0.5	acceptable

Table 3.10 reveals that every item was acceptable as a good test item because it met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 1, 2,3,4,5,6,7 and 8).

Table 3.11 Results of Item Analysis of Synonym (items 9-16)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
9	-	23	17	0.3	0.1	*discarded
10	9	48	16	0.5	0.5	acceptable
11	10	36	13	0.4	0.4	acceptable
12	11	50	26	0.6	0.4	acceptable
15	13	36	22	0.5	0.2	acceptable
16	14	44	21	0.5	0.4	acceptable

Table 3.11 reveals that six out of eight items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 10, 11,12,13,15). Two test items (Item 9 and Item 4) were discarded as their power of discrimination was extremely low. They could not discriminate between the good and poor test takers.

Table 3.12 Results of Item Analysis of Antonym (items 17-24)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
17	15	36	15	0.4	0.4	acceptable
18	16	55	22	0.6	0.6	acceptable
19	17	30	9	0.3	0.4	acceptable
20	18	50	19	0.6	0.5	acceptable
21	19	27	10	0.3	0.3	acceptable
22	20	52	38	0.8	0.2	acceptable
23	21	34	18	0.4	0.3	acceptable
24	-	12	13	0.2	0.0	*discarded

Table 3.12 reveals that seven out of eight items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 17, 18, 19, 20, 21, 22 and 23). Only one item (Item 24) was discarded as its power of discrimination was extremely low. Item 24 could not discriminate between the good and poor test takers.

Table 3.13 Results of Item Analysis of Polyseme (items 25-29)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
25	22	48	26	0.6	0.4	acceptable
26	23	37	17	0.5	0.3	acceptable
27	24	49	19	0.6	0.5	acceptable
28	25	35	16	0.4	0.3	acceptable
29	26	47	14	0.5	0.6	acceptable

Table 3.13 reveals that every test item was acceptable as a good test item (Items 25, 26, 27, 28 and 29). Each item was not too difficult or too easy. It could discriminate between the good and poor test takers.

Table 3.14 Results of Item Analysis of Collocation (Items 30-37)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
30	-	24	27	0.4	-0.1	*discarded
31	-	47	30	0.6	0.3	acceptable
32	-	18	12	0.3	0.1	*discarded
33	-	37	37	0.6	0.0	*discarded
34	-	52	27	0.7	0.4	acceptable
35	-	38	33	0.6	0.1	*discarded
36	-	31	20	0.4	0.2	acceptable
37	-	41	32	0.6	0.2	acceptable

Table 3.14 reveals that four out of eight test items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 31, 34, 36 and 37). Four test items (Items 30, 32, 33 and 35) were discarded as their power of discrimination was extremely low. The present researcher decided to discard this section from the final version of the vocabulary proficiency test because only four test items could discriminate between the good and poor test takers. In addition, there were many test items left which were acceptable to be used in a final version of the vocabulary proficiency test.

Table 3.15 Results of Item Analysis of Vocabulary in Sentence Context
(items 38-57)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
38	-	14	8	0.2	0.1	*discarded
39	-	16	11	0.2	0.1	*discarded
40	27	23	5	0.2	0.3	acceptable
41	28	30	10	0.3	0.3	acceptable
42	29	39	8	0.4	0.5	acceptable
43	30	42	13	0.5	0.5	acceptable
44	31	25	4	0.2	0.4	acceptable
45	32	16	3	0.2	0.2	acceptable
46	33	20	6	0.2	0.2	acceptable
47	34	33	2	0.3	0.5	acceptable
48	35	40	11	0.4	0.5	acceptable
49	36	20	2	0.2	0.3	acceptable

Table 3.15 Results of Item Analysis of Vocabulary in Sentence Context
(items 38-57) (Cont.)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
50	37	35	2	0.3	0.6	acceptable
51	38	54	14	0.6	0.5	acceptable
52	39	22	1	0.2	0.4	acceptable
53	40	58	6	0.5	0.9	acceptable
54	41	43	4	0.4	0.7	acceptable
55	42	38	5	0.4	0.6	acceptable
56	43	23	0	0.2	0.4	acceptable
57	44	17	1	0.2	0.3	acceptable

Table 3.15 reveals that eighteen out of twenty test items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, and 57). Only two test items (Items 38 and 39) were discarded as their power of discrimination was extremely low. They could not discriminate between the good and poor test takers.

Table 3.16 Results of Item Analysis of Vocabulary in Paragraph Context
(items 58-67)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
58	45	46	30	0.6	0.3	acceptable
59	46	36	26	0.5	0.2	acceptable
60	47	43	17	0.5	0.4	acceptable
61	48	22	12	0.3	0.2	acceptable
62	49	44	15	0.5	0.5	acceptable
63	-	17	17	0.3	0.0	*discarded
64	50	42	18	0.5	0.4	acceptable
65	51	17	8	0.2	0.2	acceptable
66	52	40	13	0.4	0.5	acceptable
67	53	47	19	0.6	0.5	acceptable

Table 3.16 reveals that nine test items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 58, 59, 60, 61, 62, 64, 65, 66 and 67). Only one test item (Item 63) was discarded as its power of discrimination was extremely low. It could not discriminate between the good and poor test takers. On the next page, the results of item analysis of vocabulary in passage context are presented in Table 3.17.

Table 3.17 Results of Item Analysis of Vocabulary in Passage Context
(items 68-77)

Item number		High (n = 60)	Low (n = 60)	Level of Difficulty	Power of Discrimination	Remark
Pilot	Final					
68	-	6	1	0.1	0.1	*discarded
69	54	31	17	0.4	0.2	acceptable
70	-	0	0	0.0	0.0	*discarded
71	55	16	3	0.2	0.2	acceptable
72	56	44	9	0.4	0.6	acceptable
73	57	17	4	0.2	0.2	acceptable
74	58	39	13	0.4	0.4	acceptable
75	59	15	4	0.2	0.2	acceptable
76	60	34	2	0.3	0.5	acceptable
77	-	29	2	0.2	0.5	acceptable

Table 3.17 reveals that eight test items were acceptable as good test items because they met the acceptable criteria for both the level of difficulty and the power of discrimination of the test items (Items 69, 71, 72, 73, 74, 75, 76 and 77). Only two test item (Items 68 and 70) were discarded as their power of discrimination was extremely low and they were extremely difficult. They could not discriminate between the good and poor test takers. Having been piloted, the results of the item analysis revealed that 66 items were acceptable. However, only 60 test items were used in the main stage.

3.7 Analysing, Interpreting and Reporting Data

In this section, the researcher describes how the data obtained through VLS questionnaire were analysed and reported. In addition, how the data obtained through a semi-structured interview were analysed and presented is mentioned as well.

3.7.1 Quantitative Data Analysis

The quantitative data were analysed using the SPSS statistical analysis programme. The quantitative data included: 1) descriptive statistics; 2) an Analysis of Variance (ANOVA) and the post-hoc Scheffé test; 3) the Chi-square test, and 4) the factor analysis. Each statistical method is discussed as follows:

3.7.1.1 Descriptive Statistics

Descriptive statistics are normally calculated to describe the data. In the present investigation, the patterns of VLSs reported being employing by tertiary- level students studying in the Northeast were described in terms of frequency distributions. There are three levels of strategy uses; ‘high use’, ‘medium use’ and ‘low use’. The holistic mean score of the frequency of strategy use reported being employed by the students was calculated and described.

3.7.1.2 Analysis of Variance (ANOVA) and the Post Hoc

Scheffé Test

The concept of Analysis of Variance (ANOVA) is “to assess whether means on a dependent variables are significantly different among groups. If the overall ANOVA is significant and a factor has more than two levels, follow-up tests are usually conducted”. (Green, Salkind and Akey 2000, p. 159). In the present investigation, ANOVA was used to assess the overall mean scores of frequency of the strategy used in relation to the five independent variables being investigated,

namely; 1) gender of students: male and female; 2) type of institution: public/autonomous public university, private college/university, Rajabhat University (RU) and Rajamangala University of Technology (RMUT); 3) Field of study; arts, science and business-oriented; 4) language learning experience: limited to formal classroom instructions only and non-limited to formal classroom instructions; 5) level of vocabulary proficiency; high, moderate and low. If there was a situation in which the researcher obtained significant differences among variables with more than two levels, such as vocabulary proficiency, then the exploration of the differences among the means was needed. The follow up test that was used to explore it further was the post hoc Scheffé test. It was performed after a mean comparison of more than two groups shows a significant difference in the analysis of variance (ANOVA) (Mackey and Gass, 2005). In other words, the post hoc test was a test to pinpoint where the significant difference was exactly located in those cases when there was significant difference in ANOVA. In the present investigation, the post hoc Scheffé test was performed because it was less sensitive and appropriate to be applied to even when the groups being compared have different sizes (Sirkin, 2006). For instance, in comparing the mean score of frequency of strategy use among students with different vocabulary proficiency levels, i.e., high, moderate and low level, the post hoc Scheffé test was performed to pinpoint which pair was significantly different.

3.7.1.3 The Chi-square Test

Chi-square test is performed to determine whether there is a relationship between the variables when the data are in the form of frequency (Mackey and Gass, 2005). In the context of the present investigation, the Chi-square test was performed to examine the significant variation patterns in student's reported

strategy use at the individual item level by 1) gender of students: male and female; 2) type of institution public/autonomous public university, private college/university, Rajabhat University (RU) and Rajamangala University of Technology (RMUT); 3) Field of study; arts, science and business-oriented; 4) language learning experience: limited to formal classroom instructions only and non-limited to formal classroom instructions; 5) level of vocabulary proficiency; high, moderate and low level. The chi-square test compared the actual frequencies in which students reported using various VLS strategies on the four-point rating scale. This method was closer to the raw data than its comparisons based on average responses for each item. For the Chi-square test, the responses of 1 and 2 ('Never' and 'Sometimes') provided by the participants were consolidated into "low strategy use" category, while the responses of 3 and 4 ('Often' and 'Always' or 'Almost always') were consolidated into "high strategy use" category. The purpose of consolidating four response levels into two categories of strategy use (high and low) is to obtain the cell size with expected values high enough to ensure a valid analysis (Green and Oxford 1995, p. 271).

3.7.1.4 The Factor Analysis

Factor analysis is a statistical procedure dealing with how well the various items are related to one another and form factors. The purpose of this analysis is to represent those things that are related to one another by a more general name we call 'factors' (Salkind, 2008). There are basically two types of factor analysis: exploratory and confirmatory. For the former analysis, the researcher examines the correlations between the variables to generate the factor structure based on those relationships (Meyers, Gamst and Guarino, 2006). The latter analysis allows researchers to have a prior assumption for a factor structure which they believe

underlines the variables under study (Meyers et al., 2006). In the present study, the exploratory factor analysis was performed to uncover the underlying dimensions of the students' VLS use.

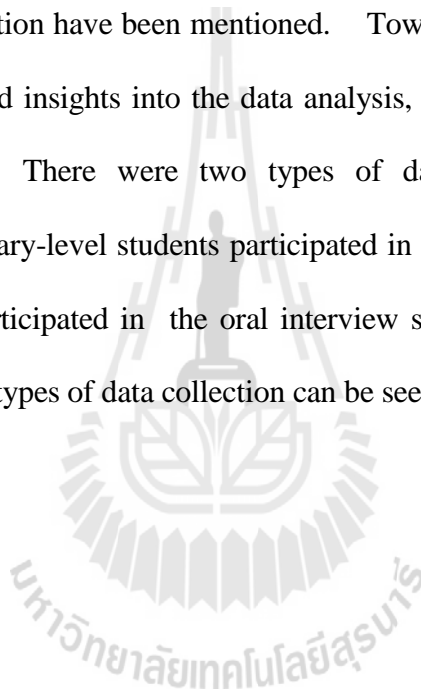
3.7.2 Qualitative Data Analysis

According to Richards (2009, p.191), "It is a mistake to think of qualitative data as subjective." To make qualitative data rigorous, it is necessary to 'let the data speak'. In the context of present investigation, the data obtained through the semi-structured interviews were transcribed more or less verbatim and translated into English for content analysis. Nueman (2006) suggests that the content analysis mainly involves coding, a method of organising the data into segments of text before bringing the meaning to the information (Creswell, 2009).

In the present study, open coding was first used to manage the data obtained through the semi-structured interviews. In open-coding, the data were broken down into discrete parts, closely examined and compared for similarities and differences (Strauss and Corbin, 1998). The result of open coding was a list of the codes and categories (Flick, 2006). Then, the categories resulting from open coding were refined and differentiated in the step of axial coding. The purpose of axial coding was to "begin the process of reassembling data that were fractured during open coding" (Strauss and Corbin 1998, p. 124). In this step, attempts to relate categories to subcategories were made. The third step was selective coding which involved "seeking to identify the central code in study" (Babbie, 2008). During this step, the categories were organised around a central explanation. In the present investigation, the refined categories emerged as the reasons behind the participants' strategy choices were presented along with the quoted participants' reasons.

3.8 Summary

At the beginning of the chapter, the conceptual framework of the present investigation has been presented. To indicate how the conceptual framework of the present investigation has been developed, rationales for selecting and rejecting the variables have been elaborated. To present the methodology of the present investigation, sampling techniques, characteristics of the research participants and methods of data collection have been mentioned. Towards the end of the chapter, the researcher has provided insights into the data analysis, as well as the interpretation of the investigated data. There were two types of data collection in the present investigation. 905 tertiary-level students participated in the VLS questionnaire session, while 48 students participated in the oral interview session. The results of the data obtained through both types of data collection can be seen in Chapters 4 and 5.



CHAPTER 4

AN ANALYSIS OF QUANTITATIVE DATA FOR VOCABULARY LEARNING STRATEGY USE

4.1 Introduction

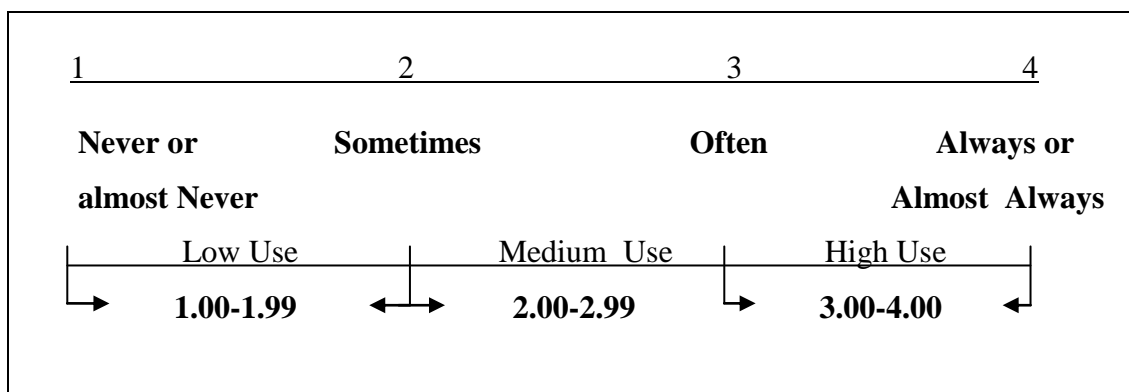
This chapter consists of four main parts. The first part of the chapter is the introduction. The second part is to present the results of the quantitative data analysis of VLS use without any variables taken into consideration. The third part of the chapter is to present the results of the quantitative data analysis of VLS use in relation to the five investigated variables. This is followed by the results of the factor analysis. Finally, the summary of the chapter is presented. The students' VLS use is presented according to the results reported by 905 tertiary-level students studying in the Northeast of Thailand. The VLS questionnaire was employed to elicit the information about the students' VLS use.

The term 'vocabulary learning strategies' refers to 'any set of techniques including actions or mental processes that Thai students studying at the tertiary level reported employing in order to facilitate their English vocabulary learning with the purpose of enhancing their vocabulary knowledge'. Based on an extensive review of the related literature, several factors influencing students' VLS use have been identified. These factors can be categorised into three main groups which are: 1) individual learner difference factors; 2) situational and social factors; and 3) learners' learning outcomes. Under these three main factors, there are many

variables that may affect the student' VLS use. In the present investigation, five variables, i.e., gender, type of institution, field of study, language learning experience and vocabulary proficiency level have been taken into consideration to study in relation to the students' VLS use. The detailed students' VLS use with no investigated variables taken into consideration is examined at different levels is presented in the following section.

4.2 VLS use Reported by 905 Tertiary–Level Students

The research results are presented at three different levels; 1) overall VLS use; 2) use of overall VLSs by the three main categories, including the Discovery of Meaning or Other Aspects of Vocabulary Items (DMV), the Retention of the Knowledge of Newly-Learned Vocabulary Items (RKV) and the Expansion of Knowledge of Vocabulary (EKV); 3), and use of 40 individual VLSs. In this section, descriptive statistics, i.e. the mean and its S.D. is employed to describe the frequency of students' VLS use. The data obtained from 905 tertiary- level students studying in the Northeast have been used to examine the students' VLS use in different layers. The frequency of students' VLS use has been categorised into 'high', 'medium' and 'low' use. The frequency of VLS use is presented on a four-point rating scale, ranging from 'never or almost never' valued as 1, 'sometimes' as 2, 'often' as 3, 'always or almost always' as 4. The mid-point of minimum and maximum values is 2.50. The mean frequency score of VLS use of each category or item valued from 1.00 to 1.99 is determined as 'low use', from 2.00 to 2.99 as 'medium use' and from 3.00 to 4.00 as 'high use' (see Figure 4.1)



(Source: Adapted from Intaraprasert, 2000, p. 167)

Figure 4.1 The Measure of High, Medium and Low Frequency of VLS Use

4.2.1 Frequency of Overall Strategy Use

The holistic mean frequency scores across the VLS questionnaire responded to by 905 tertiary-level students in the Northeast are illustrated in Table 4.1 below:

Table 4.1 Frequency of Overall VLS Use

Students' Reported Overall Strategy Use	Number of Students	Mean Frequency Score (\bar{x})	Standard Deviation (S.D.)	Frequency Category
Overall Strategy Use	905	2.26	.41	Medium Use

As presented in Table 4.1 above, the mean frequency score of students' reported overall VLS use was 2.26. This indicates that as a whole, the research participants reported employing VLSs at the medium frequency level of use when they had to deal with vocabulary items. The students' overall VLS use by the three main categories is described in the subsequent sections.

4.2.2 Frequency of VLS Use by the Three Main Categories

As mentioned earlier that the three main VLS categories classified by Intaraprasert (2004) was used in categorising the strategy items in the strategy questionnaire. The three main categories are the Discovery of Meaning or other Aspects of New Vocabulary Items (DMV1-DMV 8), the Retention of Knowledge of Newly-Learned Vocabulary Items (RKV1-RKV 17) and the Expansion of Knowledge of Vocabulary Items (EKV1-EKV15). Table 4.2 below demonstrates the mean frequency score and its S.D. of students' VLS use in the three categories.

Table 4.2 Frequency of VLS Use by the Three Main Categories

Strategy Category	Number of Students	Mean Frequency Score (\bar{x})	Standard Deviation (S.D.)	Frequency Category
DMV Category	905	2.49	.50	Medium use
RKV Category	905	2.09	.43	Medium use
EKV Category	905	2.32	.44	Medium use

Table 4.2 above demonstrates that tertiary-level students studying in the Northeast reported employing VLSs at the medium frequency level in all three main categories. Considering the mean frequency scores of the three categories, we found that the most frequent VLS use reported by the students were under the DMV, EKV and RKV categories, respectively. The mean frequency scores illustrate that of the three VLS categories, the strategies employed to discover meaning or other aspects of vocabulary items have been reported being used slightly more frequently than those for the other purposes.

4.2.3 Frequency of Individual VLS Use

This section provides information on students' VLS use at the individual strategy level across the responses to the VLS questionnaire responded by 905 tertiary-level students. In order to make it easier to see the whole picture of students' reported frequency of all 40 individual VLSs, the strategies are presented in the descending order based on the mean frequency scores. The higher mean frequency score of VLS use indicates that the students reported employing that particular strategy more frequently and vice versa. The mean frequency scores along with S.D. of students' individual VLS use are presented in Table 4.3 below.

Table 4.3 Frequency of 40 Individual VLS Use (n =905)

Individual Strategy Use	Mean (\bar{x})	S.D.	Frequency Category
1) EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	3.26	.81	High Use
2) DKV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	2.85	.79	Medium Use
3) EKV13 Singing or listening to English songs to expand knowledge of vocabulary items	2.82	.83	Medium Use
4) DKV 4. Surfing the Internet to discover the meaning or other aspects of vocabulary items	2.75	.76	Medium Use
5) EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	2.68	.80	Medium Use
6) DKV 6 Asking friends to discover the meaning or other aspects of vocabulary items	2.59	.74	Medium Use
7) EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	2.56	.74	Medium Use
8) EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	2.55	.73	Medium Use

Table 4.3 Frequency of 40 Individual VLS Use (n =905) (Cont.)

Individual Strategy Use	Mean (\bar{x})	S.D.	Frequency Category
9) DKV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	2.43	.73	Medium Use
10) DKV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	2.42	.74	Medium Use
11) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	2.42	.72	Medium Use
12) DKV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	2.40	.78	Medium Use
13) EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	2.37	.67	Medium Use
14) EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	2.32	.82	Medium Use
15) EKV 11 Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items	2.31	.76	Medium Use
16) RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	2.31	.79	Medium Use
17) DKV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover the meaning of vocabulary items	2.31	.80	Medium Use
18) EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	2.26	.67	Medium Use
19) RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	2.26	.97	Medium Use
20) RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	2.20	.68	Medium Use

Table 4.3 Frequency of 40 Individual VLS Use (n =905) (Cont.)

Individual Strategy Use	Mean (\bar{x})	S.D.	Frequency Category
21) EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	2.20	.70	Medium Use
22) RKV 13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	2.20	.67	Medium Use
23) RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	2.19	.69	Medium Use
24) RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	2.18	.61	Medium Use
25) RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	2.18	.75	Medium Use
26) EKV2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers network to expand knowledge of vocabulary items	2.17	.73	Medium Use
27) DKV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	2.15	.77	Medium Use
28) RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	2.13	.72	Medium Use
29) EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	2.12	.78	Medium Use
30) RKV 1 Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	2.10	.52	Medium Use

Table 4.3 Frequency of 40 Individual VLS Use (n =905) (Cont.)

Individual Strategy Use	Mean (\bar{x})	S.D.	Frequency Category
31) RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	2.08	.74	Medium Use
32) EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	2.05	.77	Medium Use
33) RKV 17 Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	1.95	.69	Low Use
34) RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	1.93	.58	Low Use
35) RKV 16 Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items	1.88	.77	Low Use
36) RKV 3 Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items	1.84	.72	Low Use
37) RKV 14 Recording the words/phrases one's learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	1.84	.73	Low Use
38) RKV 15 Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items	1.78	.70	Low Use
39) EKV 5 Building a word network to expand knowledge of vocabulary items	1.61	.68	Low Use
40) EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items	1.57	.75	Low Use

Table 4.3 reveals that, one strategy, i.e. *“Attending classes of every module regularly to expand knowledge of vocabulary items”* (EKV 7) was reported the high frequency of use; thirty-one strategies were reported the medium frequency of use. Examples are: *“Using a dictionary to discover the meaning or other aspects of vocabulary items”* (DKV 5), *“Singing or listening to English songs to expand knowledge of vocabulary items”* (EKV13), *“Surfing the Internet to discover the meaning or other aspects of vocabulary items”* (DKV 4), *“Watching an English-speaking film with subtitles to expand knowledge of vocabulary item”* (EKV 12), *“Asking friends to discover the meaning or other aspects of vocabulary items”* (DKV 6). Eight strategies were reported the low frequency of use. These strategies include, for examples, *“Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items”* (RKV 2), *“Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items”* (RKV 16), *“Writing vocabulary items with meanings on papers and sticking them on the wall in one’s room to retain knowledge of newly-learned vocabulary items”* (RKV 3), *“Recording the words/phrases one’s learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items”* (RKV 14).

4.3 Students' VLS Use in Relation to the Five Variables

The main purpose of this section is to present the significant variation patterns in frequency of VLS use at each of three levels ; overall VLS use, use of VLSs by the three main categories and use of the individual strategies in relation to the five investigated variables, namely;

1. Gender of students, i.e. male and female
2. Type of institutions, i.e. public or autonomous public university (PBU), private college / university (PVC/U), Rajabhat University (RU), and Rajamangala University of Technology (RMUT)
3. Field of study, i.e. arts-oriented, business-oriented and science-oriented
4. Language learning experience, i.e. limited to formal classroom instructions and non-limited to formal classroom instructions
5. Vocabulary proficiency levels, i.e. high proficiency, moderate proficiency, and low proficiency

The results of the data analysis concerning the significant variations in mean frequency of students' overall reported VLS use according to the five variables are presented first. This is followed by the significant variations in mean frequency of VLS use in relation to the variables by the three main categories are shown. Then the significant variations in mean frequency of 40 individual VLS used related to the five variables are presented. The statistical methods employed to analyse the data in this chapter are an Analysis of Variance (ANOVA), and the Chi-square test. The researcher adopted the significant level or alpha level of .05 indicating that the chances are 5 in 100, or less than 5 (when the null hypothesis is true) and the researcher has rejected it (Johnson and Christensen, 2012). Figure 4.2 illustrates an

overall picture of the three main levels of data analyses for students' reported VLS use in this chapter.

Level 1: Overall Reported VLS Use
Level 2 : Use of VLSs by the Three Main Categories (DMV, RKV and EKV)
Level 3 : Use of Individual VLSs

Figure 4.2 The Three Main Levels of Data Analysis for VLS Use

4.3.1 Variation in Overall VLS Use

This section examines significant variations in frequency of students' reported VLS use as a whole based on the Analysis of Variance (ANOVA). The statistical results reveal significant variations according to the five variables: gender of students (male and female); type of institution (PBU stands for public/ autonomous public university, PVC/U: private college/university, RU: Rajabhat University, RMUT: Rajamangala University of Technology); field of study (Arts: arts-oriented, Bu: business-oriented, Sci: science-oriented field); language learning experience (Limited: limited to formal classroom instructions, Non-Limited: non-limited to formal classroom instructions); and vocabulary proficiency level (High: high vocabulary proficiency level, Moderate: moderate vocabulary proficiency level, and Low: low vocabulary proficiency level). The results of the first level reported by ANOVA are summarised in Table 4.4.

Table 4.4 Summary of Variation in Overall VLS Use by the Five Variables

Gender	Female (n=644)		Male (n=261)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.		
Overall Use	2.29	.40	2.17	.44	P<.001	Female> Male

Type of Institution	PBU (n=230)		PVC/U (n=276)		RU (n=253)		RMUT (n=146)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		
Overall Use	2.39	.41	2.33	.39	2.15	.41	2.06	.36	P<.001	PBU>RU PBU>RMUT PVC/U>RU PVC/U>RMUT

Field of Study	Arts- oriented (n=369)		Bu-oriented (n=270)		Sci-oriented (n=266)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		
Overall Use	2.36	.43	2.17	.38	2.19	.39	P<.001	Arts > Bu Arts > Sci

Experience	Non-Limited (n=470)		Limited (n=435)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.		
Overall Use	2.40	.41	2.09	.36	P< .001	Non-Limited >Limited

Table 4.4 Summary of Variation in Overall VLS Use by the Five Variables (Cont.)

Vocabulary Proficiency	High (n=302)		Moderate (n=295)		Low (n=308)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		
Overall Use	2.44	.39	2.20	.38	2.13	.40	P<.001	High>Moderate High>Low

As shown in Table 4.4, the ANOVA results reveal that the mean frequency of students' overall VLS use varied significantly according the five investigated variables.

Regarding the gender, female students reported employing VLSs significantly more frequently than their male counterparts with the mean frequency scores of 2.29 and 2.17, respectively.

In respect of the type of institution, the ANOVA results reveal that the frequency of students' overall VLS use varied significantly according to this variable. The post hoc Scheffé test was performed to pinpoint the pair which contributed to the significant differences. The results reveal that the students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs with the mean frequency scores of 2.39, 2.33, 2.15, and 2.06 respectively. However, no significant differences in the use of VLSs were found between those studying at PBUs and PVC/Us, and between those studying at RUs and RMUTs.

With regard to the field of study, the ANOVA results reveal that the mean frequency of students' overall VLS use varied significantly according to this variable.

The results of post hoc Scheffé test reveal that the arts-oriented students reported employing VLSs significantly more frequently than the business-oriented students and the science-oriented students with the mean frequency scores of 2.36, 2.17, and 2.19 respectively. However, no significant differences in the use of VLSs were found between the business-oriented students and the science-oriented students.

In relation to language learning experience, the ANOVA results reveal that the mean frequency of students' overall VLS use varied significantly according to this variable. The students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those with an exposure to the English language within the formal classroom instructions only, with the mean frequency scores of 2.40, and 2.09 respectively.

Concerning the vocabulary proficiency level, the ANOVA results reveal that the mean frequency of students' overall VLS use varied significantly according to this variable. The results of post hoc Scheffé test reveal that the students with high vocabulary proficiency reported employing VLSs significantly more frequently than those with moderate and low proficiency levels with the mean frequency scores of 2.44, 2.20, and 2.13 respectively. However, no significant differences in the use of VLSs were found between those with moderate and low proficiency levels. The next section will present the significant variations in the mean frequency score of students' VLS use by the three main categories.

4.3.2 Variation in VLS Use by the Three Main Categories

In this section, students' VLS use is presented by the three main categories; 1) the Discovery of Meaning or other Aspects of New Vocabulary Items (DMV); 2) the

Retention of Knowledge of Newly-Learned Vocabulary Items (RKV), and 3) the Expansion of Knowledge of Vocabulary Items (EKV). The ANOVA results show significant variations in mean frequency scores of students' reported VLS use by the three main categories according to gender, type of institution, field of study, language learning experience and vocabulary proficiency level as presented in Tables 4.5-4.9.

4.3.2.1 Variation in VLS Use by the Three Main Categories

according to Gender

Table 4.5 illustrates the significant variations in mean frequency of reported students' VLS use by the three main categories according to their gender based on the ANOVA results.

Table 4.5 Variation in VLS Use by the Three Main Categories according to Gender

Strategy Category	Female (n=644)		Male (n=261)		Sig. Level	Comments
	\bar{x}	S.D.	\bar{x}	S.D.		Pattern of Variation
1) DMV	2.52	.49	2.41	.52	P<.01	Female > Male
	\bar{x}	S.D.	\bar{x}	S.D.		Pattern of Variation
2) RKV	2.12	.41	2.01	.46	P<.01	Female > Male
3) EKV	2.36	.43	2.23	.46	P<.001	Female > Male

The results of ANOVA in Table 4.5 reveal that significant variations were found according to gender. Female students reported employing VLSs significantly more frequently than their male counterparts in all three categories.

4.3.2.2 Variation in VLS Use by the Three Main Categories according to Type of Institution

Table 4.6 presents the significant variations in the mean frequency scores of reported students' VLS use by the three main categories according to type of institution based on the ANOVA results.

Table 4.6 Variation in VLS Use by the Three Main Categories according to Type of Institution

Type of Ins.	PBU (n=230)		PVC/U (n=276)		RU (n=253)		RMUT (n=146)		Sig. Level	Comments
Strategy Category	\bar{x}	S.D	\bar{x}	S.D	\bar{x}	S.D	\bar{x}	S.D		Pattern of Variation
1) DMV	2.69	.48	2.51	.48	2.38	.49	2.31	.48	P<.001	PBU>PVC/U PBU>RU PBU>RMUT PVC/U> RU PVC/U> RMUT
2) RKV	2.20	.42	2.19	.41	1.98	.42	1.90	.38	P<.001	PBU>RU PBU> RMUT PVC/U> RU PVC/U> RMUT
3) EKV	2.46	.45	2.40	.41	2.23	.44	2.12	.40	P<.001	PBU>RU PBU> RMUT PVC/U> RU PVC/U> RMUT

Notes: PBU stands for public/ autonomous public university , PVC/U : private college/university, RU: Rajabhat University, RMUT: Rajamangala University of Technology

The ANOVA results in Table 4.6 indicate that significant differences were found in the mean frequency scores of the students' VLS use in all three categories according to the students' type of institution. Regarding the DMV category, the results of post hoc Scheffé test reveal that the PBU students reported employing VLSs significantly more frequently than the students studying at PVC/Us, RUs and RMUTs. In addition, the PVC/U students reported employing VLSs significantly more frequently than the students studying at RUs and RMUTs. However, no significant differences in the use of VLSs were found between those studying at RUs and RMUTs. Regarding the RKV and EKV categories, the results of post hoc Scheffé test reveal that the students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. No significant differences in the use of VLSs were found between those studying at PBUs and PVC/Us, and between those studying at RUs and RMUTs in these two categories.

4.3.2.3 Variation in VLS Use by the Three Main Categories according to the Field of Study

Table 4.7 reveals the significant variations in mean frequency score of reported students' VLS use by the three main categories according to field of study (arts, business and science-oriented fields) based on the ANOVA results.

Table 4.7 Variation in VLS Use by the Three Main Categories according to Field of Study

Field of Study	Arts-oriented (n=369)		Business-oriented (n=270)		Sci-oriented (n=266)		Sig. Level	Pattern of Variation
Strategy Category	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		
1) DMV	2.61	.54	2.38	.44	2.42	.47	P<.001	Arts>Bu Arts>Sci
2) RKV	2.17	.44	2.01	.40	2.05	.41	P<.001	Arts>Bu Arts>Sci
3) EKV	2.45	.46	2.26	.41	2.22	.41	P<.001	Arts>Bu Arts>Sci

Notes: Arts stands for arts-oriented, Bu : business-oriented and Sci : science-oriented fields

The ANOVA results in Table 4.7 demonstrate significant differences in the mean frequency of students' VLS use in all three categories according to the students' field of study. The results of post hoc Scheffé test reveal that the arts-oriented students reported employing VLSs significantly more frequently than the business-oriented students and the science-oriented students in the DMV, RKV and EKV categories. However, no significant differences in the use of VLSs were found between the business-oriented students and the science-oriented students in all three categories.

4.3.2.4 Variation in VLS Use by the Three Main Categories according to Language Learning Experience

Table 4.8 demonstrates the significant variations in frequency of reported students' VLS use by the three main categories according to language learning experience based on the ANOVA results.

**Table 4.8 Variation in VLS Use by the Three Main Categories according
to Language Learning Experience**

Language Learning Experience	Non-Limited (n=470)		Limited (n= 435)		Significant Level	Comments
Strategy Category	\bar{x}	S.D.	\bar{x}	S.D.		Pattern of Variation
1) DMV	2.66	.49	2.30	.44	P<.001	Non-Limited> Limited
2) RKV	2.22	.43	1.94	.39	P<.001	Non-Limited> Limited
3) EKV	2.48	.44	2.15	.37	P<.001	Non-Limited> Limited

Notes: Limited stands for limited to formal classroom instructions only , Non-Limited : non-limited to formal classroom instructions

The ANOVA results in Table 4.8 reveal that significant differences were found in the mean frequency scores of students' VLS use according to this variable. The students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classroom instructions only in the DMV, RKV and EKV categories.

4.3.2.5 Variation in VLS Use by the Three Main Categories according to Vocabulary Proficiency

Table 4.9 demonstrates the significant variations in the mean frequency score of reported students' VLS use by the three main categories according to level of vocabulary proficiency based on the ANOVA results.

Table 4.9 Variation in VLS Use by the Three Main Categories according to Vocabulary Proficiency

Proficiency Level	High (n=302)		Moderate (n=295)		Low (n=308)		Sig. Level	Comments
Strategy Category	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.		Pattern of Variation
1) DMV	2.72	.48	2.41	.47	2.34	.47	P<.001	High>Moderate High>Low
2) RKV	2.25	.42	2.04	.40	1.97	.43	P<.001	High>Moderate High>Low
3) EKV	2.50	.43	2.26	.42	2.21	.43	P<.001	High>Moderate High>Low

The ANOVA results in Table 4.9 demonstrate significant differences in the mean frequency scores of students' VLS use in all three categories according to the students' vocabulary proficiency. The results of post hoc Scheffé test indicate that the students with high vocabulary proficiency reported employing VLSs significantly more frequently than those with moderate and low vocabulary proficiency levels in all three categories. However, no significant differences in the use of VLSs were found between those with moderate and low vocabulary proficiency levels in all DMV, RKV and EKV categories. Table 4.10 below presents the summary

of variations in the students' VLS use by the three main categories according to the 5 variables.

Table 4.10 Summary of Significant Variations in VLS Use of by the Three Main Categories according the Five Variables

Strategy Category	Gender	Type of Institution	Field of Study	Language Learning Experience	Vocabulary Proficiency Level
1) DMV	YES	YES	YES	YES	YES
2) RKV	YES	YES	YES	YES	YES
3) EKV	YES	YES	YES	YES	YES

Note : 'Yes' means a significant variation exists

In summary, students' VLS use varied significantly according to the students' gender, type of institution, field of study, language learning experience and vocabulary proficiency level. The significant differences reveal in all three categories. The subsequent section examines the variation patterns of individual VLS use according in the five investigated variables.

4.3.3 Variation of Individual VLS Use

Sections 4.3.1 and 4.3.2 describe the significant variations based on the ANOVA results, in the mean frequency of students' reported employing VLSs in overall use and use of VLSs in the three categories. In this section, the Chi-square test was used to determine patterns of the significant variations in students' reported VLS use at the individual strategy level. The purpose of the Chi-square test was to check whether each VLS item varied significantly according to the five investigated variables. The percentage of students' reporting a high use of VLSs (3 and 4) in the

VLS questionnaire, and the observed Chi-square (χ^2) value were used in order to present the strength of variation in the use of each individual strategy. The individual VLSs were shown in descending order of percentage of students' reporting high use (3 and 4) in VLS questionnaire.

4.3.3.1 Variation in Individual VLS Use by Gender

The variations in mean frequency scores of students' overall VLS use, and in the DMV, RKV and EKV categories varied significantly according to gender of students were present in Sections 4.3.1 and 4.3.2. In this section, the emphasis is on the individual VLSs in terms of variations in VLS use and patterns of variation of use. Table 4.11 presents the significant variation patterns in terms of gender.

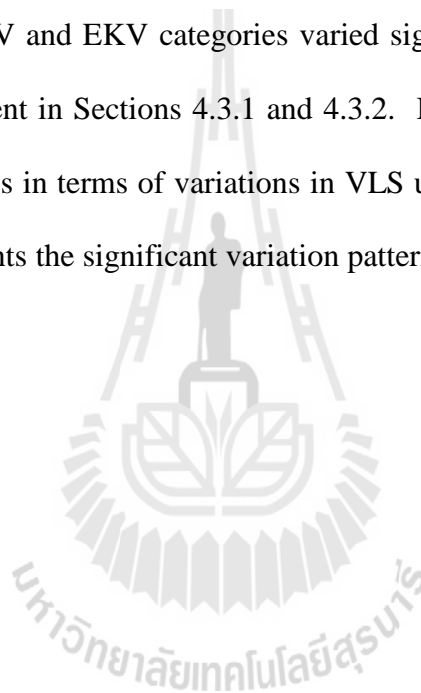


Table 4.11 Variation in Individual VLSs by Gender

Individual VLS use	% of high use (3 or 4)		Observed χ^2
Used more by female (12 VLSs)	Female	Male	
1) EKV7 Attending classes of every module regularly to expand knowledge of vocabulary items	81.2	74.3	$\chi^2 = 5.34$
2) DMV5 Using a dictionary to discover the meaning or other aspects of vocabulary items	70.7	49.0	$\chi^2 = 37.84$
3) EKV13 Singing or listening to English songs to expand knowledge of vocabulary items	64.3	55.2	$\chi^2 = 6.53$
4) DMV6 Asking friends to discover the meaning or other aspects of vocabulary items	55.4	47.5	$\chi^2 = 4.69$
5) EKV15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	50.2	42.1	$\chi^2 = 4.78$
6) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	45.2	36.8	$\chi^2 = 5.36$
7) DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	42.1	34.9	$\chi^2 = 4.03$
8) EKV4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	39.0	29.5	$\chi^2 = 7.21$
9) EKV10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	37.7	29.5	$\chi^2 = 5.51$
10) EKV11 Surfing the Internet especially the websites for vocabulary learning to expand knowledge of vocabulary items	37.0	24.5	$\chi^2 = 12.92$
11) EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	32.9	24.1	$\chi^2 = 6.77$
12) RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	18.6	8.8	$\chi^2 = 13.47$
Used more by male (1VLS)	Male	Female	
1) RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	32.2	24.1	$\chi^2 = 6.29$

As shown in Table 4.11, the Chi-square results reveal that significant variations in use of 13 individual VLSs were found in terms of the students' gender. Two variation patterns were found, i.e. 'female>male', and 'male>female'.

The first variation pattern, 'female>male' indicates that a significantly greater percentage of the female students than their male counterparts reported high use of 12 VLSs. The other variation pattern is 'male>female' indicating that a significantly greater percentage of the male students than their female counterparts reported high use of 1 VLS.

Among the 13 VLSs of which significant differences were found according to this variable, 5 VLSs were reported high frequency of use by more than 50 percent of the female students. Examples are *"Attending classes of every module regularly to expand knowledge of vocabulary items"* (EKV7), *"Using a dictionary to discover meaning or other aspects of vocabulary items"* (DMV 5) and *"Singing or listening to English songs to expand knowledge of vocabulary items"* (EKV13). Two VLSs were reported high frequency of use by more than 50 percent of the male students, including *"Attending classes of every module regularly to expand knowledge of vocabulary items"* (EKV7) and *"Singing or listening to English songs to expand knowledge of vocabulary items"* (EKV13).

4.3.3.2 Variation in Individual VLS Use by Type of Institution

As mentioned in Sections 4.3.1 and 4.3.2 the significant variations in frequency of students' overall strategy use, use of strategies in three categories were found according to type of institution. In this section, the individual VLSs are considered in terms of the high frequency of use. Table 4.12 presents the significant variation patterns in terms of type of institutions.

Table 4.12 Variation in Individual VLS Use by Type of Institution

Individual VLS use	% of high use (3 or 4)				Observed χ^2
Used more by PBU>PVC/U>RU>RMUT (23 VLSs)	PBU	PVC/U	RU	RMUT	
1) DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	71.7	60.5	54.9	48.6	$\chi^2 = 23.77$
2) DMV 5 Using a dictionary to discover meaning or other aspects of vocabulary items	71.3	65.9	62.1	54.8	$\chi^2 = 11.56$
3) EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	66.1	56.5	48.6	44.5	$\chi^2 = 22.29$
4) DKV 6 Asking friends to discover the meaning or other aspects of vocabulary items	65.7	52.2	47.8	44.5	$\chi^2 = 21.79$
5) DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover meaning of vocabulary items	64.3	37.0	29.6	23.3	$\chi^2 = 86.37$
6) EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	57.8	55.1	45.8	37.0	$\chi^2 = 20.08$
7) DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	57.4	43.8	32.2	30.8	$\chi^2 = 38.99$
8) EKV 15 Practicing translation vocabulary from Thai into English and vice versa to expand knowledge of vocabulary items	56.5	53.3	44.7	29.5	$\chi^2 = 31.00$
9) DMV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover meaning of vocabulary items	56.1	35.5	30.4	25.3	$\chi^2 = 48.86$
10) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	51.7	44.2	41.1	28.8	$\chi^2 = 19.77$
11) RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	47.4	38.8	32.8	20.5	$\chi^2 = 29.95$
12) EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	43.9	40.9	32.4	21.9	$\chi^2 = 23.07$

Table 4.12 Variation in Individual VLS Use by Type of Institution (Cont.)

Individual VLS use	% of high use (3 or 4)				Observed χ^2
Used more by PBU>PVC/U>RU>RMUT (23 VLSs)	PBU	PVC/U	RU	RMUT	
13) EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	41.3	26.8	20.6	13.0	$\chi^2 = 44.10$
14) EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	40.9	39.9	30.4	26.7	$\chi^2 = 12.96$
15) RKV 5 Using new words in writing to expand knowledge of vocabulary items to retain knowledge of newly-learned vocabulary items	39.6	32.2	20.9	13.0	$\chi^2 = 40.36$
16) EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	35.2	28.6	20.9	16.4	$\chi^2 = 21.32$
17) EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	34.3	32.6	31.2	18.5	$\chi^2 = 12.20$
18) RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	33.9	27.2	13.8	12.3	$\chi^2 = 39.83$
19) EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	30.9	29.0	24.5	15.1	$\chi^2 = 13.49$
20) RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	28.3	27.9	22.5	13.0	$\chi^2 = 14.51$
21) RKV 17 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	23.9	18.1	13.4	10.3	$\chi^2 = 14.98$
22) RKV 1 Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	20.9	20.7	8.3	6.8	$\chi^2 = 29.60$

Table 4.12 Variation in Individual VLS Use by Type of Institutions (Cont.)

Individual VLS use	% of high use (3 or 4)				Observed χ^2
Used more by PBU>PVC/U>RU>RMUT (23 VLSs)	PBU	PVC/U	RU	RMUT	
23) RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	15.7	14.5	7.5	6.2	$\chi^2 = 14.38$
Used more by PVC/U>PBU>RU>RMUT (7VLSs)	PVC/U	PBU	RU	RMUT	
1) RKV 13 Memorising with or without a word list to expand knowledge of vocabulary items to retain knowledge of newly-learned vocabulary items	34.8	28.3	23.3	13.7	$\chi^2 = 23.67$
2) DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	33.7	31.7	21.7	17.1	$\chi^2 = 19.56$
3) RKV16 Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items	26.3	17.0	15.8	9.6	$\chi^2 = 13.90$
4) RKV3 Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items	21.4	14.8	7.5	6.2	$\chi^2 = 16.81$
5) RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	20.7	15.7	14.6	8.9	$\chi^2 = 10.37$
6) RKV 15 Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items	19.9	11.3	11.1	6.8	$\chi^2 = 17.82$
7) EKV 5 Building a word network to expand knowledge of vocabulary items	12.0	7.8	7.5	3.4	$\chi^2 = 9.70$
Used more by PBU>PVC/U>RMUT>RU (6 VLSs)	PBU	PVC/U	RMUT	RU	
1) EKV 13 Singing or listening to English songs to expand knowledge of vocabulary	69.6	64.55	56.8	54.2	$\chi^2 = 14.48$

Table 4.12 Variation in Individual VLS Use by Type of Institution (Cont.)

Used more by PBU>PVC/U>RMUT>RU (6 VLSs)	PBU	PVC/U	RMUT	RU	
2) RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	47.8	32.6	20.5	19.0	$\chi^2 = 55.59$
3) RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	38.7	32.2	21.2	19.0	$\chi^2 = 28.75$
4) RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	37.0	28.3	19.9	18.6	$\chi^2 = 24.86$
5) EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	36.1	30.1	16.4	15.0	$\chi^2 = 37.80$
6) RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	33.5	26.8	19.2	19.0	$\chi^2 = 16.80$
Used more by PBU>RU>PVC/U>RMUT (1 VLS)	PBU	RU	PVC/U	RMUT	
1) EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	87	78.7	77.2	71.9	$\chi^2 = 13.85$
Used more by PVC/U>RU>RMUT>PBU (1 VLS)	PVC/U	RU	RMUT	PBU	
1. DMV 7 Asking teachers to discover meaning or other aspects of vocabulary items	46.0	41.1	35.6	34.3	$\chi^2 = 8.52$

The results of the Chi-square tests in Table 4.12 demonstrate significant variations in use of 38 individual VLSs in terms of type of institution. Five significant variation patterns in the students' individual VLS use by this variable were found.

The first variation pattern, 'PBU>PVC/U>RU>RMUT' indicates that a significantly greater percentage of the PBU students than those studying at PVC/Us, RUs and RMUTs, reported high use of 23 VLSs. Of the 23 VLSs, 6 VLSs were used to discover the meaning or other aspects of new vocabulary items (DMV), 8 VLSs to retain knowledge of newly-learned vocabulary items (RKV) and 9 VLSs to expand knowledge of vocabulary items (EKV). In all 23 VLSs of which significant differences were found according to the first variation, 1 VLS had a high reported frequency of use by more than 50 percent of the students studying at PBUs, PVC/Us, RUs and RMUTs, i.e. *"Using a dictionary to discover the meaning or other aspects of vocabulary items"* (DMV 5).

The second variation pattern, 'PVC/U>PBU>RU>RMUT' indicates that a significantly greater percentage of the PVC/U students than those studying at PBUs, RUs and RMUTs, reported high use of 7 VLSs. Of the 7 VLSs, 5 VLSs were used to retain knowledge of newly-learned vocabulary items (RKV), 1 VLS to discover the meaning or other aspects of vocabulary items and the other 1 VLS to expand knowledge of vocabulary items. In all 7 VLSs of which significant differences were found according to the second variation, no VLS was found to have a high reported frequency of use by more than 50 percent of the students studying at all 4 types of institution.

The third variation pattern, 'PBU>PVC/U>RMUT>RU' indicates that a significantly greater percentage of the PBU students than those studying at PVC/Us, RMUTs and RUs, reported high use of 6 VLSs. Of the 6 VLSs, 4 VLSs were used to retain knowledge of newly-learned vocabulary items (RKV), 2 VLSs to expand knowledge of vocabulary items. In all 6 VLSs of which significant difference were

found according to the third variation, 1 VLS, *“Singing or listening to English songs to expand knowledge of vocabulary items”* (EKV 13) was found to have a high reported frequency of use by more than 50 percent of the students studying at all 4 types of institution

The fourth variation pattern, ‘PBU>RU>PVC/U>RMUT’ indicates that a significantly greater percentage of the PBU students than those at RUs, PVC/Us and RMUTs, reported high use of 1 VLS. The VLS, *“Attending classes of every module regularly to expand knowledge of vocabulary items”* (EKV 7) was found to have a high reported frequency of use by more than 50 percent of the students studying at all 4 types of institution.

The last variation pattern, ‘PVC/U>RU>RMUT>PBU’ indicates that a significantly greater percentage of the PVC/U students than those at RUs, RMUTs and PBUs, reported high use of 1 VLS, i.e. *“Asking teachers to discover the meaning or other aspects of vocabulary items”* (DMV 7).

4.4.3.3 Variation in Individual VLSs Use by Field of Study

The ANOVA results reported in the Sections 4.3.1 and 4.3.2 showed significant variations in frequency of students’ overall VLS use, use of VLSs in the three categories according to field study. In this section, the emphasis is on the individual VLSs in terms of variations in VLS use and patterns of variation of use. Table 4.13 presents the significant variation patterns in terms of field of study.

Table 4.13 Variation in Individual VLSs by Field of Study

Individual VLS use	% of high use (3 or 4)			Observed χ^2
	Arts	Sci	Bu	
Used more by Arts>Sci>Bu (16 VLSs)				
1) EKV7 Attending classes of every module regularly to expand knowledge of vocabulary items	82.6	80.8	73.2	$\chi^2 = 8.97$
2) DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	73.8	59.0	57.0	$\chi^2 = 24.16$
3) EKV13 Singing or listening to English songs to expand knowledge of vocabulary items	73.0	57.1	50.7	$\chi^2 = 36.08$
4) DMV6 Asking friends to discover the meaning or other aspects of vocabulary item	59.1	50.8	47.4	$\chi^2 = 9.46$
5) EKV 15 Practicing vocabulary translation from Thai into English and vice versa	58.9	40.6	40.1	$\chi^2 = 30.01$
6) EKV3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	58.6	45.9	43.4	$\chi^2 = 17.37$
7) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	48.0	40.2	38.2	$\chi^2 = 7.02$
8) DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	44.7	39.8	32.7	$\chi^2 = 9.35$
9) DMV1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover meaning of vocabulary items	43.6	40.2	27.2	$\chi^2 = 18.91$
10) EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	42.8	34.2	29.4	$\chi^2 = 12.75$
11) RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	40.3	39.1	28.3	$\chi^2 = 10.98$
12) RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	37.9	28.2	23.5	$\chi^2 = 17.28$

Table 4.13 Variation in Individual VLSs by Field of Study (Cont.)

Individual VLS use	% of high use (3 or 4)			Observed χ^2
	Arts	Sci	Bu	
Used more by Arts>Sci>Bu (16 VLSs)				
13) RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of vocabulary items	34.9	27.1	21.0	$\chi^2 = 15.22$
14) EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	34.6	22.2	19.9	$\chi^2 = 21.09$
15) RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	31.1	19.5	19.1	$\chi^2 = 16.44$
16) EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	28.9	26.7	18.8	$\chi^2 = 23.07$
Used more by Arts>Bu>Sci (15 VLSs)				
1) DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	67.3	56.6	53.0	$\chi^2 = 14.85$
2) EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	66.2	47.4	46.6	$\chi^2 = 32.46$
3) DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	48.8	34.6	33.5	$\chi^2 = 20.93$
4) EKV 10 Watching English programme channels or listening to English radio programme to expand knowledge of vocabulary items	42.8	34.9	25.6	$\chi^2 = 20.03$
5) EKV 11 Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items	41.1	32.0	24.1	$\chi^2 = 20.58$
6) EKV 6 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to expand knowledge of vocabulary items	36.8	29.4	22.6	$\chi^2 = 14.93$
7) EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	36.0	22.1	16.9	$\chi^2 = 32.38$
8) RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	34.9	23.2	22.9	$\chi^2 = 15.20$

Table 4.13 Variation in Individual VLSs by Field of Study (Cont.)

Individual VLS use	% of high use (3 or 4)			Observed χ^2
Used more by Arts>Bu>Sci (15 VLSs)	Arts	Bu	Sci	
9) DMV 8 Asking other people or native speakers of English to discover meaning or other aspects of vocabulary items	34.3	24.6	19.9	$\chi^2 = 17.45$
10) RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	33.2	17.3	13.9	$\chi^2 = 39.44$
11) EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	32.7	25.7	16.9	$\chi^2 = 19.99$
12) RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	31.6	21.3	19.9	$\chi^2 = 14.13$
13) RKV 13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	30.5	25.7	21.8	$\chi^2 = 6.13$
14) RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	21.3	14.3	9.8	$\chi^2 = 15.90$
15) EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items	16.3	11.4	7.5	$\chi^2 = 11.45$
Used more by Bu>Arts>Sci (1VLS)	Bu	Arts	Sci	
1) EKV 5 Building a word network to expand knowledge of vocabulary items	12.9	7.6	4.5	$\chi^2 = 12.71$
Used more by Sci>Arts>Bu (1VLS)	Sci	Arts	Bu	
1) RKV 1 Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	19.5	15.8	9.6	$\chi^2 = 10.80$

The Chi-square results in Table 4.13 demonstrate significant variations in use of 33 individual VLSs in terms of field of study. Four significant variation patterns in the students' individual VLS use by this variable were found.

The first variation pattern, 'Arts>Sci>Bu' indicates that a significantly greater percentage of the arts-oriented students than the science-oriented students and the business-oriented students, reported high use of 16 VLSs. Of the 16 VLSs, 4 VLSs were used to discover the meaning or other aspects of new vocabulary items (DMV), 5 VLSs to retain knowledge of newly-learned vocabulary items (RKV), and 7 VLSs to expand knowledge of vocabulary items (EKV). In all 16 VLSs of which significant differences were found according to this variation pattern, 3 VLSs had a high reported frequency of use by more than 50 percent of the arts, science and business-oriented students. They are *"Attending classes of every module regularly to expand knowledge of vocabulary items"* (EKV 7), *"Using a dictionary to discover meaning or other aspects of vocabulary items"* (DMV 5), *"Singing or listening to English songs to expand knowledge of vocabulary items"* (EKV 13).

The second variation pattern, 'Arts>Bu>Sci' indicates that a significantly greater percentage of the arts-oriented students than the business-oriented students and the science-oriented students, reported high use of 15 VLSs. Of the 15 VLSs, 7 VLSs were used to expand knowledge of vocabulary items (EKV), 5 VLSs to retain knowledge of newly-learned vocabulary items (RKV) and the other 3 VLSs to discover the meaning or other aspects of vocabulary (DMV). In all 15 VLSs of which significant differences were found according to this variation pattern, 1 VLS had a high reported frequency of use by more than 50 percent of the arts, business and

science-oriented fields, i.e., *“Surfing the Internet to discover the meaning or other aspects of vocabulary items”* (DMV 4).

The third variation pattern, ‘Bu>Arts>Sci’ indicates that a significantly greater percentage of the business-oriented students than the arts-oriented students and the science-oriented students, reported high use of 1 VLS, i.e. *“Building a word network to expand knowledge of vocabulary items”* (EKV5).

The last variation pattern, ‘Sci>Arts>Bu’ indicates that a significantly greater percentage of the science-oriented students than the arts-oriented students and the business-oriented students, reported high use of 1 VLS, i.e. *“Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”* (RKV1)

4.3.3.4 Variation in Individual VLS Use by Language

Learning Experience

The ANOVA results presented in Sections 4.3.1 and 4.3.2 showed that significant variations in frequency of students’ use of VLSs were found to be associated with language learning experience in the overall VLS use and use of VLSs by the three main categories. In this section, the emphasis is on the individual VLSs in terms of variations in VLS use and patterns of variation of use. Table 4.14 presents the significant variation patterns in terms of language learning experience.

Table 4.14 Variation in Individual VLS Use by Language Learning Experience

Individual VLS use	% of high use (3 or 4)		Observed χ^2
	Non-Limited	Limited	
Used more by Non-Limited (39 VLSs)			
1) EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	83.2	74.9	$\chi^2 = 9.34$
2) EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	73.4	49.9	$\chi^2 = 57.07$
3) DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	73.4	45.3	$\chi^2 = 74.35$
4) DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	71.3	57.0	$\chi^2 = 20.06$
5) EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	67.9	40.7	$\chi^2 = 63.39$
6) EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	62.3	37.2	$\chi^2 = 59.93$
7) DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	60.6	45.1	$\chi^2 = 22.02$
8) EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	59.6	35.2	$\chi^2 = 53.91$
9) DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	54.3	29.0	$\chi^2 = 59.28$
10) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	51.7	33.1	$\chi^2 = 31.93$
11) DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	51.1	27.4	$\chi^2 = 53.05$
12) DMV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover the meaning of vocabulary items	47.2	27.4	$\chi^2 = 38.01$
13) EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	47.2	24.4	$\chi^2 = 51.02$

Table 4.14 Variation in Individual VLS Use by Language Learning**Experience (Cont.)**

Individual VLS use	% of high use (3 or 4)		Observed χ^2
	Non-Limited	Limited	
Used more by Non-Limited (39 VLSs)			
14) DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	47.1	32.0	$\chi^2 = 22.59$
15) EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	45.7	24.1	$\chi^2 = 32.38$
16) RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	45.1	26.9	$\chi^2 = 32.38$
17) EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc to expand knowledge of vocabulary items	40.0	20.0	$\chi^2 = 42.72$
18) RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	39.8	20.9	$\chi^2 = 37.79$
19) EKV 11 Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items	39.4	26.9	$\chi^2 = 15.79$
20) RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	39.1	15.6	$\chi^2 = 62.18$
21) RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	38.3	17.7	$\chi^2 = 47.13$
22) EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	35.3	17.0	$\chi^2 = 38.86$
23) EKV14. Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	35.3	16.3	$\chi^2 = 42.18$
24) RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	34.7	17.5	$\chi^2 = 34.43$

Table 4.14 Variation in Individual VLS Use by Language Learning**Experience (Cont.)**

Individual VLS use	% of high use (3 or 4)		Observed χ^2
Used more by Non-Limited (39 VLSs)	Non-Limited	Limited	
25) DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	34.3	19.5	$\chi^2 = 24.71$
26) RKV 13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	34.3	18.2	$\chi^2 = 30.03$
27) EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	34.0	17.2	$\chi^2 = 33.17$
28) EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	32.8	17.0	$\chi^2 = 29.75$
29) RKV 10. Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	32.3	12.4	$\chi^2 = 26.10$
30) RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	31.5	18.2	$\chi^2 = 21.36$
31) RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	31.1	16.6	$\chi^2 = 26.10$
32) RKV 6 Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items	22.3	12.2	$\chi^2 = 16.17$
33) RKV 17 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	21.3	12.4	$\chi^2 = 12.57$
34) RKV 1 Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	21.3	8.3	$\chi^2 = 29.90$
35) RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	20.2	11.0	$\chi^2 = 14.30$

Table 4.14 Variation in Individual VLS Use by Language Learning**Experience (Cont.)**

Individual VLS use	% of high use (3 or 4)		Observed χ^2
	Non-Limited	Limited	
Used more by Non-Limited (39 VLSs)			
36) RKV 3 Writing vocabulary items with meaning on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items	18.1	11.0	$\chi^2 = 8.96$
37) RKV 15 Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items	17.7	8.3	$\chi^2 = 17.42$
38) RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	15.1	7.6	$\chi^2 = 12.56$
39) EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items	14.5	9.9	$\chi^2 = 4.41$

The results presented in Table 4.14 indicate that a significantly greater percentage of students who have an exposure to the English language within and beyond the formal classroom instructions than those who have an exposure to the English language within the formal classroom instructions only reported high use of 39 VLSs. In all 39 VLSs, of which significant differences were discovered according to this variable, 11 VLSs had a high reported frequency of use by more than 50 percent of students who have an exposure to the English language within and beyond the formal classroom instructions. When compared with the other four variables, the students' language learning experience seems to have the strongest effects on the students' VLS use, with a largest proportion of significant variations in students' use

of individual strategies across the strategy questionnaire found to be related to this variable.

4.3.3.5 Variation in Individual VLS Use by Vocabulary

Proficiency Level

Sections 4.3.1. and 4.3.2 described based on the ANOVA results that students' overall VLS use and use of VLS in the three categories (DMV, RKV and EKV), varied significantly according to students' vocabulary proficiency level. In this section the students' VLS use is explored in a more detailed manner at individual strategy level. The Chi-square tests show that 36 out of 40 VLSs across the VLS questionnaire varied significantly according to students' vocabulary proficiency level. Of the 36 individual VLSs showing significant variation, 27 VLSs were classified as 'positive', 9 VLSs were classified as 'mixed'. No individual VLSs showed a negative pattern of variation. To give a clearer picture of these patterns of variation, examples of stacked bar graph presenting the classification by stair-step patterns are shown later. Table 4.15 below demonstrates the variations in students' individual VLS use according to the students' vocabulary proficiency level.

Table 4.15 Variation in Individual VLS Use by Vocabulary Proficiency Level

Individual VLS use	% of high use (3 or 4)			Observed χ^2
Used more by Hi>Mo>Lo (Positive 27 VLSs)	Hi	Mo	Lo	
1) EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	87.4	77.3	73.1	$\chi^2 = 20.21$
2) DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	76.2	62.4	54.9	$\chi^2 = 30.95$

Table 4.15 Variation in Individual VLS Use by Vocabulary Proficiency**Level (Cont.)**

Individual VLS use	% of high use (3 or 4)			Observed χ^2
Used more by Hi>Mo>Lo (Positive 27 VLSs)	Hi	Mo	Lo	
3) EKV13 Singing or listening to English songs to expand knowledge of vocabulary items	76.2	56.5	52.3	$\chi^2 = 41.53$
4) DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	74.5	54.6	50.6	$\chi^2 = 41.26$
5) EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	69.9	48.4	45.8	$\chi^2 = 42.07$
6) DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	66.2	49.5	43.8	$\chi^2 = 33.06$
7) EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	61.9	42.7	39.0	$\chi^2 = 36.83$
8) DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	58.3	32.9	27.9	$\chi^2 = 67.14$
9) EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	57.9	47.5	45.5	$\chi^2 = 10.91$
10) DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	55.6	37.3	33.4	$\chi^2 = 34.95$
11) RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	52.6	39.7	36.0	$\chi^2 = 18.91$
12) EKV 10 Watching English programme channels or listening to English radio programme to expand knowledge of vocabulary items	48.0	29.2	28.9	$\chi^2 = 31.76$
13) EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	47.7	32.2	28.9	$\chi^2 = 26.38$
14) RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	45.7	26.1	20.5	$\chi^2 = 50.03$

Table 4.15 Variation in Individual VLS Use by Vocabulary Proficiency**Level (Cont.)**

Individual VLS use	% of high use (3 or 4)			Observed χ^2
Used more by Hi>Mo>Low (Positive 27 VLSs)(cont.)	Hi	Mo	Lo	
15) RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	45.7	34.2	29.2	$\chi^2 = 18.73$
16) RKV 5 Using new words in writing	43.4	20.3	19.8	$\chi^2 = 54.45$
17) RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	41.1	22.7	21.4	$\chi^2 = 35.86$
18) RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	38.1	16.6	13.6	$\chi^2 = 61.24$
19) DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	36.4	23.4	21.8	$\chi^2 = 19.76$
20) RKV 13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	36.1	22.4	21.1	$\chi^2 = 21.44$
21) EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers	35.4	21.4	21.1	$\chi^2 = 21.12$
22) RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	34.4	24.1	16.9	$\chi^2 = 25.25$
23) EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	33.8	21.4	20.5	$\chi^2 = 17.78$
24) RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	30.8	21.4	20.1	$\chi^2 = 11.27$
25) RKV 1 Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	24.5	13.2	7.5	$\chi^2 = 35.78$

Table 4.15 Variation in Individual VLS Use by Vocabulary Proficiency**Level (Cont.)**

Individual VLS use	% of high use (3 or 4)			Observed χ^2
Used more by Hi>Mo>Low (Positive 27 VLSs)(cont.)	Hi	Mo	Lo	
26) RKV 17 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	24.2	13.9	13.0	$\chi^2 = 16.52$
27) RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	15.2	10.5	8.8	$\chi^2 = 6.68$
Mixed :Used more by Hi>Low>Mo (9 VLSs)	Hi	Lo	Mo	
1) DMV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover the meaning of vocabulary items	52.0	32.1	28.8	$\chi^2 = 40.22$
2) DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	46.4	38.6	34.9	$\chi^2 = 8.50$
3) EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	42.4	19.5	17.6	$\chi^2 = 58.81$
4) EKV11 Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items	39.1	32.1	28.8	$\chi^2 = 7.38$
5) EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	38.7	27.9	24.4	$\chi^2 = 15.84$
6) EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	37.1	21.4	20.0	$\chi^2 = 28.01$
7) RKV 4 Looking at the real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	36.4	23.1	19.7	$\chi^2 = 24.28$
8) RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	20.9	14.0	12.5	$\chi^2 = 8.95$

Table 4.15 Variation in Individual VLS Use by Vocabulary Proficiency**Level (Cont.)**

Individual VLS use	% of high use (3 or 4)			Observed χ^2
	Hi	Lo	Mo	
Mixed :Used more by Hi>Low>Mo (9 VLSs)				
9) EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. . to expand knowledge of vocabulary items	19.2	9.4	8.1	$\chi^2 = 20.52$

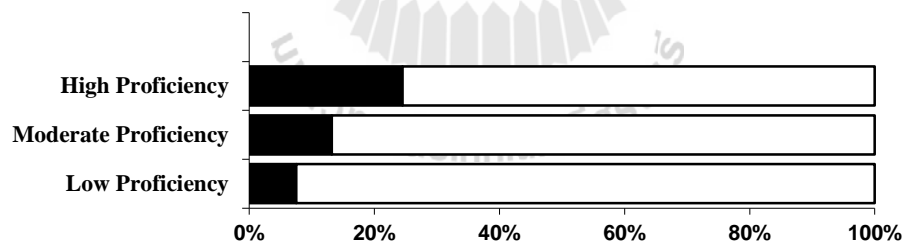
The Chi-square results in Table 4.15 reveal that the significant variations in students' use of 36 individual VLSs which were found according to vocabulary proficiency level can be presented into two main patterns of variation: 27 VLSs as 'positive' and 9 VLSs as 'mixed'.

The first variation is positive or 'Hi>Mo>Lo'. It indicates that a significantly greater percentage of the students with higher vocabulary proficiency than those with lower vocabulary proficiency level, reported high use of 27 VLSs. Of the 27 VLSs, 11 VLSs were used to retain knowledge of newly-learned vocabulary items (RKV), 9 VLSs to expand knowledge of vocabulary (EKV) and the other 7 VLSs to discover the meaning or other aspects of new vocabulary items (DMV). Of the 27 VLSs with significant differences as positive variation pattern, 4 VLSs were reported with the high frequency of use by more than 50 percent of students with high, moderate and low vocabulary proficiency levels. They are "*Attending classes of every module regularly to expand knowledge of vocabulary items*" (EKV 7), "*Using a dictionary to discover the meaning or other aspects of vocabulary items*" (DMV 5), "*Singing or listening to English songs to expand knowledge of vocabulary items*"

(EKV 13) and “*Surfing the Internet to discover the meaning or other aspects of vocabulary items*” (DMV 4).

The second variation pattern is mixed or ‘Hi>Lo>Mo’. It indicates that a significantly greater percentage of students with higher vocabulary proficiency than those with lower proficiency reported high use of 9 VLSs, and a significantly greater percentage of the students with lower vocabulary proficiency than those with higher vocabulary proficiency reported doing so. Of the 9 VLSs, 5 VLSs were used to expand knowledge of vocabulary items (EKV), 2 VLSs to retain knowledge of vocabulary (RKV) and the other 2 VLSs to discover the meaning or other aspects of new vocabulary items (DMV). The stack bar graph below in Figure 4.3 illustrates an example of a positive variation pattern, and Figure 4.4 presents an example of the mixed one.

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”



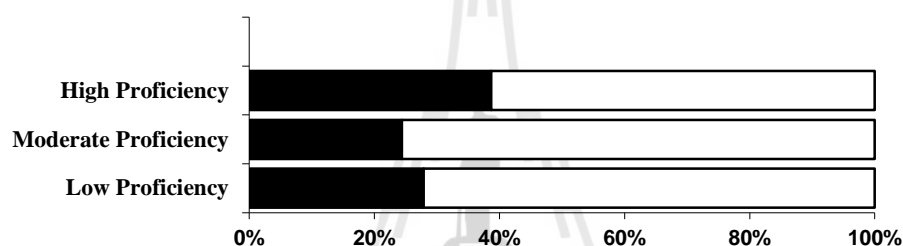
		(Dark areas) 'Often' or 'Always' or 'Almost always'		(White areas) 'Never' or 'Sometimes'	
	n	Response	(%)	Response	(%)
High proficiency	302	74	24.5	228	75.5
Moderate proficiency	295	39	13.2	256	86.8
Low proficiency	308	23	7.5	285	92.7

Note: $\chi^2 = 35.78$ (df = 2), $p < .001$

Figure 4.3 Variation Pattern Classified as Positive (High>Moderate>Low)

Figure 4.3 illustrates that 24.5 percent of students with high vocabulary proficiency reported employing high use of the VLS, “*Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items*” (RKV 1), whereas 13.2 and 7.5 percent of students with moderate and low vocabulary proficiency levels reported employing high use of this strategy.

EKV 6. “Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items”



		(Dark areas) 'Often' or 'Always' or 'Almost always'		(White areas) 'Never' or 'Sometimes'	
	n	Response	(%)	Response	(%)
High proficiency	302	117	38.7	185	61.3
Moderate proficiency	295	72	24.4	223	75.6
Low proficiency	308	86	27.9	222	72.1

Note: $\chi^2 = 15.84$ (df = 2), $p < .001$

Figure 4.4 Variation Pattern Classified as Mixed (High>Low>Moderate)

Figure 4.4 indicates that 38.7 percent of students with high vocabulary proficiency reported high use of the VLS, “*Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items*” (EKV 6), while 27.9 and 24.4 percent of students with low and moderate vocabulary proficiency levels reported employing high use of this strategy.

4.4 The Factor Analysis Results

Factor analysis can be used to group the variables which have something in common. It is a method that enables the researcher to take a set of variables and reduce them to a smaller number of underlying factors which account for as many variables as possible (Cohen and Manion, 2011). In factor analysis, the relationship “between and among the variables of the data are examined” to find out how many factors can be identified in the data (Seliger and Shohamy, 1989, p. 228). The purpose of factor analysis is to “try to reduce the set of measured variables to a smaller set of underlying factors that account for the pattern of relationship” (Ary, Jacobs and Sorensen, 2010). For the present investigation, the factor analysis helps the researcher to seek the underlying dimensions of the whole set of VLS items in a VLS questionnaire. There are two types of factor analysis; exploratory and confirmatory. Exploratory factor analysis has been employed rather than confirmatory factor analysis because the researcher does not have a clear idea or pre-assumption about what the underlying dimensions might be.

In seeking the underlying dimensions of the VLSs across the VLS questionnaire, a principal component factor analysis, and then varimax rotation was conducted on the correlations of the 40 VLSs which varied significantly in relation to the five investigated variables. Initially 7 factors were extracted with eigenvalues equal to or greater than 1.00. The eigenvalues or the sums of squared loadings of the extracted 7 factors are presented in Table 4.16.

Table 4.16 The Sums of Squared Factor Loadings of the Initial Seven Factors

Factor	Extraction Sums of Squared Loadings (Eigenvalues)		
	Total	% of Variance	Cumulative %
1	12.969	32.424	32.424
2	2.435	6.086	38.510
3	1.677	4.192	42.702
4	1.324	3.311	46.013
5	1.248	3.119	49.132
6	1.099	2.747	51.879
7	1.009	2.521	54.401

When taken together, these 7 factors accounted for 54.40 % of the variability among 40 VLSs which were found to vary significantly in relation to the five variables as mentioned earlier. Instead of making use of the initial 7 extracted factors which is difficult to interpret, the researcher explored further by reducing the number of factors to 6, 5 and 4. The results of the varimax rotation reveal slightly different groupings of strategies between 5 and 4 factors. Having taken the factor interpretation into consideration, the researcher found that it was straight forward to interpret the extracted 5 factors rather than 7 or 6 or 4 factors. The percentage of variance in Table 4.16 demonstrates that almost 50 percent of the total variation between the frequency of strategy use can be explained by the first 5 principal components. To put it simply, the 49.13 percent figure means that slightly more than half of the variability was not explained by the five factors, so other influences may also contribute a difference in VLS strategy use. In Table 4.17, the individual VLSs were ordered or sorted according to their loading on the first factor. The factor loadings show the level of correlation between the factors and the variables used in the analysis. With regard to

the interpretation of factor analysis, it is imperative to note that factor analysis is not a statistical test that provides a clear answer to a question. The researcher's interpretation is considered important throughout the process (Muijs, 2011). This indicates that different researchers may describe the emergent factors differently. In the present investigation, each factor is described in terms of the content or the relationship of the majority of the VLS items which appear under the same factors. The five extracted factors, the factor loadings on each strategy item, as well as the percentage of variance accounted by each factor are presented in Table 4.17.

Table 4.17 List of the Five Extracted Factors

Factor 1: Strategies for Self-directed Vocabulary Development (14 VLSs)	Factor Loading	% of Variance
EKV 5 Building a word network to expand knowledge of vocabulary items	.73	32.42
RKV 15 Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items	.73	
RKV 16 Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items	.70	
RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	.67	
RKV 17 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	.66	
EKV 11 Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items	.52	
RKV 3 Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items	.51	
EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items	.51	

Table 4.17 List of the Five Extracted Factors (Cont.)

Factor 1: Strategies for Self-directed Vocabulary Development (14 VLSSs) (cont.)	Factor Loading	% of Variance
RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	.47	
EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	.46	
RKV 13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	.44	
RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	.40	
RKV 1 Saying or write the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	.35	
DMV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover meaning of vocabulary items	.11	
Factor 2: Strategies for Vocabulary Development through Contexts and Connections (11 VLSSs)	Factor Loading	% of Variance
DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	.66	6.09
DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover meaning of vocabulary items	.65	
RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	.61	
RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	.56	
RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary	.53	
RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	.52	
RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	.50	
RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	.50	
EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	.46	
EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	.44	

Table 4.17 List of the Five Extracted Factors (Cont.)

Factor 2: Strategies for Vocabulary Development through Contexts and Connections (11 VLSs) (cont.)	Factor Loading	% of Variance
EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	.40	
Factor 3: Strategies for Vocabulary Development through English Language and Media Utilisation (7 VLSs)	Factor Loading	% of Variance
EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	.73	4.19
EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	.68	
EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	.57	
EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	.55	
EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	.53	
DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	.51	
EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	.41	
Factor 4: Strategies for Vocabulary Development through Asking for Cooperation (5 VLSs)	Factor Loading	% of Variance
RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	.68	3.31
DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	.67	
DMV 7 Asking teachers to discover meaning or other aspects of vocabulary items	.60	
RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	.58	
DMV 6 Asking friends to discover meaning or other aspects of vocabulary items	.52	

Table 4.17 List of the Five Extracted Factors (Cont.)

Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement (3 VLSs)	Factor Loading	% of Variance
DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	.61	3.11
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.58	
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	

As presented in Table 4.17, the results of factor analysis, i.e. the varimax rotation method reveal the five extracted factors which consist of ;

- Factor 1, which is termed as “Strategies for Self-directed Vocabulary Development” accounted for 32.42 percent of the whole strategy variance. This factor comprises 14 VLSs, including 1 DMV, 9 RKV and 4 EKV strategies. Example strategies in this factor are “*Building a word network to expand knowledge of vocabulary items*” (EKV 5), “*Setting aside a regular time for vocabulary learning or memorising to retain knowledge of newly-learned vocabulary items*” (RKV15), “*Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items*” (RKV 16), and “*Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items*” (RKV 14).

- Factor 2, which is termed as “Strategies for Vocabulary Development through Contexts and Connections” accounted for 6.09 percent of the variance among the VLSs in the VLS questionnaire for the present investigation. There are 11 VLSs, including 2 DMV, 5 RKV and 4 EKV strategies. Example strategies in this

factor are *“Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning or other aspects of vocabulary items”* (DKV 2), *“Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning or other aspects of vocabulary items”* (DKV 3), *“Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items”* (RKV6), and *“Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items”* (RKV 4).

- Factor 3, which is termed as “Strategies for Vocabulary Development through English Language and Media Utilisation” accounted for 4.19 percent of the variance of the strategy items. There are 7 VLSs, including 1 DMV and 6 EKV strategies. Example VLSs in this factor are *“Watching an English-speaking film with subtitles to expand knowledge of vocabulary items”* (EKV 12), *“Singing or listening to English songs to expand knowledge of vocabulary items”* (EKV 13), *“Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items”* (EKV 10) and *“Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items”* (EKV 14)

- Factor 4, which is termed as “Strategies for Vocabulary Development through asking for Cooperation” accounted for 3.31 percent of the variance of the strategy items. There are 5 VLSs, including 3 DMV and 2 RKV strategies. Example VLSs in this factor are *“Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items”* (DKV 8), *“Asking teachers to discover the meaning or other aspects of vocabulary items”* (DKV 7),

and “*Asking friends to discover the meaning or other aspects of vocabulary items*” (DKV 6).

- Factor 5, which is termed as “Strategies for Vocabulary Development through Typical Self-practice and Improvement” accounted for 3.11 percent of the whole strategy variance. There are 3 VLSs, including “*Using a dictionary to discover the meaning or other aspects of vocabulary items*” (DKV5), “*Attending classes of every module regularly to expand knowledge of vocabulary items*” (EKV 7) and “*Studying vocabulary section in one’s textbook to expand knowledge of vocabulary items*” (EKV 4).

As can be seen above, the underlying dimensions of students’ VLS use, the percentage of variance of each factor, and the factor loading for each strategy item have been identified. The next step is to examine which of these factors are strongly related to each of the five variables. In determining the relationship between the factors and the investigated variables, the criteria for strong relation between the factor and each of the variables suggested by Seliger and Shohamy (1989) are adopted. That is, a factor is accepted to be strongly related to a variable if half or more of the VLSs under that factor have a loading of .50 or above, showing a significant variation in relation to that variable. In the present investigation, the results of the varimax rotation reveal that 1 extracted factor was found to be strongly related to gender, 3 extracted factors to field of study, 4 extracted factors to type of institutions and vocabulary proficiency levels, and 5 extracted factors to language learning experience. The subsequent sections present the factors which are strongly related to each of the variables.

4.4.1 Factor with Strong Relation to Gender of Students

The ANOVA results presented in the previous sections demonstrated significant variations in the mean frequency scores of DMV, RKV and EKV in relation to gender of student. The Chi-square results showed significant variations in students' reported use of some individual strategies. Mean while, from the results of factor analysis, 1 factor, i.e. Factor 5 was found to have strong relationship with gender. Table 4.18 illustrates the factor found to be strongly related to this variable.

Table 4.18 Factor with Strong Relation to Students' Gender

Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement	Factor Loading	Comment
DMV 5 Using a dictionary to discover meaning or other aspects of vocabulary items	.61	F>M
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.58	F>M
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	F>M

Note: F>M stands for female students reported employing that particular strategy significantly more frequently than their male counterparts

4.4.2 Factors Strongly Related to Students' Type of Institution

The ANOVA results in the previous sections demonstrated significant variations in the mean frequency score of DMV, RKV and EKV in relation to type of institution. The Chi-square results showed significant variations in students' reported use of some individual strategies. According to the results of factor analysis 4 factors (Factors 2,3,4 and 5) were found to have strong relationship with type of institution. Table 4.19 illustrates the factors found to be strongly related to this variable.

Table 4.19 Factors with Strong Relation to Students' Type of Institutions

Factor 2: Strategies for Vocabulary Development through Contexts and Connections	Factor Loading	Comment
DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to the discover the meaning of vocabulary items	.66	PBU>PVC/U>RU>RMUT
DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	.65	PBU>PVC/U>RU>RMUT
RKV 6. Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	.61	PBU>PVC/U>RU>RMUT
RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	.56	PBU>PVC/U>RMUT>RU
RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	.53	PBU>PVC/U>RU>RMUT
RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	.52	PBU>PVC/U>RMUT>RU
RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	.50	PBU>PVC/U>RU>RMUT
RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	.50	PBU>PVC/U>RU>RMUT
EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	.46	PBU>PVC/U>RMUT>RU
EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	.44	PBU>PVC/U>RU>RMUT
EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	.40	PBU>PVC/U>RU>RMUT
Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation	Factor Loading	Comment
EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	.73	PBU>PVC/U>RU>RMUT
EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	.68	PBU>PVC/U>RMUT>RU
EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	.57	PBU>PVC/U>RU>RMUT

Table 4.19 Factors with Strong Relation to Students' Type of Institutions (Cont.)

Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation (cont.)	Factor Loading	Comment
EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	.55	PBU>PVC/U>RU>RMUT
EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	.53	PBU>PVC/U>RU>RMUT
DMV 4 Surfing the Internet discover the meaning or other aspects of vocabulary items	.51	PBU>PVC/U>RU>RMUT
EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	.41	PBU>PVC/U>RU>RMUT
Factor 4: Strategies for Vocabulary Development through Asking for Cooperation	Factor Loading	Comment
RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	.68	PBU>PVC/U>RU>RMUT
DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	.67	PBU>PVC/U>RU>RMUT
DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	.60	PVC/U>RU>RMUT>PBU
RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	.58	PBU>PVC/U>RMUT>RU
DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	.52	PBU>PVC/U>RU>RMUT
Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement	Factor Loading	Comment
DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	.60	PBU>PVC/U>RU>RMUT
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.58	PBU>RU>PVC/U>RMUT
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	PBU>PVC/U>RU>RMUT

4.4.3 Factors Strongly Related to Students' Field of Study

The ANOVA results shown in the previous sections revealed significant variations in the mean frequency score of the DMV, RKV and EKV categories in relation to field of study. The Chi-square results also showed significant variations at the individual strategy level. According to the factor analysis results, 3 factors (Factors 3, 4 and 5) were found to have strong relationship with field of study. Table 4.20 illustrates the factors found to be strongly related to this variable.

Table 4.20 Factors with Strong Relation to Students' Field of Study

Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation	Factor Loading	Comment
EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	.73	Arts>Bu>Sci
EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	.68	Arts>Sci>Bu
EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	.57	Arts>Bu>Sci
EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	.55	Arts>Bu>Sci
EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	.53	Arts>Sci>Bu
DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	.51	Arts>Bu>Sci
EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	.41	Arts>Sci>Bu
Factor 4: Strategies for Vocabulary Development through Asking for Cooperation	Factor Loading	Comment
RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	.68	Arts>Bu>Sci>

Table 4.20 Factors with Strong Relation to Students' Field of Study (Cont.)

Factor 4: Strategies for Vocabulary Development through Asking for Cooperation (Cont.)	Factor Loading	Comment
DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	.67	Arts>Bu>Sci>
DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	.60	Arts>Bu>Sci>
RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	.58	Arts>Bu>Sci>
DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	.52	Arts>Sci>Bu
Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement	Factor Loading	Comment
DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	.60	Arts>Sci>Bu
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.59	Arts>Sci>Bu
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	Arts>Sci>Bu

4.4.4 Factors Strongly Related to Students' Language Learning

Experience

The ANOVA results shown in the previous sections reveal significant variations in the mean frequency scores of the DMV, RKV and EKV categories in relation to language learning experience. The Chi-square results showed significant variations in students' reported use of some individual strategies. According to the factor analysis results 5 factors (Factors 1,2,3,4 and 5) were found to have strong relationship with language learning experience. Table 4.21 illustrates the factors found to be strongly related to this variable.

Table 4.21 Factors with Strong Relation to Students' Language Learning**Experience**

Factor 1: Strategies for Self-directed Vocabulary Development	Factor Loading	Comment
EKV 5 Building a word network to expand knowledge of vocabulary items	.73	N.S.
RKV 15 Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items	.73	Non-Limited>Limited
RKV 16 Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items	.70	Non-Limited>Limited
RKV 14 Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items	.67	Non-Limited>Limited
RKV 17 Grouping words together according to the similarity of meanings, pronunciation, spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items	.66	Non-Limited>Limited
EKV 11 Surfing the Internet especially the websites for vocabulary learning to expand knowledge of vocabulary items	.52	Non-Limited>Limited
RKV 3 Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items	.51	Non-Limited>Limited
EKV 9 Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items	.51	Non-Limited>Limited
RKV 10 Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items	.47	Non-Limited>Limited
EKV 6 Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc. to expand knowledge of vocabulary items	.46	Non-Limited>Limited
RKV13 Memorising with or without a word list to retain knowledge of newly-learned vocabulary items	.44	Non-Limited>Limited
RKV 2 Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items	.40	Non-Limited>Limited
RKV 1 Saying or write the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items	.35	Non-Limited>Limited
DMV 1 Guessing the meaning by analysing the structure of words (prefixes, roots and suffixes) to discover meaning of newly-learned vocabulary items	.11	Non-Limited>Limited

Table 4.21 Factors with Strong Relation to Students' Language Learning**Experience (Cont.)**

Factor 2: Strategies for Vocabulary Development through Contexts and Connections	Factor Loading	Comment
DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	.66	Non-Limited>Limited
DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items	.65	Non-Limited>Limited
RKV 6. Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	.61	Non-Limited>Limited
RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	.56	Non-Limited>Limited
RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	.53	Non-Limited>Limited
RKV7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	.52	Non-Limited>Limited
RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	.50	Non-Limited>Limited
RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	.50	Non-Limited>Limited
EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	.46	Non-Limited>Limited
EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	.44	Non-Limited>Limited
EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	.40	Non-Limited>Limited
Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation	Factor Loading	Comment
EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	.73	Non-Limited>Limited
EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	.68	Non-Limited>Limited

Table 4.21 Factors with Strong Relation to Students' Language Learning**Experience (Cont.)**

Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation (cont.)	Factor Loading	Comment
EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	.57	Non-Limited>Limited
EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	.55	Non-Limited>Limited
EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	.53	Non-Limited>Limited
DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	.51	Non-Limited>Limited
EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	.41	Non-Limited>Limited
Factor 4: Strategies for Vocabulary Development through Asking for Cooperation	Factor Loading	Comment
RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	.68	Non-Limited>Limited
DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	.67	Non-Limited>Limited
DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	.60	Non-Limited>Limited
RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	.58	Non-Limited>Limited
DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	.52	Non-Limited>Limited
Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement	Factor Loading	Comment
DMV 5 Using a dictionary to discover the meaning or other aspects of vocabulary items	.61	Non-Limited>Limited
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.58	Non-Limited>Limited

Table 4.21 Factors with Strong Relation to Students' Language Learning**Experience (Cont.)**

Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement (cont.)	Factor Loading	Comment
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	Non-limited > Limited

4.4.5 Factors Strongly Related to Students' Vocabulary Proficiency Level

The ANOVA results presented in the previous sections revealed significant variations in the mean frequency scores of the DMV, RKV and EKV categories in relation to vocabulary proficiency. According to the factor analysis results 4 factors (Factors 2,3,4 and 5) were found to have strong relationship with vocabulary proficiency. Table 4.22 illustrates the factors found to be strongly related to this variable.

Table 4.22 Factors with Strong Relation to Students' Vocabulary Proficiency

Factor 2: Strategies for Vocabulary Development through Contexts and Connections	Factor Loading	Comment
DMV 2 Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items	.66	Hi>Mo>Low
DMV 3 Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary item	.65	Hi>Mo>Low

Table 4.22 Factors with Strong Relation to Students' Vocabulary Proficiency**(Cont.)**

Factor 2: Strategies for Vocabulary Development through Contexts and Connections (cont.)	Factor Loading	Comment
RKV 6 Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items	.61	Hi>Mo>Low
RKV 4 Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items	.56	Hi>Low>Mo
RKV 9 Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items	.53	Hi>Mo>Low
RKV 7 Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items	.52	Hi>Mo>Low
RKV 8 Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items	.50	Hi>Mo>Low
RKV 5 Using new words in writing to retain knowledge of newly-learned vocabulary items	.50	Hi>Mo>Low
EKV 1 Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items	.46	Hi>Mo>Low
EKV 3 Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc. to expand knowledge of vocabulary items	.44	Hi>Mo>Low
EKV 2 Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items	.40	Hi>Mo>Low
Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation	Factor Loading	Comment
EKV 12 Watching an English-speaking film with subtitles to expand knowledge of vocabulary items	.73	Hi>Mo>Low
EKV 13 Singing or listening to English songs to expand knowledge of vocabulary items	.68	Hi>Mo>Low
EKV 10 Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items	.57	Hi>Mo>Low
EKV 14 Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items	.55	Hi>Low>Mo

Table 4.22 Factors with Strong Relation to Students' Vocabulary Proficiency
(Cont.)

Factor 3: Strategies for Vocabulary Development through English Language and media Utilisation (cont.)	Factor Loading	Comment
EKV 15 Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items	.53	Hi>Mo>Low
DMV 4 Surfing the Internet to discover the meaning or other aspects of vocabulary items	.51	Hi>Mo>Low
EKV 8 Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items	.41	Hi>Low>Mo
Factor 4: Strategies for Vocabulary Development through Asking for Cooperation	Factor Loading	Comment
RKV 12 Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items	.68	Hi>Mo>Low
DMV 8 Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items	.67	Hi>Mo>Low
DMV 7 Asking teachers to discover the meaning or other aspects of vocabulary items	.60	Hi>Low>Mo
RKV 11 Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items	.58	Hi>Mo>Low
DMV 6 Asking friends to discover the meaning or other aspects of vocabulary items	.52	Hi>Mo>Low
Factor 5: Strategies for Vocabulary Development through Typical Self-practice and Improvement	Factor Loading	Comment
DMV 5 Using a dictionary to discover meaning or other aspects of newly-learned vocabulary items	.61	Hi>Mo>Low
EKV 7 Attending classes of every module regularly to expand knowledge of vocabulary items	.58	Hi>Mo>Low
EKV 4 Studying vocabulary section in one's textbook to expand knowledge of vocabulary items	.39	Hi>Mo>Low

To sum up, five factors were extracted as the results of a factor analysis. Factor 5 was found to be strongly related to students' gender. Factors 2,3,4 and 5 were found to be strongly related to students' type of institution and vocabulary proficiency level. Factors 3,4 and 5 were found to be strongly related to students' field of study. Factors 1,2,3,4 and 5 were found to be strongly related to students' language learning experience. Table 4.23 summarises the strong relationship between the factors and the variables for the present investigation.

Table 4.23 Summary of Factors Strongly Related to Different Variables

Extracted Factor	Gender	Type of Institution	Field of Study	Language Learning Experience	Proficiency Level
1. Self-directed Vocabulary Development	NO	NO	NO	YES	NO
2. Vocabulary Development through Contexts and Connections	NO	YES	NO	YES	YES
3. Vocabulary Development through English Language and media Utilisation	NO	YES	YES	YES	YES
4. Vocabulary Development through Asking for Cooperation	NO	YES	YES	YES	YES
5. Vocabulary Development through Typical Self-practice and Improvement	YES	YES	YES	YES	YES

4.5 Summary

This chapter has presented the results of the present investigation in three aspects: 1) the results of the quantitative data analysis of VLSs use without any variables taken into consideration; 2) the results of the quantitative data analysis of VLS use in relation to the five investigated variables; and 3) the results of the factor analysis. A summary of findings of each aspect is shown below:

• Descriptive VLS Use

A summary of findings is presented below:

- Nine hundred and five research participants reported the medium frequency level of the overall VLS use.

- With regard to the frequency of VLS use by the DMV, RKV and EKV categories, the participants reported the medium frequency level of the overall VLS use in each of the three categories. It was revealed that the VLSs employed to discover meanings or other aspects of vocabulary items (DMV) have been reported being used slightly more frequently than those for the other purposes.

- Regarding individual VLS use, one strategy was reported the high frequency of use, thirty-one strategies were reported the medium frequency of use, and eight strategies were reported the low frequency of use. The highest mean frequency score among 40 individual VLSs reported by the participants belongs to *“Attending classes of every module regularly”*, while the lowest mean frequency score belongs to *“Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc”*.

● VLS Use in Relation to the Five Investigated Variables

The students' overall VLS use, use of VLSs by the three main categories and use of individual VLSs which were systematically examined in relation to the five investigated variables have revealed a number of points listed below:

- Significant variations in the mean frequency scores of the students' overall VLS use were found in relation to all five investigated variables.

- Significant variations in the mean frequency scores of the students' VLS use by the three main categories were found in relation to all five variables.

- In relation to the students' gender, female students reported employing VLSs significantly more frequently than their male counterparts in the DMV, RKV and EKV categories.

- Regarding the students' type of institution, the students studying at PBUs reported employing VLSs significantly more frequently than those studying at PVC/Us, RUs and RMUTs in the DMV category. Moreover, the students studying at PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs in this category. However, no significant differences in the use of VLSs were found between those studying at RUs and RMUTs. The results found in RKV and EKV categories were similar in that the students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. However, no significant differences in the use of VLSs were found between those studying at PBUs and PVC/Us and between those at RUs and RMUTs.

- With regard to the students' field of study, the arts-oriented field reported employing VLSs significantly more frequently than the business-oriented

students and the science-oriented students in the DMV, RKV and EKV categories. However, no significant differences in the use of VLSs were found between the business-oriented students and the science-oriented students in all three categories.

- Concerning the students' language learning experience, students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classroom instructions in the DMV, RKV and EKV categories.

- With regard to the students' vocabulary proficiency, students with high vocabulary proficiency reported employing VLSs significantly more frequently than those with moderate and low vocabulary proficiency levels in all three categories. However, no significant differences in the use of VLSs were found between those with moderate and low vocabulary proficiency levels in all three categories.

- Significant variations in the students' individual VLS use were found in relation to all five investigated variables.

- In respect of the students' gender, 13 VLSs varied significantly according to this variable. Two significant variation patterns of students' individual VLS use were found: 1) female > male, and 2) male > female.

- In relation to the students' type of institution, 38 VLSs varied significantly according to this variable. Five patterns were found: 1) PBU > PVC/U > RU > PMUT, 2) PVC/U > PBU > RU > RMUT, 3) PBU > PVC/U > RMUT > RU, 4) PBU > RU > PVC/U > RMUT, and 5) PVC/U > RU > RMUT > PBU.

- Taking into account the students' field of study, we found that 33

VLSs varied significantly according to this variable. Four significant variation patterns were found: 1) Arts>Sci>Bu, 2) Arts>Bu>Sci, 3) Bu>Arts>Sci, and 4) Sci>Arts>Bu.

- In respect of the students' language learning experience, 39 VLSs varied significantly according to this variable. A significant variation pattern was found: non-limited > limited.

- Concerning the students' vocabulary proficiency level, 36 VLSs varied significantly according to this variable. Two significant variation patterns were found: 1) 'positive' or Hi>Mo>Lo and 2) 'mixed' or Hi>Lo>Mo.

• The Emergent Factors

Five factors were extracted as the results of factor analysis. Factors 1,2,3,4 and 5 are termed as "Strategies for Self-directed Vocabulary Development", "Strategies for Vocabulary Development through Contexts and Connections", "Strategies for Vocabulary Development through English Language and Media Utilisation", "Strategies for Vocabulary Development through asking for Cooperation" and "Strategies for Vocabulary Development through Typical Self-practice and Improvement". The results of factor analysis demonstrate that type of institution, language learning experience and vocabulary proficiency show greater relationship to the students' VLS use than do gender and field of study.

As seen in this chapter, the research findings have provided the researcher useful information for quantitative research within the area of VLS studies. The next chapter, the qualitative analysis in regard to the reasons' behind the students' VLS choices will be presented.

CHAPTER 5

REASONS FOR FREQUENT AND INFREQUENT VOCABULARY LEARNING STRATEGY USE

5.1 Introduction

The purpose of this chapter is to present the results of the qualitative data dealing with the reasons why students reported employing certain strategies frequently and other strategies infrequently. As mentioned earlier in Chapter 3, two types of data collection were used to elicit the information from the participants. The first type of data collection, a VLS questionnaire, was employed to elicit the students' strategy use. The second type of data collection, a semi-structured interview, was used to elicit the reasons behind the students' strategy choices. The interview session was conducted after the questionnaire session had ended. A semi-structured interview was used to follow up the research participants' responses obtained through the VLS questionnaires. Forty- eight participants selected based on their convenience and availability were asked to clarify the reasons why they used certain strategies frequently and other strategies infrequently.

Certain strategies refer to the top and bottom five VLSs reported being employed by the forty-eight participants. The interviews were conducted in Thai to ensure the accuracy of research results. The data were transcribed more or less verbatim and translated into English for the content analysis. Different participants have come up with different reasons to employ certain VLSs frequently and other

VLSs infrequently. The results of participants' semi-structured interview are presented in the subsequent sections.

5.2 Reasons for the Frequent Use of Certain Strategies

Different reasons given by the forty-eight participants were closely examined and compared for the similarities and differences. A list of codes arose out from the data and the resulting codes were used to generate the categories. Seven refined categories emerged as the seven reasons behind the participants' strategy choices:

- 1) enjoyment of using certain strategies;
- 2) familiarity with using certain strategies;
- 3) ease of using certain strategies;
- 4) personal preference for using certain strategies;
- 5) helpfulness of using certain strategies;
- 6) precision of using certain strategies; and
- 7) context availability of using certain strategies.

Each category is presented along with the quoted participants' reasons below:

1) Enjoyment of Using Certain Strategies

Some students wanted to learn vocabulary items in an enjoyable manner. Therefore, any strategies which were viewed as enjoyable ways to deal with the vocabulary items were used frequently. There were three strategies that the students reported using frequently because of their enjoyment when using them. Following are some examples of the participants' reasons.

EKV 13 : "Singing or listening to English songs to expand knowledge of vocabulary items"

PVC/U 2*I think, it [Singing or listening to English songs]is enjoyable. I don't like to read or learn vocabulary from a thick book. It is not me to do...*

PVC/U 13 ...*because....I enjoy listening while learning vocabulary through songs. I don't have to be serious in memorising the words....*

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

PVC/U 4*It is enjoyable to play games. The more we play gamesthe more we get new words.*

RKV 8 : ‘Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items’

PBU 6*I learned this strategy [Associating pictures to vocabulary items] from my younger sister. I think, it is enjoyable to do this strategy.*

2) Familiarity with Using Certain Strategies

Some students reported that they used certain strategies frequently because they were familiar with using them. Some students have known these strategies since they were young. They have been using them all along. Seven of these strategies and some examples of the participants' reasons are presented.

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

PBU 7 *I used this strategy [Playing English games, such as scrabble, crossword puzzles] since I was in secondary school. I'm familiar with it. I played scrabble, crossword when I was a secondary school student....*

RKV 8 : “Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items”

PVC/U 14 ...*Whenever I want to retain the words, I think of the pictures and associate them with the words I learned . I'm familiar with this strategy [Associating pictures to vocabulary items]since I was young. ...*

EKV15: “Practicing vocabulary translation from Thai into English and vice versa to expand knowledge of vocabulary items”

RU 2 *I'm familiar with this strategy [Practicing vocabulary translation from Thai into English and vice versa]. I do it very often when I do English homework.....*

DMV5 : “Using a dictionary to discover the meaning or other aspects of vocabulary items”

RU 15 *I usually use this strategy [Using dictionary]. My teachers have told me to use a dictionary since I studied in a primary school, Prathom 5.....*

RKV 3: “Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items”

RU 3 *I was introduced to do this.. [Writing vocabulary items with meanings on papers and sticking them on the wall in one's room]when I was young... If it is new words we should put them on the wall so that we can see them, whenever we walk pass them....*

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”

PBU 3 I used to do this strategy when I was young. I was forced by the teacher to do at that time. Now, I do it [Saying or writing the word with its meaning repeatedly], whenever I want to memorise the words.....

DMV6: “Asking friends to discover the meaning or other aspects of vocabulary items”

RU 12 I've used this strategy [Asking friends to discover the meaning or other aspects of vocabulary items]since I was in a primary school.... If my friends know, I don't have to look for the meaning on a dictionary....

3) Ease of Using Certain Strategies

Ease of using certain strategies refers to the use of any strategies which were viewed as being easy or relatively effortless to deal with vocabulary items. Some students reported that they used certain strategies because those strategies were comparatively easier than other strategies in order to deal with the vocabulary items. Five strategies that were reported to be used frequently according to ease of the strategy use and some examples of the participants' reasons can be seen below:

EKV 7 : “Attending classes of every module regularly to expand knowledge of vocabulary items”

PVC/U 14 the teacher introduces us the new words. It [Attending classes of every module regularly] is easier for us to learn new words in English class than learning by ourselves....

EKV 13 : “Singing or listening to English songs to expand knowledge of vocabulary item”

PVC/U 7 *When I listen to songs, I can learn many things, such as pronunciation, ..., and I can memorise the new words very easily when I sing along....*

RKV 9 : “Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items”

PBU 4 *I often associate the English word with a word that sounds similar in Thai. ..It [Associating the target word in English with a word that sounds similar in Thai is easy because their sounds are similar.....*

RKV 4 : “Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items”

PVC/U 4 .. *it is easy to remember the word when I look at the real objects. When I see the object I can think of the words...*

DMV4: “Surfing the Internet to discover the meaning or other aspects of vocabulary items”

PBU 3 *I get into the Internet every day. So, it is easy for me to look for the meaning of unknown words or other knowledge on the Internet...*

4) Personal Preference for Using Certain Strategies

Certain strategies were used frequently by some students because of their personal preference of using them. Personal preference for using certain strategies refers to the use of any strategies with no proper reasons but one's state of personal preferring of using them. Four strategies that were reported to be frequently used

because of the students' personal preference are presented along with some examples of the participants' reasons.

RKV 8 : “Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items”

PBU 10 ... *I prefer using picture to associate with the vocabulary items to memorising or reciting the words...*

EKV 13 : “Singing or listening to English songs to expand knowledge of vocabulary items”

PVC 9 ... *I like listening to songs. I can learn new vocabulary from songs.....*

RU 1 ...*I like listening to English songs. I want to know the meaning of the songs.*

DMV6: “Asking friends to discover the meaning or other aspects of vocabulary items”

PBU 7 *I don't like discovering the meaning of unknown words in a dictionary. I prefer asking my friends. ..My friends don't feel annoyed when I ask them.*

EKV 10 : “Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items”

RU 4 *I like learning new vocabulary items through watching English programme channels. I write down the new vocabulary items I've learned.*

5) Helpfulness of Using Certain Strategies

Other than personal preference, helpfulness of using certain strategies was the reason that influenced the students' frequent use of VLSs. The helpfulness of using certain strategies refers to the use of any strategies that were viewed as being 'helpful'

or ‘useful’ or those that can help students achieve their vocabulary learning goals. Fifteen strategies reported being used frequently because of the helpfulness of the strategies and some examples of the participants’ reasons are shown.

DMV5: “Using a dictionary to discover the meanings or other aspects of vocabulary items”

PVC/U 1 *I use a dictionary because certain words might have many meanings. We can find different meanings in a dictionary. It [Using a dictionary]is useful. I use both English-English and English-Thai dictionaries...*

DMV6: “Asking friends to discover the meaning or other aspects of vocabulary items”

PVC/U 2 *I think my friends may help me. I ask some friends whom I think can give me the answer*

PVC/U 7 *My friend may help with the meaning of unknown words, so I ask her... ..I ask only the one whose English is better than mine...*

DMV3: “Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items”

PBU 4 *Sometimes, looking at the real situation might tell us the meanings. It can tell us fifty percent...*

PBU 5 *I think it [Guessing the meaning from contexts, such as pronunciation and real situation] is useful. I use it when I have to guess the meaning of unknown words in the conversation. I have to look at the speaker’s face and gestures....*

RKV 9 : ‘Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items’

PVC/U 4 It is useful, when the two languages have got the vocabulary items with similar sounds and similar meanings..so I use it [Associating the target word in English with a word that sounds similar in Thai language]

EKV 7 : “Attending classes of every module regularly to expand knowledge of vocabulary items”

PVC/U 8 ...When I get into the class, I learn new vocabulary items from textbook, from teacher. It [Attending classes of every module regularly] is helpful. I can learn many things...

PVC/U 10 Attending English class regularly helps to know new English words and grammar.....

DMV 7: “Asking teachers to discover the meaning or other aspects of vocabulary items”

RU 14 becausethe teacher probably helps me with what I don't know. I ask everything, the meaning of unknown words or their pronunciation...

EKV 11: “Surfing the Internet, especially the websites for vocabulary learning to expand knowledge of vocabulary items”

PVC/U 11 If we want to know many words we have to visit many websites.....
..It [Surfing the Internet especially the websites for vocabulary learning] helps me to learn new words.

RKV 10 : “Reviewing previous English lessons to retain knowledge of newly-learned vocabulary items”

PBU 8 *Reviewing the lessons [Reviewing previous English lessons] helps me understand and remember the word better....*

RU 4 ... *It [Reviewing previous English lessons] helps me understand the words I learned more.*

DMV2: “Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary items”

PBU 9 *I often do this strategy [Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence]sometimes, I know some words which are contexts of the unknown words. I think it helps me to guess the meaning of unknown words....*

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”

PBU 7 *This strategy [Saying or writing the word with its meaning repeatedly] helps me a lot when I want to memorise vocabulary items....*

RKV 8 : “Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items”

PVC/U 3 *For me, to associate the pictures to the words I learned helps me to remember the words longer.*

RKV 11 : “Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items”

PVC/U 6 I know the meaning of the words in my head. If I use the new words talking with friends, I won't forget the words. It[Using vocabulary items to converse with friends]helps me to remember the words...

RKV 5 : “Using new word in writing to retain knowledge of newly-learned vocabulary items”

RU 5It [Using new words in writing] helps me to remember the words if I write them down. If I recite the word alone, I might not be able to remember them....

RU 3 I use the words in writing because it helps me remember them. To write them helps remember them ...

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

PBU 3I used to play crossword when I was in a secondary school....I think playing crossword helps me to get many new English words....

RKV 7 : “Connecting newly-learned vocabulary items to your previous learning experience to retain knowledge of newly- learned vocabulary items”

RU 14 This strategy [Connecting newly-learned vocabulary items to your previous learning experience]can help me to retain the words I've learned

6) Precision of Using Certain Strategies

Some students viewed that certain strategies could provide the right meaning or the correct concepts related to the vocabulary items they were learning. Precision refers to the use of any strategies that can help students obtain the right meanings or the correct answers related to any vocabulary items they might face. Five strategies

that were frequently used because of the precision and some examples of the participants' reasons can be seen below:

DMV 7: “Asking teachers to discover the meaning or other aspects of vocabulary items”

PBU 2 *.....I couldn't get meaning that could get along with the contexts,so it is better to ask teacher. The teacher gave me the right meanings*

PBU 6 *When I discover the meaning of unknown words by myself, I can't find the right meaning which is appropriate for contexts I have read. The teacher can tell me the right meanings...*

EKV 7 : “Attending classes of every module regularly to expand knowledge of vocabulary items”

PVC/U 2 *..... I think it is not enough to learn vocabulary on my own. It is better to attend class regularly because in the class the teachers suggest the new words and tell the right meanings.*

DMV2: “Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary”

PVC/U 4 *....I think it [Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence] can give me the correct answers.*

PVC/U 9 *.... It [Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence]helps me guess the meaning of unknown words correctly....*

DMV3: “Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items”

RU 10 If we listen to the real situations, we will know the right meanings.

DMV8: “Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items”

PBU 7 ...I think it is better to ask the native speakers because they give clearer answer than do non-native speakers. They can explain the answer clearly...

RU 15 The native speakers can pronounce the words clearly. When the native speaker pronounces, we know exactly how to pronounce....

7) Context Availability of Using Certain Strategies

The context availability of using certain strategies is the last reason that was identified from student responses to explain their frequent VLS use. Context availability refers to the use of any strategies resulted from the students' learning contexts that can properly support or assist the students to achieve their vocabulary learning goals in a convenient manner. Six strategies that were reported to be used frequently because of the context availability and some examples of the participants' reasons can be seen below:

DMV4: “Surfing the Internet to discover the meaning or other aspects of vocabulary item”

PBU 2 I surf the Internet every day so, it is convenient for me to discover the meaning on the Internet....

RU 8 It is convenient to look for the meaning of unknown words on the Internet...

DMV5: “Using a dictionary to discover the meaning or other aspects of vocabulary items”

PVC/U 5 I look for the meaning of unknown words on my mobile phone. It [Using dictionary] is very convenient.....

PBU 2 I often use dictionary because it is available on my phone. I can find the meanings and learn how to pronounce the words....

PBU 10 ...because it is available on my iPod. I use it to find the meaning of unknown words. I use either English-Thai or Thai – English dictionary....

DMV8: “Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items”

PVC/U 6I chat with foreign friends., so it is convenient to ask them on the Internet....

DMV6: “Asking friends to discover the meaning or other aspects of vocabulary item”

PVC/U 13 It is convenient to ask friends because they are closed. My friend might know some words which I didn't know.....

PVC/U 12It is convenient to get the meaning of unknown words by asking friends who sit beside me in the class

EKV 4 : “Studying vocabulary section in one's textbook to expand knowledge of vocabulary items”

RU 4It [Studying vocabulary section in one's textbook]is convenient . There are many vocabulary items in textbooks that I did not know the meaning yet....

RU 9because.....the words are available there.... I just open the book and look at them. I don't have to learn from other sources.

EKV 7 : “Attending classes of every module regularly to expand knowledge of vocabulary items”

PVC/12 *I don't have much opportunity to learn English language. The only opportunity I have is to attend English in order to know new words....*

PBU 7 *Outside the class, I don't do anything about English. So, attending the English class is the only opportunity for me to get to know new words....*

5.3 Reasons for the Infrequent Use of Certain Strategies

The same forty-eight participants who were asked to provide the reasons for using certain VLSs frequently were asked to provide the reasons for using certain VLSs infrequently as well. The various reasons given by the participants were closely examined and compared for the similarities and differences. Nine categories emerged as the nine reasons behind the participants' strategy choices:

- 1) complication of using certain strategies;
- 2) unfamiliarity with certain strategies;
- 3) ineffectiveness of using certain strategies;
- 4) having limited knowledge of certain strategies;
- 5) having limited language or vocabulary knowledge;
- 6) lack of confidence or being afraid of making mistakes;
- 7) insufficient efforts for learning vocabulary;
- 8) context unavailability of using certain strategies; and
- 9) personal disinclination for using certain strategies.

Each category is presented along with the quoted participants' reasons shown:

1) Complication of Using Certain Strategies

The complication of using certain strategies refers to the use of any strategies that were viewed to be ‘complicated’ or ‘difficult’ or ‘time-consuming’ by the students before they were able to achieve their vocabulary learning goals, including to discover the meanings, retain and expand their vocabulary knowledge. Five strategies infrequently used because of the complication of the strategy use and some examples of the participants’ reasons are presented:

EKV 5 : “Building a word network to expand knowledge of vocabulary items”

PBU 7 I think, it [Building a word network]is complicated. Although we build a Thai vocabulary net work, it is difficult. So, it is much more difficult, if it is an English vocabulary network....

PVC 4 ...I think it is too complicated for me to do this strategy[Building a word network]. I have to know many words so that I can build a vocabulary network....

RKV 7 : “Connecting newly-learned vocabulary items to your previous learning experience to retain knowledge of newly- learned vocabulary items”

PBU 8 ...It is complicated and time-consuming to do this strategy[Connecting newly-learned vocabulary items to one’s previous learning experience] because I have to think of the words I learned and associate them with the new ones....

RKV14: “Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items”

RU 3 ...I think it [Recording the words/phrases one’s learning and playing them to oneself whenever one has some spare time] is time consuming and complicated. We have to record and listen to what we have recorded....

PVC 6 ...This strategy [Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time] is too complicated. If I have to listen to English, I think it’d be better to listen to English songs....

RKV 17: “Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items”

PVC 5 It [Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together] is complicated for me to do. I have to group them first in order to learn them.

EKV 8 : “Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items”

RMUT 8 ... I think learning vocabulary through English literature is quite difficult and complicated I’m afraid that I won’t understand them ..

2) Unfamiliarity with Certain Strategies

Being unfamiliar with certain strategies is one of the reasons that causes the students to use the strategies infrequently. Some students reported that they never used or were not familiar with certain strategies, thus they employed them infrequently. Four strategies infrequently used because of the unfamiliarity with the strategy are seen below;

RKV 14: “Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items”

PBU 7 I never do it. I'm not familiar with it [Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time]

RKV 17: “Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items”

RU 3 I'm not familiar with this strategy [Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together]. I feel that I have to know how they are pronounced, what they mean so that I can group them.

RKV 3: “Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items”

RMUT 4 ...If I want to learn new vocabulary, I just look into a dictionary. I never think of doing this.[Writing vocabulary items with meanings on papers and sticking them on the wall in one's room] I'm not familiar with it....

RKV 4 : “Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items”

PBU 10 ... *If I look at real objects, I don't associate them with vocabulary items. I may think of something else. I'm not familiar with this strategy... [Looking at real objects and associating them with vocabulary items]*

RU 6 *I rarely associate the objects with the vocabulary items. I'm not familiar with this strategy.[Looking at real objects and associating them with vocabulary items]*

3) Ineffectiveness of Using Certain Strategies

Some students reported that they employed certain strategies infrequently because those strategies were seen as being ‘useless’ or ‘ineffective’ for them to deal with the vocabulary items. Ineffectiveness of using certain strategies refers to the use of any strategies that were viewed ‘useless’ or ‘ineffective’ in order to discover the meanings, retain or expand their vocabulary knowledge. Six strategies infrequently used because of their perceived ineffectiveness and some examples of the participants’ reasons can be seen.

EKV 8 : “Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items”

RU 4 ...*I think, the vocabulary in poems or literature can't be taken to be used. So, it is useless to learn words through literature or pomes... it is better to learn vocabulary from something else....*

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”

PVC 4 If I recite the words, I think I will forget them soon. It [Saying or write the word with its meaning repeatedly] is useless, if I don't have a chance to use them....

RKV 3: “Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items”

RU 10 If we stick them on the wall and do not use them, we can't remember them. So, it is no use to stick them on the wall...

PVC 6 I think, I won't read what I have put on the wall in my room. This strategy does not work for me...

RKV 13 : “Memorising with or without a word list to retain knowledge of newly-learned vocabulary items”

PBU 2 I think it [Memorising with or without a word list] does not work. If we just memorise without using them, we might forget them soon...

RKV 8 : “Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items”

RU 10 I think, it [‘Associating pictures to vocabulary items] does not work. If some words are abstract noun, how can we associate them with pictures...

RKV 16 : “Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items”

PBU 1 ...I did not keep a vocabulary notebook. I think if I keep a vocabulary notebook, I will lose it. So, it [Keeping a vocabulary notebook] does not work....

4) Having Limited Language or Vocabulary Knowledge

Certain strategies require a certain level of the students' language or vocabulary knowledge in order to implement the strategies. Some students reported that they had too limited a level of language or vocabulary knowledge; therefore, they employed the strategies infrequently. Fourteen strategies infrequently used because of the students' limited language or vocabulary knowledge can be seen below:

EKV 5 : "Building a word network to expand knowledge of vocabulary items"

PVC 13 *...I don't know many vocabulary items. I don't think I can do this strategy [Building a word network]. To build a word network, we have to know a lot of English words.*

PBU 6 *...I don't know many English words, so I can't build a vocabulary network...*

RKV 7 : "Connecting newly-learned vocabulary items to one's previous learning experience to retain knowledge of newly-learned vocabulary items"

RU 3 *....I can't make a connection ... because I don't understand the meaning of some words clearly....*

DMV8: "Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items"

RU 1 *...I think I don't understand what the native speakers said, if they explained what I wanted to know in English. I would not understand what they tried to tell me.....*

EKV 2: “Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items”

RU 13 ... *I don't read English newspaper.... . because I can't understand it*

EKV 9: “Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items”

RMUT 2 ...*I don't know English much, so I don't think about getting trained with the company where I can use English....*

DMV2: “Guessing the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence to discover the meaning of vocabulary item”

PBU 1 ... *I never use it.... because I don't understand the contexts around the words. It is confusing to guess from the contexts..... the more I read, the more I get confused....*

RKV 12 : “Using vocabulary items to converse with teachers of English or native speakers of English”

PBU 1 ...*I don't know how to ask or start a conversation in English with a teacher.. I can't say a long sentence....*

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

PBU 2 ... *I don't know many vocabulary items, so I can't play English games...*

RKV 9 : “Associating the target word in English with a word that sounds similar in Thai language to retain knowledge of newly-learned vocabulary items”

PBU 2 I don't know many English words for which their sounds are similar to Thai words. I think there are no many English and Thai words for which their sounds are similar. ...

RKV 17: “Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items”

PBU 7 because I don't know many vocabulary. We must know a lot of vocabulary items, so we can use this strategy [Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together]

PVC/U3 ...I don't know how the words are pronounced exactly, so I can't group them to study.and ..I don't know the meaning of some words clearly, so I can't group them together as well.....

EKV 6 : “Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc.to expand knowledge of vocabulary items”

PBU 7 Sometimes, I don't understand the questions in the exercise. It is written in English. So, I don't use this strategy...[Doing extra English exercises or tests from different sources, such as texts, magazines, internets, etc.]

EKV 12 : “Watching an English-speaking film with subtitles to expand knowledge of vocabulary items”

PBU 8 *....I don't watch an English-speaking film with subtitles because I can't catch up with the subtitles ..., I don't understand the story. ...*

RKV 14: “Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items”

PVC/U 1 *....I don't do this strategy because I'm not good at English. ... there are too many vocabulary items to be learned and too many of them to be recorded...*

EKV 14: “Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items”

RU 14 *.... I seldom pay attention to listening to English conversations because I don't understand them....*

5) Having Limited Knowledge of Certain Strategies

Having limited knowledge of certain strategies is considered another important reason that students reported for employing VLSs infrequently. Some students reported that they either did not have knowledge or had never been trained to use certain strategies. Six strategies that were used infrequently because of the students' limited knowledge and some examples of the participants' reasons are shown:

EKV 10 : “Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items”

PBU 7 ...I don't know English program channels or English radio programs. I don't know how and where to start to listen to them...

RKV 2: “Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items”

PVC/U 7 ... I don't know how to make the vocabulary items in rhymes. So I just recite a word with its meaning....

RU 13 ...I don't know this strategy [Saying vocabulary items in rhymes]. I don't know how to say the words in rhymes....

RKV 17: “Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together to retain knowledge of newly-learned vocabulary items”

RU 12 I don't know how to start or how to use this strategy, so I choose not to use this strategy..[Grouping words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together]

RKV 6 : “Associating newly-learned vocabulary items with previously-learned ones repeatedly to retain knowledge of newly-learned vocabulary items”

RU 13 ...I don't know how to link new words with the words I've learned ...

RKV 7 : “Connecting newly-learned vocabulary items to your previous learning experience to retain knowledge of newly- learned vocabulary items”

RMUT 2 I don't know how to link the word that I have experienced with
the new words.....

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand
knowledge of vocabulary items”

RMUT 8 I don't know how to play games.... I don't have friends who can play
crosswords and guide me how to play

6) Lack of Confidence or Being Afraid of Making Mistakes

As reported in the interviews, some students mentioned that they avoided
using certain strategies because they were not confident or were afraid of making
mistakes to use them. Eight strategies reported being used infrequently because of
the students' lack of confidence or their fear of making mistakes are presented
below:

RKV 5 : “Using new word in writing to retain knowledge of newly-learned
vocabulary items”

RU 12 because I'm afraid that I would make mistakes. I'm afraid that I would
write incorrect sentences

RU 9 I'm afraid that I can't do it correctly. I can't make the correct
sentences....

DMV8: “Asking other people or native speakers of English to discover the meaning
or other aspects of vocabulary items”

RU 6 I'm afraid to talk with the native speakers of English. I'm not good at
English, so I'm not confident to speak with them.....

RU 11 I'm not confident. This is a problem that makes me avoid asking or
speaking with the native speakers of English ...

PBU 5 ...*If I meet a native speaker, I'm not confident to ask him. I don't know how to ask or explain my questions to him....*

DMV 7: “Asking teachers to discover the meaning or other aspects of vocabulary items”

PVC 13 ...*I'm not confident to speak with the teachers of English. So, I keep quiet. I don't think they will understand me if I ask them.*

RKV 12 : “Using vocabulary items to converse with teachers of English or native speakers of English”

PBU 1 ...*I'm not confident. I'm afraid that the words I'm talking with them are not the right words....*

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

PBU 2 ... *I'm not confident to play games that require the players to know many English vocabulary items. ...*

DMV6: “Asking friends to discover the meaning or other aspects of vocabulary items”

PBU 3 ...*I'm afraid that my friends will know that I don't know the meaning of unknown words. I'm too embarrassed to ask them. I don't want people to know that I don't know the words...*

EKV 9: “Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items”

PVC 12 *...I'm not confident enough to take an extra job which I can use English.
I think the tour company won't allow me who are not good at speaking
English to do the job....*

DMV2: “Guessing the meaning from contexts, such as a single vocabulary,
grammatical structure of a sentence to discover the meaning of vocabulary items”

RU 9 *I don't often use it [Guessing the meaning from contexts, such as a single
vocabulary, grammatical structure of a sentence]because I am afraid that I
will get it wrong. I often I ask friends...*

7) Insufficient Efforts for Learning Vocabulary

Another main reason for the infrequent use of certain strategies originates from the students themselves. Some students reported that they employed certain strategies infrequently because they were not disciplined or lacked the efforts to follow what they had planned. Five strategies reported being used infrequently because of the students' insufficient efforts and some examples of the participants' reasons can be seen below:

RKV 15: “Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items”

RU 11 *...I don't set a time to learn vocabulary because I pay attention to
doing something else...*

PBU 2 *....If I don't have a test I don't set a time to learn vocabulary.I
set the time to review vocabulary only before the test time.....*

PBU 3 *.....I'm too lazy to set the exact time to learn vocabulary... I will set
the time only before the test...*

RKV 3: “Writing vocabulary items with meanings on papers and sticking them on the wall in one’s room to retain knowledge of newly-learned vocabulary items”

PBU 10 ...I’m lazy to write the words and stick them on the wall. I don’t read them, if I do this strategy. [Writing vocabulary items with meanings on papers and sticking them on the wall in one’s room]

RKV 14: “Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary”

PVC/U 13 ...I think if I recorded..., I wouldn’t listen to what I had recorded. I think I might do something else...I’m lazy..

PBU 7 I’m lazy to do it ... I have to record and then I have to listen to what I have recorded. I won’t do it....

RKV 16 : “Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items”

PVC 13 I used to keep a vocabulary notebook, but I did not go back and review it. Later, I gave up to do this strategy.. [Keeping a vocabulary notebook]

PVC/U 14 I keep a vocabulary notebook only before the test. After the test I don’t do it because I think I don’t have a chance to use them and I’m lazy as well...

PBU 4 To tell you the truth, I’m very lazy to write. I don’t like to keep a vocabulary notebook.....and if I keep a vocabulary notebook, I think I won’t read it....

RU 4 ...because I’m not disciplined. .. I can’t set the time to learn vocabulary...

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”

PBU 5 I don't want to say or write the vocabulary . I'm lazy. I do something else. ..

8) Context Unavailability of Using Certain Strategies

It was found from the interviews that the use of certain strategies depends upon the students' learning context or external opportunity that can support their vocabulary learning. Context unavailability refers to the infrequent use of any strategies resulted from the students' inappropriate learning contexts or improper opportunities for using the strategies. Some students reported that their learning contexts did not support the strategy use and they reported that they did not have an opportunity to implement them. Ten strategies that were reported being used infrequently because of the unavailability of context are presented below:

DMV4: “Surfing the Internet to discover the meaning or other aspects of vocabulary items”

RMUT 4 ...because... the Internet access is not available at my home. When I'm in the university, I get into the Internet sometimes....

RKV 11 : “Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items”

RU 11 ...I speak Thai with them and we never talk in English or talk about English.
...if I use new English words talking with them, they might not speak with me...

PVC/U 2 I don't use this strategy [Using vocabulary items to converse with friends]. I think my friends won't talk with me in English or talk about vocabulary...

RKV 3: "Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items"

PBU 8 I stay with my roommate. My friends don't allow me to make the wall messy. If I stay alone, I might stick the vocabulary on the wall...

EKV 14: "Listening to English lectures, presentation, or English conversation to expand knowledge of vocabulary items"

RMUT 6 ...because...I don't have an opportunity to listen to English lecture or presentation .. I rarely use this strategy [Listening to English lectures, presentation, or English conversation]

EKV 8 : "Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items"

RU 5 I don't have an opportunity to see English poems or literature. I rarely learn the new words through them...[Learning words through literature, poems and traditional culture]

PVC 12 I don't read English literature or poems much. I rarely see them. So, I don't have an opportunity to learn English through them....

EKV 9: "Taking an extra job or getting trained by the companies where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items"

RMUT 8 No, my field of study did not give me an opportunity to be trained in a tour company...I never use this strategy [Taking an extra job or getting

trained by the companies where one can use English, such as tour offices, hotels, etc.]

PBU 1 *...I'm not majoring in English, so I don't have an opportunity to take a part-time job that can help improve my English language....*

DMV8: “Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items”

RMUT 9 *.... I never ask foreigners for the meanings of unknown words because I don't have an opportunity to talk with them...*

EKV 1: “Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”

RMUT 3 *.....I don't have an opportunity to play English games. My friends did not play with me ...I do other activities..*

DMV 7: “Asking teachers to discover the meaning or other aspects of vocabulary items”

PVC/U 2 *.....I don't have an opportunity to meet teachers of English very often. I don't often ask them...*

RU 1 *.....I ask the teachers only in the classroom. I don't have an opportunity to see them outside the class....*

EKV 2: “Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items”

PVC 4 *....I rarely see the advertisements, notices, traffic signs written in English, so I don't often use this strategy.[Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers] ...*

9) Personal Disinclination to Use Certain Strategies

Personal disinclination to use strategies refers to the infrequent use of any strategies with no proper reasons to support, but the personal preference of the student to either avoid or ignore a strategy. Some students reported that they employed certain strategies infrequently because they were personally disinclined to use them. The strategies reported being used infrequently because of the students' personal disinclination are presented below:

EKV 12 : “Watching an English-speaking film with subtitles to expand knowledge of vocabulary items”

PBU 2 ...*I don't like seeing a movie with subtitles. I want to understand the story clearly. Sometimes the Thai subtitles are not correct.. it gives me a better feeling to see a movie with Thai voice over...*

RKV 14: “Recording the words/phrases one is learning and playing them to oneself whenever one has some spare time to retain knowledge of newly-learned vocabulary items”

PBU 6 ...*I never recorded because I don't like to do. I prefer writing the vocabulary on the paper. I will write until I can remember them. ..*

RU 2 ...*I don't like recording. I never recorded. I prefer writing.*

RKV 3: “Writing vocabulary items with meanings on papers and sticking them on the wall in one's room to retain knowledge of newly-learned vocabulary items”

PBU 6 ...*I don't like writing something on the wall. I don't want to make it messy...*

RU 5 ...*I just recite the words ... I don't like sticking them on the wall. It looks messy....*

RKV 6 : “Associating newly-learned vocabulary items with previously-learned ones to retain knowledge of newly-learned vocabulary items”

PBU 9 I don't like associating the newly-learned words with the word I've learned . I like memorising...

RKV 1: “Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items”

PBU 10 I don't like reciting. I know this strategy [Saying or write the word with its meaning repeatedly] ,but I don't often use it...

RKV 8 : “Associating pictures to vocabulary items to retain knowledge of newly-learned vocabulary items”

PVC/U 6 I don't like associating pictures to the words I learned. I don't like this strategy. [Associating pictures to vocabulary items] ...if I want to learn vocabulary, I will use them very often....

RKV 11 : “Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items”

RU 6 I rarely use English with friends..... I don't like mixing English in Thai, so I don't use new English words talking with friends....

RKV 16 : “Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items”

RU 6 I don't like keeping a vocabulary notebook. I think we should listen to the words we learn very often so that we can remember them...

EKV 5 : “Building a word network to expand knowledge of vocabulary items”

RU 1because *I don't like this strategy [Building a word network] ...if we build a word network, we will know only the word that can be linked together....*

5.4 Summary

As mentioned earlier, the purpose of this chapter is to present the results of qualitative data obtained through forty-eight participants' semi-structured interviews. The interviews were conducted either right after the questionnaire session or on the same day when the participants had finished their VLS questionnaire responses. The interviews were conducted to collect data in order to answer Research Question 4: Why do students report employing certain VLSs frequently and certain VLSs infrequently? The main purpose of the interviews was to elicit in-depth information dealing with the reasons behind the students' strategy choices in order to provide further insights into VLS use. Three main points can be noticed from the results gained from the interviews. These include:

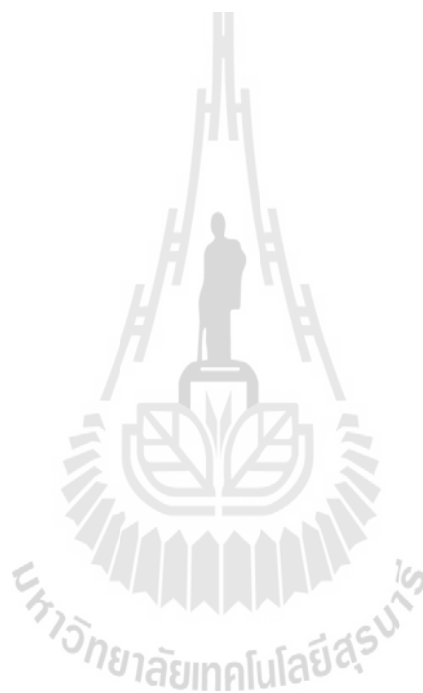
- Different categories of reasons emerged from the use of the same certain VLSs. For example, Categories 2,5,7 (familiarity, helpfulness and context availability) emerged from the frequent use of “*Using a dictionary to discover the meaning or other aspects of vocabulary items*” (DMV 5). Similarly, Categories 4,5,6,8 (limited language or vocabulary knowledge, limited knowledge of strategies, lack of confidence and context unavailability) emerged from the infrequent use of “*Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items*” (EKV 1).

- There were other similar categories of reason in which strategies were reported being used either frequently or infrequently. For example, Category 5 “Helpfulness of using certain strategies” emerged as the reason for the frequent use of different VLSs, such as *“Using a dictionary to discover the meaning or other aspects of vocabulary items”* (DMV 5) and *“Guessing the meaning from contexts, such as pronunciation and real situation to discover the meaning of vocabulary items”* (DMV 3). Similarly, Category 4 “Having limited language or vocabulary knowledge” emerged as the reason for the infrequent use of different VLSs, such as *“Building a word network to expand knowledge of vocabulary items”* (EKV5) and *“Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items”* (DMV 8).

- Different reasons both for the frequent use and infrequent use of certain VLSs emerged from the same certain VLSs. For example, Categories, 2, 4, 6 and 7 for frequent use (familiarity, personal preference, precision and context availability) and the Category 2 for the infrequent use of certain VLSs (unfamiliarity) emerged as reason for the use of *“Writing vocabulary items with meanings on papers and sticking them on the wall in one’s room to retain knowledge of newly-learned vocabulary items”* (RKV 3).

As seen above, the range of reasons emerging from the qualitative data reflects the fact that the use of certain VLSs depends upon the individual participants’ perspective. The participants’ language background, experience, attitude and learning environment, as well as the interaction of these factors probably account for a large number of the reasons cited for employing certain VLSs frequently or infrequently. The results of the qualitative data have supplemented the quantitative

data in the present investigation and provided the reader another perspective in the area of VLS studies. The next and final chapter will summarise the research findings in response to the research questions proposed in Chapter 3. In addition, the discussions, implications and limitations of the present investigation will be presented as well.



CHAPTER 6

SUMMARY OF RESEARCH FINDINGS, DISCUSSIONS AND CONCLUSION

6.1 Introduction

The purpose of this chapter is to present the summary of research findings of the present investigation in response to Research Questions 1 to 4 presented earlier in Chapter 3. The discussions of research findings, the implications arising from the research for the teaching and learning of English for tertiary-level students in Thailand are subsequently presented. Finally, contributions, limitations of the present investigation, suggestions for future research studies and conclusion are shown.

Based on the results of quantitative part, the researcher systematically presented the results of research work in Chapter 4, while the results of qualitative part were systematically revealed in Chapter 5. In Chapter 4, the researcher described the overall VLS use, use of VLSs by the three main categories and use of 40 individual VLSs. They all were described with no variable focused. Moreover, the significant variations and patterns of variation in mean frequency of VLS use at the overall, main category and individual levels in relation to the five investigated variables were shown. In Chapter 5, reasons behind the students' strategy choices were indicated. In this chapter, the summary of the findings based on the research questions, as well as possible reasons as explanations for existing variations to each

investigated variables are presented in the subsequent sections in order to help the reader understand certain patterns of significant variations in VLS use.

6.2 Summary of the Research Findings

The findings on students' reported VLS use in Chapter 4 and the reasons behind the students' strategy choices in Chapter 5 are summarised based on the questions below:

6.2.1 Research Question 1: What is the frequency of the VLSs reported being employed by students studying at the tertiary level?

In response to Research Question 1, the research findings reveal that the students' reported overall use of VLSs based on the holistic mean score was of medium frequency of strategy use according to the measure explained in Chapter 4 (Figure 4.1). The mean frequency score was 2.26. The mean frequency of scores of VLS use in the DMV, RKV and EKV were also at the medium frequency level with the mean frequency scores of 2.49, 2.09 and 2.32, respectively.

According to the individual VLS level, 1 VLS, *"Attending classes of every module regularly to expand knowledge of vocabulary"* (EKV7) was reported the high frequency of use. Thirty-one VLSs were reported the medium frequency of use, such as *"Using a dictionary to discover the meaning or other aspects of vocabulary items"* (DKV 5), *"Singing or listening to English songs to expand knowledge of vocabulary items"* (EKV13) and *"Surfing the Internet to discover the meaning or other aspects of vocabulary items"* (DKV 4). Eight VLSs were reported the low frequency of use, such as *"Grouping words together according to the similarity of meaning, pronunciation, spelling or any other aspects that can link the words to be*

grouped together to retain knowledge of newly-learned vocabulary items” (RKV17), “Saying vocabulary items in rhymes to retain knowledge of newly-learned vocabulary items” (RKV 2), “Keeping a vocabulary notebook to retain knowledge of newly-learned vocabulary items’ (RKV16).

6.2.2 Research Question 2 : Do students’ choices of VLSs vary significantly according to the five investigated variables?

If they do, what are the main patterns of variation?

In response to Research Question 2, the researcher examined the different levels of students’ VLS reported frequency of use, as well as the patterns of variation related to the five variables as can be seen in the subsequent sections:

6.2.2.1 Variation Patterns with Regard to Students’ Gender

As found from the data obtained through the VLS questionnaires responded by 905 participants, the results of 3 different levels of use, i.e. the overall VLS use, use of VLSs by the main categories and use of VLSs at the individual VLSs are summarised according to gender below:

- Overall Strategy Use

Regarding the overall strategy use, the results of ANOVA reveal that female students reported employing VLSs significantly more frequently than their male counterparts.

- Use of VLSs in the DMV, RKV and EKV Categories

The ANOVA results demonstrate that female students reported employing VLSs significantly more frequently than male students in the DMV, RKV and EKV categories.

- Use of VLSs at Individual Strategy Level

The Chi-square test shows that 13 VLSs varied significantly according to students' gender. Two variation patterns were found according to this variable.

The first variation pattern is 'Female>Male' indicating that a significantly greater percentage of the female students than their male counterparts, reported high use of 12 VLSs. Example VLSs in this variation pattern are "*Attending classes of every module regularly to expand knowledge of vocabulary items*" (EKV7), and "*Singing or listening to English songs to expand knowledge of vocabulary items*" (EKV 13).

The second variation pattern is 'Male>Female'. This variation pattern indicates that a significantly greater percentage of the male students than the female students, reported high use of 1VLS, i.e. "*Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary items*" (RKV4).

6.2.2.2 Variation Patterns by Students' Type of Institution

The results at three different levels of data analysis according to students' type of institution are summarised below:

- Overall Strategy Use

Based on the results of ANOVA, significant differences were found according to this variable. The results of post hoc Scheffé test reveal that the students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. However, no significant differences in the use of VLSs were found between PBU and PVC/U students, and between RU and RMUT students.

- Use of VLSs in the DMV, RKV and EKV Categories

The ANOVA results reveal significant differences in the mean frequency scores of the students' use of VLSs in the DMV, RKV and EKV categories according to this variable. In the DMV category, the results of post hoc Scheffé test reveal that the students studying at PBUs reported employing VLSs significantly more frequently than those studying at PVC/Us, RUs and RMUTs. Moreover, the students studying at PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. However, no significant difference in the use of VLSs was found between RU and RMUT students. In relation to the RKV and EKV categories, the post hoc Scheffé test reveals that the students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. However, no significant differences were found in the use of VLSs between those studying at PBUs and PVC/Us, and between those studying at RUs and RMUTs.

- Use of VLSs at Individual Strategy Level

The results of the Chi-square test show significant variations in use of individual VLSs in terms of type of institution with 38 out of 40 VLS items varying significantly according to this variable. Five significant variation patterns in students' use of individual VLSs according to type of institution were revealed.

The first variation pattern is 'PBU>PVC/U>RU>RMUT' indicating that a significantly greater percentage of the PBU students than those at PVC/Us, RUs and RMUTs, reported high use of 23 VLSs. Examples are "*Surfing the Internet to discover the meaning or other aspects of vocabulary items*" (DMV4) and "*Using a dictionary to discover the meaning or other aspects of vocabulary items*" (DMV 5).

The second variation pattern is ‘PVC/U>PBU>RU>RMUT’ indicating that a significantly greater percentage of the PVC/U students than those at PBUs, RUs and RMUTs, reported high use of 7 VLSs. Examples are “*Memorising with or without a word list to retain knowledge of newly-learned vocabulary items*” (RKV 13), “*Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items*’ (DMV 8).

The third variation pattern is ‘PBU>PVC/U>RMUT>RU’ indicating that a significantly greater percentage of the PBU students than those at PVC/Us, RMUTs and RUs, reported high use of 6 VLSs. Examples are “*Singing or listening to English songs to expand knowledge of vocabulary items*” (EKV 13), “*Connecting newly-learned vocabulary items to one’s previous learning experience to retain knowledge of newly-learned vocabulary items*” (RKV 7).

The fourth variation pattern is ‘PBU>RU>PVC/U>RMUT’ indicating that a significantly greater percentage of the PBU students than those at RUs, PVC/Us and RMUTs, reported high use of 1 VLS, i.e. “*Attending classes of every module regularly to expand knowledge of vocabulary items*” (EKV 7).

The last variation pattern is ‘PVC/U>RU>RMUT>PBU’ indicating that a significantly greater percentage of the PVC/U students than those at RUs, RMUTs and PBUs, reported higher use of 1 VLS, i.e. “*Asking teachers to discover the meaning or other aspects of vocabulary items*” (DMV 7).

6.2.2.3 Variation Patterns by Students’ Field of Study

The results at three different levels of data analysis according to the students’ field of study are summarised below:

- Overall Strategy Use

The ANOVA results demonstrate significant variations in the frequency of students' reported overall strategy use according to this variable. The results of post hoc Scheffé test reveal that the arts-oriented students reported employing VLSs significantly more frequently than the business-oriented students and the science-oriented students. However, no significant differences in the use of VLSs were found between the business-oriented students and the science-oriented students.

- Use of VLS in the DMV, RKV and EKV Categories

The ANOVA results demonstrate significant differences in the mean frequency scores of students' use of VLSs in all three categories according to this variable. The results of post hoc Scheffé test reveal that the arts-oriented students reported employing VLSs significantly more frequently than the business-oriented students and the science-oriented students in the DMV, RKV and EKV categories. However, no significant differences in the use of VLSs were found between the business-oriented students and the science-oriented students in all three categories.

- Use of VLSs at Individual Strategy Level

The Chi-square test demonstrates significant variations in use of individual VLSs in terms of field of study with 33 out of 40 VLS items varying significantly according to this variable. Four different variation patterns were discovered.

The first variation pattern is 'Arts>Sci>Bu'. This pattern indicates that a significantly greater percentage of the arts-oriented students than the science-oriented students and the business-oriented students reported high use of 16 VLSs.

Examples are “*Attending classes of every module regularly to expand knowledge of vocabulary items*” (EKV 7), and “*Using a dictionary to discover meaning or other aspects of vocabulary items*” (DMV 5).

The second variation pattern is ‘Arts>Bu>Sci’ indicating that a significantly greater percentage of the arts-oriented students than the business-oriented students and the science-oriented students, reported high use of 15 VLSs. Examples are “*Watching an English-speaking film with subtitles to expand knowledge of vocabulary items*” (EKV12) and “*Surfing the Internet to discover the meaning or other aspects of vocabulary items*” (DMV 4).

The third variation pattern is ‘Bu>Arts>Sci’ indicating that a significantly greater percentage of the business-oriented students than the arts-oriented students and the science-oriented students reported employing high use of 1 VLS, i.e. “*Building a word network to expand knowledge of vocabulary items*” (EKV5).

The last variation pattern is ‘Sci>Arts>Bu’. This pattern indicates that a significantly greater percentage of the science-oriented students than the arts-oriented students and business-oriented students, reported high use of 1 VLS, i.e. “*Saying or writing the word with its meaning repeatedly to retain knowledge of newly-learned vocabulary items*” (RKV1).

6.2.2.4 Variation Patterns by Students’ Language

Learning Experience

The results at three different levels of data analysis according to the students’ language learning experience are summarised below:

- Overall Strategy Use

The ANOVA results show that the students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classrooms only.

- Use of VLS in the DMV, RKV and EKV Categories

The ANOVA results reveal significant differences in the mean frequency score of students' use of VLSs in all three categories. The students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classrooms only in all the three categories

- Use of VLSs at Individual Strategy Level

The results of Chi-square test reveal that a significantly greater percentage of the students who have an exposure to the English language within and beyond the formal classroom instructions than those who have an exposure to the English language within the formal classrooms reported high use of 39 out of 40 VLSs of which significant differences were found.

6.2.2.5 Variation Patterns by Students' Vocabulary

Proficiency Level

The results at three different levels of data analysis according to the students' vocabulary proficiency level are summarised below:

- Overall Strategy Use

The ANOVA results reveal significant difference amongst the mean frequency scores of VLSs employed by students with high, moderate and low vocabulary proficiency levels. The results of post hoc Scheffé test indicate that students with high vocabulary proficiency reported employing VLSs significantly more frequently than those with moderate and low proficiency levels. However, no significant differences in the use of VLSs were found between those with moderate and low vocabulary proficiency levels.

- Use of VLS in the DMV, RKV and EKV Categories

The ANOVA results demonstrate significant differences among the mean frequency scores of students' use of VLSs in all three categories according to this variable. The results of post Scheffé test indicate that students with high vocabulary proficiency reported employing VLSs significantly more frequently than those with moderate and low vocabulary proficiency levels in all three categories. However, no significant differences in the use of VLSs were found between those with moderate and low vocabulary proficiency levels.

- Use of VLSs at Individual Strategy Level

The Chi-square results revealed the significant variations in students' use of 36 individual VLSs which were found according to this variable. Two main variation patterns were found: the 'positive' and 'mixed' patterns.

The first variation pattern is 'Hi>Mo>Lo'. This variation pattern is called 'positive'. It indicates that a significantly greater percentage of students with higher vocabulary proficiency than those with lower proficiency level, reported high use of 27 VLSs. Examples are *"Attending classes of every module regularly to*

expand knowledge of vocabulary items” (EKV 7), and “Singing or listening to English songs to expand knowledge of vocabulary items” (EKV 13).

The second variation pattern is ‘Hi>Lo>Mo’. This pattern is called as a ‘mixed pattern’. This pattern reveals that a significantly greater percentage of the students with higher vocabulary proficiency than those with lower vocabulary proficiency, reported high use of 9 VLSs, and a significantly greater percentage of the students with lower vocabulary proficiency than those with higher vocabulary proficiency reported doing so. Examples are “*Asking teachers to discover the meaning or other aspects of vocabulary items*” (DMV 7) and “*Learning words through literature, poems and traditional culture to expand knowledge of vocabulary items*” (EKV 8).

6.2.3 Research Question 3: What are the underlying dimensions of the students’ VLS Use?

In response to Research Question 3, the factor analysis was conducted. The results show that 5 factors are the underlying dimensions of the students’ VLS use. Factors 1,2,3,4 and 5 are termed as “Strategies for Self-directed Vocabulary Development”, “Strategies for Vocabulary Development through Contexts and Connections”, “Strategies for Vocabulary Development through English Language and Media Utilisation”, “Strategies for Vocabulary Development through asking for Cooperation” and “Strategies for Vocabulary Development through Typical Self-practice and Improvement”, respectively.

In terms of the relationship between factors and the investigated variables, factor 5 “Strategies for Vocabulary Development through Typical Self-practice and Improvement” was found to be strongly related to the students’ gender.

Regarding the students' type of institutions, 4 factors were found to be strongly related to this variable. These factors are; Factor 2 "Strategies for Vocabulary Development through Contexts and Connections", Factor 3 "Strategies for Vocabulary Development through English Language and media Utilisation", Factor 4 "Strategies for Vocabulary Development through Asking for Cooperation", and Factor 5 "Strategies for Vocabulary Development through Typical Self-practice and Improvement".

Taking into account the students' field of study, we found that 3 factors were found to be strongly related to this variable. These factors are; Factor 3 "Strategies for Vocabulary Development through English Language and media Utilisation", Factor 4 "Strategies for Vocabulary Development through Asking for Cooperation", and Factor 5 "Strategies for Vocabulary Development through Typical Self-practice and Improvement".

Regarding the students' language learning experience, 5 factors were found to be strongly related to this variable. These factors are; Factor 1 "Strategies for Self-directed Vocabulary Development", Factor 2 "Strategies for Vocabulary Development through Contexts and Connections", Factor 3 "Strategies for Vocabulary Development through English Language and media Utilisation", Factor 4 "Strategies for Vocabulary Development through Asking for Cooperation", and Factor 5 "Strategies for Vocabulary Development through Typical Self-practice and Improvement".

Concerning the students' vocabulary proficiency level, 4 factors were found to be strongly related to this variable. These factors are: Factor 2 "Strategies for Vocabulary Development through Contexts and Connections", Factor 3 "Strategies

for Vocabulary Development through English Language and Media Utilisation”, Factor 4 “Strategies for Vocabulary Development through Asking for Cooperation” and Factor 5 “Strategies for Vocabulary Development through Typical Self-practice and Improvement”.

6.2.4 Research Question 4: Why do students report employing certain strategies frequently and other strategies infrequently?

In response to Research Question 4, the semi-structured interviews were conducted with 48 participants to elicit the reasons behind their choice of VLS use. 7 categories emerged as 7 reasons for using certain VLS frequently. They are: 1) enjoyment of using certain strategies; 2) familiarity with using certain strategies; 3) ease of using certain strategies; 4) personal preference for using certain strategies; 5) helpfulness of using certain strategies; 6) precision of using certain strategies; and 7) context availability of using certain strategies. On the other hand, 9 categories emerged as 9 reasons for using certain VLS infrequently. These include: 1) complication of using certain strategies; 2) unfamiliarity with certain strategies; 3) ineffectiveness of using certain strategies; 4) having limited knowledge of certain strategies; 5) having limited language or vocabulary knowledge; 6) lack of confidence or being afraid of making mistakes; 7) insufficient efforts for learning vocabulary; 8) context unavailability of using certain strategies; and 9) personal disinclination for using certain strategies.

6.3 Discussions of the Research Findings

Section 6.2 presented the summary of research findings based on Research Questions 1-4. In this section, the discussions of research findings, including the overall VLS use and use of VLSs by the 3 main categories, and the possible explanations for apparent significant variations in certain VLS use according to each investigated variable are presented.

6.3.1 Overall VLS Use and Use of VLSs by the Three Main Categories

The research findings reveal that on the whole, the students studying at the tertiary level in the Northeast of Thailand reported the medium frequency of the overall VLS use and use of VLSs by the three main categories. The results seem to be consistent with a previous research work in the Thai context conducted by Siriwan (2007) who found that the students at Rajabhat Universities reported the medium frequency of the overall VLS use and use of VLSs by the three main categories. In addition, the results of the present investigation are consistent to what has been found by Siriwan in relation to the VLS use by the 3 main categories in that the most frequent VLS use reported by the students were in the DMV, EKV and RKV categories, respectively. It indicates that the students pay mostly attention to discover the meanings or other aspects of vocabulary items. This may imply that Thai EFL students studying at the tertiary level in the Northeast of Thailand often encounter the unknown or unfamiliar vocabulary items. Therefore, they employ the strategies that are used to discover the meanings or other aspects of vocabulary items more frequently than those of other purposes. This reflects the possibility that their vocabulary knowledge is insufficient in terms of word meanings, forms and other aspects related to vocabulary items. The tertiary-level students in the Northeast of

Thailand reported employing the strategies under the category which is used to retain knowledge of vocabulary items least frequently. This may reflect the facts that 1) the students have not been trained or promoted to retain the vocabulary items properly in order to recall the words they have learned or experienced; and 2) the students might not know a wide range of vocabulary items so that they seek the techniques or strategies in order to retain them. According to Thornbury (2007, p. 23), there are 3 stages of memory dealing vocabulary learning. A short-term store is 'the brain's capacity to hold a limited number of items of information for periods of time up to a few seconds'. It is a kind of memory that the students repeat the words that they have just heard from the teacher. Working memory is dealing with focusing words long enough to compare a word in a long-term memory and a word in a working memory before deciding if they are the same or not. Unlike working memory which has a limited capacity and is temporary, a long-term memory has more capacity and is durable overtime. The students do not forget the vocabulary items easily, if the vocabulary items are stored in their long-term memory. The three stages are continuum from 'the quickly forgotten to the never forgotten' (p, 24). The students in the present investigation seem to lack the skills of storing the vocabulary items in their long-term memory as we found that they reported employing the strategies that are used to discover the word meanings or other aspects most frequently. The words that the tertiary-level students have learned might either be in a short-term store or a working memory or both. Some tertiary-level students in the Northeast of Thailand might not be able to change the words that are in a short-term store and a working memory to be the words that are in a long-term memory. According to Koda (2005, p.60), learning vocabulary items is far more than memorising a new form of a word.

The students must develop ‘the competencies for contextual word learning: recognising that there are subtle differences in a word’s meaning, understanding that word meanings are context dependent, extracting context-appropriate meanings from individual lexical items in connected texts’ and linking a new word with the existing conceptual knowledge. It is a great challenge for the tertiary-level students studying in the Northeast to learn vocabulary items and be able to transform the vocabulary items that are quickly forgotten to the vocabulary items that are never forgotten.

6.3.2 Use of VLSs and Gender

Students’ gender is considered one of the key factors influencing students’ strategy use to learn foreign or second language (Ellis, 1994). In the context of other countries, gender differences have been taken into consideration to study in relation to students’ VLS Use. To the best of the researcher’s knowledge, many previous research studies found that students’ gender affected their VLS use (Gu, 2002; Catalan, 2003; Marttinen, 2008; Si-xiang, 2009; Zhi-lang, 2010; Cengizhan, 2011 and Alhaysony 2012). In the Thai context, gender differences have received little attention as a factor that might affect the students’ VLS use. In the present investigation, students’ gender is one of the key factors that is shown to have affected the students’ VLS use. The findings reveal that female students reported employing VLSs significantly more frequently than their male counterparts in the overall VLS use, use of VLSs by the three main categories (DMV, RKV and EKV) and use of VLSs at individual strategy level. The findings are consistent with Siriwan (2007) that female students in Thailand employed VLSs with significantly greater frequency than their male counterparts.

The first possible explanation can be made based upon the innate characteristics of female and male brains. Females and males are of equal intelligence; however, they are likely to operate differently as they seem to use different parts of their brains to encode memories, sense emotions, solve problems and make decisions (Zaidi, 2010). According to Zaidi (2010), certain characteristics in the brain play important roles in female and male learning processes and language development. Regarding the regions of the brain that play important roles in visual processing and storing language and personal memories, apart from being bigger in volume, the frontal and the temporal areas of the cortex are more precisely organised in females' brain. This contributes their better language learning and predisposes female students as a whole to be more strategic vocabulary learners than their male counterparts.

Another possible explanation might be attributable to the female and male cognitions. Males and females have different cognitive profiles (Baron-Cohen, Knickmeyer, and Belmonte, 2005). Concerning a visual link to learning, male learners tend to rely more on pictures and moving objects for word connections than female learners (Gurain, 2006). One VLS which is directly related to visual connections is, *“Looking at real objects and associating them with vocabulary items to retain knowledge of newly-learned vocabulary item”* (RKV 4). Not surprisingly, it was found in the present study that male students reported employing this VLS significantly more frequently than their female counterparts. On the other hand, females were found to be better than the males in verbal skill (Baron-Cohen et al., 2005). Some VLS items in the VLS questionnaire rely on the students' verbal skill, such as *“Saying or writing the word with its meaning repeatedly”*, *“Saying*

vocabulary items in rhymes”, “*Singing or listening to English songs*”. The better verbal skill in female than male students which is used in vocabulary learning may explain why females employed a greater variety and a higher frequency of VLSs than their male counterparts.

A popular belief is that females are better L2 learners than males. If so, it probably resulted from the development of more effective social interaction skills and strategies in female than male students (Hall, 2011). The VLS, “*Asking teachers to discover the meaning or other aspects of vocabulary items*” was employed significantly more frequently by female students than their male counterparts at individual strategy level. There are other strategies that rely on the students’ social interaction skill, such as “*Using vocabulary items to converse with friend*”, “*Using vocabulary items to converse with teachers of English or native speakers of English*”, “*Asking other people or native speakers of English for the meanings or other aspects of vocabulary items*”. The more effective social interaction skills and strategies in females than the males could be another possible explanatory factor for the observation that female students significantly employed a more variety and a greater frequency of VLSs than their male counterparts.

Another reason that may explain the significant differences in VLS use between male and female students is the linkage between gender difference and learning style. Learning styles may result from personal disposition, choice, previous learning experience and are not wholly innate and not completely fixed (Hall, 2011). Females show a higher preference than males for auditory learning styles (Sabeh, Bahous, Bacha and Nabhani, 2011). In other words, females tend to be auditory-oriented, while males are likely to learn less by listening. Many VLSs in the present

investigation rely on aural skills, such as *“Watching English programme channels or listening to English radio programmes”*, *“Watching an English-speaking film with subtitles”*, *“Recording the words/phrases one is learning and playing them to oneself whenever one have some spare time”*, and *“Listening to English lectures, presentation, or English conversation”*. Auditory-oriented learning style preferred by female students might be the explanatory factor that contributes a more variety and a greater frequency of VLSs that are used.

In summary, VLSs play a significant role in assisting students to develop vocabulary skills and gender differences are connected to the differences between male and female use of VLSs. English language teachers need to understand and be aware of the differences between female and male VLS use and their unique development in vocabulary learning processes. For example, male students might not be able to gain great benefits from vocabulary learning processes that require verbal repetition, cooperative learning, oral and aural practices as much as female students. However, practice with visual connections needs to be introduced and supplemented for male students as they seem to respond well with this learning process.

6.3.3 Use of VLSs and Type of Institution

In the present investigation, ‘type of institution’ refers to the four different types of institutions offering education mainly for the tertiary-level in Thailand. They are public/ autonomous public university (PBU), private college/ university (PVC/U), Rajabhat University (RU) and Rajamangala University of Technology (RMUT). To the best of the researcher’s knowledge, students’ VLS use in relation to their type of institution seems to be under-researched in the literature for both in Thailand and other countries. The findings of the present study suggest that types of institution at

which students were studying were significantly related to their choice of VLS use. Stated in the overall, students studying at PBUs and PVC/Us reported employing VLSs significantly more frequently than those studying at RUs and RMUTs. However, no significant differences in use of VLSs were found between those studying at PBUs and PVC/Us and those at RUs and RMUTs as well.

Even though the main focus of this section is to discuss the significant variation patterns according to the type of institutions, the students' vocabulary proficiency should be taken into consideration as it helps supplement the explanations. Taking a closer look at the first pair, PBU and PVC/U students, the students studying at these two different types of institution reported more or less the same mean frequency of VLS use; however, the distribution of participants in terms of type of institution and vocabulary proficiency is quite different. The majority of PBU students (65.2%) fell into the category of high vocabulary proficiency, whereas the majority of PVC/U students fell into the category of low (35.5%) and moderate (34.8%) vocabulary proficiency levels. There are considerable research works that support the positive correlation between the students' VLS use and their vocabulary knowledge (Gu and Johnson, 1996; Fan, 2003; Hamzah, Kalifpour and Abdullah, 2009 and Tilfarlioglu and Bozgeyil, 2012). The reported VLS use of majority of PVC/U students seems to be negatively correlated with their level of vocabulary proficiency. The possible explanation could be the result of either 1) the misreporting of the majority of PVC/U respondents to hide their real VLS use, or 2) the misreporting of the majority of PVC/U respondents from incorrect evaluation of their own VLS use or both. According to Bell (1996), in survey research, biases may occur, either in a lack of the accuracy of responses received or a lack of responses from

intended participants. However, it might be risky to definitely conclude that the reported VLS use of the majority of PVC/U students is the result of the misreporting of their VLS use.

Regarding the findings revealing that PBU students reported employing VLSs significantly more frequently than those at RUs and RMUTs, it seems to be positively correlated with the distribution of participants revealing that the greater percentage of PBU students than RU and RMUT students fell into the high vocabulary proficiency category. Public/autonomous public university is a type of institution that is considered the prestigious and well-respected in the Thai education system. In the past, all public universities were fully supported by the government. Currently, some public universities have become autonomous public universities and placed outside the administration of the official civil service (Kirtikara, 2002). As a result, many secondary graduates want to pursue their studies in institutions of this type. Therefore, the entrance examination competitions are quite intense. As selected by either the test directly administered by the institution or the central admission system (Higher Education, 2010), many students in this type of institution seem to be proficient learners. Therefore, the plausible explanation for the reported higher mean frequency of VLS use than those at other types of institutions is the scores obtained through the vocabulary proficiency test provided in the present investigation, indicating a high level of learner proficiency.

The other possible explanation is that the PBU learning environment includes abundant learning materials, teaching methods and supportive peer groups, as has been discussed by previous researchers as factors affecting students' VLS use (Kameli, Mostapha and Bali, 2012). PBUs, being fully or partially supported by the

central government (Kirtikara, 2002), are capable of supporting students in terms of teaching and learning resources, as well as experienced educational personnel as can be seen by a significantly greater percentage of PBU students than those at other types of institution reporting high use of individual VLSs, such as *“Surfing the Internet to discover the meaning or other aspects of vocabulary items”* (DMV 4), *“Watching an English-speaking film with subtitles to expand knowledge of vocabulary items”* (EKV 12), *“Watching English programme channels or listening to English radio programmes to expand knowledge of vocabulary items”* (EKV 10), and *“Reading different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers to expand knowledge of vocabulary items”* (EKV 2), and *“Using vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items”* (RKV 12).

Taking into account the second pair based on the type of institutions, we found that RU and RMUT students reported employing VLSs less frequently than the first pair (PBUs and PVC/Us). The distribution of the participants at RUs and RMUTs was similar in that a majority of students (more than 75%) fell into moderate and low vocabulary proficiency categories, while a minority of students (less than 25%) fell into the high vocabulary proficiency category. The students at these two types of institutions did not differ in the mean frequency of overall VLS use and use of VLSs by three main categories. One possible explanation hypothesised by the researcher regarding the similarity of VLS use of RU and RMUT students is the similar nature of current students at RUs and RMUTs. Based on the distribution of participants in high, moderate and low vocabulary proficiency categories of the present investigation, it is clearly seen that the students in this study who were attending RUs and RMUTs

were less proficient at vocabulary than those at the PBU institutions. Thus, no differences were discerned between students studying at RUs and RMUTs in VLS employment.

6.3.4 Use of VLSs and Field of Study

Apart from gender, the field of study has been considered one of the significant factors influencing students' VLS use. Some previous researchers have found significant differences in VLS use between students studying in different academic fields (Wei, 2007; Siriwan, 2007; Bernardo and Gonzales, 2009; Tsai and Chang, 2009). In the present investigation, the findings suggest that field of study was found to be among the major factors influencing VLS use. The arts-oriented students reported employing VLSs significantly more frequently than the business-oriented students and the science-oriented students in the overall VLS use, use of VLSs by the three main categories and use of VLSs at individual strategy level, while the business-oriented students and the science-oriented students did not differ in their overall VLS use and use of VLSs by the three main categories. When taking a closer look at arts-oriented field of study, around 50 percent (182 out of 369) of students studying in arts-oriented field are English majors. The results of the present investigation are partly consistent with Liao (2004), Siriwan (2007), Wei (2007) and Yi Huang (2010) in that English majors generally exceed non-English majors in the overall VLS use.

The most likely explanation is the students' language learning motivation. Motivation in the context of L2 learning refers to 'the effort which learners put into learning L2 as a result of their need or desire to learn it' (Ellis 1994, p. 715). Empirical research work has discovered that English major students were more highly motivated in learning English language than those in non-English majors (Kell, 2005).

In addition, empirical research work supports the link between students' motivation in language learning and their VLS use revealing that the more highly motivated learners employed a wider range of VLSs than those of lower motivation (Martinent, 2008). English language learning motivation could be the possible factor that influences English majors who were in art-oriented field employed a greater frequency of VLSs in the present investigation. As a result, the arts-oriented students reported employing a more variety and a greater frequency of VLSs than the business and science-oriented students.

Even though the business-oriented students and the science-oriented students were not significantly different in terms of VLS use in the overall, and the category levels, it is worth taking the individual level to be discussed. At the individual level, two dominant patterns, 'Arts>Sci>Bu' and 'Arts>Bu>Sci' were found. The former pattern indicates a significantly greater percentage of the arts-oriented students than the science-oriented students and business-oriented students, reporting high use of 16 VLSs. The latter variation pattern indicates a significantly greater percentage of the arts-oriented students than the business-oriented students and the science-oriented students, reporting high use of 15 VLSs. The interesting point worth to be discussed here is the differences of VLS use at the individual level between business and science-oriented students. In those strategies related to discovering meaning or other aspects of vocabulary items and retaining the knowledge of newly-learned words, business-oriented students tended to rely more on social strategies than did science-oriented students, such as *"Asking teachers to discover the meaning or other aspects of vocabulary items"* (DMV 7), *"Asking other people or native speakers of English to discover the meaning or other aspects of vocabulary items"* (DMV 8), *"Using*

vocabulary items to converse with teachers of English or native speakers of English to retain knowledge of newly-learned vocabulary items” (RKV12) , “Using vocabulary items to converse with friends to retain knowledge of newly-learned vocabulary items” (RKV11). Science-oriented students tended to rely more on guessing to discover the meaning and making connections and associations to retain knowledge newly-learned words.

The differences at individual VLS use could be explained by the personal characteristics of students in these two different academic fields. Business-oriented students in the present investigation are students majoring in marketing, accounting and banking and finance. Science-oriented students in the present investigation include science, nursing science and engineering students. According to Pringle, DuBose, and Yankey (2010), the students in business administration field are extroverted, and in particular students majoring in marketing are more extroverted than those in other business majors. This could explain why business-oriented students rely more on social strategies when discovering the meaning of vocabulary items and retaining knowledge of newly–learned words than those in science-oriented field.

The different personal characteristics of students in the business and engineering fields were found by Nagarjuna and Mamidenna (2008) revealing that students with an engineering background were more self-reliant, realistic, and responsible than those with commerce background. These characteristics can be found in the present investigation when science-oriented students expanded their knowledge of vocabulary items by relying on self-practice reliance strategies, such as *“Practicing vocabulary translation from Thai into English and vice versa” (EKV*

15), *“Studying vocabulary items from advertisements, public relations, notices, traffic signs, etc.”* (EKV3), *“Studying vocabulary section in one’s textbook”* (EKV 4). On the other hand, business-oriented students were likely to rely on media-reliance techniques, such as *“Watching an English-speaking film with subtitles”* (EKV12), *“Watching English programme channels or listening to English radio programmes”* (EKV 10), *“Surfing the Internet ,especially the websites for vocabulary learning”* (EKV11), *“Listening to English lectures, presentation, or English conversation”* (EKV 14). The different personal characteristics of students in science and business-oriented fields may influence their VLS use when they seek to discover the meaning, retain and expand the knowledge of vocabulary items.

In summary, motivation and personal characteristics are possible explanations for the significant differences found in VLS use of students studying in different fields. Some key and interesting points according to this variable were raised to be discussed as possible explanations as related factors. However, it is worth nothing that we are not certain that these hypotheses can be definite explanations for what has been mentioned above.

6.3.5 Use of VLSs and Language Learning Experience

As mentioned earlier, language learning experience has been categorised into ‘limited’ and ‘non-limited’ to formal-classroom instructions. The former refers to the participants who have an exposure to the English language within the formal classroom instructions or hardly ever have an exposure to the English language beyond the formal classroom instructions, while the latter refers to those who have an exposure to the English language within and beyond the formal classroom instructions. To the best of the researcher’s knowledge, no empirical research work

has taken this variable into consideration as a factor that might affect the students' VLS use. However, in Siriwan's study (2007), the variable, namely previous language learning experience seems to be closely related to the variable being investigated in the present investigation.

In Siriwan's study, previous language learning experiences were classified into 'more' and 'less' experienced based on the completion of the fundamental English 1 and 2 courses. Siriwan found that previous language learning experience was one of the key factors affecting the students' VLS use. The findings of the present investigation extend what has been found by Siriwan. In the present investigation, the students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classroom instructions only in the overall VLS use, use of VLSs by the three main categories and use of VLS at the individual strategy level. In particular, 39 VLS items were found to be significantly different at this level. The findings of the present investigation suggest the strong effects of language learning experience on VLS use.

The possible explanation for such strong effects of the students' language learning experience on their VLS use is that outside the classroom, the role of the teacher may fade. Therefore, it is entirely up to the students to take control of their own learning. One of the effective ways for students to learn vocabulary is to take responsibility for their own learning and become autonomous learners who decide what words to learn, make decision about how to learn and revise them, seek out opportunities to use the language and keep up their motivation to keep on learning and using the language (Nation, 2008). The qualities of autonomous or self-regulated

learners in students who have an exposure to the English language within and beyond the formal classroom instructions might be the explanatory factor for the high frequency of their VLS use.

The students who have an exposure to the English language within and beyond the formal classroom instructions are considered more skilled vocabulary learners than those who have an exposure to the English language within the formal classroom instructions. Thus it is possible that the students who have an exposure to the English language within and beyond the formal classroom instructions have learned how to discover, retain and expand the vocabulary items. These skills probably help them construct their VLSs. This is consistent with Afflerbach, Pearson, and Paris. (2008, p. 365) that “skills make up strategies..... strategies require a skill set”. Afflerbach et al. (2008) point out further that skills are used automatically, while strategies are used deliberately. The students who have an exposure to the English language within and beyond the formal classroom instructions in the present study applied a wide range of VLSs because they drew on strategies of skilled vocabulary learners. These skills were used consciously when they were encountering the vocabulary items. This situation has been supported by Paris, Wasik, and Turner (1991) who suggest that ‘developing skills can be construed as a strategy whenever it was applied in conscious activation because strategies are ‘skills under consideration’ (p.611).

We may conclude that among the five investigated variables, language learning experience was found to be the strongest factor affecting the students’ VLS use as about 98 % of VLS items in VLS questionnaire is significant differences according to this variable. The qualities of autonomous and skilled learners might be

the explanatory factors for those who have an exposure to the English language within and beyond the formal classroom instructions to employ higher frequency of VLSs than the limited group. Limiting oneself to the formal classroom settings has been shown to be debilitating to one's skills to deal with new vocabulary items. The more varieties of learning experiences, the better are the skills to deal with these vocabulary items.

6.3.6 Use of VLSs and Vocabulary Proficiency

Vocabulary proficiency has received attention by previous researchers as a factor influencing the students' VLS use. Considerable research works support the link between the students' vocabulary proficiency and their VLS use. (Siriwan, 2007; Lachini, 2008; Hamzah, Kafipour and Abdullah, 2009; Kafipour, Yazdi, Soori and Shokrpour, 2011; Waldvogel, 2011; and Tilfarlioglu and Bozgeyik, 2012). The findings of these previous studies have revealed that higher -proficiency students generally reported employing VLSs significantly more frequently than those with lower vocabulary proficiency.

In the present investigation, the students' vocabulary proficiency was classified into high, moderate and low categories based on the scores obtained through the vocabulary proficiency test. The findings of the present investigation are consistent with the previous research works mentioned above in that students with high and low vocabulary proficiency reported employing VLSs differently. The possible factors that may explain for the findings revealing that high-vocabulary proficiency students reported employing VLSs significantly more frequently than those with moderate and low vocabulary proficiency levels are discussed below;

The first factor hypothesised by the researcher is that the students who have a high vocabulary proficiency are presumably high motivated. According to Ushioda (2008), good language learners are motivated. Motivation is dealing with 'what moves a person to make certain choices, to engage in action, and to persist in action' (p.19). In the present investigation, a significantly greater percentage of students with high vocabulary proficiency level reported high use of 36 VLSs than those with moderate and low vocabulary proficiency levels. This implies that high- vocabulary proficiency students are likely to have personal motivation that drives them to engage in actions or behaviors regarding vocabulary learning and persist in these actions or behaviors more frequently when encountering the vocabulary items. Students' motivation has also been found to be positively correlated with their VLS use (Fu, 2003; Marttinen, 2008). Motivation is considered one of the essential variables on which good language learning depends (Rubin, 1975). In the present investigation, personal motivation is assumed to be one of the factors that drives high-vocabulary proficiency students to employ a more variety and a greater frequency of VLSs than the moderate and low-vocabulary proficiency ones.

Another possible factor which may explain the significantly greater use of VLSs by students with high vocabulary proficiency is their learning style. 'Learning styles are moderately strong habits rather than intractable biological attributes, and thus they can be modified and extended' (Reid, 1987, p.10). Chapelle and Roberts (1986) point out that good language learners are flexible to adapt their learning style to the needs of a given situation or task, while less successful language learners are less likely to adapt when specific need arises and more likely to persist with a particular style. Students with high vocabulary proficiency in the present investigation

seem to be more adaptive in employing techniques or strategies to deal vocabulary items than those with moderate and low vocabulary proficiency levels as can be seen by their significantly higher use of VLSs at three different levels of VLS use.

A more possible factor which could explain the high use of VLSs reported by students with high vocabulary proficiency is the high awareness of learning vocabulary items. When taking a closer look at the individual VLS level, it was found that a significantly greater percentage of students with high vocabulary proficiency than those with moderate and low vocabulary proficiency levels try to put themselves in an environment where they can learn vocabulary items, such as *“Playing English games, such as scrabble, crossword puzzles to expand knowledge of vocabulary items”* (EKV1), *“Using vocabulary items to converse with teacher of English or native speakers to retain knowledge of newly-learn vocabulary items”* (RKV 12), and *“Taking an extra job or getting trained by the company where one can use English to expand knowledge of vocabulary item”* (EKV 9). Moreover, the high-proficiency students try to make use of the resources, including human and material resources to help facilitate their vocabulary learning. It can be seen that a significantly greater percentage of students with high vocabulary proficiency level than those with moderate and low vocabulary proficiency levels reported employing high use of the VLSs, such as, *“Asking friends to discover the meaning or other aspects of vocabulary items”* (DMV6), *“Asking teachers to discover the meaning or other aspects of vocabulary items”* (DM6), and *“Surfing the Internet to discover the meaning or other aspects of vocabulary items”* (DMV4). The high awareness of vocabulary learning in high-vocabulary proficiency students might provoke a high frequency and a variety of VLSs that are used by them.

To summarise, motivation, learning style, and the awareness of vocabulary learning could be possible factors that influence the way the high- vocabulary proficiency students employ VLSs at significantly greater rates than moderate and low-vocabulary proficiency students. However, we cannot be definitely certain about what really caused these significant differences; therefore, research to examine these aspects is needed.

6.4 Implications of the Research Findings for Learning and Teaching

Vocabulary

The research findings summarised earlier in response to the research questions reveal that the students' gender, type of institution, field of study, language learning experience and vocabulary proficiency level affected students' VLS use. Some implications for teaching and learning of English at the tertiary-level in the Thai context can be elaborated as follows;

1. Arising out of the research findings that gender affected the students' VLS use in the context of tertiary level, male students urgently need vocabulary development as they lack VLS use in terms of frequency and a variety of VLS use when compared with their female counterparts. Gender-based VLS training should be taken into consideration. For example, English language teachers should supplement instructions to their male students with strategies dealing with picture-reliance, visual connections and symbolic associations as they respond well with these learning skills. The female students should be encouraged to use VLSs that make full use of oral, aural and social skills as they have high possibility of success in learning with these skills. Female and male students seem to be distinct in vocabulary

learning strategies or techniques; therefore, English language teachers need to understand and be aware of the differences between them. Regarding the greatest percentage of female and male students reporting high use of a strategy, ‘Attending class of every module regularly to expand knowledge of vocabulary items’, it implies that female and male students are able to gain great benefits from this VLS. Therefore, English language teachers should take the classroom as a floor for them to expand their vocabulary knowledge by introducing them to other classroom-related VLSs they can use as well as encouraging them to find out their unique VLSs and make full use of them as no single VLS has been proved the best of all.

2. In terms of the students’ frequency level of VLS use, it was found that students studying at all four types of institutions reported employing VLS at a moderately frequent level. The top three most frequently used VLSs were “Attending classes of every module regularly to expand knowledge of vocabulary items” (EKV 7), “Using a dictionary to discover the meaning or other aspects of vocabulary items” (DMV5) and “Singing or listening to English songs to expand knowledge of vocabulary items” (EKV 13). This indicates that students are employing less complicated strategies. English language teachers in all four types of institutions should consider how to train their students to deal with vocabulary items in a variety of ways. At the tertiary-level, learners need to have sufficient vocabulary knowledge so that they can perform at the level they are required to succeed. The three strategies least frequently used were “Setting aside a regular time for vocabulary learning or memorising (e.g. just before going to bed) to retain knowledge of newly-learned vocabulary items” (RKV 15), “Building a word network to expand knowledge of vocabulary items” (EKV 5) “Taking an extra job or get trained by the companies

where one can use English, such as tour offices, hotels, etc. to expand knowledge of vocabulary items (EKV 9). This indicates that the tertiary-level students place little importance on their vocabulary learning, using less complicated strategies, feeling unconfident to be trained or lacking opportunity to be trained by the companies where they can use English.

Both teachers and students should be aware of what and how important vocabulary learning and VLSs are. In order to raise their awareness, the researcher would like to recommend that a work shop or a mini-conference be held for English language teachers. The purpose is to brainstorm ideas to help students in exposing them to many forms of activities that help students develop broad vocabularies beside the classroom environment. In addition, a mini-course regarding VLS training should be held for students, especially for the first year students. This will raise their awareness of how VLSs can help them increase their vocabulary as well as learn English further.

3. It has been found from the findings that academic field of study is one of significant factors that affects the students' VLS use. Compared with arts-oriented students, business and science-oriented students tended to employ VLSs less frequently. This implies that students in fields other than arts-oriented field may not be aware of the benefits of becoming strategic vocabulary learners. In this respect, teachers should promote the benefits of being strategic learners and motivate them to employ a variety of the strategies to deal with vocabulary items in order to serve their own vocabulary leaning purposes. The other remarkable point for the findings in relation to field of study is that students in science and business-oriented fields tended to use VLSs differently at the individual VLS level in order to discover the meaning

or other aspects of vocabulary, retain and expand knowledge of new vocabulary items. The English teachers need to be aware of the differences of their students' vocabulary learning techniques, then strengthen their weaknesses and support the strong points. For example, a majority of business-oriented students are less likely to make use of connections and associations, but more likely to make use of social strategies when retaining knowledge of newly-learned words compared with science-oriented students. English language teachers should assist students to let them know what strategies they possess and what strategies they may lack. Then the teachers should encourage them to use a variety of VLSs, such as creating mental linkages, using sound similarities, and associating new words with previous learned ones.

4. One of the significant findings of this investigation is that the students who have an exposure to the English language within and beyond the formal classroom instructions reported employing VLSs significantly more frequently than those who have an exposure to the English language within the formal classroom instructions only. This implies that language learning experience plays a key role to the students' vocabulary learning. Students whose experiences are limited to study only in English classrooms are debilitating their own skills to deal with vocabulary items. Therefore, the students in this group should be motivated to continue their language learning outside the classrooms by conducting vocabulary learning projects or activities in which they can make use of technologies, such as personal computers, laptops, tablets, smart phones and learning materials available at home or outside the classrooms. It is important that students must be able to create their own vocabulary learning activities in order to boost their excitement of outside classroom learning and prepare them to learn vocabulary for a lifetime. In addition, the English language

teacher should set the classroom as a floor for students to exchange their outside-class vocabulary learning experience when they are back to the class. Praise and encouragement should be given as they are along their way to achieve their vocabulary learning goals.

6.5 Contributions of the Present Investigation

The present investigation has made some significant contributions to the field of VLSs. The contributions based on the findings of the present investigation can be elaborated as follows;

1. As mention in Chapter 1, only a small number of research works have been carried out to investigate the students' VLS use in the Thai context. In addition, no empirical research work in the area of VLSs has been carried out in the wider context as in a tertiary level. The present investigation has widened the group of research participants to encompass students studying at four types of tertiary institutions, namely, public/autonomous public universities, private colleges/universities, Rajabhat University and Rajamangala University of Technology.

2. While two of the variables studied, namely type of institutions and language learning experience, have been under-researched in the literature, the present investigation has taken them as the two independent variables for the investigation so as to fill the gaps. In terms of field of study which is another of the investigated variables of the present investigation, no empirical research work has explored the VLSs employed by the students in the three main disciplines of this study, including arts-oriented, business-oriented and science-oriented; therefore, the present investigation has expanded the disciplines in which the students are studying.

3. One of the main purposes of the present investigation is to explore the reasons behind the students' strategy choices in order to get a comprehensive picture of the students' VLS use. The qualitative results of present investigation has contributed to the aspects related to the use of VLSs which seem scarce in the Thai contexts.

4. The researcher has systematically adapted the existing VLS inventory proposed by the previous researchers both in other countries and in the Thai context. The new inventory has been used as the main instrument to obtain the VLS employed by the tertiary-level students in Northeast of Thailand. The reliability estimate of this inventory is considerably higher than the acceptable reliability coefficient of .70 which is the rule of thumb for research purpose. This inventory maybe useful for further research on VLS in other contexts in Thailand.

5. As mentioned in Chapter 3, there were two different perspectives on vocabulary assessment. That is, vocabulary should be tested as an independent semantic unit and vocabulary should be tested in context. The VPT used in the present investigation has been designed with the attempts to incorporate the two views. Apart from that, in designing the test, various aspects of word knowledge have been examined. The VPT has been validated and accepted in terms of test reliability, test difficulty and power of discrimination of the test items. This VPT has been used to assess and classify the students' vocabulary proficiency levels in the present investigation. Therefore, it may be useful for further research in which the students' vocabulary proficiency is involved.

6.6 Limitations of the Present Investigation and Suggestions

for Further Research

The present investigation has addressed the research questions, which were to describe the VLSs employed by the tertiary-level students studying in the Northeast of Thailand as well as to examine whether or not the frequency of students' reported strategy use affects any investigated variables. Additionally, the present investigation investigated possible reasons behind the students' strategy choices. In conducting the present investigation, certain limitations need to be acknowledged and taken into account in any further research work.

1. A written questionnaire was employed as the main research instrument to elicit the data concerning the students' strategy use. However, no research instrument has been accepted to be the best research method to elicit such data; therefore, the potential limitations related to the use of written questionnaire should be acknowledged: 1) the respondents might not be able to exactly recall what they had done when they were dealing with vocabulary items so, they might not exactly report their real VLS use 2) the responses might be inaccurate because of the difficulty involved in the respondents' evaluation of their own VLS use. It would be better if further research studies could employ other methods, such as classroom observations, think-aloud and diaries to supplement the use of a single written questionnaire.

2. In the present investigation, the reasons behind the students' strategy choices have been explored without any variables taken into consideration. It might yield insights into a new picture of the students' VLS use, if these reasons were explored in relation to the five investigated variables.

3. Regarding the semi-structured interview session, 48 participants participated in the session based on their convenience and availability. The findings would be more comprehensive and interesting if there would have more participants participating in these sessions.

4. Regarding the research participants, they should have been more well-balanced in terms of the investigated variables, i.e. student's gender and fields of study.

5. The present investigation has limited the scope of its study to explore and describe the use of VLSs employed by this sample of tertiary-level students studying in the Northeast of Thailand. There is a need to examine VLSs employed by students in other parts of the country. This would help provide a complete picture of VLS employed by Thai EFL students in the whole country of Thailand.

6. The present investigation has limited itself to study the use of VLSs in relation to the five independent variables, namely gender, type of institution, field of study, language learning experience and vocabulary proficiency. Other variables, such as years of study, motivation, vocabulary size, language attitude, beliefs about vocabulary learning should be taken into consideration by further research.

7. In the present investigation, both probability and non-probability sampling techniques were employed to select the participants; therefore, the findings of the present investigation might not be able to generalise to the whole population which was a total of tertiary-level students studying in the Northeast of Thailand. The extension of research findings and conclusion were limited to the setting of the present study.

6.7 Conclusion

Conducted in a data-driven, systematic and non-judgmental descriptive manner, the present investigation contributed to the context of English language education at the tertiary-level in Thailand. The main focus was in the field of vocabulary learning strategies in terms of the investigated variables, namely the students' gender, type of institution, field of study, language learning experience, and vocabulary proficiency. In addition, the in-depth information for the reasons why students reported using certain strategies frequently and infrequently was addressed. One of the major contributions of the present investigation demonstrated that the type of institution and language learning experience affected the students' VLS use. Of the variables investigated, these two variables had not been taken into consideration by the previous researchers in the field. Lastly, the researcher proposed some crucial pedagogical implications for the vocabulary learning and teaching in the Thai context. However, the researcher acknowledged some limitations of the present investigation, providing suggestions for further research in the field of VLS studies.



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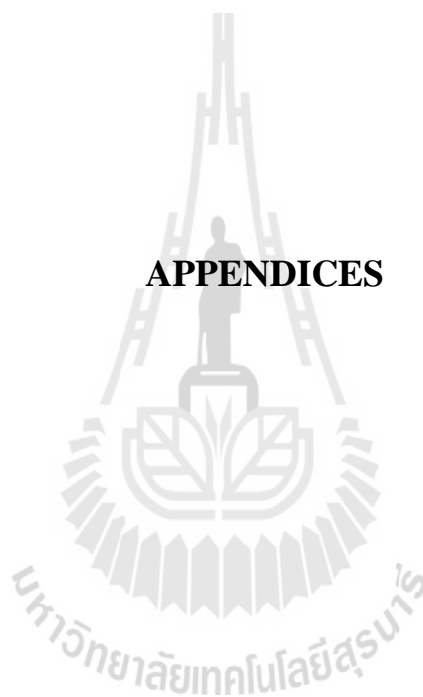
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APPENDICES



APPENDIX A

A Strategy Questionnaire (The Translated Version)

Instructions: There are two main parts of this questionnaire:

Part 1: The Students' Personal Information

Part 2: Use of Vocabulary Learning Strategies

Part 1 The Students' Personal Information

Please provide your information by selecting the choices given with a “✓” or write down the information on spaces provided

1. Your gender: ☐ Male ☐ Female

2. You are studying at ☐ public/ autonomous public university
 ☐ private college/ university
 ☐ Rajabhat University
 ☐ Rajamangala University of Technology

3. Your field of study _____ Faculty of _____

4. In general, you have an opportunity to study English _____ (you can choose more than one)

☐ in the classrooms ☐ with private teachers
☐ at language centers or tutorial institutes ☐ on your own by using available materials
☐ others (please specify) _____

5. You would rate your overall English ability as _____

☐ poor and improvement is needed ☐ moderate ☐ good/ very good

Part 2 Use of Vocabulary Learning Strategies

Instructions:

The vocabulary learning strategies questionnaire is designed to gather information about how you learn English vocabulary items. In the statements below, you will find various statements related to English vocabulary learning strategies. Please read each statement carefully, and then mark your response with a “✓” in the corresponding spaces provided that tell how frequently you employ the given vocabulary learning strategies. Your answer will not at all affect your English courses at the college/university.

“Never”	means that you never use the strategy which is described in the statement
“Sometimes”	means that you sometimes use the strategy which is described in the statement
“Often”	means that you use the strategy which is described in the statement frequently
“Always/ Almost always”	means that you always or almost always use the strategy which is described in the statement

Example:

Statements	Frequency of Your Own Vocabulary Learning Strategies Use			
	Always/ Almost always	Often	Sometimes	Never
1.Say or write the word with its meaning repeatedly		✓		

The Vocabulary Learning Strategies Questionnaire

Statements	Frequency of Your Own Vocabulary Learning Strategies Use			
	Always/ Almost always	Often	Sometimes	Never
1. Say or write the word with its meaning repeatedly				
2. Say vocabulary items in rhymes				
3. Write vocabulary items with meanings on papers and stick them on the wall in your room				
4. Look at real objects and associate them with vocabulary items				
5. Play English games, such as scrabble, crossword puzzles				
6. Use new words in writing				
7. Associate newly-learned vocabulary items with previously-learned ones				
8. Connect newly-learned vocabulary items to your previous learning experience				
9. Associate pictures to vocabulary items				
10. Associate the target word in English with a word that sounds similar in Thai language				
11. Guess the meaning by analysing the structure of words (prefixes, roots and suffixes)				
12. Guess the meaning from contexts, such as a single vocabulary, grammatical structure of a sentence				
13. Guess the meaning from contexts, such as pronunciation and real situation				
14. Read different types of different English printed material e.g. leaflets, brochures, textbooks, or newspapers				
15. Review previous English lessons				
16. Study vocabulary items from advertisements, public relations, notices, traffic signs, etc.				
17. Study vocabulary section in your textbooks				
18. Surf the Internet for the meaning or other aspects of vocabulary items				
19. Use a dictionary to discover meaning or other aspects of vocabulary items				

Statements	Frequency of Your Own Vocabulary Learning Strategies Use			
	Always/ Almost always	Often	Sometimes	Never
20. Ask friends for the meaning or other aspects of vocabulary items				
21. Ask teachers for the meaning or other aspects of vocabulary items				
22. Ask other people or native speakers of English for the meaning or other aspects of vocabulary items				
23. Use vocabulary items to converse with friends				
24. Use vocabulary items to converse with teachers of English or native speakers of English				
25. Memorise with or without a word list				
26. Record the words/phrases you are learning and play them to yourself whenever you have some spare time				
27. Set aside a regular time for vocabulary learning or memorising (e.g. just before going to bed)				
28. Build a word network				
29. Keep a vocabulary notebook				
30. Group words together according to the similarity of meanings or pronunciation or spelling or any other aspects that can link the words to be grouped together				
31. Do extra English exercises or tests from different sources, such as texts, magazines, internets, etc.				
32. Attend classes of every module regularly				
33. Learn words through literature, poems and traditional culture				
34. Take an extra job or get trained by the companies where you can use English, such as tour offices, hotels, etc.				
35. Watch English programme channels or listen to English radio programmes				
36. Surf the internet especially the websites for vocabulary learning				
37. Watch an English-speaking film with subtitles				

Statements	Frequency of Your Own Vocabulary Learning Strategies Use			
	Always/ Almost always	Often	Sometimes	Never
38. Sing or listen to English songs				
39. Listen to English lectures, presentation, or English conversation				
40. Practice translating vocabulary from Thai into English and vice versa				

41. Apart from the strategies mentioned, are there any other strategies that you have employed when learning vocabulary items? Please identify

APPENDIX B

A Strategy Questionnaire (Thai Version)

คำแนะนำ:แบบสอบถามนี้มี 2 ตอน

ตอนที่ 1: ข้อมูลส่วนตัวของนักศึกษา

ตอนที่ 2: การใช้กลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษ

ตอนที่ 1 ข้อมูลส่วนตัวของนักศึกษา

โปรดทำเครื่องหมาย “✓” หรือกรอกข้อมูลที่เป็นจริงของนักศึกษา

1.เพศ:

☐ ชาย

☐ หญิง

2.นักศึกษากำลังศึกษาที่

☐ มหาวิทยาลัยรัฐบาล/ในกำกับของรัฐบาล

☐ วิทยาลัย/มหาวิทยาลัยเอกชน

☐ มหาวิทยาลัยราชภัฏ

☐ มหาวิทยาลัยเทคโนโลยีราชมงคล

3.สาขาวิชา

คณะ

4.ตามปกตินักศึกษาเรียนภาษาอังกฤษในโอกาสใดบ้าง (ตอบได้มากกว่า 1 ข้อ)

☐ ในห้องเรียนตามปกติ

☐ เรียนกับครูสอนพิเศษ

☐ เรียนที่สถาบันสอนภาษา/กวดวิชา

☐ เรียนรู้ด้วยตัวเองจากสิ่งต่างๆที่ทำได้

☐ อื่นๆ โปรดระบุ

5.นักศึกษา มีความสามารถทางภาษาอังกฤษในระดับ

☐ อ่อนและต้องปรับปรุง

☐ ปานกลาง

☐ ดี/ดีมาก

ตอนที่ 2 การใช้กลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษ

คำแนะนำ:

แบบสอบถามฉบับนี้จัดทำขึ้นเพื่อเก็บรวบรวมข้อมูลเกี่ยวกับกลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษของนักศึกษาไทยในระดับอุดมศึกษา ข้อความข้างล่างนี้เป็นกลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษแบบต่าง ๆ ขอให้นักศึกษาอ่านแต่ละข้อความด้วยความรอบคอบและทำเครื่องหมาย“✓” ให้สอดคล้องกับความเป็นจริงกับความถี่ที่นักศึกษาใช้ คำตอบของนักศึกษาจะไม่ส่งผลใด ๆ ต่อการเรียนรายวิชาภาษาอังกฤษในวิทยาลัย/มหาวิทยาลัย

“ไม่เคย” หมายถึง นักศึกษาไม่เคยใช้กลวิธีการเรียนรู้คำศัพท์ดังกล่าวเลย

“บางครั้ง” หมายถึง นักศึกษาใช้กลวิธีการเรียนรู้คำศัพท์ดังกล่าวบ่อยครั้งหรือ เป็นบางครั้ง

“บ่อย” หมายถึง นักศึกษาใช้กลวิธีการเรียนรู้คำศัพท์ดังกล่าวบ่อยครั้ง

“เป็นประจำ หรือ เกือบเป็นประจำ” หมายถึง นักศึกษาใช้กลวิธีการเรียนรู้คำศัพท์ดังกล่าวเป็นประจำ หรือ เกือบเป็นประจำ

ตัวอย่าง

ข้อความ	ความถี่ในการใช้			
	เป็นประจำ/ เกือบเป็น ประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
1.ท่องหรือเขียนคำศัพท์พร้อมกับความหมายซ้ำๆ		✓		

แบบสอบถามกลวิธีการเรียนรู้คำศัพท์ภาษาอังกฤษ

ข้อความ	ความถี่ในการใช้			
	เป็นประจำ/ เกือบเป็น ประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
1. ท่องหรือเขียนคำศัพท์พร้อมกับความหมาย ซ้ำๆ				
2. ท่องคำศัพท์แบบคล้องเสียง				
3. เขียนคำศัพท์และความหมายของคำศัพท์บน กระดานและติดไว้ที่ผนังห้อง				
4. ดูของจริงรอบๆและเชื่อมโยงเข้ากับคำศัพท์				
5. เล่นเกมส์ภาษาอังกฤษเช่น สแครปเบิ้ล หรือ ปริศนาอักษรไขว้				
6. นำคำศัพท์ใหม่ที่เรียนรู้มาใช้ในการเขียน				
7. เชื่อมโยงคำศัพท์ใหม่เข้ากับคำศัพท์เดิมที่เคยรู้				
8. เชื่อมโยงคำศัพท์เข้ากับประสบการณ์เดิม				
9. ใช้รูปภาพในการโยงเข้าหาคำศัพท์ ภาษาอังกฤษ				
10. เชื่อมโยงคำภาษาอังกฤษเข้ากับคำใน ภาษาไทยที่มีเสียงเหมือนกัน เช่น 'fire' กับ 'ไฟ'				
11. เดาความหมายคำศัพท์โดยการวิเคราะห์ โครงสร้างคำศัพท์ เช่น อุปสรรค (prefixes) ราก ศัพท์ (roots) และปัจจัย (suffixes)				
12. เดาความหมายคำศัพท์จากบริบท เช่น คำศัพท์แวดล้อม หรือ โครงสร้างทางไวยากรณ์ ของประโยค				
13. เดาความหมายคำศัพท์จากบริบท เช่น การ ออกเสียง และ สถานการณ์จริง				

ข้อความ	ความถี่ในการใช้			
	เป็นประจำ/ เกือบเป็น ประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
14. อ่านสื่อสิ่งพิมพ์ภาษาอังกฤษประเภทต่างๆ เช่น แผ่นพับ ตำรา หรือ หนังสือพิมพ์				
15. ทบทวนบทเรียนภาษาอังกฤษ				
16. ศึกษาคำศัพท์จากป้ายโฆษณา ป้าย ประชาสัมพันธ์ ป้ายจราจร หรือ ป้ายอื่นๆ				
17. ศึกษาคำศัพท์จากหมวดคำศัพท์ในหนังสือ เรียนภาษาอังกฤษ				
18. ค้นหาความหมายคำศัพท์ หรือความรู้ เกี่ยวกับคำศัพท์จากอินเทอร์เน็ต				
19. ใช้พจนานุกรมเพื่อค้นหาความหมายหรือ หรือความรู้เกี่ยวกับคำศัพท์				
20. สอบถามความหมาย หรือความรู้เกี่ยวกับ คำศัพท์จากเพื่อน				
21. สอบถามความหมาย หรือความรู้เกี่ยวกับ คำศัพท์จากครู				
22. สอบถามความหมาย หรือความรู้เกี่ยวกับ คำศัพท์จากบุคคลอื่นๆ หรือ เจ้าของภาษา				
23. นำคำศัพท์ที่เรียนรู้มาใช้ในการสนทนากับ เพื่อน				
24. นำคำศัพท์ที่เรียนรู้มาใช้ในการสนทนากับครู สอนภาษาอังกฤษ หรือเจ้าของภาษา				
25. จัดจำคำศัพท์จากรายการคำศัพท์ หรือ ไม่ใช่รายการคำศัพท์				
26. บันทึกคำศัพท์ หรือวลีภาษาอังกฤษ และเปิด ฟังในเวลาว่าง				
27. จัดเวลาเพื่อการเรียนรู้ หรือจดคำศัพท์ เช่น ก่อนเข้านอน				

ข้อความ	ความถี่ในการใช้			
	เป็นประจำ/ เกือบเป็น ประจำ	บ่อยครั้ง	บางครั้ง	ไม่เคย
28. สร้างเครือข่ายของคำศัพท์ (a word-network)				
29. ทำสมุดบันทึกคำศัพท์				
30. จัดกลุ่มคำศัพท์โดยดูจากความหมาย การออกเสียง การสะกด หรืออื่นๆ ที่สามารถเชื่อมโยงคำศัพท์ให้อยู่ในกลุ่มเดียวกันได้				
31. ทำแบบฝึกหัด หรือแบบทดสอบ จาก แหล่งต่างๆ เช่น ตำราเรียน วารสาร หรือ อินเทอร์เน็ต				
32. เข้าเรียนวิชาภาษาอังกฤษสม่ำเสมอ				
33. เรียนรู้คำศัพท์จาก วรรณกรรม กลอน หรือ ธรรมเนียมต่างๆ ในภาษาอังกฤษ				
34. ทำงานพิเศษ หรือ ฝึกงานกับบริษัทที่ได้ใช้ภาษาอังกฤษ เช่น บริษัทการท่องเที่ยว โรงแรม เป็นต้น				
35. ชมรายการภาษาอังกฤษทางโทรทัศน์หรือฟังรายการวิทยุภาษาอังกฤษ				
36. เข้าอินเทอร์เน็ตโดยเฉพาะเว็บไซต์สำหรับการเรียนรู้คำศัพท์				
37. ดูภาพยนตร์ภาษาอังกฤษ และอ่านคำบรรยายไทย				
38. ร้องหรือฟังเพลงภาษาอังกฤษ				
39. ฟังการบรรยาย การนำเสนอ หรือการสนทนา เป็นภาษาอังกฤษ				
40. ฝึกแปลคำศัพท์จากภาษาไทยเป็นภาษาอังกฤษหรือจากภาษาอังกฤษเป็นภาษาไทย				

41. นอกเหนือจากข้อความด้านบน มีกลวิธีการเรียนรู้คำศัพท์ใดๆ อีกบ้างที่ท่านใช้ โปรดระบุ



APPENDIX C

The English Vocabulary Proficiency Test

Instructions:

- 1. Please read the directions carefully before doing each part of the test**
- 2. In this test, there are 6 different parts.**
 - Part 1 Multiple-choice (Numbers 1-21)**
 - Part 2 Matching the Right Meaning (Numbers 22-26)**
 - Part 3 Finishing the Sentence (Numbers 27-34)**
 - Part 4 Word Substitution (Numbers 35-44)**
 - Part 5 Multiple-choice Paraphrase (Numbers 45-53)**
 - Part 6 Gap-filling (Numbers 54-60)**
- 3. Please do not write anything on the test paper**
- 4. Put the answer on the answer sheet provided**
- 5. If you have any problems, please ask the teacher.**

Thank you very much for your co-operation

Part 1 Multiple-choice(Numbers 1-21)

Word Association (Numbers 1-8)

Directions: Choose a word which is associated with the word givenคำสั่ง จงเลือกคำศัพท์ที่ถูกต้องที่สุดที่มีความหมายสัมพันธ์กับคำศัพท์ที่ให้มา**1.Car**

- | | | | |
|-----------|-----------|---------|----------|
| a. basket | b. clutch | c. clip | d.target |
|-----------|-----------|---------|----------|

2. War

- | | | | |
|----------|----------|--------------|----------|
| a. fight | b. cream | c. seat-belt | d.folder |
|----------|----------|--------------|----------|

3. University

- | | | | |
|----------|-----------|-------------|----------|
| a. brown | b. dinner | c. conflict | d.lesson |
|----------|-----------|-------------|----------|

4.Sleep

- | | | | |
|---------|-----------|-----------|---------|
| a. gull | b. pillow | c. tongue | d. tyre |
|---------|-----------|-----------|---------|

5.Fruit

- | | | | |
|------------|---------|----------|-----------|
| a. avocado | b. oven | c. climb | d.cabbage |
|------------|---------|----------|-----------|

6.Loud

- | | | | |
|----------|-----------|----------|---------|
| a. music | b. forest | c. score | d. soap |
|----------|-----------|----------|---------|

7. Fly

- | | | | |
|--------|-----------|---------|---------|
| a. own | b. needle | c. crow | d. ears |
|--------|-----------|---------|---------|

8.Soft

- | | | | |
|----------|------------|----------|---------|
| a. jewel | b. clothes | c. stone | d. cave |
|----------|------------|----------|---------|

Synonym (Numbers 9-14)

Directions : Choose the best synonym for each wordคำสั่ง จงเลือกคำศัพท์ที่ถูกต้องที่สุดที่มีความหมายเหมือนกับคำศัพท์ที่ให้มา**9. Tiny**

- | | | | |
|-------------|---------------|---------------|---------------|
| a. very big | b. very happy | c. very thick | d. very small |
|-------------|---------------|---------------|---------------|

10. Brief

- | | | | |
|---------|----------|---------|----------|
| a. half | b. short | c. near | d. close |
|---------|----------|---------|----------|

11. Broad

- | | | | |
|---------|---------|----------|--------|
| a. thin | b. wide | c. small | d. big |
|---------|---------|----------|--------|

12. Skinny

- a. small b. little c. thin d. strong

13. Apart

- a. join b. separate c. moving d. together

14. Shout

- a. yell b. say c. speak d. tell

Antonym (Numbers 15-21)

Directions : Choose the best antonym for each word.

คำสั่ง จงเลือกคำศัพท์ที่ถูกต้องที่สุดที่มีความหมายตรงข้ามกับคำศัพท์ที่ให้มา

15. Awful

- a. painful b. unthinkable c. pitiful d. wonderful

16. True

- a. great b. false c. fake d. real

17. Strange

- a. easy b. normal c. creative d. boring

18. Worst

- a. meanest b. best c. last d. hottest

19. Plain

- a. sweet b. crazy c. fancy d. ample

20. Positive

- a. amplified b. negative c. wrong d. equal

21. Evil

- a. bad b. powerful c. virtue d. candid

Part 2 Matching the Right Meaning (Numbers 22-26)

Polyseme (Numbers 22-26)

Directions: Match the meaning of fair in each sentence.

คำสั่ง จงจับคู่ความหมายที่ถูกต้องที่สุดของคำว่า “fair” ในแต่ละประโยคที่ให้มา

- | | |
|--|-----------------------|
| _____ 22. She has long <u>fair</u> hair. | A. moderate, suitable |
| _____ 23. It will be <u>fair</u> to others if she pays for her
own bills. | B. pale, white |
| _____ 24. The sun's rays can be harmful to <u>fair</u> skin. | C. equal |
| _____ 25. The weather is <u>fair</u> and warm. | D. exhibition |
| _____ 26. My dog won the first prize at the 13 th Annual
Pet <u>Fair</u> . | E. light, blond |

Part 3: Finishing the Sentence (Numbers 27-34)

Vocabulary in Sentence Context (Numbers 27-34)

Directions : Finish the sentence by Choosing the best ending for each of the sentence from the list underneath

คำสั่ง จงเติมประโยคให้สมบูรณ์โดยเลือกคำตอบจากข้อความด้านล่าง

27. Like the United States Congress, the UK **Parliament** _____
28. University students usually have **options** _____
29. Sometimes articles are **anonymous** _____
30. Computer equipment can become **obsolete** very quickly _____
31. If student does not **follow** _____
32. Because of radio telescopes, we can now **detect** _____
33. Please **attach** _____

34. His health is so bad that it will be a **miracle**_____

- A. passport to the application form.
- B. but the majority of cases the name of the author appears with the article.
- C. if he is alive next year.
- D. is responsible for making laws.
- E. the regulations concerning examinations, he/she may fail.
- F. of choosing extra subjects to study if they wish.
- G. because new technology comes so fast.
- H. distant stars which cannot be seen from Earth.
- I. into several different families
- J. to stealing books from the library
- K. high level of stress and insecurity

Part 4: Word Substitution(Numbers 35-44)

Vocabulary in Sentence Context (Numbers 35-44)

Directions : Choose a word which could be replaced the word underlined without changing the meaning of the sentence

คำสั่ง จงเลือกคำศัพท์ที่สามารถนำมาทดแทนคำศัพท์ที่ขีดเส้นใต้ โดยไม่เปลี่ยนแปลง
ความหมายเดิมของประโยค

domestic	conserve	orbit	drug
alcohol	area	efficient	appear
outcome	competence	utilise	tolerate

35. Some products are exported and may not be available at all the **home** market.

36. One of the most important skills to learn as a student is how to **make use of** your time effectively.

37. There is growing pressure in government to **protect** forests and wild animals.

38. During the 1930's, the sale of **strong drink** was illegal in the USA, and yet consumption of drink actually increased.
39. Employers are keen to recruit people who have at least a basic **ability** in computing.
40. Most animals will attack other animals which try to enter their **space**.
41. The **medicines** used to treat infection will become completely ineffective if they are used too often.
42. The international Space Station will **circle** the Earth next year.
43. He is very pleasant colleague, and very **proficient** at his job.
44. The **result** of the experiment was a surprise to everyone

Part 5 : Multiple-choice Paraphrase (Numbers 45-53)

Vocabulary in Paragraph Context (Numbers 45-53)

Directions: Choose the best answer that best maintains the meaning of the underlined word

คำสั่ง จงเลือกคำตอบที่ถูกต้องที่สุดที่มีความหมายเหมือนคำศัพท์ที่ขีดเส้นใต้

45. Bats are **nocturnal** At night they hunt, using a form of sonar called echolocation that helps them catch prey by using high-frequency sound waves to locate their exact position. Bats consume many insects, such as mosquitoes. What does 'nocturnal' probably mean?

- | | |
|--------------------------|----------------------------|
| a. active during the day | b. active during the night |
| c. wandering in a forest | d. like a mouse |

46. My cats are so **gullible** If I turn on the can opener for any reason, they all come running thinking they will get a treat. Moreover, she seems to believe everything that other people do with her. What does 'gullible' probably mean?

- | | | | |
|-----------|-------------------|-----------|-----------|
| a. caring | b. easily tricked | c. loving | d. honest |
|-----------|-------------------|-----------|-----------|

47. The archaeologist carefully removed the **tome** from its ancient resting place and started to read the pages related to marriage in ancient Greece. What does ‘tome’ probably mean?

- a. pen b. weapon c. book d. sausage

48. The ancient Greeks **pioneered** many of the kinds of writing we consider standard today. They wrote plays, poems, books about science and learning, long histories of the things that happened to them. What does ‘pioneered’ probably mean?

- a. complicated b. developed c. destroyed d. explored

49. Katina was **ecstatic** about getting a new little dog! She wants to hold him in her arms. She had saved her money for eight months to buy everything her new little dog would need. What does ‘ecstatic’ probably mean?

- a. nervous b. patient c. happy d. scared

50. My mother is 83 years old now and has become **lackadaisical**. She can’t do any things as much as she used to do. What does ‘lackadaisical’ probably mean?

- a. sincere b. modest c. no energy d. warlike

51. Andrea is a very **impertinent** young lady. She talks while her teacher is explaining a lesson. Her manners are very poor. Even her parents thought that Andrea was impolite. What does ‘impertinent’ probably mean?

- a. silent b. talkative c. confident d. rude

52. Jet is good at many sports. He is excellent in swimming, running, horsemanship, fencing, and target shooting. He decided to compete in the **pentathlon** rather than having to choose one of the events. What does ‘pentathlon’ probably mean?

- a. competition with three events b. competition with four events
c. competition with five events d. competition with six events

53. If you are a computer **novice**, it might be best to take a class to learn how a computer operates. The class for a person who does not have any experience in operating computer starts next week. What does ‘novice’ probably mean?

- a. beginner b. veteran c. old hand d. reader

Part 6: Gap-Filling (Numbers 54-60)

Vocabulary in passage context (Numbers 54-60)

Directions: Choose the words below to complete the paragraphs.**คำสั่ง** จงเลือกคำตอบที่ถูกต้องที่สุดเพื่อเติมลงในช่องว่าง

world	video	power	dancing	halls
entertainment	programs	screen	surprise	music

Who among us doesn't like to be entertained? The world of entertainment is the world of excitement. Throughout the centuries, traditions of dance, ____54____, and theatre have developed in different ways in different places. When you think about it, all societies have contributed to the wonderful ____55____ of entertainment. Shadow puppets, opera, flamenco ____56____, and rock and roll come from different places. Each society has its own rhythms and stories and art forms. But all of them have the ____57____ to thrill people from other places, too. In recent times movies, television and ____58____ have made it possible for millions of people to see the same ____59____. Entertainment, from the flaming arrow that opened the Olympic Games in Lillehammer to the Rolling Stones in Concerts in New York, is as near as the television ____60____. Yet still people continue to sit in circus tents, concert halls and theatres to take part in the special thrill of live entertainment.

APPENDIX D

A Sample Interview Script (translated version)

Interviewer : Nathaya Boonkongsaen

Interviewee : PBU 1

Date : March 25, 2013

Time : 5.00-5.15 p.m.

Place : Suranaree University of Technology, Nakhon Ratchasima

Interviewer : What is your name ?

Interviewee: My name is ...Chatchawan...

Interviewer : Do you use English language very often?

Interviewee: Not often, I use in classroom only or when I take the test..... I sometimes use it at home when there are foreign customers coming in to my shop.....My family members can't speak English, so I have to talk to them.

Interviewer : You are the only one who can speak English with foreign customers ..right?

Interviewee: Yes, that is right.

Interviewer : What skill do you use most?

Interviewee: I listen and speak, but not very often..... compared with other skills, I listen and speak very often.

Interviewer: What language element is important for you to acquire English language skill?

Interviewee: Vocabulary, for example, when there was a customer, she said some words, and I did not understand what she said. at one time, the customer wanted to buy a dress. She asked me the price. I understood what she said. Then I tell her the price. Later she said a sentence that I didn't understand. I thought she might ask me to lower the price. something like that.... I just guess. ...something like that.

Interviewer: Your guess is correct ?

Interviewee: Yes, it is.

- Interviewer: What is your clue? Intonation? or gestures?
- Interviewee: My clue comes from gestures..... I have seen these many times. Most foreigners can't accept the price.
- Interviewer: The price has been set too high?
- Interviewee: Yes, it is. The foreigners often experience this situation....so, they get used to it.
- Interviewer : Please tell me the reasons why you employed the following strategies frequently, or usually? What is the first strategy? I have already noted for you.
- Interviewee: Number 18
- Interviewer : Why do you employ 18 frequently?
- Interviewee: On the Internet,.... face book or chatting, there are some words that we did not know. Or in the assignments, there are some words. I'll look for the meaning of unknown words on the Internet.
- Interviewer: Do you use the Internet every day?
- Interviewee: Almost every day, but not often.I use it very often, if it is about learning.
- Interviewer : Why do you employ strategy 19 frequently?
- Interviewee: I'm not good at English. It is convenient. In the past, I used a dictionary, the pocket book one. Now, I use a dictionary on my cell phone.
- Interviewer : Easy right? English- Thai or English –English dictionary?
- Interviewee: Yes, that is right. I use Both.
- Interviewer : What did you look for on a dictionary? Meaning and pronunciation?
- Interviewee: I also look for the pronunciation. In the past, I just look at the meaning of unknown words..... Now, I look for the pronunciation. I can't read....I have to do FLRU. I have to listen for the pronunciation on a dictionary.
- Interviewer : Why do you employ strategy 20 frequently?
- Interviewee: I don't want to ask. If I ask, I will ask friends. If I can't ask friends, I'll ask teacher.
- Interviewer : Can your friends answer to your questions?
- Interviewee: Yes they can. Sometimes, they know the meaning of unknown words, but sometimes they don't know.
- Interviewer : Do you ask only the one who is good at English?
- Interviewee: I ask anyone..... I ask anybody whose English is as good as mine. I don't want to ask the one whose English is better than mine. I ask an easy word. ... some words are on the tip of my tongue, I can't recall them.

- Interviewer : What else?
- Interviewee: Number 30
- Interviewer : Why do you employ strategy 30 frequently?
- Interviewee: When I'm going to take a test, I'll group the words to make them clear to study. I group them to read and memorise.
- Interviewer : Why? To make them clearer?
- Interviewee: Yes, that is right.
- Interviewer : What else?
- Interviewee: Number 40
- Interviewer : Why do you employ strategy 40 frequently?
- Interviewee: It is difficult and complicated to translate word for word. So, I take the whole sentence to translate. I look at how the sentence is linked. At least, I know how they are linked. there is "is"something like that. I know which word is verb or subject. I translate it because I don't know the meaning.
- Interviewer : Here it means to translate word for word...have you ever done that
- Interviewee: Yes, some words I don't know and I have to use them....If I know, I can speak. If I don't know I can't speak because I don't know the meaning of the words. Sometimes, I want to talk or warn someone, if I speak Thai with him, he can't understand me....So, I have to translate from Thai to English.
- Interviewer : We mostly translate from English to Thai. Did you often translate Thai-to English?
- Interviewee: Yes, often.one of my relatives is a foreigner. I have to speak with him. His Thai language is not good enough to understand what I said. I have to speak English with him.
- Interviewer : What else?
- Interviewee: Number 4
- Interviewer : Why do you employ strategy 4 infrequently?
- Interviewee: I don't understand this method.
- Interviewer : It is like... this is a wall, a chair, a board, we see them then associate them with vocabulary items. We look at real objects and associate them with the vocabulary items.
- Interviewer: You don't know this strategy right?
- Interviewee: No, I don't know it.
- Interviewer : What else?

Interviewee: Number 12

Interviewer : Why do you employ strategy 12 infrequently?

Interviewee: I never use it.... because I don't understand the contexts around the word. It is confusing to guess from the contexts..... The more I read, the more I get confused.

Interviewer : What else?

Interviewee: Number 14

Interviewer : Why do you employ strategy 14 infrequently?

Interviewee: I've ever read, if it is a brochure. I read when I was young. If the text is longer than the ones in the brochure, I'll read not more than 2 lines, then I'll feel asleep.

Interviewer : Why ? Seeing the long text makes you feel asleep?

Interviewee: Something like that. If it is an assignment from teacher to read, I will do.

Interviewer : If not from the teacher?

Interviewee:how can I say..... the longer texts, the more I feel frustrated when I don't understand what I'm reading.

Interviewer : Sometimes you have low tolerance with what you're reading right ? feel frustrated?

Interviewee: Yes , that is right.

Interviewer : What else?

Interviewee: Number 24

Interviewer : Why do you employ strategy 24 infrequently?

Interviewee: I'm not confident.

Interviewer : Why? Are you afraid of teacher?

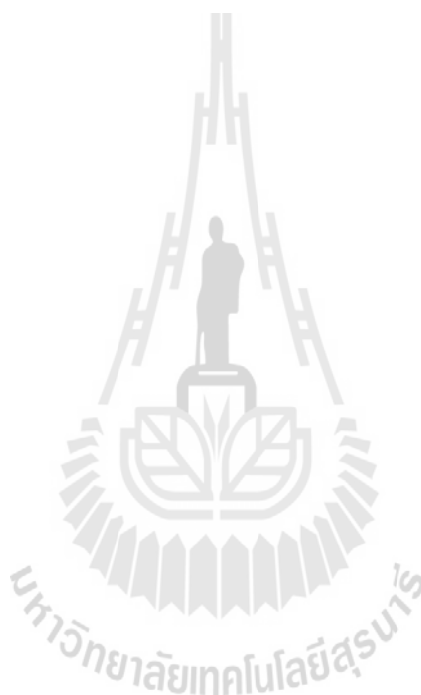
Interviewee: I'm afraid that the words I'm talking with them are not the right words.I don't know and I don't want to ask. I don't know how to ask or start a conversation in English with teacher.. I can't say a long sentence.

Interviewer : Why do you employ strategy 29 infrequently?

Interviewee: No I did not often use this strategy. I just underline the word I want to know or to memorise. I did not keep a vocabulary notebook. I think if I keep a vocabulary notebook, I will lose it.So, I just underline the word in the texts I've read. It is easier to look at the vocabulary items in the textbook because we know in what page they are on.

Interviewer : Do you have any suggestions or comments for teaching and learning English vocabulary?

Interviewee: It is good enough.I don't think too much.... I think what the teacher gives me in class about the vocabulary is enough.I'd like to suggest that the teacher focus on speaking. It is ok if we can't write, but we can speak.



APPENDIX E

Data Collection Time Table

Institution	Date	Time	Activity
Suranaree University of Technology	March 25, 2013	10.00-11.30 a.m.	Administering VPT and VLSQ to students
		5.00-5.15 p.m. 5.20-5.32 p.m. 5.40-5.55 p.m.	Interviewing PBU1 Interviewing PBU2 Interviewing PBU3
	March 27, 2013	10.00-11.30 a.m.	Administering VPT and VLSQ to students
		5.00-5.15 p.m. 5.20-5.33 p.m.	Interviewing PBU 4 Interviewing PBU 5
Vongchavalitkul University	June 12, 2013	08.00-9.30a.m.	Administering VPT and VLSQ to students
Rajamangala University of Technology Isan Nakhon Ratchasima Campus	June 12, 2013	1.00-2.30 p.m.	Administering VPT and VLSQ to students
		3.00-3.15 p.m. 3.20-3.35 p.m. 3.40-3.55 p.m. 4.00-4.15 p.m. 4.20-4.35 p.m.	Interviewing RMUT 5 Interviewing RMUT 6 Interviewing RMUT 7 Interviewing RMUT 8 Interviewing RMUT 9

Institution	Date	Time	Activity
Vongchavalitkul University	June 14, 2013	10.00-11.30a.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m. 4.40-4.55 p.m. 5.00-5.15 p.m. 5.20-5.35 p.m.	Interviewing PVC/U 1 Interviewing PVC/U 2 Interviewing PVC/U 3 Interviewing PVC/U 4 Interviewing PVC/U 5
Khon Kaen University	June 17, 2013	3.00-4.30 p.m.	Administering VPT and VLSQ to students
College of Asian Scholars	June 18, 2013	9.00-10.30a.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m. 4.40-4.55 p.m. 5.00-5.15 p.m. 5.20-5.35 p.m.	Interviewing PVC/U 6 Interviewing PVC/U 7 Interviewing PVC/U 8 Interviewing PVC/U 9 Interviewing PVC/U 10
Udon Thani Rajabhat University	June 19, 2013	1.00-2.30 p.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m.	Interviewing RU 1 Interviewing RU 2
	June 20, 2013	1.00-2.30 p.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m.	Interviewing RU 3 Interviewing RU 4

Institution	Date	Time	Activity
Khon Kaen University, Nong Khai Campus	June 24, 2013	1.00-2.30 p.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m. 4.40-4.45 p.m.	Interviewing PBU 6 Interviewing PBU 7 Interviewing PBU 8
	June 25, 2013	9.00-10.30a.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 p.m.	Interviewing PBU 9 Interviewing PBU 10
Rajabhat Mahasarakham University	July 2, 2013	9.00-10.30 a.m.	Administering VPT and VLSQ to students
		11.00-11.15 a.m. 11.20-11.35 a.m. 11.40-11.55 a.m. 11.56-12.10 a.m.	Interviewing RU 5 Interviewing RU 6 Interviewing RU 7 Interviewing RU 8
Roi Et Rajabhat University	July 3, 2013	9.00-10.30 a.m.	Administering VPT and VLSQ to students
		4.00-4.15 p.m. 4.20-4.35 a.m.	Interviewing RU 9 Interviewing RU 10

Institution	Date	Time	Activity
Roi Et Rajabhat University	July 4, 2013	9.00-10.30 a.m.	Administering VPT and VLSQ to students
		4.00-4. 15 p.m. 4.20-4. 35 p.m.	Interviewing RU 11 Interviewing RU 12
Rajamangala University of Technology Isan Sakonnakhon Campus	July 8, 2013	8.30-10.00 a.m.	Administering VPT and VLSQ to students
		4.00-4. 15 p.m. 4.20-4. 35 p.m. 4.40-4. 55 p.m. 5.00-5. 15 p.m.	Interviewing RMUT 1 Interviewing RMUT 2 Interviewing RMUT 3 Interviewing RMUT 4
Buriram Rajabhat University	July 10, 2013	13.00-14.30 p.m.	Administering VPT and VLSQ to students
		3.00-3. 15 a.m. 3.20-3. 35 a.m. 3.40-3. 40 a.m.	Interviewing RU 13 Interviewing RU 14 Interviewing RU 15
Nakhon Ratchasima College	July 11, 2013	9.00-10.30 a.m.	Administering VPT and VLSQ to students
		4.00-4. 15 p.m. 4.20-4. 35 p.m. 4.40-4. 55 p.m. 5.00-5. 15 p.m.	Interviewing PVC/U 11 Interviewing PVC/U 12 Interviewing PVC/U 13 Interviewing PVC/U 14
Rajamangala University of Technology Isan Nakhon Ratchasima Campus	July 15, 2013	9.00-10.30a.m.	Administering VPT and VLSQ to students

CURRICULUM VITAE

Nathaya Boonkongsan is a lecturer at Vongchavalitkul University, Nakhon Ratchasima, Thailand. She obtained B.A.(Hons) in English from Mahasarakham University and M.A. in Linguistics from Chulalongkorn University. Her research interests include vocabulary acquisition and learning, and pragmatics. Her research accomplishments include national and international publications in the field of second language acquisition and pragmatics. Her recent publication is the article entitled 'Filipinos and Thais Saying 'No' in English' in Manusya, Journal of Humanities (2013).

