Vocabulary Learning Beliefs, Strategies and Language Learning Outcomes:

A study of Chinese Learners of English in Higher Vocational Education

Su Li

A thesis submitted to
Auckland University of Technology
in partial fulfillment of the requirements
for
the degree of Master of Arts (MA)

2010

School of Languages and Social Sciences
Primary Supervisor: Professor John Bitchener

To my father

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

CET: College English Test

CLT: Communicative Language Teaching

EFL: English as a foreign language

ESL: English as a second language

L1: first language

L2: second language

LLB: language learning beliefs

LLS: language learning strategies

NSs: native speakers

SLA: second language acquisition

SLL: second language learning

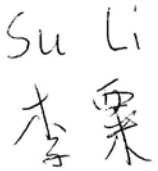
TL: target language

VLB: vocabulary learning beliefs

VLS: vocabulary learning strategies

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.



ACKNOWLEDGEMENTS

I am indebted to many people for their various contributions to this study. My supervisor, Professor John Bitchener, has greatly influenced the development of the ideas of this study with many insightful conversations and helpful comments on the texts of my thesis throughout the process. Though he is very busy, insightful feedback on my work has never been delayed. His invaluable support, encouragement, patience, guidance and scholarship enabled me to complete this piece of work.

Heartfelt thanks go to Clare Conway, my secondary supervisor, for her feedback and help with editing. Her support has contributed to the completion of the final version of my thesis. I would also like to thank Kevin Roach and Denise Cameron at the School of Languages and Social Sciences, AUT, who ushered me into the field of language learning beliefs and strategies.

Sincere thanks go to NZAID Office, without whose aid, my study at AUT together with this research would have been impossible, and to Ms. Amber Young and Mr. Blair Sorensen, my NZAID scholarship officers, for their help with my student life at AUT and the arrangements for my trip to and from P.R. China for data collection in this study.

I am very grateful to the participants at the Department of International Business of Sichuan Business Vocational College in P.R. China. Their cooperation made this study possible. Of course, my sincere appreciation goes to the Authorities of the Department and the College who permitted this study to take place there.

I am also very grateful to the wonderful English teachers and Chinese students at AUT International House for their participation and cooperation in the pilot study. Michael Giacon (Head of the School) and Anne Sweeney (Program Leader of the School) permitted the pilot study at their school. Their support is highly appreciated.

I also highly appreciate the statistical assistance from Murry Black (Head of the School of Statistical Sciences, AUT), Nick Garrett (Biostatistician and Senior Researcher of

Research Centre, AUT) and Stuart Young (Senior Lecturer of the School of Statistical Sciences, AUT). They helped me from the pilot study to the main study.

Special gratitude goes to Marlene Lu (Manager of the Chinese Centre, AUT and Member of New Zealand Society of Translators and Interpreters) for her checking of the translation of the documents in this study and her help with my student life at AUT, and to Dr. David Parker at the Learning Development Centre who helped with my study at AUT and commented on my very first draft of the thesis.

Thanks goes to friends whose interest in this research has been a source of encouragement.

Last but not least, this thesis would not have been completed without the understanding and emotional support from my mother. Her love and understanding have been a part of my academic pursuit at AUT. To her, I am most indebted.

This study was granted ethics approval by the Auckland University of Technology Ethics Committee on 26th August, 2009, AUTEC Reference number 09/179.

ABSTRACT

It is widely perceived that vocabulary learning is important in second language acquisition (SLA), and that vocabulary learning outcomes are not satisfactory for most learners. As beliefs and strategies are factors influencing SLA, vocabulary learning beliefs (VLB) and strategies (VLS) have drawn continuous attention in SLA research in the past two decades, especially in China. The present study has continued these foci by investigating VLB and VLS of a new group of English learners in China whose vocabulary learning is under-researched — vocational college students.

The study aimed to capture the VLB and VLS profiles of such learners by triangulating them with teacher observations. It also aimed to examine the interrelationships between VLB, VLS and learning outcomes. In essence, the consistency in learners' self-reports and the consistency between learners' self-reports and their actual vocabulary learning behavior perceived by their English teacher were examined.

A mixed-method approach was adopted for investigation from different perspectives. Involving student questionnaires and interviews as well as an interview with a teacher, this approach overcame the weakness of reliance on learners' self-reported questionnaires in previous work. 102 International Trade and Economy majors at a Chinese vocational college completed the questionnaire and the vocabulary test. Follow-up interviews were conducted with 20% of these students and their English teacher.

Synthesis of quantitative data and qualitative data revealed the students predominantly believed in the importance of vocabulary for the tests while tending to disagree that vocabulary should be memorized. They seemed to dwell on dictionary strategies and contextual guessing while using communication/cooperation and wordlists the least. However, teacher observations contradicted their belief in the high use of dictionaries and low use of wordlists. Among the VLBs, self-efficacy showed the most significant correlation with vocabulary proficiency. No VLB showed significant correlation with

general English proficiency. In addition, not all VLSs, that significantly correlated with vocabulary proficiency, showed significant correlation with general English proficiency. Furthermore, self-efficacy and interest in vocabulary learning showed a wide range of correlation with VLSs, while the belief in the importance of vocabulary learning for the tests and the belief in memorization showed the minimum range of correlation with VLSs. The results confirmed the two-dimensional construct of vocabulary—knowledge plus skill of use. The findings also revealed for the first time the importance of motivational beliefs in vocabulary learning. Pedagogical suggestions such as cultivation of students' self-efficacy and interest in vocabulary learning and implications for future research including longitudinal studies of VLB and/or VLS variation were also identified

Chapter 1 INTRODUCTION

1.1 Background to the study

Traditionally, vocabulary is viewed as a complex of form and meaning. Thus, vocabulary learning is intended to memorize the form-meaning association (Gu, 2005). The limitations of such a construct of vocabulary have become apparent in the past few decades (Carter, 1998; Richards, 1976). It has been proposed that vocabulary is a dynamic complex of both knowledge of a word and the skill of using it and vocabulary cannot be separated from discourse (McCarthy, 1984; Nation, 2001; Robinson, 1989). This is the view of vocabulary adopted in the present study. Thus, besides knowing the word, vocabulary learning includes using the word automatically in a context appropriate manner.

My interest in vocabulary learning strategies was first aroused when I was an English teacher in China. Year after year, many students complained about the difficulty of memorizing new words. They had realized that their small vocabulary size, which seemed difficult to enlarge, had hampered their English learning. It seemed that they had not found an appropriate way to learn vocabulary.

Following the conscious recognition of the learner as an active participant in the second language acquisition (SLA) process in Cognitive Theory, Interaction Theory and Vygotskan Theory (Mitchell & Myles, 2004), learner variables have been a focus of SLA research. Among them, are language learning beliefs (LLB) and language learning strategies (LLS) (Dornyei, 2005). The former refers to learners' intuitive knowledge of their second language (L2) learning, which is influenced by their interaction with the outside world (Barcelos, 2003). The latter refers to steps taken by the learner to facilitate their L2 learning (Oxford, 1990).

Though vocabulary is the center of a language (Richards, 2000), the efficacy of vocabulary learning is often far from satisfactory (Meara, 1984). Therefore, in order to facilitate L2 vocabulary learning, vocabulary learning strategy (VLS), which is a

task-specific strategy, has drawn researchers' on-going attention over the last two decades. Recurrent themes in research in English L2 vocabulary learning include the efficacy of particular strategies (Boers, Demecheleer & Eckmans, 2004), VLS patterns among learners (Sanaoui, 1995), VLS' relationship with learning context (Kojic-Sabo & Lightbown, 1999) and with other learner's variables such as gender (Nemati, 2008), age (Shmitt, 1997), and L2 proficiency (Moir & Nation, 2002).

However, vocabulary learning beliefs (VLBs), another learner variable that influences vocabulary learning (Moir & Nation, 2002; Gu, 2005), is an under-researched area. Moreover, the studies mentioned above about VLS were conducted mainly in an English as a second language (ESL) context. As LLB can be shaped by culture and context (Horwitz, 1999), and LLS choice is influenced by factors such as beliefs, cultural background and types of task (Oxford, 1994), the VLS and VLB may also differ among learners in different learning cultures and contexts.

Empirical studies on the naturally occurring VLS and/or VLB among Chinese learners of English began in the late 1990s with a focus on key university students (Gu & Johnson, 1996) and the focus continues to be on them (Li, 2006). Since 1995, a new group of tertiary students—vocational college students—has emerged and expanded rapidly. Vocabulary learning has been identified as their greatest problem in English learning (Si, 2005). Up to now, only a small number of studies has addressed the vocabulary learning of this group of students. Besides describing the general VLS pattern among the participants, some of them also described the participants' general VLB pattern (Zhang[1], 2005), the correlation between VLS and gender (Yang[2], 2006), vocabulary size (Yang[2], 2006), or L2 proficiency (Zhang[1], 2005). However, the results are not consistent. Moreover, none of them explored the correlation between VLB and VLS. As LLB affects L2 learning via its influence on LLS (Ellis, 2008b), such a correlation deserves exploration. In addition, in each of the previous studies addressing vocational college students, the participants were from different colleges, and/or different majors and grades. As diverse participant characteristics is a factor that can affect the internal validity of a study (Mackey & Gass, 2005), research among more

homogeneous participants is needed for a closer reflection of VLB and VLS among the students. Since an increasing body of research has generated evidence for the contribution of LLS to the effectiveness of L2 achievement (Dornyei & Skehan, 2003), and the use of LLS is directly influenced by LLB (Ellis, 2008b), the above issues deserve further exploration. This thesis reports on a study that sought to address these gaps.

1.2 Aims and significance of the study

The present study aims to capture the VLB and VLS profiles of English learners in a vocational college in China by triangulating them with their English teachers' long term observations. It also examines the interrelationships between VLB, VLS and learning outcomes.

In order to provide a more objective and comprehensive picture of learners' VLB and VLS in the English as a foreign language (EFL) context, the present study adopted a mixed methods approach. The study was conducted among the second-year International Trade majors at a vocational college in west China. A triangulated approach was adopted to collect data with multiple instruments—self-reported questionnaire, interviews with the questionnaire participants and their English teacher.

Constructed on the framework of viewing vocabulary as inseparable from discourse and as a dynamic complex of both knowledge of a word and the skill of using the word (McCarthy, 1984; Nation, 2001; Robinson, 1989), the present study tests the significance of this vocabulary concept. Though EFL learners' VLB and VLS have been addressed in previous research (Gu & Johnson, 1996; Subasi[3], 2007; Zhang[1], 2005), findings were predominantly based on self-reports of participants with diverse backgrounds, using mainly questionnaires, rather than observation of learning behaviors. Arguably, there remains a need to adopt a qualitative approach for triangulation. The present study differs from previous work in that it provides more objective and comprehensive information about VLB and VLS by investigating more homogeneous students, by checking the consistency of the students' responses, and by comparing the

students' self-reports with their English teachers' participant observations. Moreover, this initial exploration of the correlation between VLB and VLS is expected to generate new information in this field. Therefore, the results of the present study may benefit L2 teaching and learning by furthering our understanding of the VLB and VLS in use—two factors influencing vocabulary learning, which is in turn, a part of L2 learning.

1.3 Outline of the thesis

The thesis includes five chapters. Following this introduction, Chapter two reviews relevant literature and research that informed the present study. Subsequently, gaps in the previous work are considered and research questions are raised for study.

Chapter three describes the methodology of the present study. To obtain more objective and comprehensive data from different perspectives, a mixed methods approach was adopted. Justification for the approach is provided. Subsequently, major research instruments (the vocabulary size test, the general English proficiency test, the VLB and VLS questionnaire, and semi-structured interviews) are detailed, and the procedure of data collection and data analysis are introduced along with justification for each.

Chapter four presents key findings form the synthesis of quantitative and qualitative data analyzes along with discussions of the findings with reference to the each research question and the findings of relevant previous studies.

Chapter five summarizes key findings and points out the significance of the present study. Research implications and limitations of the present study are also indicated.

Chapter 2 LITERATURE REVIEW

2.1 Introduction

The issues explored in this study build on the results of previous investigations into English learners' VLB and VLS. The brief account of background information in the previous chapter explains the researcher's interest in exploring the VLB and VLS of the vocational college students in China.

In this chapter, relevant literature underlying the relevance to the issues investigated in this thesis will be reviewed. As the socio-cultural background and learning environment largely influence the way the students approach EFL vocabulary learning (Gu, 2005), the English learning context in higher vocational education in P.R. China (PRC) will be provided first, for participants in this study are vocational college students in PRC. Then, general issues in vocabulary learning will be discussed as they provide theoretical bases for studies in vocabulary learning. Subsequently, concepts of VLB and VLS will be discussed and studies on them will be reviewed in detail, for they underpin the foci of the present study. In doing so, concepts of LLB and LLS—the umbrella of VLB and VLS respectively—will be discussed and studies on them will be reviewed before those of VLB and VLS to provide a wide context. Finally, key research questions will be presented as a result of reviewing the literature.

2.2 English learning context in higher vocational education in PRC

Learning context refers to the socio-cultural and political environment of learning (Gu, 2005). This section consists of two parts: general EFL learning context in PRC and EFL learning context in vocational colleges. As the former is the broader context of the latter, it will be introduced first.

2.2.1 EFL context in China

English has been considered a key medium of communication in China's acquisition of

advanced sciences and technology as well as its participation in world affairs (Ministry of Education[4], 2001). Accompanying the economic development in China, it has gained high prestige in society. Passing English exams has been required for graduation from high schools, for entry into and graduation from tertiary education, and for professional and business success (Jin & Cortazzi,2006). Usually, non-English majors at tertiary level need to pass College English Test (CET) to ensure their degree (Gu, 2005). CET is a test battery developed to measure tertiary students' overall English proficiency in PRC (Jin & Yang, 2006). It will be further introduced in Chapter 3 Methodology.

Despite the wide recognition of the importance of English, China is considered an input-poor and acquisition-poor context for learning English as a Foreign Language (EFL), with limited opportunities and the need to communicate with native speakers of English. The top down reform which included implementation of Communicative Language Teaching (CLT) aimed to develop learners' communicative competence, but did not seem to lead to expected fundamental changes (Hu, 2002). Formal English instruction settings feature with teacher-centered and book-based activities, a lack of authentic communication, and large class sizes (Jin & Cortazzi, 2006). The disparity between the education policy promoting CLT and the classroom practice can be partly attributed to the lack of full understanding of the Chinese students' learning process in the formal instruction settings (Hu, 2002). Effort, self-effacement and humility were emphasized in Confucianism (Wu, 2008), and teaching was passing knowledge from the teacher to the disciples (Gu, 2005). As the Confucius education tradition "has been assimilated into the basic fabrics of socio-political and moral lives of Chinese people"(Gu, 2005, p. 79), it considerably impacts the way of learning in Chinese schools. This contributes to the phenomena that students "tend to feel uneasy in a more egalitarian communicative learning environment" (Hu, 2002, p. 100) and are reluctant of speak in the classroom (Jin & Cortazzi, 2006). Hence, there can be conflict between the CLT and the traditional Chinese culture of teaching and learning. In such an EFL context, research on learner variables may help to unleash learners' initiatives, thus facilitate their learning and the transformation of the pedagogy from the teacher and text-book centered paradigm to the learner-centered paradigm.

In the broad EFL learning context in China, the English learning context of this study— English learning in vocational colleges— has its own issues, which will be addressed in the next section.

2.2.2 English learning in vocational colleges

Higher vocational education in China began with the establishment of Shenzhen Vocational and Technical College in 1995. Different from education in universities and colleges where systematic study of disciplinary theoretical knowledge is emphasized, knowledge and skill about doing things are emphasized over theories in the discipline in vocational colleges. The close relationship between the aim of higher vocational education and the criteria of employment results in the popularity of vocational college graduates in society and thus the rapid expansion of higher vocational education. Since 2005, it has made up half of the higher education sector in China (Fan[5], 2007). However, the English level of vocational college students is lower than that of their peers in universities and other colleges (Yang[2], 2006). Vocabulary has been identified as their greatest problem in English learning (Si, 2005).

In 2005, with the end of the protection period after China joined the WTO, the employment in International Business has raised the threshold of English requirement for new employees. CET 4 Certificate has become compulsory for recruitment (Li, 2007). Vocabulary size is an achievement criterion in CET. For example, CET 2 requires a receptive vocabulary size above 2000 words, while for CET4, it is about 4000 words (Gu, 2005). Hence, the students majoring in International Business and Economy in higher vocational colleges are facing more pressure to learn vocabulary and make progress in English learning given that they want to work in the discipline which they have chosen to major in. Therefore, studies on their vocabulary learning are urgently needed. Hence, the next section will address some general issues in vocabulary learning that are the theoretical basis for studies in this field.

2.3 General issues in vocabulary learning

General issues in vocabulary learning, such as the construct of vocabulary knowledge, the relationship between vocabulary knowledge and L2 proficiency, selecting vocabulary for learning and testing and testing vocabulary knowledge, have been recurrent research themes (Bogaards & Laufer, 2004). Three of these issues will be discussed in this section given their close relationship to the vocabulary learning needs of the present participants:

- the importance and inefficacy of vocabulary learning in second language learning (SLL) － the significance of vocabulary learning for the present participants and the problem they are facing in vocabulary learning (section 2.3.1)
- vocabulary learning in different L2 teaching approaches－information about the formation of the vocabulary learning context of the present participants (section 2.3.2)
- the concept of vocabulary－a base of scientific and practical VLB and VLS that are beneficial to vocabulary learning (section 2.3.3)

The three following sections will address these issues one by one, beginning with the importance and inefficacy of vocabulary learning in second language learning.

2.3.1 Importance and inefficiency of vocabulary learning in second language learning

Language is made up of words (Zimmerman, 1997). Having sufficient L2 vocabulary is a prerequisite for communication in an L2 (Nation, 2001). Hence, vocabulary learning is important in L2 learning (Gitsaki, 1999). However, the learning outcome of vocabulary is unsatisfactory (Meara, 1984). The importance and inefficacy of vocabulary learning will be addressed respectively in the next two subsections.

2.3.1.1 Importance of vocabulary learning in SLL

There is no unanimous definition for vocabulary. However, it is agreed that vocabulary

consists of a variety of lexical items—an abstract unit covering various orthographic, phonological, grammatical and semantic features of a "word" (Pavicic, 2007). The importance of vocabulary learning is first perceived from a linguistic viewpoint, where the bare essentials for a language are first lexicon, and second grammar (Cruse, 2000). From the viewpoint of language use, the most important aspect is the appropriateness of the words used (Politzer, 1978). According to Information-processing Theory in second language acquisition (SLA), vocabulary learning is essential as activation of the appropriate schemata is a prerequisite for comprehension, and vocabulary is a part of the learner's present schemata that needs activating for SLA (Fan, 2003). Hence, vocabulary is central to SLA (Richards, 2000). It has been proposed that major learning priority be given to vocabulary in SLA (Gitsaki, 1999).

2.3.1.2 Inefficacy of vocabulary learning in SLL

Despite the present wide recognition of the role of vocabulary learning among researchers and teachers (Nation, 1990), as well as students (Horwitz, 1999; Shek[16], 2007), the learning outcome of L2 vocabulary remains a problem: lexical errors occurred three times more than grammatical ones (Meara, 1984). With passing time, evidence has increased that many learners, particularly in EFL contexts, have not developed their English vocabulary capable enough for language use, despite years of formal study (Ho[6], 2008). In contrast, until recently, little emphasis has been put on vocabulary learning —teachers and theoreticians have overemphasized grammar learning (Zimmerman, 1997). How vocabulary learning has been viewed in different second language learning (SLL) approaches may shed some light on this paradox. Hence, the next section will discuss it in detail.

2.3.2 Vocabulary learning in different L2 teaching approaches

Vocabulary learning has accompanied SLL throughout its long history. In the second century, the teaching of Greek at Roman schools followed the order of alphabet, syllables, words and discourse, with textbooks either alphabetizing or organizing vocabulary under respective topic areas (Schmitt, 2000). In SLL history, different

approaches or methods have been developed. These have viewed vocabulary learning differently, thus some emphasized it, while some neglected it. This section will summarize the roles and methods of vocabulary learning in the major approaches or methods in the last two centuries, beginning from Grammar-translation Method, which has a significant influence on English teaching and learning in China (Coverdale-Jones, 2006). Their strengths and weaknesses in vocabulary learning will also be considered.

According to Zimmerman (1997), the Grammar-translation Method was first introduced in Prussia in teaching modern language at the end of the 18th century , and had dominated SLL until the 20 th century. This method aimed to "prepare students to read and write classical materials and to pass standardized exams"(p.5). Bilingual wordlists were provided and organized according to the words' semantic fields. Students were exposed to wide literary vocabularies selected for their illustration of grammatical rules. To cope with the difficulties in vocabulary learning, the students were provided with the definitions of the words and the origins of the words, for such measures were considered useful in avoiding the degeneration of the target language (TL). The Grammar-translation Method had been criticized for "its neglect of realistic, and oral language" (p.6) for a long time. In the 20 th century, with more understanding about "language families and the natural process of language change" (p.6), people began to realize the problem with the use of bilingual wordlists.

In challenging the Grammar-translation Method, the Reform Movement was established at the end of the 19 th century. It claimed that a sentence is the unit of language rather than words though language is made up of words (Zimmerman, 1997). It also claimed practical lexis was important to learn, but they were appropriately dull and common. Its primary emphasis was on spoken language and phonetic training, and vocabulary was selected according to their simplicity and usefulness, while wordlists and isolated sentences were avoided. Hence, vocabulary was learnt for use in this method.

Moving further to the spoken language in use, the Direct Method was introduced at the end of the 19 th century. Words were selected for their simplicity and familiarity. Concrete words were taught with reference to reality, abstract words were taught

through their association of ideas or grouping them according to topic. Translation was not accepted. The Direct Method was criticized for its lack of consideration of the teaching conditions in public schools and over simplicity of the similarities between L1 (first language) and TL.

Later, to address the deficient reading skills of the American students, the Reading Method was developed. It was developed on the belief that improvement in vocabulary skills could facilitate reading skills. It viewed vocabulary acquisition primary in SLL. Word frequency lists were used to select the vocabulary to learn and decide the order of learning them. However, there are some problems with the use of word frequency lists: the words that L2 beginners need most sometimes appear late in word frequency lists, "the order of words in a frequency list does not always indicate the best order in which to teach words; word frequency lists disagree according to the types of texts being analyzed" (Zimmerman, 1997, p.14).

In the same period, Situational Language Teaching was developed to "provide a more scientific foundation for the oral methods made popular by Direct Methodologists" (Zimmerman, 1997, p.10). Holding speech was the basis of a language and structure made speech, it gave primary emphasis to the " selection, gradation and presentation of language structures" (Richards & Rodgers, 1986, p.33).

In both Reading Method and Situational Language Teaching, vocabulary was considered for the first time as one of the most important aspects of SLL. Besides, both showed the first attempt to introduce a scientific basis for vocabulary selection (Zimmerman, 1997).

To address the military demands of SLL in WW Ⅱ, when fluency had the priority, the Audiolingual Method was introduced. Based on Behaviorism, pronunciation and oral drilling of structural patterns were the major teaching objects in this method. Words were selected "according to their simplicity and familiarity". They were "introduced through drills" (Zimmerman, 1997, p.11), and translation was not accepted. It was assumed that the learners' vocabulary would be enlarged through exposure to TL. Thus,

explicit vocabulary instruction was unnecessary. The habit formation view of SLL of this method was criticized by Chomskyan theorists. In the late 1950s, Behaviorism, together with its Audiolingual Method, was widely perceived as inadequate and gradually lost its favor in SLA (Mitchell & Myles, 2004).

Based on Chomsky's differentiation of language competence and performance, Hymes (1972) added the concept of communicative competence, which refers to the internalized knowledge of the contextual appropriateness of language. This symbolized the focus shift of language teaching from correctness to appropriateness, and was manifested in communicative language teaching (CLT). Vocabulary learning is considered as fundamental as grammar in SLA, and should be learnt with natural communicative exposure in the TL. However, the only explicit attention given to vocabulary was the guidance that the intricacy of lexical knowledge needs to be addressed via learning words in the cultural context and simplification and translation should be avoided. In practice, vocabulary was selected with assessment of usefulness of words instead of frequency list due to the drawbacks of the latter mentioned previously.

Later, the Natural approach was promoted by Krashen, who claimed this approach was similar to other CLT approaches except that it was based on a different SLA theory—Krashen's Monitor Theory. This approach considered vocabulary learning very important, for from its viewpoint, acquisition crucially depends on comprehensible input, and comprehensibility depends on the recognition of the meaning of key elements in the input. Therefore, without comprehension of vocabulary, there will be no acquisition (Krashen & Terrel, 1983). Nonetheless, in teaching practice, the Natural Approach stressed " the importance of interesting relevant input" and directed the students' attention to focus on the comprehension of messages conveyed instead of on "vocabulary learning per se" (Zimmerman, 1997, p. 15). Hence, in this approach, though vocabulary learning was stressed theoretically, little attention was given to it in practice.

Most recently, corpus analysis and computational linguistics have been developed to

address the need for more accurate language description. Analysis of documentation of actual language use showed a central role for multiword chunks (Nattinger & DeCarrico, 1992), which led to Nattinger and DeCarrico asserted pragmatic competence is determined by a learner's ability to access and adapt prefabricated chunks of language. Based on results of broad such analysis, Lewis (1993) proposed "language consists of grammaticalised lexis not lexicalized grammar" (p.89). His lexical approach advocated integration of communicative approach with a focus on naturally occurring lexis. As Zimmerman (1997) pointed out this approach challenged the traditional division of vocabulary and grammar. More significant is its "underlying claim that language production is not a syntactic role-governed process but is instead the retrieval of larger phrasal units from memory" (Zimmerman, 1997, p. 17), which signals a deflection from previous SLA theories and approaches.

Generally speaking, in the previous influential SLL approaches or methods, vocabulary has been an aspect neglected in teaching practice no matter if it was emphasized theoretically or not. The newly proposed lexical approach is at the beginning of its work for a change with vocabulary as the center of both theory and teaching practice. Thus, the question rises: What is vocabulary from the applied linguistic perspectives? It will be addressed in the next section.

2.3.3 What is vocabulary from the applied linguistic perspectives?

"Vocabulary is not a goal for itself". We learn vocabulary for effective communication (Nation, 2001, p. 362). A word will die out unless it is used for and in communication. Thus, vocabulary has two dimensions: knowledge and skill of use (Carter, 1998; McCarthy, 1984; Nation, 2001; Robinson, 1989). As the command of word knowledge is a prerequisite of using it properly, aspects of vocabulary knowledge will be discussed first.

2.3.3.1 Aspects of vocabulary knowledge

Richards (1976) considers vocabulary knowledge with eight broad assumptions about

the characterization of lexical competence. Native speakers (NSs) continue to expand their vocabulary in adulthood. Though little is know about their average vocabulary, it is assumed an NS's receptive vocabulary ranges between 20,000 to 100,000 words; knowing a words includes knowing its frequency, collocability, limitations of use, its semantic value, different meanings, syntactic behavior, underlying forms and derivations, and its place in a network of associations with other words in the language. Addressing the same issue, Nation (2001) proposed a more comprehensive system of word knowledge: knowing a word involves knowing the form, meaning and use of the word. Each consists of three aspects: form covers spoken and written forms and word parts; meaning covers form and meaning, concepts and referents, and associations; and use covers grammatical functions, collocations and constraints on use. All the aspects of vocabulary knowledge need to be approached from two dimensions: receptive/productive scale of knowledge, and item-system possibility. Receptive knowledge is the kind of word knowledge needed to perceive the form of a word in listening or reading and retrieving its meaning simultaneously and productive knowledge is that needed to express meaning through speaking or writing and retrieving and producing the appropriate word form. Sometimes, passive and active are used as synonyms for receptive and productive. The aspects of vocabulary knowledge with reference to the receptive/productive knowledge is summarized in Table 1 (adopted from Nation, 2001, p. 27, Table 2.1 what is involved in knowing a word).

Table 1 The receptive and productive knowledge of different aspect of word knowledge

Form	spoken	R What does the word sound like?
		P How is the word pronounced?
	written	R What does the word look like?
		P How is the word written and spelled?
	Word parts	R What parts are recognizable in this word?
		P What word parts are needed to express the meaning?
Meaning	Form and meaning	R What meaning does the word form signal?
		P What word form can be used to express the meaning?
	Concepts and referents	R What is included in the concept?
		P What item can the concept refer to?
	associations	R What other words does this make us think of?
		P What other words could we use instead of this one?
Use	Grammatical functions	R In what patterns does the word occur?
		P In what patterns must we use this word?
	collocations	R What words or types of words occur with this one?
		P What words or types of words must we use with this one?
	Constraints on use	R Where, when, and how often would we expect to meet this word?
		P Where, when, and how often can we use this word?

Note: In column 3, R= receptive knowledge, P= productive knowledge (p.27).

Simultaneously, each word displays both its uniqueness and the general system behind vocabulary (Nation, 2001, p. 23). This raised the competition for attention between system knowledge and individual items in vocabulary learning. Nation (2001) pointed out explicit attention to form and system (of pronunciation, vocabulary and grammatical constructions) should be limited within 25% of class time while it should be a component of instruction content. As to when the attention to systematic aspects of vocabulary knowledge should be given, referring to Myles, Hooper and Mitchell's (1998) work, Nation proposed a parallel to L1 learning, claiming "attention to form and rules must be supported and prepared by experience with the items in use" (p. 59). The aspects of vocabulary knowledge and their respective most effective kinds of learning is

summarized in Table 2 (adopted from Nation, 2001, p. 35, Table 2.3).

Table 2 Kinds of vocabulary knowledge and the most effective kinds of learning

kinds of knowledge		kinds of learning	activities
Form		Implicit learning involving noticing	Repeated meetings as in repeated reading
Meaning		Strong explicit learning	Depth of processing through the use of images, elaboration, deliberate inferencing
use	Grammar collocation	Implicit learning	Repetition
	Constraints on use	Explicit learning	Explicit guidance and feedback

The importance of using the word in vocabulary learning is revealed in Nation's (2001) above claim that learning vocabulary knowledge needs the support of experience with the words in use. Hence, the next section will turn to this dimension of vocabulary.

2.3.3.2 Vocabulary in use

Knowing a word is different from using it (Nation, 2001) though the former is a prerequisite of the latter (Gu, 2005). Even a complete knowledge of a word would not ensure proper use of it. The former involves declarative knowledge that can be retrieved consciously and deliberately by the learner. The latter involves procedural knowledge: the learner's skill of using it both receptively and productively in communication (Nation, 2001).

Hence, like one has to learn swimming in water, the skill of using a word has to be developed in the contexts where it is used. Therefore, some theorists (Carter, 1998; McCarthy, 1984; Nation, 2001; Robinson, 1989) consider vocabulary cannot be separated from discourse and it involves both knowledge of a word and the developing skill of using it.

2.3.3.3 Summary

The two-dimensional concept of vocabulary is important for VLS theory as learning vocabulary knowledge is different from learning how to use the word and different task

requires different strategies (Oxford, 1994). Research on LLS has shown strategies contribute to a greater proficiency and learner autonomy (Dornyei, 2005). Hence, VLS —a task-specific strategy—can be an aid in addressing the present participants' vocabulary learning needs. In addition, as LLB considerably affect LLS (Dornyei, 2005), thus, by influencing VLS, VLB also influences vocabulary learning. Therefore, the present study focuses on both VLB and VLS, and the next section will turn to them.

2.4 VLB and VLS

The present study addresses VLB and VLS, and their relationship to English vocabulary size and general English proficiency. Therefore, this section will focus on literature on these issues. However, before discussion on VLB and VLS, their umbrella—LLB and LLS—will be addressed to provide a general context. Hence, this section of literature review begins with the role of LLB and LLS in L2 learning (section 2.4.1), which provides rational for studies in these fields. Next, LLB and VLB will be discussed (section 2.4.2), followed by LLS and VLS (section 2.4.3) as the former pair has direct impact on the latter pair (Ellis, 2008b). The final part of this section will consider the relationship between LLB and LLS, and the relationship between VLB and VLS (section 2.4.4).

2.4.1 Role of LLB and LLS in L2 learning

Mainstream SLA theories provide evidence that learners' beliefs and strategies are significant in SLA. The cognitive theory views SLA as an active and dynamic process, and the learner as a contributor to the process of understanding new information via prior schemata (Chamot, Barnhardt, El-Dinary & Robbins, 1999); the Interaction Theory (Mitchell & Myles, 2004) views the learning context as a catalyst providing raw linguistic materials for the learner to process. Hence, both acknowledge the different cognitions and actions learners bring to SLA and their importance in SLA. According to Vygotskan Theory (Mitchell & Myles, 2004), knowledge is constructed first interpersonally then intrapersonally and SLA takes place in social interactions. This not only indicates the importance of learners' beliefs and strategies in the learning process,

but also indicates the possibility and the ways to change learners' beliefs and instruct learning strategies in the SLA process.

More and more, holding the appropriate beliefs is considered as an important characteristic of successful L2 learners (Rubin, 2005). It is a modifiable learner variable that may influence the process and outcome of SLA (Kalaja & Barcelos, 2003; Kern, 1995). Although learners' beliefs is an area less studied (Lightbown & Spada, 1999), there has been "some evidence that the beliefs language learners hold considerably affect the way they go about mastering L2" (Dornyei, 2005, p.217). Simultaneously, an increasing body of research has evidenced that learning strategies "constitute a useful tool kit for active and conscious learning" which pave the way for greater proficiency, learner autonomy, and self-regulation (Dornyei, 2005, p.217). Moreover, the view has been emerging that strategies can be taught specifically to the learners (Dornyei & Skehan, 2003).

Hence, to address the English L2 vocabulary learning problems, this study will focus on learner's beliefs and strategies in learning vocabulary. Therefore, LLB, VLB, LLS and VLS will be discussed further in the following sections, especially with reference to their relationships with English learning outcomes. As learning strategies are directly influenced by learners' cognition (Ellis, 2008b), LLB and VLB will be discussed before LLS and VLS.

2.4.2 LLB and VLB

This section will focus on the concept of VLB and the relationship between VLB and English learning outcomes, for the former is essential for research in VLB, and the latter is a focus of the present study. However, as LLB is the umbrella of VLB, those of LLB will be discussed first in the next section.

2.4.2.1 LLB

This section focuses on the definition and classification of LLB as these descriptive concepts are essential for research into LLB.

Definition

There is no unanimous definition of LLB. Some consider its cognitive aspect (Horwitz, 1988), while some stress its social aspects (Barcelos, 2003). As language learners are both independent individuals and interrelated social beings, their cognition is both independent and contextually situated, a comprehensive definition needs to embrace both cognitive and socio-cultural dimensions of beliefs. Following Wenden's (1986) definition which reveals the dynamic feature of beliefs, and Barcelos's (2003) definition which highlights the contextual nature of beliefs, LLB in this study refers to learners' intuitive knowledge about L2 learning, which is based upon their previous learning experience and their contact with the outside world. The classification of LLB may help to illustrate the concept.

Classification

There is no unanimous classification for LLB, either. Researchers identified different types of LLB in different studies. Based on responses of 25 ESL students in U.S. in a semi-structured interview for their LLB, Wenden (1987) identified three categories of beliefs: the use of the language, learning about the language, and the importance of personal factors.

Similarly, based on her studies in ESL settings via interviews, Horwitz (1987) developed Beliefs About Language Learning Inventory (BALLI), which assesses beliefs in five areas: foreign language learning aptitude, the difficulty of language learning, learning and communication strategies, and motivation. It is used extensively in the normative approach of research on beliefs (Ellis, 2008b).

Nonetheless, Yang (1999) proposed a two-dimensional theoretical construct of learners' beliefs—metacognitive and motivational—based on her study among 505 Taiwan students on the relationship between beliefs and strategies via a questionnaire. The belief section of the questionnaire was based on BALLI with an additional open-ended question. Factor analysis to the responses to BALLI items identified four underlying factors for beliefs: self-efficacy and expectation about English learning, perceived value

and nature of oral English learning, beliefs about their English learning aptitude, and beliefs about formal structural studies.

Based on the above findings, Yang (1999) proposed LLB consist of metacognitive beliefs and motivational beliefs. The former refers to learners' metacognitive knowledge about L2 learning, and the latter refers to learners' motivational beliefs about L2 learning. Metacognitive beliefs include:

- knowledge about themselves as L2 learners.
- opinions of the task of L2 learning
- knowledge about the best approach to L2 learning.

Motivational beliefs include:

- learners' beliefs about their ability to learn the L2 and their expectations about the results or difficulty of the learning task
- their goals for L2 learning
- their beliefs about importance, utility, and interest in the learning task
- learners' emotional reactions to L2 learning.

This LLB classification is based on Yang's (1999) study of Chinese university students in Taiwan. As introduced in section 2.2.1 "EFL learning context in China", the Confucian tradition has a considerable impact on Chinese. Li[7]'s (2004) study in mainland China and Wu's (2005) study in Taiwan, each involving over 100 students, reflected the influence of the Confucius educational tradition on vocabulary learning. Hence, this study follows Yang's (1999) classification of LLB for its origination from Chinese EFL learners, who share the same learning tradition with the present participants.

Having introduced the concept of LLB, the next section will turn to VLB, which is a focus of the present study.

2.4.2.2 VLB

As VLB is a focus of the present study, it is important to clarify the concept of VLB in advance. Therefore, the definition and classification of VLB will be discussed first. Though literature revealed few studies relating to VLB (Gu & Johnson, 1996; Moir & Nation, 2002), as vocabulary learning is a part of L2 learning, studies on VLB can be based on the results of LLB studies.

Definition

The definition of VLB in the present study rises from the definition of LLB in the present study in section 2.4.2.1. Hence, VLB in the present study refers to learners' intuitive knowledge about L2 vocabulary learning, which is based upon their previous learning experience and their contact with the outside world. As a result, VLB is influenced by learners' age and social economic status. An introduction of VLB taxonomy may help to explain this concept.

Classification

As VLB is an under-researched area, few studies have addressed its classification. There are two major taxonomies in VLB empirical studies— Gu and Johnson's (1996) taxonomy and Moir and Nation's (2002) taxonomy.

In Gu and Johnson's (1996) study and the replication studies (Subasi[3], 2007; Yang[2], 2006; Zhang[1], 2005), beliefs being addressed were focused on learners' opinions about the best way to approach vocabulary learning. These opinions were grouped into three clusters: rote memorization, incidental acquisition and intentional study and use.

Moir and Nation's (2002) study of ESL learners with different L1 backgrounds adopted a curriculum-based framework. Data on VLB were analyzed from the syllabus design model: goal of learning; selection of words and aspects of word knowledge; learning and revision; monitoring and evaluation.

As both the present participants and Gu and Johnson's (1996) participants are Chinese

tertiary students, the present study adopted Gu and Johnson's VLB taxonomy, but expands it to motivational beliefs due to the significant correlation between motivation and L2 learning outcome (Dornyei, 2005; Ellis, 2008b) and the results of previous relevant studies.

As beliefs relating to self-efficacy (beliefs about one's ability to perform a given task competently) govern the extent to which learners are prepared to make use of the opportunities for learning in a given context (Ellis, 2008a), and self-efficacy is a component of motivation, motivational beliefs may play an important role in vocabulary learning too. Fu[8]'s (2003) study confirmed the role of motivation in vocabulary learning. She investigated the correlation between motivation, VLS pattern, vocabulary size and English learning outcomes among over 300 Chinese university students. Data were collected via a close-ended questionnaire, vocabulary size test and a general English proficiency test. Quantitative analysis revealed a positive correlation between motivation, VLS pattern, vocabulary size and English proficiency. Interest motivation (learner's inherent interest in vocabulary learning) and score motivation (the motivation to achieve high scores in the tests and obtain the diplomas) were significantly correlated with all the eight types of VLS in her study—metacognitive, guessing, dictionary, note-taking, rehearsal, encoding, activation, and social/affective VLS. Besides, self-efficacy was significantly correlated with metacognitive, activation, guessing and encoding VLS. In addition, self-efficacy had the most profound effect on VLS. Students with high levels of self-efficacy used more metacognitive VLS and deep cognitive VLS more than students with lower levels of self-efficacy.

The link between motivation, VLS pattern and English proficiency has also been revealed in Marttinen[9]'s (2008) study focusing on the VLS pattern and source of VLS. In this qualitative study, data were collected among 50 Finnish upper secondary school students via an open-ended questionnaire. English proficiency was measured by each participant's grade of English. Higher proficiency students expressed higher levels of motivation and wider range of VLS than students of lower proficiency. Importance of learning English was found as a common motivational factor, low level of self-efficacy

was a demotivational factor, while interest in the TL was identified in one student's responses. In addition, differences in interest in English learning were identified between one student of highest proficiency and one of lowest proficiency. Hence, both quantitative and qualitative studies in different learning backgrounds revealed the relationship between motivation (i.e., self-efficacy, importance of and interest in vocabulary learning), VLS pattern and learning outcomes.

As the LLB taxonomy of the present study adopts that of Yang's (1999) which generated from Chinese students (See section 2.4.2.1), following this LLB taxonomy, VLB in this study is classified into metacognitive beliefs as well as motivational beliefs too. The following table presents the components of each dimension.

Table 3 Components of metacognitive beliefs and motivational beliefs

metacognitive beliefs	**motivational beliefs**
learners' knowledge about themselves as vocabulary learners	learners' beliefs about their ability to learn the L2 vocabulary and their expectations about the difficulty of the vocabulary learning task
learners' opinions about the task of vocabulary learning	learners' goals for vocabulary learning
learners' opinions about the best way to approach vocabulary learning	learners' beliefs about importance, utility and interest in the vocabulary learning task
	learners' emotional reactions in vocabulary learning

As can be seen, Gu and Johnson's (1996) taxonomy only addresses the metacognitive dimension of VLB, while Moir and Nation's (2002) taxonomy also taps learners' goals in the motivational dimension. However, the aspects of motivation that showed significance in vocabulary learning in the previous research discussed above (self-efficacy, the perceived importance of and interest in vocabulary learning), seemed to be neglected. Hence, the present study makes an attempt to fill these gaps.

After clarification of the concepts of LLB and VLB, the next two sections will focus on the empirical studies on them respectively. As LLB is the umbrella of VLB, studies on LLB will be reviewed first to provide a general context that facilitates understanding of studies on VLB.

2.4.2.3 Studies on the relationship between LLB and L2 learning outcome

Empirical studies on learners' beliefs have addressed issues like profiles of beliefs (Horwitz, 1987), factors influencing or influenced by beliefs (Allen, 1996), and its relationship with learning outcomes (Wen & Johnson, 1997). This section focuses on the correlation between LLB and English learning outcome, which is the umbrella of a focus of the present study—the correlation between VLB and English learning outcome.

Studies on the correlation between LLB and English learning outcome have generated mixed results. Focusing on the effects of learner variables on learning outcome, Wen and Johnson (1997) adopted a questionnaire survey, an English proficiency test, interviews diary studies and an on-task observation to collect data among over 200 Chinese university students. Their analysis (Partial Least Squares procedure) revealed no significant effect of LLBs, including learners' interest in English language and culture, on learning outcome. Yet, Peacock (1999) found LLB affected L2 proficiency among Hong Kong students via a questionnaire, interviews and an L2 proficiency test for data collection. By comparison, adopting the same research design, Yuen[10] (2002) only confirm the correlation between the two in the field of oral English learning. Likewise, adopting questionnaire survey, Ehrman and Oxford (1995) revealed a significant correlation between learners' belief in their ability to learn to speak and read English with their speaking and reading proficiency, while Tanaka and Ellis (2003) found no significant correlation between the LLB and general English proficiency among over 100 Japanese students in a study abroad program.

The inconsistent results in these studies may be attributed to the way LLB functions—if it does affect SLA, it does so indirectly via influencing LLS (Ellis, 2008b). Simultaneously, the inconsistent results may be also attributed to the context-specific nature of LLB (Barcelos, 2003) as this body of research was conducted among different types of English learners at different times and addressing different aspects of English learning. Nonetheless, the results of these studies provide a broad context for those focusing on VLB and learning outcome, which will be the focus of the following section.

2.4.2.4 Studies on the relationship between VLB and L2 learning outcome

As LLB is an under-researched area, there are even fewer studies on VLB than on LLB. This section focuses on those addressing the correlation between VLB and English learning outcome as it is a focus of the present study.

Gu and Johnson's (1996) study

Adopting a questionnaire survey, Gu and Johnson's (1996) study confirmed the correlation between VLB and vocabulary size and English learning outcome. Data were collected via a questionnaire, a vocabulary size test and an English proficiency test (CET 2) among 850 non-English majors in a university in mainland China. It revealed the students believed in vocabulary learning through the context, intentional learning and active use rather than rote memorization. Correlation analysis revealed rote memorization had a strong negative correlation with vocabulary size and English proficiency and the two tests were highly correlated. However, some factors may have affected the results. One is shortcomings of the reliance one single data collection method—questionnaire. In the questionnaire, answers were set beforehand, thus may have restrained the participants' responses. Moreover, as a questionnaire survey lacks interaction between the researchers and the participants, it lacks opportunities for clarification. As a result, the items in the questionnaire may have been misinterpreted by the participants (Barcelos, 2003). The other factor that may have played a role is the data collection procedure. The English teachers of the participants handed out and collected the questionnaires in a regular class session. Hence, these data collectors potential power over the participants may have affected the participants in their answering of the questions. Nonetheless, Gu and Johnson's study is of particular value as it is the pioneering comprehensive study on the VLS in use in mainland China (Wang, 1998) and provides a basic framework for the present study, which focuses on the same issues among Chinese students but by means of triangulated methods.

Subasi[3]'s (2007) study

Replicating Gu and Johnson's (1996) study, Subasi[3] (2007) addressed the issue among

45 English majors in a Turkey university. The questionnaire survey was triangulated with interviews with four successful learners and four unsuccessful learners (measured by the two vocabulary tests). Her findings confirmed those about VLB in Gu and Johnson's study. However, with less than 50 participants in the questionnaire survey, the significant correlation revealed in this study lacks statistical support (Dornyei, 2007).

Replication studies of Gu and Johnson's (1996) in China

Likewise, based on Gu and Johnson's (1996) study, many replication studies have been conducted in mainland China among various types of students: university students (Lu[11], 2007; Wang, 1998), middle school students (Pan[12], 2006; Sun[13], 2006), vocational college students (Lou[14], 2006; Yang[2], 2006). As the present study targets vocational college students in China, only studies addressing the same type of students are discussed here.

It is worthwhile to mention that all these studies addressing vocational college students relied on a questionnaire adapted from Gu and Johnson's (1996) for data collection except Yang[2]'s (2006) study where a questionnaire survey was triangulated by interviews. As the data collected by questionnaire may not truly reflect the reality (Barcelos, 2003), the reliability of studies relying on a questionnaire survey is open to question. Moreover, in all these studies to be reviewed, the English teachers of the participants acted as data collectors in all cases except one where the data collection procedure was not described. Since the teachers have power over their present students, such a data collection procedure can affect the reliability of data collected. Therefore, when interpreting findings in this body of research, such limitations should be borne in mind.

Like most replication studies of Gu and Johnson's (1996) work in China, Zhang[1]'s (2005) study in a vocational college in Jiangxi province confirmed the general VLB profile found in Gu and Johnson's study. The foci of this study were on the VLB and VLS patterns, and the differences in proficiency, academic major and age. The sample consisted of 116 students from all three grades in the college in equal proportion, and

half of the participants were English majors. Data were collected via a questionnaire adapted from Gu and Johnson's with additional questions on social/ affective VLS based on O'Malley and Chamot's (1990) LLS taxonomy. Proficiency was measured by English scores on entrance examination for freshmen, by CET2 and CET3 for English majors in grade two and grade three, by PRETCO (short form for practical English test in college education, which is a battery of English proficiency tests for vocational college students in China) for non-English majors in grade two and grade three. The study showed the students predominantly held the belief that vocabulary should be learned through use, while they disagreed with the idea about learning vocabulary by memorization —a VLB pattern in accordance with Gu and Johnson's study. It also revealed the belief that "vocabulary should be learned through use" had a significant positive correlation with English achievement, confirming the findings of Subasi[3]'s (2007).

In comparison, Yang[2]'s (2006) study generated a different VLB pattern. Focusing on VLB and VLS pattern, gender and proficiency differences, Yang[2] investigated in two vocational colleges in Jiangxi province. The participants were 225 sophomores in equal proportion from the two colleges, and nearly half of them were English majors. Data were collected via a questionnaire, interview and a self-developed vocabulary test. The results showed these students preferred the idea of learning vocabulary through use and acquiring vocabulary in context, but they also agreed with the view that vocabulary should be learned by memorization—a VLB pattern differed from the one revealed in Gu and Johnson's study and most of its replication studies (Subasi[3], 2007; Zhang[1], 2005). In addition, Yang[2]'s study revealed that belief in memorization had a strong negative correlation with vocabulary learning outcomes. This confirmed the findings of Gu and Johnson's (1996) study.

Also investigating in two different vocational colleges, Wu[15]'s (2006) study in Fujian province revealed a similar VLB pattern to the one in Yang[2]'s (2006) study. Wu[15] focused on the description of VLB and VLS pattern and vocabulary teaching strategies. Data on VLB and VLS were collected via a questionnaire. Student participants were

189 sophomores. All were non-English majors, and half were from a vocational college specializing in international trade, the other half were from one specializing in information technology. It showed the students agreed with all three kinds of VLB—learning vocabulary through intentional study and use, learning vocabulary through acquisition in context and learning vocabulary by memorization—in a slightly descending order ranging from 86.8% to 81%. However, with no information on data collection procedure, the possible impact of factors that may influence the results of the study is beyond evaluation.

Summary

To sum up, though the correlation between VLB and English learning outcome revealed in the studies of vocational college students supports those of other learners of English, the number of such studies in the literature is too small for a general profile of the vocational college students. In addition, it is noted that both Gu and Johnson's (1996) study and Subasi[3]'s (2007) study revealed learners of English generally did not hold the belief that vocabulary should be learned by memorization, while two studies among vocational college students in different provinces (Wu[15], 2006; Yang[2], 2006), each involving two vocational colleges, revealed that their participants tended to agree that vocabulary should be learned by memorization. Yet, the study addressing participants in only one vocational college confirmed Gu and Johnson's and Subasi[3]'s findings. As only Yang[2]'s study and Wu[15]'s study involved more than one setting, the somewhat different VLB profiles demonstrated in their studies may be attributed to the heterogeneity in their study settings rather than the characteristics of vocational college students. This is because study settings are learning contexts of the participants which may impact the beliefs of the students (Horwitz, 1999). However, with too few studies addressing the VLB of the vocational college students in China, more research in single study settings in higher vocational education in China is needed for clarification.

Nonetheless, unlike the uncertainty shown in the studies of correlation between LLB and English proficiency, it seems from the studies of VLB reviewed that VLB has a correlation with English vocabulary proficiency and general English proficiency.

However, with far fewer studies on VLB, and with shortcomings in the methodology of each study reviewed here, their results need to be interpreted with caution.

In addition, Ellis (2008a) pointed out that, regarding the relationship between beliefs and L2 proficiency, the strength of the relationship depends on the extent to which the learners act on their beliefs—their actions in learning, i.e., learning strategies. Hence, the next section will turn to LLS and VLS.

2.4.3 LLS and VLS

This section focuses on the concept of VLS and the relationship between VLS and the learning of English, for the former is essential for VLS studies, and the latter is a focus of the present study. Nonetheless, as VLS is under the umbrella of LLS, the concept of LLS—its definition and classification—will be discussed before that of VLS. Likewise, studies on the relationship between LLS and learning outcome will be reviewed before those on the relationship between VLS and learning.

2.4.3.1 LLS

This section focuses on the definition and classification of LLS as they are essential for LLS studies.

Definition

Regarding the definition of strategy, researchers disagree on: whether strategies are behavioral, mental, or both; the precise nature of behaviors regarded as strategies; whether students are conscious or subconscious of the strategies they use; and what motivates the use of strategies. To cope with such problems, Ellis (2008b) proposed that LLS be best defined in term of characteristics that cover most accounts of strategies:

- Strategies refer to both general approaches and specific actions or techniques used to learn an L2.
- Strategies are problem-oriented, the learner deploys a strategy to overcome some particular learning or communication problem..
- Learners are generally aware of the strategies they use and can identify what they consist of if they are asked to pay attention to what they are

doing/thinking.

- Strategies involve linguistic behavior and non-linguistic behavior.
- Linguistic strategies can be performed in the L1 and L2.
- Some strategies are behavioral while others are mental. Thus some strategies are directly observable, while others are not.
- In the main, strategies contribute indirectly to learning by providing learners with data about L2 which they can then process. However, some strategies may also contribute directly.
- Strategy use varies considerably as a result of both the kind of task the learner is engaged in and individual learner preference (p.705).

Based on the literature, LLS in the present study refers to any step (either mental or behavioral) the learner takes to facilitate his/her L2 learning tasks. The classification of LLS may help to clarify this concept.

Classification

In empirical studies, two taxonomies of LLS are used frequently: O'Malley and Chamot's (1990) model and Oxford's (1990) model (Dornyei, 2005).

O'Malley and Chamot' model(1990) has received wide attention (Dornyei, 2005). They classified LLS into three categories: metacognitive, cognitive and socio-affective. Metacognitive strategies are "higher order executive skills" involving planning, monitoring and evaluation of an L2 learning activity; cognitive strategies are those working directly with incoming information in a way which enhances learning; and socio-affective strategies includes "interaction with another person or ideational control over affect"(O'Mally & Chamot, 1990, pp. 44-45). This typology is used widely in empirical studies (Gu & Johnson, 1996; Hsiao & Oxford, 2002). Yet, Hsiao and Oxford's (2002) factorial analysis revealed this model would be improved by separation of socio-affective strategies into social strategies and affective strategies.

Oxford's (1990) model is used most widely in empirical studies. It categorized LLS into two broad groups: indirect strategies and direct strategies, with direct strategies directly involving the TL. Both are divided into three subgroups: direct strategies consisting of memory, cognitive, compensation strategies, and indirect strategies consisting of metacognitive, social and affective strategies. Regarding direct strategies, memory

strategies are used in the storing and retrieval of information, cognitive strategies function to manipulate or transform the target language by the learner, and compensation strategies “enable learners to use the new language for either comprehension or production despite limitations in knowledge” (Oxford, 1990, p. 47). Regarding indirect strategies, metacongnitive strategies “allow learners to control their own cognition” (1990, p. 135), affective strategies functions to regulate learners’ feelings and attitudes in learning, and social strategies are concerned with the social aspect of L2 learning, and involve communication with other people. Based on this taxonomy, she developed the Strategy Inventory of Language Learning (SILL) for empirical studies on strategies.

However, this model is not problem-free, either. Though it distinguishes social and affective strategies, it also distinguishes memory strategies from cognitive strategies despite the fact that the former is a sub-class of the latter (Dornyei, 2005). Another problem with this model is it contains compensation strategies— a kind of strategy relating to language use rather than language learning. In terms of function and psycholinguistic representation, the process of language use is very different from that of language learning. Hence, it would be better to exclude compensation strategies from LLS (Dornyei, 2005).

The VLS classification in Gu and Johnson’s (1996) study followed O’Malley and Chamot’s (1990) classification of metacognitive and cognitive LLS. Following their lead, O’Malley and Chamot’s (1990) classification of metacognitive and cognitive LLS is also adopted in the present study. However, though Gu and Johnson’s study only addressed metacognitive and cognitive strategies, the present study also addresses social and affective strategies. This is because social and affective strategies are also used by L2 learners to enhance learning (Hsiao & Oxford, 2002; Yang, 1999), thus, these strategies are also components of LLS. As previous research has shown, the category of social/affective LLS is a weakness in O’Malley and Chamot’s taxonomy (Hsiao & Oxford, 2002), therefore following Dornyei’s (2005) and Hsiao and Oxford’s (2002) suggestions, social and affective strategies are categorized into different categories.

Thus, LLS in the present study is divided into four categories: metacognitive, cognitive, social, and affective strategies. Metacognitive strategies regulate cognition through the planning, monitoring and evaluation of an L2 learning activity, cognitive strategies function directly in the processing of the incoming information (O'Mally & Chamot, 1990), social strategies address the social aspect of L2 learning and involve interaction with another person, and affective strategies regulate learners' emotions in learning (Oxford, 1990).

After clarifying the concept of LLS—the umbrella of VLS, the next section will turn to VLS which is a focus of the present study.

2.4.3.2 VLS

This section focuses on the definition and classification of VLS as they are essential for VLS studies.

Definition

Like LLS, there is no unanimous definition of VLS (Nation, 2001; Shmitt, 1997). Instead of defining VLS, Brown and Payne (1994) proposed five steps on L2 vocabulary learning: having the source containing new words; getting clear image of the forms of new words (visual and /or auditory); learning the meaning of the word; making a strong memory connection between the form and meaning of the word; using the word. Any VLS is related to the five steps to some extent. With reference to these steps in vocabulary learning and following the definition of LLS in the present study, VLS in the present study refers to any step (mental/behavioral) that the learners take to facilitate their obtaining, comprehension, retention, internalization, retrieval and use of the new words.

To explain this concept further, the classification of VLS will be discussed as follows.

Classification

To guide empirical studies, some researchers have proposed different taxonomies based

on different criteria.

Gu and Johnson's (1996) taxonomy

Based on O'Malley and Chamot's model (1990), Gu and Johnson classified the VLS into two categories: metacongnitive regulation and cognitive strategies. They developed comprehensive subcategories under each.

Metacongnitive regulation
- Selective attention and self-initiation

Cognitive strategies
- Guessing strategies
- Dictionary strategies
- Note-taking strategies
- Rehearsal strategies
- Encoding strategies
- Activation strategies

Schmitt's (1997) taxonomy

Schmitt(1997) organized subcategories of VLS under two broad categories around Oxford's (1990) classification of LLS:

Discovery strategies
- Determination strategies
- Social strategies

Consolidating strategies
- Social strategies
- Memory strategies
- Cognitive strategies
- Metacognitive strategies

However, as Schmitt (1997) was aware, some particular strategies fit both discovery and

consolidating categories. In addition, all discovery strategies can be used as consolidating strategies (Pavicic, 2007).

Meanwhile, other researchers identified still different taxonomies in their empirical studies. Aiming to explore the frequency of VLS use and classification of VLS among Japanese learners of English, Kudo (1999) used Schmitt's (1997) taxonomy as a starting point in designing the questionnaire on VLS. The results of the main study revealed two groups of VLS: direct strategies and indirect strategies. The former consisted of cognitive and memory strategies, while the latter consisted of metacognitive and social strategies. Such a classification of VLS is in line with Oxford's (1990) classification of LLS.

Pavicic's (2007) study revealed another taxonomy among learners of English via a questionnaire. The participants were 358 Croatian aging from 13 to 15. Factor analysis revealed three underlying factors of VLS: VLS of formal vocabulary learning and practising; self-initiated independent vocabulary learning; and incidental vocabulary acquisition.

The literature has revealed that cognitive strategies have been the focus of existing VLS typologies. Simultaneously, some addressed metagognitive strategies (Gu & Johnson, 1996; Pavicic, 2007), and others addressed social strategies (Kudo, 1999; Shmitt, 1997). However, affective strategies have been neglected in these taxonomies. Hence, to fill this gap and to follow the LLS taxonomy of the present study, the VLS taxonomy of the present study is classified into four categories: metacognitive, cognitive, social and affective strategies. As the subcategories of the former two groups are not unanimous in different VLS typology, the subcategories of metagonitive and cognitive strategies in the present study follow those of Gu and Johnson's (1996) taxonomy for their previous use among Chinese learners of English to facilitate comparison between results.

After clarifying the concepts of LLS and VLS, the next section will turn to studies on them. As LLS is the umbrella of VLS, studies on LLS will be reviewed before those on VLS.

2.4.3.3 Studies on the relationship between LLS and learning outcome

Empirical studies on language learning strategies have addressed issues such as strategies' relationship with gender and age (Green & Oxford, 1995). This section focuses on those addressing the correlation between LLS and English learning outcome, for it is the umbrella of a focus of the present study—the correlation between VLS and English learning outcome.

Studies on LLS and English achievement revealed a correlation between the two variables. Griffiths' (2003) study of the ESL students of different levels in private language schools in New Zealand via SILL (Strategy Inventory for language Learning) showed higher level students used a larger number of strategies and more sophisticated (involving manipulation rather than memory) and active strategies. This confirmed the findings of Green and Oxford's (1995) study via SILL. The longitudinal part of Griffiths' (2003) study showed a statistically significant and positive relationship between the progress rate in English proficiency and the increase in LLS use reported by the learners.

Likewise, in China, Wen and Johnson's (1997) study mentioned in section 2.4.2.3 revealed Vocabulary strategy and Mother-tongue avoidance strategy had direct effects on English achievement, while Management Strategy had an indirect effect on English achievement. In contrast, Tolerating-ambiguity Strategy had a negative effect on English achievement.

It seems, along with greater variety of and more frequent, flexible and active strategy use, the use of metacognitive strategies and high order cognitive strategies are closely related to higher English proficiency despite the different English learning settings. However, different correlation patterns were also revealed in the literature.

Adopting SILL, Hong-Nam and Leavel (2006) studied 55 pre-admission-university ESL students. This study showed, though more strategic students advanced along the proficiency continuum faster than less strategic students, middle level students reported more strategy use than low and high level students. Besides that, metacognitive

strategies were preferred most by all students, while memory and affective strategies were preferred least.

Despite the differences in the types of strategies closely related to learning outcome, the results of these studies reviewed here support the existence of the correlation between LLS and English learning outcome. Therefore, the next section will turn to studies on VLS, which is under the umbrella of LLS and a focus of the present study.

2.4.3.4 Studies on the relationship between VLS and learning outcome

Studies on VLS have addressed such issues as the efficacy of a particular strategy (Boers et al., 2004), VLS patterns among learners (Porte, 1988; Sanaoui, 1995), VLS' relationship with learning context (Kojic-Sabo & Lightbown, 1999) and with other learner's variables such as gender (Nemati, 2008), age (Shmitt, 1997; Shmitt & Shmitt, 1993), and L2 proficiency (Moir & Nation, 2002; Nemati, 2008). Only those addressing the correlation between VLS and English learning outcome are reviewed here as it is a focus of the present study.

Kojic-Sabo and Lightbown's (1999) study

Kojic-Sabo and Lightbown's (1999) study revealed the correlation between the use of VLS and learning outcomes. They focused on the VLS in two settings—ESL and EFL — and its relationship between VLS and English proficiency. Data collected in Yugoslavia and Canada among near 100 students via questionnaire, a vocabulary size test and an achievement test showed top students in both settings claimed high use of time after class, independence and dictionary in vocabulary learning. Top students in Yugoslavia —EFL setting — claimed high use of note-taking and reviewing strategies too. In contrast, bottom groups in both settings showed a lack of strategy use. The higher proficiency students' favor of dictionary strategies is in line with studies testing the efficacy of dictionary strategies (Knight, 1994; Luppescu & Day, 1993). However, the results need to be interpreted with caution. First, the Yes/No test (Meara, 1992) was adopted as the vocabulary size test, which were revealed less suitable for measuring vocabulary size compared with Nation's (1990) vocabulary levels test (Cameron, 2002).

Moreover, data collection were collected only via questionnaire, which may affect the reliability of the results (Barcelos, 2003).

Gu and Johnson's (1996) study

Adopting the same design, Gu and Johnson's (1996) study mentioned in section 2.4.2.4 also focused on VLS. It revealed the non-English majors used more metacognitive VLS than cognitive VLS. They centered on guessing, dictionary, note-taking, self-initiation and selective attention strategies, while they used rehearsal and encoding VLS the least. Correlation analysis revealed a similar pattern with that in Kojic-Sabo and Lightbown's (1999) study: metacognitive strategies, contextual guessing, dictionary strategies other than for comprehension only, note-taking, word formation, contextual encoding and activation were positively correlated to both vocabulary size and overall proficiency. Moreover, oral repetition positively correlated to general proficiency. In contrast, visual repetition and imagery were significant but negative predictors of both vocabulary size and general proficiency. Findings about contextual guessing and visual repetition were in line with findings of studies testing the efficacy of contextual guessing (Day, Omura & Hiramatsu, 1991; Elley, 1989; Pitts, White & Krashen, 1989) and rehearsal strategies (Craik & Tulving, 1975). In addition, VLS only aims at retention such as wordlists and semantic encoding correlated to vocabulary size rather than general proficiency. As a result, the authors suggested pure retention of decontextualized words has limited value, especially in an in-put poor environment like China. Vocabulary learning needs to be integrated in discourse (Gu & Johnson, 1996).

Subasi[3]'s (2007) study

Subasi[3]'s (2007) replication study, also mentioned in section 2.4.2.4, which triangulated the questionnaire with interviews revealed a different VLS pattern among the English majors in a Turkey university. Unlike Gu and Johnson's (1996) participants, Subasi's participants ranked cognitive strategies higher than metacognitive strategies, and selective attention higher than self-initiation. They dwelled on guessing, dictionary and activation, while used rehearsal and encoding least. This is a cognitive VLS pattern in

use similar to the one in Gu and Johnson's (1996) study. Correlation analysis revealed dictionary VLS other than for comprehension only, oral repetition, visual encoding were highly and positively correlated to vocabulary size—a pattern different from those in Gu and Johnson's study and Kojic-Sabo and Lightbown's (1999) study. The significantly positive correlation between oral repetition and vocabulary proficiency differed from results of cognitive psychology research addressing the efficacy of rehearsal strategies (Craik & Tulving, 1975), but conformed to L2 vocabulary research involving short time retention (Crothers & Suppes, 1967).

Though the three studies were conducted in different countries, studies of Gu and Johnson's (1996) and Kojic-Sabo and Lightbown's (1999) were far closer in time. Hence, the impact of contextual differences resulted from the differences in time (Jiang & Smith, 2009) may have contributed to the differences in findings of VLS pattern between Subasi[3]'s study and studies of Gu and Johnson's (1996) and Kojic-Sabo and Lightbown's (1999). However, with less than 50 participants, the significant correlation revealed in Subasi[3]'s study is insufficient in applied language studies (Dornyei, 2007).

Fan's (2003) study

The correlation between these VLSs and English proficiency was confirmed in Fan's (2003) study focusing on the frequency of use, perceived usefulness, and actual usefulness of VLS. Fan collected data from 1067 students newly admitted to higher institutions HK via a questionnaire and a vocabulary size test mailed to the participants. Correlation analysis revealed planning vocabulary learning and encountering new vocabulary in and outside class, active use of vocabulary newly learnt, guessing strategies, dictionary strategies and strategies for consolidating knowledge of known words were significantly correlated to the achievement in vocabulary test; while except the analytic strategy in memory strategy group, no other memory strategies showed such a correlation with vocabulary size. Moreover, rote memorization strategies showed negative correlation. The correlation patterns of guessing strategies, dictionary strategies and rote memorization conformed to the findings of studies testing the efficacy of these strategies (Craik & Tulving, 1975; Day et al., 1991; Elley, 1989;

Knight, 1994; Luppescu & Day, 1993; Pitts et al., 1989). In addition, recall of the meaning of the newly learnt words to comprehend the reading context was the only strategy used most often, perceived most useful by students of all achievement levels.

Nemati's (2008) study

Likewise, Nemati's (2008) survey in India (ESL context) also generated both differences and similarities in VLS among students of different proficiency levels. Data were collected among 60 pre-university students aging 16 to 18 via questionnaire and a standard proficiency test. The questionnaire followed Oxford's (1990) LLS taxonomy in SILL and examined the use of six types of VLS. The results showed more frequent use of VLS was correlated with higher achievement though students of all achievement levels used all six types of VLS. The study also showed high achievers tended to use strategies involving deep processing like imagery and grouping, conforming to findings in cognitive psychology research on depth of processing (Craik & Tulving, 1975).

Shek[16]'s (2007) study

However, Shek[16]'s (2007) study found no significant correlation between VLS and English learning outcomes. This study focused on the VLS and vocabulary learning in three types of secondary schools in HK: English-medium schools (EMI), Chinese-medium schools (CMI) and partial English-medium school (PEMI). Data were collected among 91 students via a questionnaire, an interview, a vocabulary size test (Schmitt, Schmitt and Clapham's 2001 Vocabulary Levels Test) and a self-developed vocabulary depth test (VKT). The questionnaire on VLS was based on Schmitt's (1997) taxonomy of VLS, and the interview explored the students' beliefs about vocabulary learning and factors affecting them. The results showed, though students from different types of schools tended to use different VLS, no significant correlation was found between the frequency of VLS use and the scores on the vocabulary size test by correlation analysis. However, the results also need to be interpreted with caution. As the author acknowledged, unbalanced gender construct and the researcher's ability to handle interviews may have impacted the data collected. Moreover, the schools with

different medium of instruction (English, Chinese, or partial English) provided different English learning contexts for the participants. Thus, the impact of language learning context on the use of VLS, which has been revealed in Kojic-Sabo and Lightbown's (1999) study introduced previously, may have underpinned the difference in findings in Shek[16]'s study and many other studies.

Among the replication studies Gu and Johnson's (1996) in China, only those investigated in vocational college students are discussed here as the present study focuses on the same type of student.

Replication studies of Gu and Johnson's (1996) in China

Like the case of studies addressing the VLB of Chinese vocational college students, it is worthwhile to mention that all these studies addressing vocational college students relied on a questionnaire in data collection except Yang[3]'s (2006) study where the questionnaire survey was triangulated with interviews. Given the shortcomings of data collected by questionnaire (Barcelos, 2003), the reliability of studies relying on questionnaire survey is open to question. Moreover, in all these studies to be reviewed, the English teachers of the participants acted as data collectors. In Lou[14]'s case (the only study to be reviewed here but not in section 2.4.2.4 as it only focused on VLS), the researcher even collected data from students who were his own students at the time. Since the teachers have power over their present students, such a data collection procedure can affect the reliability of data collected. Therefore, when interpreting findings in this body of research, such limitations should be borne in mind.

Yang[2]'s (2006) study added items on social VLS to Gu and Johnson's (1996) questionnaire. Her study revealed the students used cognitive, metacognitive and social VLS in a descending order—a general pattern close to the one in Subasi[3]'s study where social/affective VLS was excluded. Like Subasi[3]'s study, the participants ranked selective attention higher than self-initiation. Their use of particular cognitive VLS showed similarities to both Gu and Johnson's and Subasi[3]'s study, for they dwelled on contextual guessing, association, activation, combination of oral and visual repetition,

and extended dictionary strategies, while using cooperation, visual repletion, self-evaluation and regular review the least. It also revealed that higher achievers in the vocabulary test had a larger VLS repertoire, and used metacognitive and cognitive VLSs more frequently than lower achievers. To be more specific, higher achievers used more regular review, pre-planning, selective attention, grouping and contextualization, while lower achievers focused on rote memorization and dictionary strategies for comprehension only—a correlation pattern conforming to the ones in studies among other types of English learners (Fan, 2003; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999; Nemati, 2008).

By comparison, Zhang[1]'s (2005) study revealed a different VLS pattern: affective VLS was used most often, followed by metacognitive, cognitive and social strategies. The students' preference for metacognitive VLS than cognitive VLS conformed to Gu and Johnson's finding. Their preference for cognitive VLS conformed to Gu and Johnson's and Subasi[3]'s (2007) findings: contextual guessing, dictionary VLS, note-taking, activation, encoding and rehearsal were used in a descending order. However, the study showed, contrasting to the correlation between VLS and learning outcome revealed in previous studies among English learners (Fan, 2003; Gu & Johnson, 1996; Subasi[3], 2007), higher achievers used visual repetition, auditory and semantic encoding and affective strategies more often than lower achievers. Moreover, the study revealed lower achievers used self-management more frequently than higher achievers. The higher achievers' preference for rote memorization strategies deviated from findings of research on the depth of processing (Craik & Tulving, 1975). Zhang[1] suggested that as the students' major task in English learning was to pass exams such as CET and PRETCO, those who had not passed these exams were more self-regulated. However, this explanation from the researcher's perspective lacks support from the participants as only questionnaire data was included in the data collection.

Also with a questionnaire adapted from Gu and Johnson's (1996), Wu[15] (2006) studied students from two vocational colleges in Fujian province with a focus on the description of general VLB and VLS pattern. It showed the students used note-taking frequently

and ranked selective attention the highest in metacognitive strategies. The former conformed to findings of Gu and Johnson's and Zhang[1]'s (2005) discussed previously; while the latter conformed to Subasi[3]'s (2007) and Yang[2]'s (2006) findings discussed previously. However, it also revealed the students favored rote learning most—a rare phenomenon found in studies in English learners. In addition, the study revealed the students used imagery, grouping and regular review least. Their low use of imagery conformed to Gu and Johnson's finding.

Focusing on the general VLS pattern, and proficiency and academic major difference, Lou[14] (2006) surveyed 105 sophomores in a vocational college in Hubei province. The participants were his present students, and all were non-English majors in arts or sciences. Their proficiency was measured by a combination of a self-developed vocabulary size test and CET3 (a general proficiency test). The study revealed cognitive VLSs, affective VLSs, metacognitive VLSs, and social VLSs were used in a descending order. The more frequent use of cognitive VLSs than metacognitive VLSs conformed to Yang[2]'s (2006) and Subasi[3]'s (2007) study. As to the specific VLS, these students used frequently dictionary looking-up strategies, rule-applying, selective attention and repetition, while used imagery, association, grouping, learner autonomy and social activities the least. Their preference for dictionary-looking up strategies conformed to findings in several studies in different types of English learners (Gu & Johson, 1996; Subasi[3], 2007; Zhang[1], 2005), their preference for selective attention conformed to Subasi[3]'s and Yang[2]'s (2006) findings, and their preference for repetition conformed to Wu[15]'s (2006) and Yang[2]'s study discussed above, while their lack of preference for grouping conformed to Wu[15]'s study, and for social activities conformed to findings in Yang[2]'s study and Zhang[1]'s study. The study also revealed higher achievers used significantly more learner autonomy, contextual guessing, contextualization, self-evaluation, social activities and affective control strategies. The correlation pattern conformed to many studies of English learners of different types (Fan, 2003; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999). In addition, the correlation between contextual guessing and learning outcome also conformed to the findings of studies testing the efficacy of this VLS (Day et al., 1991; Elley, 1989; Pitts et al., 1989).

In short, the few studies among Chinese vocational college students revealed that these English learners used social VLSs least. Regarding the use of specific VLS, these students in one study differed from those in other studies. In addition, these students presented a somewhat mixed picture of the correlation between VLS and learning outcome. Nonetheless, they tended to show that context-related VLSs and deep processing memory VLSs were related to higher proficiency. However, it is worthwhile to mention that only Yang[2]'s (2006) study adopted interviews to triangulate the questionnaire survey. In addition, in all these studies, the data collectors' (the participants' current English teachers) power over the participants may have affected the reliability of the data collected. Hence, more triangulated research with researcher/data collector and participants of balanced independence is needed for a closer picture of the reality of the Chinese vocational college students' VLS use.

Summary

To conclude, studies on the relationship between VLS and the learning of English revealed a more complicated picture than that of the relationship between LLS and English proficiency. On the one hand, many studies indicated the correlation pattern among the English L2 learners follows that of LLS:

- high achievers use more metacognitive strategies and cognitive strategies of high order (Fan, 2003; Gu & Johnson, 1996; Nemati, 2008);
- they are more flexible in strategy use and have a broader strategy repertoire (Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999).

On the other hand, research also demonstrated no significant correlation between VLS and learning outcome (Shek[16], 2007). In addition, besides the shortcomings mentioned in the review of each study, all the studies reviewed relied on self-reports (self-reported questionnaires and/or interviews) to explore VLS in use. As Qian (2004) revealed, there were mismatches between what learners (in his case, English learners in Hong Kong) thought they did in vocabulary learning and what they actually did, data collection methods of studies on the correlation between VLS and English learning outcome need

to be triangulated further.

As to the VLS of vocational college students in China, the literature revealed a very small number of studies and the results were inconsistent. In addition, besides the general problem of VLS studies—self-report—mentioned above, each of the studies focusing on vocational college students had some shortcomings in methodology (in the case the characteristics of the sample and the data collection procedure was described), that is, possible intervention of unbalanced gender construct, the participants' English teachers as data collectors, and research into one's own students. As a result, their findings need to be interpreted with caution. Hence, more research with improved methods including observations are needed for clarification of VLS pattern among this type of English learner.

After discussion of LLB, VLB, LLS and VLS, the next section will focus on the relationship between beliefs and strategies—another focus of the present study.

2.4.4 Relationship between LLB and LLS, and the relationship between VLB and VLS

In this section, the correlation between VLB and VLS will be discussed as it is a focus of the present study. As the correlation between VLB and VLS is under the umbrella of that between LLB and LLS, the latter will be addressed first in the following section.

2.4.4.1 Correlation between LLB and LLS

Theoretically, as LLS are learners' actions, they are directly influenced by their cognitions—LLB (Ellis, 2008b; Oxford, 1994). Empirical studies on this issue have shown there is a correlation between LLB and LLS.

Yang's (1999) study of 505 Taiwan university students using a questionnaire revealed two significant correlations. One is the relationship between self-efficacy belief about language learning and their use of all types of strategies. The other is between beliefs about the value and nature of oral English with their use of formal oral-practice

strategies. In addition, the study showed that belief in memorization was not significantly correlated with any strategy.

The impact of LLB on LLS was confirmed in Wen and Johnson's (1997) study of English majors in five universities in mainland China via qualitative and quantitative methods. Partial Least Squares procedure (PLS) was adopted to analyze questionnaire data. The direct effects of beliefs on strategies were found to be strong and consistent. The PLS confirmed the strong positive effects of LLB on LLS in four aspects: focus on form, management of learning, focus on meaning and mother-tongue-avoidance.

Similarly, Victori's (1999a) study which used writing tests, interview and think-aloud revealed learners' beliefs about EFL writing determined the types of strategies or writing approaches to be adopted.

In summary, these studies revealed there is a correlation between beliefs and strategies. Some even confirmed a causal link between the two. Therefore, the following section will focus on the correlation between VLB and VLS—a focus of the present study.

2.4.4.2 Correlation between VLB and VLS

There is no study in the literature addressing the correlation between VLB and VLS. However, as this correlation is under the umbrella of the correlation between LLB and LLS, studies on the correlation between VLB and VLS can be based on those on the correlation between LLB and LLS. Hence, the present study makes an attempt to fill this gap.

2.4.5 Summary

To sum up, the above literature review revealed, though the correlation between LLB and English learning outcome is unstable, the one between VLB and learning outcome is more significant. However, with only a paucity of studies addressing this issue and shortcomings in each, more research in this area with improved methods including observation and exploration of the function of motivational beliefs would be helpful for

clarification.

In contrast, though studies on the relationship between LLS and English achievement revealed a consistent correlation between the two variables, the larger body of research into the correlation between VLS and learning outcome than the one addressing VLB revealed the inconsistency in the correlation between the two variables. On the one hand, many studies indicated the correlation pattern of VLS among the English L2 learners follows that of LLS:

- high achievers use more metacognitive strategies and cognitive strategies of high order (Fan, 2003; Gu & Johnson, 1996; Nemati, 2008);
- they are more flexible in strategy use and have a broader strategy repertoire (Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999).

On the other hand, no significant correlation between VLS and English learning outcome was also revealed in the literature (Shek[16], 2007). In addition, all the studies reviewed relied on self-reports (self-reported questionnaire and/or interview) to explore VLS in use. As mismatch between VLSs reported by the participants and the ones actually in use has been detected (Qian, 2004), methods to triangulate self-report are needed for more reliable data in this research area.

In addition, studies on the correlation between LLB and LLS confirmed the correlation between the two. Though there is no literature addressing the correlation between VLB and VLS, studies on this correlation can be based on those addressing the correlation between LLB and LLS, which is its umbrella. Thus, the present study attempts to fill this gap.

As to the vocational college students in China—the type of English learners in the present study, literature has revealed too few studies with inconsistent results. The participants in each study were of heterogeneous characteristics. Moreover, these studies all relied on self-report, especially questionnaire, in data collection. Furthermore, problems in data collection procedure (participants' English teachers were the data collectors) may have affected all those studies that have provided information on this

procedure. Hence, the VLB and VLS pattern of the vocational college students remain unclear. The relationship between their VLB/VLS and English learning outcome is also unclear. Moreover, vocabulary learning is a part of English learning, and we learn vocabulary for communication. Yet, unlike the Gu and Johnson's (1996) original study, the replication studies addressing Chinese vocational college students only focus either on vocabulary proficiency or general English proficiency. Therefore, whether a VLB/VLS plays the same role in vocabulary learning and English learning remains unknown among vocational college students. In addition, as the correlation between VLB and VLS has not been examined, the correlation between beliefs and strategies remains unknown in vocabulary learning. Therefore, more research with improved methods and further exploration into the VLB and VLS of Chinese vocational college students would be beneficial in understanding their vocabulary learning, which is an important part of their English learning.

Informed by the literature, the present study addresses these issues with improved methods: exploration of motivational VLBs, self-report triangulated by other observation, quantitative questionnaire survey triangulated by interviews, the exclusion of heterogeneity of learning context that might caused by different vocational colleges, grades, and majors, and focuses on vocabulary proficiency and English proficiency simultaneously. To be specific, it aims to answer the following research questions:

Research questions

1. What vocabulary learning beliefs (VLB) and vocabulary learning strategies (VLS) do English L2 learners in vocational colleges in China have?
2. To what extent are teachers' perceptions of students' VLS the same as those reported by the students themselves?
3. What is the interrelationship between VLB, VLS, vocabulary size and general English proficiency?

The following sections report on this study. The methodology will be presented first, followed by a presentation of the results, and then a discussion of the results before a conclusion.

Chapter 3 METHODOLOGY

3.1 Introduction

This chapter introduces and discusses the methodological approach and design best suited to the present study. A mixed-method design is adopted to address the research questions raised at the end of the previous chapter. This chapter begins with a restatement of the research purposes and research questions, as they are determiners of the approach and methods adopted in the study. Then, an overview of the design is presented, followed by an introduction to the participants and instruments: vocabulary size test, English proficiency test, questionnaire, and interviews. Justification is provided during the process, for the quality of any research is largely dependant on the quality of data collected, which in turn, is directly related to how they are collected (Seliger & Shohamy, 1989). Subsequently, the data collection procedure is debriefed, and ethical issues involved in the research process are clarified as they are related to the quality of data collected. After that, the data analysis methods are introduced, containing a discussion of the choice of the methods, which play a role in the findings. Finally, this chapter concludes with a summary of the methodological issues discussed previously.

3.2 Research purpose and research questions

The aim of the study is to explore Chinese vocational college students' English vocabulary learning beliefs (VLB) and strategies (VLS), and the interrelationship between their VLB, VLS and learning outcomes. Consequently, the results of the study will hopefully aid EFL vocabulary learning, and this will in turn facilitate overall second language acquisition (SLA). To accomplish such aims, the study investigates the following research questions:

1. What vocabulary learning beliefs (VLB) and vocabulary learning strategies (VLS) do English L2 learners in vocational college students in China have?
2. To what extent are teachers' perceptions of students' VLS the same as those reported

by the students themselves?

3. What is the interrelationship between VLB, VLS, vocabulary size and general English proficiency?

The following section discusses a methodological design which I consider best suited to address these questions and achieve the research aims.

3.3 Overview of methodological design

"Different methods are appropriate for different situations" (Patton, 1990, p. 39). Therefore, the methodological design should be based on the purpose of the study, the research questions, and the resources and time available. Moreover, "social phenomena are so complex and social problems are so intractable, all of our methodological tools are needed for understanding and for action"(Greene, 2001, p. 252). Thus raises the issue: to what extent the research design can freely combine elements of different approaches (Seliger & Shohamy, 1989). Mixed-method design arguably functions to overcome the deficiencies of a single method, while capitalizing on the strengths of each (Johnson & Christensen, 2004). Due to the complexity of SLA and the strengths and limitations of each method, a mixed method design is adopted to strengthen the quality of study.

3.3.1 Combination of quantitative and qualitative approaches

Qualitative research is based on interpretivist epistemology assuming "that social reality is constructed by participants in it" and "is continuously constructed in local situations" (Gall, Gall & Borg, 2005, p. 15). By comparison, quantitative research is based on positivist epistemology assuming an objective social reality that is "relatively constant across time and setting" (Gall et al., 2005, p. 15). Thus, qualitative research in SLA functions to discover phenomena that have not been described and to understand these phenomena from the participants' perspective (Seliger & Shohamy, 1989), while quantitative research is strong in description of the SLA behaviors of a population as "quantification represents a reality for that group" (p. 115). As revealed in the previous

chapter, studies on VLB and VLS have been dominated by questionnaires (a quantitative method), and have generated somewhat diversified profiles of VLB and VLS as well as mixed results on the correlations between VLB/ VLS and learning outcomes. However, as discussed in the review of these studies, the reliability and validity of these surveys may have been improved if they had been triangulated with qualitative methods such as interviews, given that questionnaire items may be misunderstood by the participants (Barcelos, 2003). Besides checking the consistency in the participants' responses, triangulation of questionnaire survey with qualitative methods could help our understanding of VLB and VLS of the participants, and discover new patterns not described previously, for qualitative research examines the phenomena and presents data from the perspective of the participants (Seliger & Shohamy, 1989).

According to Greene (2001), mixed methodologies can serve for triangulation, complementarities, development, expansion, and initiation. In the present study, mixed methodology is adopted for the purposes of triangulation, which is discussed in the next section.

3.3.2 Triangulation in the methodological design of the present study

Triangulation refers to the adoption of mixed methods to seek convergence, corroboration and correspondence of results across different methods (Greene, 2001). It can be achieved from three aspects: source of data, data collection and analysis method (Freeman, 1998). In the present study, all three kinds of triangulation are adopted.

The triangulation of data source in the present study is achieved by two kinds of data sources—one is the student participants' self-reports, the other is the reports from their teachers' observations.

The triangulation of data collection method in the present study is achieved by the adoption of both quantitative methods (the questionnaire survey and two kinds of tests) and the qualitative method (interview). They will be detailed in section 3.5 —Data collection instruments.

As a result of triangulation of data collection method, triangulation of data analysis methods in the present study is achieved by the quantitative analysis of the quantitative data, and qualitative analysis of the qualitative data. They will be detailed in section 3.8 —Data analysis.

3.3.3 Coordinated mixed-method design

Despite of its advantages, mixed-method research has been criticized for violating the different and incommensurate paradigmatic assumptions of both quantitative and qualitative approaches (Sale & Brazil, 2006). Moreover, bias of the approaches occurs in the reports of mixed-method research as qualitative evidence is often omitted from the synthesis in mixed-method research (Dixon-Woods, Agarwal, Jones, Young & Sutton, 2006).

To avoid possible problems relating to the combination of quantitative and qualitative approaches in the research design, a coordinated mixed-method design is applied in the present study. That is, different methods are designed and implemented discretely, and the interactions between the methods and findings come at the stage where the overall inferences are drawn instead of at earlier stages such as data processing or data analysis (Greene, 2001). As a result, the coordinated mixed-method design should avoid the possible danger of exclusive reliance on a single method (Bryman, 1992) and potential problems in the integration of different methods (Sale & Brazil, 2006), thus improving the quality of the present study.

3.3.4 The process of triangulation

The process of integrating methodologies and methods is conducted with reference to the following two factors. One is the function and importance of each approach in the present study. The quantitative approach (the questionnaire survey) is triangulated by the qualitative approach (interviews), and the results of the survey inform the implementation of the interviews. This raises the other factor— time order, i.e., the extent to which the methods can be carried out simultaneously (Brannen, 1992). Among

the three data collection methods, the vocabulary test and questionnaire survey are conducted almost simultaneously, one right after the other, while interviews, which need to be informed by the results of preliminary analysis of quantitative data collected via questionnaire and vocabulary test, began two weeks later.

3.3.5 Summary

In summary, though longitudinal studies tend to present better data to work with, it is generally acknowledged that cross-sectional studies can improve the quality of the data with a mixed-method approach in data collection and analysis (Dornyei, 2007; Mackey & Gass, 2005). Considering the time restriction in the data collection process, the mixed method design is considered as the most appropriate for the present study, for it

- Allows the researcher to approach and analyze the phenomena from different perspectives, and
- Fills the gaps in the research on VLB and VLS (i.e., lack of observation and investigation from the participants' perspective), which were identified in previous studies (Gu & Johnson, 1996; Lou[14], 2006; Yang[2], 2006).

Following this overview of the methodological design, the next sections will turn to the participants, the data collection instruments, data collection procedure, and data analysis. The ethical issues involved and the validity and reliability of the data will also be considered.

3.4 Participants

The participants are sophomores majoring in International Trade and their English teachers in a vocational college in Sichuan province, China. As this is the only vocational college specializing in commerce in Sichuan, the learning context it provides to the International Trade majors is typical in Sichuan. Therefore, the participants represent their peers in the province in the present study. Having been studying in this college for over a year by the time of the study, the sophomores are better representatives than the freshmen who started their course in October and their

transition from middle school students to vocational college students. Likewise, the sophomores represent the vocational college students better than juniors who will graduate in less than one year's time and are starting their transition from students to professionals. Moreover, English teachers' observations function as a source of triangulation in the present study. As English is a two-year compulsory course, only freshmen and sophomores have current English teachers. On the one hand, data from the recall of present teachers are more accurate and reliable than those from former teachers. In this sense, freshmen and sophomores are better samples than juniors. On the other hand, the sophomores' present English teachers have been interacting and observing them for over a year by the time of the present study, while those of freshmen have been doing so for about two months. Hence, sophomores' present English teachers can contribute richer, more comprehensive and reliable data on their students' vocabulary learning behaviors than the freshmen's present English teachers. As a result, the sample consists of sophomores and their present English teachers.

3.4.1 Participants in the questionnaire survey and vocabulary size test

Participants in the questionnaire survey and vocabulary size test are 102 sophomores majoring in International Trade.

3.4.2 Student participants in the interviews

Representing participants at three proficiency levels, high, middle, and low, 22 (20%) participants in the questionnaire survey and vocabulary test were interviewed. They were randomly chosen from their proficiency groups. The three proficiency groups were identified with the participants' scores on the vocabulary test and CET (See section 3.5 for the two instruments). Due to time limitations, it was unrealistic to interview both 20% participants chosen by their vocabulary test scores and another 20% participants chosen by their CET scores. As the present study focuses on vocabulary learning, vocabulary test scores were the major criterion for proficiency groups. These interviewees' vocabulary test scores ranged form 0 to 90, and their English proficiency ranged from CET2 to CET4. Thus they are considered representatives of the

questionnaire participants. Relevant ethical issues are clarified in section 3.6.2.

3.4.3 Teacher participants in the interviews

Teacher participants in the interview are two English teachers of the student participants in the questionnaire survey and vocabulary size test.

3.5 Data collection instruments

The instruments used for data collection are a vocabulary size test, a general English proficiency test system, a questionnaire survey on VLB and VLS, and interviews with students and their English teachers. This section discusses the choice of these instruments in detail.

3.5.1 Vocabulary size test

Vocabulary size test has been used in the previous research in VLB and/or VLS to measure the vocabulary proficiency of the participants (Fan, 2003; Gu & Johnson, 1996; Lou[14], 2006; Subasi[3], 2007). Following the trend, a global vocabulary size test, Schmitt, Schmitt, and Clapham's (2001) Vocabulary Levels Test, has been adopted to measure the participants' English vocabulary size, that is, how much vocabulary they know. The newly developed Vocabulary Size Test (Nation, 2008) was not adopted because it has been little used and lacks testing in empirical studies compared with the former.

In order to measure the participants' English vocabulary size, it is common in the studies of Chinese learners of English to develop tests based either on CET for students at tertiary level (Fu[8], 2003; Lou[14], 2006; Yang[2], 2006) or based on entrance examination to tertiary education for middle school students (Pan[12], 2006; Sun[13], 2006). Some of the self-developed tests required the participants to provide Chinese equivalents, English synonyms or definition of the words (Fu[8], 2003; Pan[12], 2006), while others provided Chinese equivalents or English synonyms to the participants to choose (Lou[14], 2006; Yang[2], 2006). On the one hand, L1 and L2 vocabulary do not correspond to each other (Zimmerman, 1997), and L1 equivalents have negative effect on vocabulary learning

among students at intermediate and higher intermediate levels (Barcroft, 2009). Thus, the vocabulary tests involving Chinese equivalents may mislead the participants. On the other hand, errors have occurred in the self-developed vocabulary tests providing English synonyms. Examples are item 27 in Lou[14]'s (2006) test: listen: A. perceive B. see C. hear D. obey, and item 46 in Yang[2]'s (2006) test: suitable A. fit B. idle C. handle D. decorate. In addition, the aim of English teaching is flexible use of English in real communication, and teaching and learning to the test should be avoided (Ministary of Education[4], 2001). Yet, self-developed tests based on authoritative English proficiency tests in Chinese society may reinforce the tendency of learning to test, thus misleading the participants.

In contrast, Nation's (1990) Vocabulary Levels Test is an established EFL vocabulary test to measure vocabulary size (Cameron, 2002). It has been used in empirical studies in EFL and ESL contexts worldwide (Fan, 2003; Gu & Johnson, 1996; Subasi[3], 2007; Zhong, as cited in Ellis, 2008a). Schmitt, et al.'s (2001) version of Vocabulary Levels Test is an improvement on Nation's version (Nation, 2001). Research to test its validity and reliability has been conducted among 801 ESL/EFL students in England, Brazil, Slovakia, and Spain. Among them, 157 were Chinese. Analysis of quantitative and qualitative data revealed this test "provide[s] accurate estimate of vocabulary size of students at the targeted frequency level" (Schmitt et al., 2001, p. 57) .

Moreover, it has been used in empirical studies (Baba, 2009; Shek[16], 2007). According to Baba, the reliability of Schmitt et al.'s (2001) version (Cronbach's Alpha) was respectable (a=.77); according to Shek[16], Schmitts' version was effective for testing vocabulary size of the Hong Kong Chinese students in his study. Furthermore, Schmitt et al.'s Vocabulary Levels Test is in the format of multiple choices, which is easy to read and mark, as illustrated in the following sample question.

1. business ____ part of a house
2. clock ____ animal with four legs
3. horse ____ something used for writing
4. pencil
5. shoe
6. wall

As the above sample question shows, each section consists of six words and three definitions. The definition is either in phrase or synonym with words of a higher frequency level than the word to be defined. The test at each level consists of 10 such sections. As a result, the meaning of 30 words is tested directly, and the words being tested double the size. Therefore, a large number of words can be tested in a short time. Besides, such a format makes the contextual guessing strategy unworkable as no context is provided. Besides that, for the present participants whose L1 is Chinese, not an Indo-European language, the strategy to guess from L1 cognates also cannot work. Therefore, the participants need to have some idea of the meaning, and the test give them the highest possible credit for what they know (Moir & Nation, 2002), which is the aim of the vocabulary size test. Hence, Schmitt et al.'s (2001) Vocabulary Levels Test was considered the best suitable instrument for the measurement of the vocabulary size of the present participants.

CET2 requires students to have commanded 2750 receptive words, CET3 requires 3350, and CET4 requires 4000 (Gu, 2005). As almost all the participants passed CET2 test, a minority passed CET3, and very few passed CET4, 3000 level in Schmitt et al.'s (2001) test (See Appendix G) was adopted to measure the participants' vocabulary size.

3.5.2 CET

CET is the short for College English Test, which is compulsory to the present participants. It is a battery of national tests to measure the general English proficiency of tertiary students in P.R. China, and has authority in Chinese society (Gu, 2005; Jin & Yang, 2006). CET2 comprises listening comprehension, vocabulary, structure, reading comprehension, cloze and sentence translation from Chinese to English (Gu & Johnson, 1996), while CET3 and CET4 also involve writing short passages (Jin & Yang, 2006).

Hence, CET involves measurement of both the participants' receptive and productive language in given contexts. It provides efficient measurement of the participants overall English level (Jin & Yang, 2006).

In Gu and Johnson's (1996) study, CET2 was used as the major measurement for the participants general proficiency. In the present study, as the participants only had scores on CET taken this semester to indicate their recent general proficiency, only CET scores are used as the measurement for general proficiency. In addition, the participants had taken the CET three times by the time of the present study. Some of them had passed CET3 or CET4, and forgot their CET2 scores a year ago. Thus, scores on CET2, CET3 and CET4 are used as measurement for the present participants' general English proficiency. Apart from that, the CET2 represents the lowest proficiency in the three bands of CET, while the CET4 represents the highest proficiency.

3.5.3 Questionnaire on VLB and VLS

The research purposes and the amount of data to be collected determine the choice of data collection instruments. Questionnaires are adequate for quantifying data (Victori, 1999b). They collect information that the participants are able to report about themselves. They can also elicit longitudinal and comparable information from a group of learners in a short time (Mackey & Gass, 2005). Hence, the questionnaire is appropriate for data collection as the present study focuses on the everyday VLB and VLS of over 100 students. Moreover, the questionnaire is a predominant instrument in previous VLB and VLS research. Thus, like in the previous replication studies, data on VLB and VLS is collected via a self-report questionnaire (See Appendix F) adapted from Gu and Johnson's (1996) study.

Zhang[1] (2005) reported his pilot participants in the vocational college felt a bit impatient about the seven-point scale used in Gu and Johnson's (1996) study. Therefore, following Zhang[1] and other replication studies mentioned previously (Yang[2], 2006; Lou[14], 2006; Wu[15], 2006), the present questionnaire adopted a five-point Likert scale. It ranged from 1 representing "strongly disagree" in the VLB section, or "never true of

me” in the VLS section to 5 “strongly agree” in the VLB section or “always true of me” in the VLS section.

There are three parts in the questionnaire: demographic information, items on VLB and items on VLS. In the demographic section, background information is asked for such as gender and age. Participants are also required to provide information about their major and grade to double check their qualification against the selection criteria of participants. Moreover, their scores on CET are requested, for the CET is the measurement of their general English proficiency in the present study. The VLB section consists of statements on the participants’ VLB. Unlike the single focus of VLB on metacognitive beliefs in Gu and Johnson’s (1996) study and previous replication studies, in the present study, VLB is classified into two groups: metacognitive beliefs and motivational beliefs. Following this taxonomy, statements on motivational beliefs are added to the VLB section in the questionnaire. The third section consists of statements on the VLS use. Like the VLB section, following the VLS classification in the present study, metacognitive, cognitive, social and affective strategies, along with metacognitive and cognitive VLS, the VLS section in the present study contains statements on both social VLS and affective VLS, which are absent in Gu and Johnson’s study.

Nonetheless, like the items in the VLS section of Gu and Johnson’s (1996) questionnaire and previous replication studies, the items in VLS section in the present study are in the behavioral fashion rather than on a style of general trends and inclinations targeting self-regulating capability, which is related to learner autonomy—the aim of strategies studies (Hsiao & Oxford, 2002). There are two reasons for this. One is the source triangulation with teachers’ observation, which is based on observation of students’ vocabulary learning behaviors. Comparison between the same kind of data—behaviors —from two sources is more exact and efficient than that between behavioral data from one source and self-regulating capacity data from another. The other consideration is that in Gu and Johnson’s (1996) study and other replication studies, behavioral items are used in the VLS section. To facilitate the comparison with the results of these studies, behavioral style is adopted even though it “seems

psychometrically misleading to sum this part of score as indicative of one's overall capacity to use VLS" as the frequency scale of behaviors is not cumulative (Tseng, Dornyei & Schmitt, 2006, p. 84). Hence, the questionnaire is considered appropriate for the present study.

3.5.4 Interview

The questionnaire survey is triangulated by interviews in the present study. Interviews are adequate to investigate phenomena not directly observable. Moreover, interviews are interactive, thus the researcher can elicit additional data when the initial answer is off-topic or not clear enough. Both the researcher and the interviewees can make clarifications. This removes the concern of misunderstanding.

In the present study, semi-structured individual interviews were adopted. On the one hand, in the semi-structured interviews, a list of questions prepared in advance guides the interviewees to address the issues in the questionnaire. This allows the researcher to compare the students' responses in different settings. As a result, the consistency in the students' responses can be checked. On the other hand, the researcher still has "the freedom to digress and probe for more information" (Mackey & Gass, 2005, p. 173) for clarification and understanding of the VLB/VLS held by a particular student. Moreover, the semi-structured interviews were individual interviews, for they ensure a high level of confidentiality, thus is more likely to generate truth from the interviewees (Brown, 2001). Each interview lasted about 10 minutes and was audio-taped. Simultaneously, the researcher took notes during the interviews.

There are two kinds of interviews in the present study: interview with the students and interview with their teachers. Features of each are detailed in the following sections.

3.5.4.1 Interview with the student participants

Among the 102 questionnaire and vocabulary test participants, 22 were interviewed. The interviews function for three purposes: to check the consistency in the students' responses, to understand the VLB/VLS they held, and to generate any new category of

VLB/VLS not described previously nor coved by the questionnaire (See Appendix H for interview guide for student participants).

3.5.4.2 Interview with the student participants' teachers

To triangulate students' self-reports, and to address research question 2: To what extent are English teachers' perceptions of students' VLS the same as those reported by the students themselves, the student participants' English teachers were interviewed (See Appendix I). They provided information based on their observations of the students' vocabulary learning behaviors in English classes.

3.6 Data collection procedure

This section details the steps in collecting data. Ethical issues involved in the process are clarified as they may impact the participants, thus affecting the quality of data collected.

3.6.1 Procedure

Data collection lasted for a month. The data was gathered in three main phases, as presented in Table 4 below:

Table 4 Three phases of data collection

Phase 1 Week 1	Phase 2 Week 3	Phase 3 Week 4
Vocabulary size test and self-report questionnaires administered, completed and collected	Interviews with the student participants	Interviews with the student participants' English teachers

The first phase consisted of the vocabulary size test and questionnaire survey. Both took place on the same day in the participants' classroom in their after-class hours and supervised by the researcher. The student participants completed the vocabulary size test before the questionnaire. This was to eliminate the possibility that the participants

would pick up some strategies in the questionnaire to use in the test. As a result, the test scores could more closely reflect their actual vocabulary size.

The vocabulary size test took about 20 minutes, while the questionnaire survey took about 25 minutes. Background information such as gender, age, major, grade and CET scores was also obtained at this phase.

Phase two involved semi-structured interviews with 22 student participants (see Appendix H for interview guide) after preliminary analysis of the test and questionnaire data. This phase began two weeks after the vocabulary size test and the questionnaire survey. The interviews took place in the participants' classrooms in after-class hours when there was no one else using the classroom. This ensured a familiar and private setting for the interviewees, and contributed to maximizing the interview data's representation of the interviewees' natural behaviors (Seliger & Shohamy, 1989). Furthermore, warm-up questions were asked before each interview to ensure that interviewees felt comfortable and willing to share their views and experiences. Each interview lasted for about 10 minutes and was audio-recorded. Notes were also taken during the interviews. The records of the data ensure the retrievability of them for analysis.

Phase three involved semi-structured interviews with the students' English teachers (see Appendix I for interview guide) after the interviews with the student participants were completed. One teacher (T) was interviewed in a classroom chosen by her in after-school hours after she signed the Consent Form (Appendix E). This interview was also audio-recorded, and the researcher took notes during the interview. Another teacher did not want to talk. Instead, after he signed the Consent Form (Appendix E), he wrote down some notes responding to the questions on the interview guide list in after-school hours. However, in his written answers, it is difficult to distinguish what was his students reported to him and what was he observed. Thus, his answers were not used in the present study, and will not be reported in this thesis.

3.6.2 Ethical issues involved

The data collection procedure follows the principle of fully informed, voluntary and

consented participation. All the documents to the participants were translated into Chinese (See Appendix A-F, Appendix H and Appendix I) and all the dialogues with them were conducted in Chinese. The participants were thoroughly informed of the aims of the research, the methods, procedure and their right to withdraw at anytime during the data collection period without giving a reason through the Participant Information Sheets (See Appendix C & D), the Consent Form (See Appendix E) and further oral explanation.

The Chinese version of the introduction to the study (Appendix A) was sent to the authority of the vocational college for permission to access the setting. Granting the permission, the Head of the Research Department at the college acted as the liaison of the present study (See Appendix B for the Letter of Consultation). Nonetheless, the Head of the Research Department did not contact any of the participants. The researcher contacted and recruited the participant herself. As an outside researcher, she had no influence on the any of the participants. Hence, any participation was voluntary and did not involve any coercion, imbalance of power or rewards. Additionally, before they took part in the study, every participant signed the Consent Form (See Appendix E), giving their explicit and formal consent to this study.

Moreover, confidentiality was ensured to the participants. It had been made clear in the Participant Information Sheets and the Consent Form that all data remain confidential and participants remain anonymous as no real name was collected, and no name was used in the final piece of work. Furthermore, the scores on the vocabulary test were kept secret during data collection period. Thus, the student interviewees of lower vocabulary proficiency would not feel hurt from the study.

In addition, as the present study investigates the interrelationship between VLB and VLS, vocabulary size and the general English proficiency, it is likely to yield results useful in English teaching and learning. Thus, the present study is beneficial to the participants as well as the study setting, the college.

As a result, the possibility is rare for the participants to provide false data that

undermines the quality of the present study.

3.7 Data validity and reliability

Validity and reliability are “the two most important criteria for assuring the quality of the data collection procedures” (Seliger & Shohamy, 1989, p. 184). Besides the triangulation adopted in the research design that enhances the validity and reliability of the data (Johnson, 1992), other measures have been taken for these purposes.

3.7.1 Data validity

“ Validity refers to the extent to which the data collection procedure measures what it intends to measure” (Seliger & Shohamy, 1989, p. 188). The most common areas of validity concern are internal validity and external validity. Measures taken in the present study to enhance internal validity will be discussed before those to external validity, for the former is the prerequisite of the latter (Mackey & Gass, 2005).

3.7.1.1 Internal validity

Internal validity refers to the extent to which the results of a study are a function of the factors investigated (Seliger & Shohamy, 1989). To enhance internal validity, steps have been taken to minimize the most common factors that threaten it: participants’ characteristics, participant dropout, data collection location and the collector, instrumentation and participant inattention.

To minimize the intervention of the participants’ diversified characteristics, homogeneity is a criterion for student participants. They are of similar age, and have the same L1 background. They are studying the same major in the same learning context, including English learning context (See section 3.4—Participants).

To remove the effect of participant dropout, both results of the vocabulary test and the questionnaire of the participant are discarded once a missing item (an unanswered question) was found in either his/her test paper or questionnaire responses or both. As

promised in the Participant Information Sheet for the student participants (See Appendix C), when the participant feels uncomfortable about answering the questionnaire or vocabulary size test, they can skip any question without answering it. Hence, a missing item can be a signal of participant dropout.

To minimize the effect of data collection location and collector, the vocabulary test, the questionnaire survey and interviews took place in the participants' classrooms, which is the most familiar location available for the participants. In addition, the researcher introduced the study to the students, recruited the participants and collected the data herself. As an outside researcher, the data collector's intervention is arguably minimal.

To minimize the intervention of participant inattentiveness and inadequate instrumentation, all the data collection instruments and relevant document, like the Participant Information Form and the Consent Form, were translated into Chinese and piloted. As the pilot participants "are the ultimate judges of what is clear and what is not" (Allison et al., 1996, p. 95), they should be "as similar as possible to the target population" (Teijlingen & Hundley, 2001, p. 2).

A pilot study was carried out in a language learning center in Auckland among a small group of similar learners to those in the main study—all are Chinese learners of general English aged about 20. The interview guide for the teacher participants was piloted among three teachers in the language learning center, and all were native speakers of English. According these participants, the items in the questionnaire, questions in the interviews, and instructions on the vocabulary test were easy to follow. Additionally, they did not feel tired or boredom during the study. Thus, the pilot study not only examined the instruments, but also suggested the amount of time needed for the vocabulary test, the questionnaire survey, and the interviews respectively.

In addition, with reference to retrievability, which is especially related to the internal validity of qualitative research, the interviews were audio-recorded, and notes were taken during the interviews. Thus, the interview data can be reviewed repeatedly for analysis. It has been noted that the presence of a recorder and note-taking in the

interviews may threat the records' representation of the interviewees' natural behaviors, which is another factor impacting the internal validity of qualitative research (Seliger & Shohamy, 1989). However, the interviewees had been fully informed about what would happen in the interviews, and had given their explicit agreement by signing the Consent Form in advance. Thus, they are supposed to behave as naturally as possible. Hence, the threat of measures ensuring retrievability to the representation of the data collected in the interviews is minimized.

3.7.1.2 External validity

External validity concerns with the generalizability of the findings, while "the base of generalizability is the particular sample selected" (Mackey & Gass, 2005, p. 119). The present study targeted all the students in the study setting who met the participant criteria.

Another factor affecting generalizability is the representation of the participants (Mackey & Gass, 2005). As discussed in section 3.4, the participants were a typical group of International Trade majors in vocational colleges in the province. Hence, they can represent their peers in the province.

3.7.2 Data reliability

Reliability concerns consistency (Mackey & Gass, 2005). Gu and Johnson (1996) tested the internal consistency of the variables in the questionnaire they developed after data collection in the main study. As the questionnaire was adapted in the present study, a new procedure was created and had to be tested for quality (Seliger & Shohamy, 1989). To address the reliability of the questionnaire survey, following Gu and Johnson, item analysis (Item-Total statistics and Inter-Item correlation) was conducted for the internal consistency of the variables based on the students' responses to the questionnaire.

According to the result of the analysis, items contributing less to their respective scale were removed, so were items that had low correlations with other items in the same scale. Moreover, constructs that correlated highly with each other were combined. In

addition, Gu and Johnson's (1996) study is the only one that tested the internal consistency of the variables in the questionnaire. It showed the reliability (Cronbach's Alpha) of the constructs ranged between 0.45 and 0.81. With reference to Gu and Johnson's results of the internal consistency analysis, in the present study, a construct was deleted if its Cronbach's Alpha was lower than 0.45.

As a result, besides removal of the weak items in each construct, among the items and constructs adopted from Gu and Johnson's study (1996), two cognitive strategy variables, visual encoding and semantic encoding, were deleted; six other cognitive strategy variables were combined into three: "dictionary look up strategies" and "extended dictionary strategies" were combined into "extended dictionary"; "guessing by using wider context" and "guessing by using immediate context" into "guessing via context"; and "oral repetition" and "visual repetition" into "repetition" (See Appendix J for the definitions).

Likewise, among the items and constructs initiated in the present study, "inquiry" and "cooperation" were combined into "communication/cooperation", and "self-encouragement" and "mood control" were combined into "emotion adjustment". Though the correlation between the items in "importance" is weak and the Alpha of this construct is low, it is retained and the label changed to "importance for tests" with item 10 as its only constitution, for the idea expressed in it was recurrent in interviews with the questionnaire participants—vocabulary learning is important for passing tests (See Appendix L), thus it is considered of conceptual significance.

Like what happened in Gu and Johnson's (1996) study, the intention to administrate the revised questionnaire was discarded in the present study due to the time limitation and logistical problems. Therefore, the data collected by the original questionnaire were analyzed in the revised framework (See Appendix K for the table of dimension, category, and items in the questionnaire).

To address the reliability of the analysis of the interview data, intra-rater reliability was examined. The researcher recoded half of the transcripts one month after the initial

categorization of the interviewees' responses (Seliger & Shohamy, 1989). This was to examine the researcher's consistency in coding the same data by comparing the degree of agreement between the analyses at different time (Mackey & Gass, 2005). The first and second analysis reached an agreement level of 98.6%. The high agreement indicates the reliability of the analysis. The data were recoded where there were disagreements (Mackey & Gass, 2005).

3.8 Data analysis

As mentioned in section 3.3 about the mixed-method design, quantitative and qualitative instruments are used discretely in data collection, and data collected from them are analyzed discretely and separately before the syntheses of the results at the stage of drawing inference. Therefore, in order to answer the research questions restated in section 3.2, three steps were taken in data analysis: quantitative data analysis, qualitative data analysis and syntheses of quantitative and qualitative data.

3.8.1 Quantitative data analysis

Quantitative data were obtained from the questionnaire and the vocabulary size test. Unique code was given to each pair of questionnaire and test paper to identify the individual participant. The data in the questionnaire were "code framed", namely were categorized into "themes". Numerical score on a continuum (Likert scale) were used to quantify the pre-determined answers (See section 3.5.3—Questionnaire on VLB and VLS).

After coding, the data were entered into SPSS, version 17, for analysis. Descriptive analysis was adopted for the VLB and VLS pattern among the participants in answering research question 1— What vocabulary learning beliefs (VLB) and vocabulary learning strategies (VLS) do English L2 learners in vocational colleges in China have?

Correlation analysis was adopted for the interrelationship between VLB, VLS, vocabulary size and general English proficiency in answering research question 3 — What is the interrelationship between VLB, VLS, and learning outcomes?

Calculating percentage and correlation coefficients are two statistical procedures often used to calculate the effectiveness of vocabulary strategies (O'Mally & Chamot, 1990). Appling different statistical procedures to the same set of data may lead to different results (Hatch & Lazaraton, 1991). Though Erten and Williams's (2008) study revealed descriptive percentage was more realistic than correlation coefficients, as the authors themselves acknowledged, the participants' different L1 backgrounds and recording as the data collection method rather than questionnaire are factors that may have affected the findings. What is more important is the small sample size in Erten and Williams's study. With only 20 participants, the sample size is too small for statistical significance of the result in applied language studies (Dornyei, 2007). In addition, the original study by Gu and Johnson (1996) adopted correlation analysis for the correlation between the variables. To avoid incomparability between the results that may raise from different data analysis methods (Erten & Williams, 2008), following Gu and Johnson, correlation analysis was also adopted in the present study.

3.8.2 Qualitative data analysis

The qualitative data were obtained from the interviews. Students' interview data were used for triangulation in answering research question 1 and research question 3, while teachers' interview data are use for triangulation in answering research question 2: To what extent are teachers' perceptions of students' VLS the same as those reported by the students themselves?

The interviews were transcribed from the recording by the researcher. Subsequently, the transcripts were presented in the form of matrices to record the categories with references to the key questions. Then, content analysis was adopted. It is a way of studying and analyzing written communications in a systematic manner(Kerlinger, 1973), which involves comparing, contrasting and categorizing data (Gall, Gall & Borg, 2007). The data were coded under distinct categories developed with reference to the categories and variables in the questionnaire. Simultaneously, unexpected themes generated new categories. In addition, the frequency of the occurrence of the categories was counted to reflect their significance (Gall et al., 2005).

3.8.3 Synthesizing quantitative and qualitative data

In the present study, the mixed-method design was applied for triangulation. It was achieved when drawing inference after discrete implementation of quantitative and qualitative instruments and discrete analyses of both quantitative and qualitative data.

To address research question 1 for the profiles of VLB and VLS among the participants, results of descriptive analysis of questionnaire data was compared with results of context analysis of students' interview data. Thus, the profiles of VLB and VLS are revealed, and research question 1 is answered.

To address research question 2 for the similarities between students' self-reports and their English teachers' observation, the results of research question 1 were compared with the results of content analysis of T's interview data. The results of the comparison can answer research question 2.

To address research question 3 for the interrelationship between VLB, VLS and learning outcomes, results of correlation analysis of questionnaire data and test data were compared with results of context analysis of students' interview data. Thus, research question 3 is answered.

3.9 Summary

This chapter has described and explained the mixed-method design in the present study. The study was conducted among sophomores majoring in International Trade in the vocational college specializing in commerce in Sichuan province as they are considered the best representatives of International Trade majors in higher vocational education in the province. Both quantitative and qualitative instruments were used in data collection. Quantitative data were collected via a global vocabulary size test, an established English proficiency test system and a questionnaire on VLB and VLS. Description of the tests and the questionnaire were detailed in this chapter, with a focus on their appropriateness for the present study. Qualitative data were collected via semi-structured interviews. Data collection and analysis procedures were presented in detail as well, with a focus on

how they help to strengthen the quality of the present study. The next chapter will report and discuss the results generated by the methods discussed in this chapter.

Chapter 4 RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents results of the questionnaire survey and interviews together with discussions on the results. Relevant previous studies are drawn on in the discussions. This chapter first focuses on the VLB (section 4.2.1) and VLS (section 4.2.2) that the students hold, then compares the VLS pattern reported by the students with their teacher's observations (section 4.3). Finally, it maps out the patterns of correlation between VLB, VLS, and learning outcomes (section 4.4).

To address research question 1 which looks at the profiles of VLB and VLS, a vocabulary learning questionnaire was adapted from Gu and Johnson (1996). After piloting, the questionnaire was administered among the second-year International Trade majors at Sichuan Business Vocational College. Then, 20% of the questionnaire participants were chosen randomly and interviewed for the consistency in their responses to the questions on their VLB and VLS. The interviews also aimed at exploring any VLB/VLS that the students had but which were not covered in the questionnaire. Profiles revealed in descriptive statistics of VLB and VLS variables were triangulated by the results of content analysis with the interview data. Thus, research question 1 is answered in section 4.2.1 and 4.2.2.

To address research question 2 which focuses on the extent of similarity between the VLS pattern reported by the students and the one perceived by their teachers, their English teachers were interviewed for their observations of the students' VLS use by their English teachers. By comparing the VLS pattern reported by the students and the ones observed by their English teacher, research question 2 is answered in section 4.3.

To address research question 3 which investigates the interrelationships between VLB, VLS and learning outcomes, correlation analysis is conducted on the questionnaire data. Correlation patterns revealed in the correlation analysis were triangulated by the results of content analysis with interview data (both with students and teachers). Thus, research

question 3 is answered in section 4.4.

It is worthwhile to mention that apart from Gu and Johnson's (1996) original study and the present study, all the replication studies of Gu and Johnson's did not check the internal consistency of the variables in the questionnaires. Hence, the possible problem of reliability of the results in such studies should be borne in mind when drawing on them for discussions. In addition, recruiting the participants' current English teachers to issue, supervise and collect the questionnaires was a common practice in the studies in China (including Gu and Johnson's original study) which is not the case in the present study. As the students' current English teachers have power over the students, such a data collection procedure takes the risk of generating false data. Therefore, the results of these previous questionnaire surveys should be handled with care.

4.2 Focusing on the profiles of VLB and VLS

Research question 1 is to capture the profiles of the participants' VLB and VLS. Hence, there are two foci in addressing this research question—profiles of VLB held by the participants and their VLS pattern in use. As beliefs govern strategies in use (Ellis, 2008b), VLB profile (section 4.2.1) will be presented and discussed before VLS pattern (section 4.2.2). The profiles of VLB and VLS reported here are primarily obtained from descriptive analysis of the questionnaire data, and triangulated by results of content analysis of interview data. This section will end with a summary of the profiles of the students' VLB and VLS based on their self reports (section 4.2.3).

4.2.1 Profiles of VLB

In the present study, beliefs are classified into motivational beliefs and metacognitive beliefs. The former refers to learners' beliefs in their ability in vocabulary learning, the importance of vocabulary learning for tests, and the learners' interest in vocabulary learning. The latter refers to learners' opinions on three kinds of VLS—learning vocabulary through memorization, acquisition and intentional study and use. As previous research suggests vocabulary learning motivations affect vocabulary learning

strategy (Fu[8], 2003), profile of motivational VLB will be presented and discussed before that of metacognitive VLB.

4.2.1.1 The profile of Motivational VLB

Results

Table 5 below summarizes descriptive statistics on the motivational VLB in the questionnaire survey.

Table 5 Descriptive statistics of motivational VLB

	N	Minimum	Maximum	Mean	Std. Deviation
importance for tests	102	1.00	5.00	3.9608	.87791
self-efficacy	102	1.67	5.00	3.2353	.87199
interest	102	1.00	5.00	3.0686	.99015
Valid N (listwise)	102				

A major observation of Table 5 is that the three motivational beliefs were ranked in a descending order: the importance of vocabulary learning for tests (importance for tests, M=3.96), the learners' ability in vocabulary learning (self-efficacy, M=3.24), and interest in vocabulary learning (interest, M=3.07). Moreover, the mean of the importance of vocabulary learning for tests was notably higher than those of the other two VLB, indicating it was a predominant belief. In addition, the students showed wide divergence on motivational VLB, with that on interest in vocabulary learning the widest (SD=.99).

Of the 102 questionnaire and test participants, over 20% (22) students at different English levels were chosen randomly from their proficiency groups and were interviewed to check the consistency in their responses. Appendix L presents their self report details relevant to their motivational VLB with the students' own words.

As Appendix L indicates, the interview data provided some evidence for the profile of motivational VLB revealed in the questionnaire survey. Half of the interviewees related vocabulary learning with tests when answering why vocabulary learning was important to them. "Important for tests" was a recurrent answer. Such responses

supported the predominant belief in the importance of vocabulary learning for tests in questionnaire data. Likewise, the second ranked VLB— the learner's ability in vocabulary learning (self-efficacy) was supported in the interviewees' responses to two questions: "Do you consider yourself an efficient vocabulary learner?", and "Do you think as long as you work hard enough, you can learn English vocabulary well?" Though only 6 out of 22 interviewees considered themselves as efficient vocabulary learners, 14 out of 22 interviewees thought as long as they worked hard enough, they could learn vocabulary well. In addition, the interviewees' feelings about vocabulary learning provided some information on their interest in vocabulary learning. In responding to the question "What is the most common feeling in vocabulary learning?", 11 replied "no feeling" or "calm", 8 felt "bored", "fidgety" or "depressed", while 3 others felt "happy" or "[Learning vocabulary is] pleasant." Such feelings suggested the different levels of the interviewees' interest in vocabulary learning, with those feeling happy being more interested in vocabulary learning. Hence, the low rating of interest in vocabulary learning and the students' wide divergence on this VLB found some support in the interviews. As a result, like the questionnaire data, the interview data also showed the students believed in the importance of vocabulary learning for tests, their ability in vocabulary learning, and interest in vocabulary learning in a descending order.

Overall, both the questionnaire and interview data indicated that the present participants predominantly believed that their vocabulary learning was motivated by its importance in passing tests. They also showed confidence in their ability to learn vocabulary. To compare, their opinion on the interest in vocabulary learning (interest) was still on the positive side, but the positive tendency was very weak, near neutral.

Discussion

Though there is no literature available addressing motivational beliefs in vocabulary learning (motivational VLB), such a motivational VLB profile conformed to the profiles of vocabulary learning motivation (VLM) or L2 learning motivation (LLM) in previous studies addressing the relationship between VLM/LLM and vocabulary learning strategies (VLS), which were mentioned in Chapter 2 Literature Review. Fu[8]'s (2003)

study in a university in the same province as the present study showed that, among the 11 VLM variables, score motivation －getting high scores in tests and obtaining a diploma or certificate－was the top motivation for vocabulary learning. The participants' opinion on their self-efficacy－the learner's ability to learn vocabulary－ was slightly negative, while their vocabulary learning was least likely to be motivated by inherent interest－ interest in learning vocabulary. Likewise, the highest rating of importance of vocabulary learning for tests and lowest rating of interest in vocabulary learning in the present study also echoed some of the findings of Marttinen[9]'s (2008) qualitative study on the relationship between LLM and VLS. Content analysis of the open ended questionnaires responded to by over 50 Finnish high school students revealed instrumental motivation, which contained performance on tests, was the major trend in LLM. However, the motivation by interest in English learning was identified in one participant's written responses indicating "she likes languages" (p.60).

It is also noted, although interest in vocabulary learning was ranked the lowest among motivational VLB in the present study, its mean was above 3. As a 5-point Likert scale was adopted in the questionnaire in the present study, a mean above 3 indicated participants tended to agree with the statement. Hence, the results of all the motivational beliefs were positive, with the importance of vocabulary learning for tests more so (M=3.96) than the students' belief in their ability (M=3.24) and their interest in vocabulary learning (M=3.07). Such a motivational VLB profile was similar to that of motivational LLB revealed in Yang's (1999) study among Taiwan university students. In Yang's study, 90% of the participants believed in the importance and usefulness of speaking English, nearly 80% participants had a strong sense of self-efficacy, and 68% participants enjoyed practicing English with Americans they met. As both Yang's study and the present study focused on Chinese learners of English, and context plays a role in beliefs (Barcelos, 2003), the difference in the popularity degree of beliefs found in the two studies might be related to differences in time (10 years), in place (Taiwan vs. Mainland China), in types of participants (university students vs. vocational college students), and difference in learning task (English learning vs. English vocabulary learning).

In short, though lacking in literature in motivational VLB to draw on, the profile revealed in the present study seemed to conform to those of VLM/LLM/motivational LLB revealed in previous studies. However, as beliefs are contextual specific (Barcelos, 2003), further research into motivational VLB is needed for clarification of findings in this initial piece of work.

4.2.1.2 The profile of metacognitive VLB

Results

Table 6 below present the descriptive statistics of metacognitive VLB.

Table 6 Descriptive statistics of metacognitive VLB

	N	Minimum	Maximum	Mean	Std. Deviation
intentional study and use	102	1.67	5.00	3.7810	.70749
acquisition	102	1.33	5.00	3.2778	.67663
memorization	102	1.00	4.75	2.4167	.70477
Valid N (listwise)	102				

Table 6 demonstrates, among the metacognitive beliefs, the students predominantly held the view that vocabulary should be learnt deliberately/intentionally, and should be put to use (intentional study and use, M=3.78). They also tended to agree that vocabulary can be acquired incidentally (acquisition, M=3.28). In contrast, they tended to disagree with the belief that vocabulary should be memorized (memorization, M=2.42). It is also noted the standard deviation (SD) of every motivational VLB was above .87, while that of every metacognitive VLB was almost identical to .70. Hence, the divergence on the students' opinions on metacognitive VLB was smaller than that on motivational VLB.

Appendix M presents the students' self report details relevant to their metacognitive VLB with the students' own words. It shows that the questionnaire participants' strong belief in "vocabulary should be learned by deliberate/intentional study and should be put to use" (intentional study and use) was supported by the responses to the interview question: "What is the most efficient way of learning vocabulary?" Thirteen out of 22

interviewees answered: “Learn it [vocabulary] in its context”, which is related to the usage of words. Four of them further clearly proposed: “use it.” Student interviewees S17 and S19 even considered it no use to memorize the words separately. These answers also lent support to the students’ tendency to disagree that “vocabulary should be memorized” (memorization) revealed in the questionnaire survey.

It is noted that 6 interviewees considered memorization was best for their vocabulary learning, while only 3 interviewees (S2, S11, and S19) considered it would be best to learn vocabulary by acquiring it in communications or entertainment like watching TV or movies. However, none of the 22 interviewees expressed ideas against the belief that vocabulary can be acquired incidentally. Hence, this may lend some support to the students’ stronger belief that vocabulary can be acquired than that vocabulary should be memorized, which was revealed in the questionnaire data. Therefore, the profile of metacognitive VLB revealed in questionnaire survey found some support in interviews.

Discussion

It seems, among the metacognitive VLB, the present participants predominantly believed that vocabulary should be learnt deliberately/intentionally and should be put to use. They also tended to believe vocabulary can be acquired incidentally in context. In contrast, they tend to disagree that vocabulary should be memorized. Such a profile confirmed the ones revealed in Gu and Johnson’ (1996) study and in Zhang[1]’s (2005) study. In comparison, it differed somewhat from the profiles revealed in Subasi[3]’s (2007) and Yang[2]’s (2006) studies. In the latter two studies, participants predominantly believed vocabulary can be acquired incidentally in the context rather than vocabulary should be learnt deliberately/intentionally and should be put to use. In addition, the metacognitive VLB profile in the present study also differed from Wu[15]’s (2006) findings. Wu[15] found her participants agreed to all three metacognitive beliefs, but the degree of agreement was as follows: belief in intentional study and use, belief in acquisition, and belief in memorization, in a descending order. Hence, in all these studies, participants all held the least belief that vocabulary should be memorized. Such a tendency showed in the questionnaire data was supported by the interview data in the

present study. As Gu and Johnson investigated university non-English majors in China, Zhang[1], Yang[2], Wu[15] and the present study focused on vocational college students in China, and Subasi[3] investigated English majors in a Turkey university, it is possible that Asian EFL learners generally tend to be negative to the belief that vocabulary should be memorized. However, only three of these studies (Subasi[3]'s, Yang[2]'s and the present study) checked and confirmed the consistency in the participants' responses, more research with triangulated methods is needed for confirmation.

4.2.2 Pattern of VLS

Results

Table 7 below summarizes descriptive statistics of the VLS used by the students.

Table 7 Descriptive statistics of individual VLS

	N	Minimum	Maximum	Mean	Std. Deviation
extend dictionary strategies	102	1.75	5.00	3.4314	.67867
dictionary strategies for comprehension	102	1.33	5.00	3.3268	.76930
contextual guessing	102	1.00	5.00	3.2770	.71745
usage oriented notetaking	102	1.33	4.67	3.2320	.72635
selective attention	102	1.75	4.75	3.2255	.66704
repetition	102	1.00	5.00	3.1912	.86758
emotion adjustment	102	1.50	5.00	3.1520	.83781
auditory encoding	102	1.67	4.67	3.1471	.70136
association	102	1.50	5.00	3.1127	.82925
meaning oriented notetaking	102	1.00	5.00	3.0490	.88023
imagery	102	1.00	5.00	3.0441	.93370
context encoding	102	1.00	4.67	3.0392	.73912
activation	102	1.33	4.67	2.9837	.77272
Self-initiation	102	1.75	4.50	2.9608	.63980
wordstructure	102	1.67	4.33	2.9183	.69643
wordlist	102	1.00	4.50	2.7255	.94300
comunication & cooperation	102	1.00	4.67	2.5098	.80388
Valid N (listwise)	102				

Table 7 indicates extended dictionary strategies (See Appendix J for definition) was the students' favorite VLS and the difference in their use of it was small (M=3.43, SD=.68). The other top five VLS were dictionary strategies for comprehension (M=3.33, SD=.77), contextual guessing (M=3.28, SD=.72), usage oriented note taking (M=3.23, SD=.73), and selective attention (M=3.23, SD=.67). By comparison, communication/cooperation was used the least (M=2.51, SD=.80). The bottom five VLS also included wordlists (M=2.73, SD=.94), word structure (M=2.92, SD=.70), selfinitiation (M=2.96, SD=.64) and activation (M=2.98, SD=.77) (See Appendix J for definition of each VLS).

Interviews with the students also generated some information on their VLS use. Appendix N presents the students' self report details relevant to their VLS.

Interview data on top survey strategies

The questionnaire survey in the present study revealed the students used dictionary and guessing strategies most frequently. This was supported by the interviewees' responses to the question "What do you do when you encounter a new word?" (See Appendix N). The recurrent answers were "First guess. Then consult dictionary" or visa versa. Likewise, the high use of selective attention found in the survey was supported by the interviewees' answers to the question "Do you do extra work in vocabulary learning besides the teachers' assignments?" Among the 12 interviewees who answered "yes", 9 studied CET wordlists or something interesting/important to them (See Appendix N). Besides, the interviewees' responses to the question "What do you note down?" also supported the high use of selective attention revealed in questionnaire data. As indicated in Appendix N, the 17 students who took vocabulary notes were all selective in what aspects of word knowledge to note down.

However, the interviewees' answer to the question "What do you note down?"(Asked only to those who reported that they took vocabulary notes) seemed not to support the high use of usage oriented note-taking strategies revealed in the questionnaire data (See Appendix N). The recurrent themes in the 17 interviewees' responses were meaning,

pronunciation, part of speech and spelling. In contrast, only 4 reported noting down usage of the word, and 2 others reported noting down collocation, which is related to the usage of words. However, in the questionnaire, another aspect of usage oriented note-taking strategy—noting down useful words/expressions—was also addressed. The 17 interviewees who reported taking vocabulary notes were evidence for the high use of this aspect of usage oriented note-taking strategy. Hence, interview data on this VLS generally conformed to the questionnaire finding.

Interview data on bottom survey strategies

In the questionnaires, the students reported using communication/cooperation strategies the least, and the difference in their use of it was relatively small (M=2.51, SD=.80). This was supported by the predominant answer to "Is vocabulary learning more a kind of self study or communication/cooperation with others?" (See Appendix N). A typical answer was "Self study." However, the interview data seemed to somewhat undermine a bit the rank of wordlists as the second least used VLS (M=2.73, SD=.94) in the questionnaire responses (See Appendix N). On the one hand, only 5 out of 22 interviewees reported reviewing vocabulary notes when answering "What do you do after you find out the meaning of a new word?", which conformed to the low use of wordlists revealed in survey. On the other hand, among the 12 interviewees who reported they did extra work in vocabulary learning besides completion of their teachers' assignments, 5 reported they use the CET wordlists to do extra work. This seemed to disagree with the relevant survey finding and will be discussed in detail in section 5.4.

Discussion

Overall, a look at the use of individual VLS as reported in questionnaire indicates the participants dwelled on both dictionary strategies, i.e., extended dictionary strategies and dictionary strategies for comprehension. They also reported frequent use of contextual guessing, usage oriented note-taking, and selective attention. Such a top VLS pattern was consistent to those found in previous studies (Gu & Johnson, 1996; Subasi[3],

2007; Yang[2], 2006; Zhang[1], 2005). In contrast, the present participants used five other VLSs less often: activation, self-initiation, word structure, wordlists, and communication/cooperation. They formed the bottom VLS, in a descending order. The participants' low use of activation was in line with Gu and Johnson' (1996) and Zhang[1]'s (2005) findings, but contrasted findings in Subasi[3]'s (2007) study, and Yang[2]'s (2006) study, where activation was in the top five VLSs. In comparison, the low use of communication/cooperation VLS confirmed findings in Yang[2]'s, in Zhang[1]'s and in Lou[14]'s (2006) studies, where social VLS was also investigated among vocational college student participants. As interview data in the present study support the use of communication/cooperation VLS revealed in questionnaire data and Yang[2] reported that the interview data generally supported the questionnaire data in her study, it may be possible that vocational college students in China favor social VLS least. However, as only the present study and Yang[2]'s study checked the consistency in the participants' responses, more studies with triangulated methods are needed for confirmation of this pattern.

4.2.3 Summary

To sum up, the present participants were on the positive side with all three motivational VLBs. They believed in the importance of learning vocabulary for tests, their ability in vocabulary learning and interest in vocabulary learning in a descending order. Though lacking in literature in motivational VLB to draw on, such a profile conformed to the profiles of VLM/LLM/motivational LLM in literature (Fu[8], 2003; Marttinen[9], 2008; Yang, 1999).

In comparison, the present participants were not positive with all three metacognitive VLBs. They predominantly believed that vocabulary should be learnt deliberately/intentionally, and should be put to use. They also tended to agree that vocabulary can be acquired. In contrast, they tended to disagree that vocabulary should be memorized.

Such a metacognitive VLB pattern was in line with those in some previous studies (Gu

& Johnson, 1996; Zhang[1], 2005). In fact, their least belief that vocabulary should be memorized confirmed findings in literature (Gu & Johnson, 1996; Subasi[3], 2007; Wu[15], 2006; Yang[2], 2006; Zhang[1], 2005). Moreover, interview data in the present study supported this disbelief revealed in questionnaires. This may suggest that Asian EFL learner tend to disagree with the belief that vocabulary should be learned by memorization. However, only three of these studies checked the consistency in the participants responses, more studies with triangulated methods are needed for clarification.

A look at the participants' VLS use reported in the questionnaires shows these students frequently used extended dictionary strategies, dictionary strategies for comprehension, contextual guessing, usage oriented note-taking and selective attention. Such a top VLS pattern was in line with findings in previous studies (Gu & Johnson, 1996; Subasi[3], 2007; Yang[2], 2006; Zhang[1], 2005).

In contrast, activation, self-initiation, word structure, wordlists and communication/cooperation were the bottom VLS. The present participants' low use of activation conformed to Gu and Johnson's (1996) and Zhang[1]'s (2005) studies, while contrasting with the findings in Subasi[3]'s (2007) and Yang[2]'s (2006) studies, where activation was one of the top five VLSs. To compare, the present participants' use of communication/cooperation VLS was in line with findings of all of the other three studies that included social VLS in their investigation into the vocational college students in China （Wu[15], 2006; Yang[2], 2006; Zhang[1], 2005). Moreover, this finding was supported by interview data in the present study. Hence, it is possible that the vocational college students in China use social VLS the least. Nonetheless, with only two studies that checked the consistency in the participants' responses, more studies with triangulated methods are needed before drawing a conclusion. In contrast, interview data in the present study did not support the low use of wordlists revealed in the questionnaire survey, which will be discussed further in section 5.4.

4.3 Teacher observations

4.3.1 Introduction

To address research question 2 (to what extent are teachers' perceptions of students' VLS the same as those reported by the students themselves), one of the student participants' English teachers (T) was interviewed for her observations of the students' VLS (See section 3.6.1 in Chapter 3 Methodology). This section reports and discusses the similarities and differences found between the students' reports and their teacher' reports. In doing so, the teacher's own words will be quoted. In addition, the elaboration of this teacher (T) who was audio-recorded did involve some information about the students' VLB. This will be reported first. Hence, the following sections consist of T's observation of students' VLB (section 4.3.2), her observation of students' VLS (section 4.3.3), and a summary of the similarities and differences between the students' self report and T's observation (section 4.3.4).

4.3.2 Teacher's observations of students' VLB

The students' VLB was not explored in the interviews with the teachers. However, T's elaboration in answering the interview question: "Do you know how important vocabulary learning is for your Chinese students? Would you please tell me some instances that reveal the points you make?" provided some information on the students' VLB (See Appendix O). The details of T's responses are as follows:

> R: Do you know how important vocabulary learning is for your Chinese students? Would you please tell me some instances that reveal the points you make?
> T: Well, I think they think it very important... It is a general practice, when the test is drawing near, I will leave some time in the class for the students to review for the test themselves. And every time, they students will memorize or read vocabulary.

According to T's observations, the students connected vocabulary learning directly with tests. This phenomenon can lend some support to the students' strong belief that vocabulary learning is important for passing tests, which was revealed in the students

self reports.

Reports on VLB from classroom observations, like T's elaboration above, are not available in literature. However, classroom observation has been adopted in the recent contextual approach in LLB research (Barcelos, 2003). According to this approach, as beliefs are context-specific, they should be investigated within the context of learning behaviors. Classroom observation helps us to "understand the complexities of the contexts and of students' beliefs and actions within those specific contexts…" (Barcelos, 2003, p.24-25). T's observations in the present study revealed the students' learning behaviors, i.e., focusing on vocabulary learning in self study time in class, is related to the specific context, i.e., preparation for tests. Hence, it can be inferred that the students believe vocabulary learning is important or useful for tests. As a result, the students' predominant motivational VLB—vocabulary learning is important for passing tests—received some support from T's observations.

Though self reports, especially questionnaires, dominate in studies related to VLB (Gu & Johnson, 1996; Subasi[3], 2007; Zhang[1], 2005), T's observations in the present study does suggest that in the research of VLB, classroom observation may be helpful in triangulating self reports, and advancing our understanding of learners' beliefs.

4.3.3 Teacher's observations of students' VLS

T's observations also generated some information on the students' self reports on VLS (See Appendix O), which is presented as follows:

R: What ways do they appear to use often in vocabulary learning? Would you please tell me some instances that reveal the points you make?
T: Rote memorization.
R: Memorising dictionary, wordlist, or something else?
T: Wordlists.
R: CET vocabulary list?
T: Yes
R: For what kind of students? How about students of high proficiency?
T: The same. Most students do the same ... Most students adopt rote memorization. Use the CET vocabulary lists, and the vocabulary lists in the text book. Only a few, of different levels, will consult dictionary.

As indicated in T's responses above, she observed frequent use of wordlists in vocabulary learning among the participants. This contradicted the students' self report on the questionnaire, i.e., wordlists were used almost the least often. Simultaneously, she observed low use of dictionary strategies. This contradicted the students' self reports: on the questionnaire, the two dictionary strategies (extended dictionary strategies and dictionary strategies for comprehension) were the top two VLSs (See Table 7) and in the interviews with the students, "consulting a dictionary" was a recurrent answer (See Appendix N).

In the research of VLS, questionaries, interviews and think-aloud tasks have been used for data collection (Fan, 2003; Lawson & Hogben, 1996; Moir & Nation, 2002). However, reports on observation by others (eg. teachers or researchers) are not available in VLS literature. Nonetheless, the results of the comparison between T's observation and the students' self reports in the present study can be compared with some similar previous research. In exploration of lexical inferencing, Qian (2004) conducted a questionnaire survey of 61 Hong Kong students. Then, a sub-sample of 12 students participated in a reading task. Subsequently, interviews were conducted to explore the students' lexical referencing in the reading task. Interview results demonstrated some significant differences between the students' self reports and their actual VLS use revealed in the interviews. Among the six strategies investigated, syntagmatic cues and morphological cues were the fourth and third ranked VLS respectively according to the self reported questionnaires of the sub-sample. These two VLS ascended to the top and second top VLS respectively in actual use. In contrast, global meaning and world knowledge, the top two VLS in the students' self reported questionnaires, descended to the fifth and third ranked VLS in actual use. Hence, the students' "actual practices may deviate significantly from what they perceived they often do" (Qian, 2004, p.167). In the present study, the comparison between T's observations and the students' self reports seemed to confirm Qian's findings.

However, in both studies, students were asked to report on their usual VLS use. Yet, in Qian's (2004) study, the interviews exploring actual VLS use explored only the

participants' VLS use in a specific task. This raises the question: to what extent does the task represent the students' daily vocabulary learning? Obviously, the answer to the question affects the extent that data from the two instruments are comparable, which in turn, will affect the results of the study. Likewise, in the present study, though T could observe the students for a long time (over an academic year), she could only do so in English classes. Thus, the proportion of the students' vocabulary learning that took place in class would affect the extent that data from the students' self reports and teacher observations were comparable. This would in turn, affect the results of the study as well. Hence, although both Qian's and the present study suggested that the students' self reports may not reflect the reality, to what extent their self reports were disproved remains unknown. To solve the problem, further studies with more carefully designed triangulation methods are necessary.

4.3.4 Summary

Overall, students' strong belief in the importance of vocabulary learning for passing tests received some support from T's observation of their learning actions. Though there is a lack of literature on the observation of VLB to draw on, classroom observation has been used in LLB research. In the present study, the students' learning behaviors observed by T shed some light on their VLB. Hence, classroom observation can be a prospective method for data collection in VLB studies.

However, T's observations also provided evidence against the students' self reports. According to her, most students did use wordlists often, while seldom using dictionaries. Both contradicted the students' self-reports. This seemed to confirm Qian's (2004) findings that the students' self reports may deviate significantly from what they actually do. Nonetheless, as the reading task in Qian's study and vocabulary learning in class in the present study (the triangulation instruments for students' self reports in these two studies respectively) did not equal the students' entire vocabulary learning, to what extent the students' self reports were reliable is still unknown. To solve the problem, studies with more carefully designed triangulation methods are required.

4.4 Interrelationship between VLB, VLS, and learning outcomes

4.4.1 Introduction

To explore research question 3 (the interrelationship between VLB, VLS, and learning outcomes), correlation analysis was conducted between VLB and learning outcomes, between VLS and learning outcomes, and between VLB and VLS as well. Learning outcomes in the present study refer to vocabulary proficiency and general English proficiency. The former was measured by a vocabulary size test, and the latter was measured by the standard general English proficiency tests—CET2 and CET3. CET3 represents a higher level of general proficiency.

Thus, there are three foci in the following sections:

1. The correlation between VLB and learning outcomes.
2. The correlation between VLS and learning outcomes.
3. the correlation between VLB and VLS.

As beliefs govern strategies (Ellis, 2008b), results of the correlation analysis between VLB and learning outcomes will be presented and discussed (section 4.4.2) before those between VLS and learning outcomes (section 4.4.3). Similarly, if beliefs affect learning outcomes, they do so via learning strategies (Ellis, 2008b), and thus, the correlation between VLB and VLS can facilitate the understanding of the correlation between VLB and learning outcomes. Therefore, the correlation between VLB and VLS will be reported and discussed subsequently (section 4.4.4).

It is worthwhile to mention that from the 102 participants, there were only 38 students whose general English proficiency was at the CET3 level. As in applied linguistics research, 50 is the suggested minimum sample size for statistical significance (Dornyei, 2007), reports and discussions on correlations relevant to general proficiency are based on general proficiency at the CET2 level. For the same reason, findings in by Subasi[3]'s (2007) study among 45 students are used in the following sections for illustration and supplementation. Since it is difficult for the small sample size to support statistically the

significant correlations revealed in Subasi[3]'s study, correlation patterns in her study should be handled with care. On the one hand, findings in Subasi[3]'s study that conformed to other studies help to support the existence of such correlation patterns. On the other hand, it is difficult for any unique correlation pattern revealed in her study to be self-supported.

As the reports and discussions are primarily based on the analysis of questionnaire data and triangulated with interview data where possible, it is also important to indicate that among the 22 interviewees, 14 were of general English proficiency at the CET2 level, ten of them scored between 60 to 69, 2 between 70 to 79, 1 under 60, and another above 79. With too few participants in the score range under 60 and above 69, it is difficult for the analysis of interview data to cope with the influence of random factor. Thus, regarding the correlations relevant to general proficiency at the CET2 level, the illustration of these interviewees would be insignificant. In comparison, there were 10 interviewees who passed the vocabulary test, while 12 failed. They represent the students of higher and lower vocabulary proficiency respectively. Hence, the interviewees represent an approximately balanced proportion of their peers with different vocabulary proficiency, but not so with general proficiency. Therefore, only interview details relevant to correlations with vocabulary proficiency is reported in the following sections to triangulate findings in the questionnaire survey. In addition, to minimize the influence of random factors, referring to the sample size of 22 participants, only those VLB/VLS identified by at least 5 interviewees are reported.

4.4.2 The correlation between VLB and learning outcomes

In the present study, beliefs are classified into motivational beliefs and metacognitive beliefs, and the latter focus on opinions on strategies. Because vocabulary learning motivations affect vocabulary learning strategy (Fu[8], 2003), correlation between motivational VLB and learning outcomes will be presented and discussed (section 4.4.2.1) before that between metacognitive VLB and learning outcome (section 4.4.2.2).

4.4.2.1 The correlation between motivational VLB and learning outcomes

Results

Table 8 presents the results of correlation analysis between motivational VLB and learning outcomes.

Table 8 Correlations between motivational VLB and learning outcomes

			VOCABSIZE	CET2
Spearman's rho	self-efficacy	Correlation Coefficient	.266**	.039
		N	102	58
	importance for tests	Correlation Coefficient	.123	-.064
		N	102	58
	interest	Correlation Coefficient	.217*	.127
		N	102	58

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8 shows, among the three motivational beliefs, the importance of vocabulary learning for tests (importance for tests) was not significantly correlated with either vocabulary proficiency (VOCABSIZE) or general English proficiency (CET2). In contrast, both learners' belief in their ability in vocabulary learning (self-efficacy, $r=.266$, $p<.01$) and their interest in vocabulary learning (interest, $r=.217$, $p<.05$) were significantly and positively correlated with vocabulary proficiency, but not general English proficiency.

Interviews with the sub-sample of 22 student participants provided some information on the correlation patterns revealed in the survey. As discussed in the introduction (section 4.4.1), only the interviewees' reports about the correlations with vocabulary proficiency are reported here and in the following sections.

Interview data on the relationship between the importance for tests and vocabulary proficiency

The interviewees' belief in the importance of vocabulary learning for tests was

addressed by the question “Why do you think vocabulary learning is important?” (See Appendix L). Table 9 summarizes the vocabulary proficiency information of the interviewees holding this belief.

Table 9 Interview data on importance for tests and vocabulary proficiency

	The importance of vocabulary learning for tests
Higher proficiency interviewees (10)	6
Lower proficiency interviewees (12)	5
Total	11

Table 9 indicates the insignificant correlation between the importance of vocabulary learning for tests and vocabulary proficiency was supported in the interviews. Of the 11 interviewees who considered vocabulary learning important for passing tests, 6 passed the vocabulary test, while 5 failed in the test. Hence, students of both higher and lower vocabulary proficiency of approximately equal proportion held this belief. In addition, this can be inferred from T’s observations of the students’ VLS use in class (See Appendix O). According to T, in the self-study time in English classes before tests, the students would always read vocabulary. Hence, studying vocabulary before the tests was a general practice for the students, not limited to a certain kind of students. Such learning behaviors suggested the students in general believe that vocabulary learning is important /useful for passing the tests. As a result, the interview data presented a mixed picture of the relationship between the importance of vocabulary learning for tests and vocabulary proficiency, which conformed to the insignificant correlation between the two variables revealed in the questionnaire survey.

Interview data on the relationship between interest and vocabulary proficiency

The interviewees’ answers to the question: “What’s the most common feeling in vocabulary learning?” (See Appendix L) provided some information about their interest in vocabulary learning. Table 10 summarizes the interview information relevant to the relationship between the students’ interest in vocabulary learning and vocabulary proficiency.

Table 10 Interview data on interest vocabulary proficiency

	Happy	No feeling	Unhappy
Higher proficiency interviewees (10)	3	6	1
Lower proficiency interviewees (12)	0	4	8
Total	3	10	9

Table 10 indicates that the significant and positive correlation between the students' interest in vocabulary learning and vocabulary proficiency found in the survey received some support from the interviews. Among the 10 higher proficiency interviewees, only 1 felt unhappy during vocabulary learning, while 6 had no feeling, and 3 felt happy. The different feelings suggested their different levels of interest in vocabulary learning, with those feeling happy being more interested in vocabulary learning. Hence, the higher proficiency interviewees were more on the positive side of the interest in vocabulary learning. In contrast, the lower proficiency interviewees were notably more on the negative side of this belief. Among the 12 lower proficiency interviewees, 8 (two thirds) felt unhappy about vocabulary learning, and 4 (one third) had no feeling, and none of them felt happy about vocabulary learning. Hence, the significantly positive correlation between the students' interest in vocabulary learning and vocabulary proficiency revealed in the questionnaire survey was found embedded in the interviewees.

Interview data on the relationship between self-efficacy and vocabulary proficiency

However, questions about the interviewees' beliefs in their ability in vocabulary learning (self-efficacy) generated mixed results on the correlation between this VLB and vocabulary proficiency. The present study addressed two aspects of this VLB—the learner's present ability in vocabulary learning and the learner's potential ability in vocabulary learning. The present ability aspect of this VLB (present self-efficacy) was explored with the question: "Do you consider yourself an efficient vocabulary learner?" in the interviews (See Appendix L). Table 11 summarizes the interview information relevant to the relationship between this aspect of the students' belief in their ability and vocabulary proficiency.

Table 11 Interview data on present self-efficacy and vocabulary proficiency

	Positive	Neutral	Negative
Higher proficiency interviewees (10)	5	2	3
Lower proficiency interviewees (12)	1	0	11
Total	6	2	14

Table 11 indicates that the interviewees' responses to the question about their confidence in their present vocabulary learning ability (present self-efficacy) supported the significantly positive correlation between the students' belief in their ability and vocabulary proficiency revealed in the survey. Among the 12 lower proficiency interviewees, 11 were negative about their present ability in vocabulary learning (answering "No"), and only 1was positive about his/her present ability. In contrast, among the 10 higher proficiency interviewees, half were positive about their present ability in vocabulary learning (answering "OK"). Hence, the interview data revealed that, regarding their present vocabulary learning ability, the students with higher vocabulary proficiency were notably more confident than those with lower vocabulary proficiency. This was in line with the significantly positive correlation between the learners' belief in their ability in vocabulary learning and vocabulary proficiency revealed in the questionnaire data. However, the interviewees' responses to the question about their belief in their potential ability in vocabulary learning revealed a mixed correlation. This aspect of the students' belief (potential self-efficacy) in their ability was addressed in the interviews with the question: "Do you think as long as you work hard enough, you can learn English vocabulary well?" (See Appendix L1). Table 12 summarizes the interview data relevant to the relationship between the students' belief in their potential ability and vocabulary proficiency.

Table 12 Interview data on potential self-efficacy and vocabulary proficiency

	Positive	Neutral	Negative
Higher proficiency interviewees (10)	6	4	0
Lower proficiency interviewees (12)	8	1	3
Total	14	5	3

Table 12 shows among the 10 higher proficiency interviewees, 6 were positive about their potential ability in vocabulary learning (answering "Yes"), while 4 were negative about it (answering "No"). In comparison, among the 12 lower proficiency interviewees,

8 were positive about their potential ability in vocabulary learning (answering "Yes"), 3 were neutral about it (answering "Not sure"), and 1 was negative about it (answering "No"). It seemed from the interview data that, regarding their potential vocabulary learning ability, students with higher vocabulary proficiency were not more confident than those with lower vocabulary proficiency, and indeed may be less confident. Hence, the significant and positive correlation between the learners' belief in their ability in vocabulary learning and vocabulary proficiency revealed in the questionnaire data was only supported by the interviewees' self-evaluation of their present vocabulary learning ability, but not that of their potential ability. Such discrepancies in questionnaire data and interview data will be explored in section 5.4.

Discussion

Though there is a lack of research of motivational VLB to draw on, the significant correlations revealed in the present study can be compared with those between motivational LLB/LLM with learning outcomes in literature.

Correlation between self-efficacy and learning outcomes

In exploration of the relationship between learners' variables and speaking and reading proficiency, Ehrman and Oxford (1995) surveyed 855 adult learners of 32 languages from U.S. Department of State. The affective survey in their study involved investigation into LLB. It showed "believing that one can learn languages well (self-efficacy) was significantly correlated with proficiency in both speaking and reading" (p.79). Likewise, focusing on LLB and oral English proficiency of the Chinese learners of English in Hong Kong, Yuen[10] (2002) conducted a questionnaire survey triangulated with interviews. It revealed a significantly positive correlation between the belief in one's special ability for learning a foreign language (self-efficacy) and oral English proficiency. In the present study, the questionnaire survey confirmed such a correlation in the field of vocabulary learning. Though discrepancies were revealed in questionnaire data and interview data, the interview data supported the correlation found in survey in one of the two aspects of the students' belief in their ability in vocabulary

learning: the learners' belief in their present ability in vocabulary learning.

However, the present study also revealed this belief did not have significant correlation with general English proficiency—a correlation not explored in either Ehrman and Oxford's (1995) study or Yuen[10]'s (2003) study. Therefore, correlation analysis between the two kinds of learning outcomes, i.e., vocabulary proficiency and general English proficiency was conducted for the relationship between them. Table 13 presents the results of the correlation analysis.

Table 13 Correlation between vocabulary proficiency and general proficiency

			VOCABSIZE	CET2
Spearman's rho	VOCABSIZE	Correlation Coefficient	1.000	.405**
		N	102	58

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 13 indicates vocabulary proficiency (VOCABSIZE) was positively correlated with general proficiency (CET2), and the significance of the correlation was moderate($r = .405$, $p < .01$). Yet, this motivational VLB—the learners' belief in their ability in vocabulary learning—only significantly correlated with learners' vocabulary proficiency ($r = .266$, $p < .01$), not with their general proficiency. Nonetheless, such a correlation pattern is reasonable—factors that significantly correlate with vocabulary proficiency may not have a similar relationship with general language proficiency, for vocabulary learning is only a part of language learning (Gu & Jonhson, 1996).

Correlation between interest and learning outcomes

Though there is a lack of literature in the correlation between learners' interest in L2 learning and learning outcome, Marttinen[9]'s (2008) qualitative study may shed some light on the significantly positive correlation between the students' interest in vocabulary learning and vocabulary proficiency in the present study. In Marttinen's study, 50 high school students in Finland responded to the open-ended questionnaire addressing both their VLS and LLM. One student reported "Scarce interest diminishes [motivation]" (p.59), and his English proficiency was at the lowest level among the

participants. In contrast, another student reported she liked languages, and her English proficiency was at the highest level among the participants. Hence, the significantly positive correlation between interest in vocabulary learning and vocabulary proficiency was in line with Marttinen[9]'s findings. However, as Marttinen's was a qualitative study, more quantitative research into interest in vocabulary learning is needed for confirmation of such a correlation between this VLB and vocabulary proficiency.

It has also been noted that learners' interest in vocabulary learning showed a significant correlation with vocabulary proficiency in the present study, but not with general English proficiency. As vocabulary learning is only a part of language learning (Gu & Johnson, 1996), factors significantly correlate to vocabulary proficiency may not have the same relationship with general language proficiency. The insignificant correlation here supported to some extent Wen and Johnson's (1997) finding relevant to learners' interest in English learning. Their study tried to explore the effects of 16 learners' variables on English achievement in over 200 English majors in mainland China. Triangulating questionnaire survey with interviews, diary study, and on-task observation, they found that learning purpose—learners' interest in the language and culture—has no significant effect on their general proficiency.

Correlation between importance for tests and learning outcomes

It is surprising to see the top motivational VLB among the students—the importance of vocabulary learning for tests—shows no significant correlation with either vocabulary proficiency or general English proficiency. There is a lack of literature about correlation between such motivational LLB/LLM/VLM and learning outcomes. However, if beliefs influence learning outcomes, they do so via their influence on strategies (Ellis, 2008b). Hence, examining both the correlation between VLB and VLS and the correlation between VLS and learning outcomes could help to address this issue. A look at the correlation between VLB and VLS demonstrates that the importance of vocabulary learning for tests was only significantly correlated with two VLS: dictionary strategies for comprehension and emotion adjustment. Examination of the correlation between VLS and learning outcomes demonstrated that both VLS had no significant correlations

with either vocabulary proficiency or general proficiency. As both strategies that this VLB significantly correlated with did not significantly correlate with learning outcomes, it is reasonable that this motivational VLB did not significantly correlate with any learning outcome.

Summary

In short, two significant and positive correlations between motivational VLB and learning outcomes were revealed in the present study. One was that between learners' belief in their ability in vocabulary learning and vocabulary proficiency. The other was that between learners' interest in vocabulary learning and vocabulary proficiency. It is noted that interview data did not completely conform to the former significant correlation revealed in the questionnaire survey. As a result, the reliability of this correlation is uncertain and this will be discussed further in section 5.4.

Though motivational VLB has not been discussed in the literature, the significant correlation between learners' belief in their ability in vocabulary learning and vocabulary proficiency was in line with finding of previous research in motivational LLB and learning outcomes, while the significant correlation between learners' interest in vocabulary learning and vocabulary proficiency conformed to the findings of a qualitative study on LLM and VLS. As beliefs are contextual specific (Barcelos, 2003), more research into motivational VLB will help us understand this issue. It is also noted that motivational VLB seemed only significantly correlated with vocabulary proficiency, but not general proficiency. Such a correlation pattern is reasonable because vocabulary learning is only a part of English learning (Gu & Johnson, 1996), thus factors that significantly correlate to vocabulary learning may not have a similar relationship with general proficiency.

4.4.2.2 Correlation between metacognitive VLB and learning outcomes

Results

Table 14 presents the result of correlations analysis between metacognitive VLB and

learning outcomes.

Table 14 Correlations between metacognitive VLB and learning outcomes

			VOCABSIZE	CET2
Spearman's rho	memorization	Correlation Coefficient	-.082	-.131
		N	102	58
	acquisition	Correlation Coefficient	.038	.115
		N	102	58
	intentional study & use	Correlation Coefficient	.240*	.157
		N	102	58

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

A major observation of Table 14 is that of the three metacognitive beliefs, only the belief that vocabulary should be learned deliberately/intentionally and should be put to use (intentionally study and use) was significantly correlated with learning outcomes, and it only significantly correlated with vocabulary proficiency ($r=.240$, $p<.05$). Table 14 also shows that both the belief that vocabulary should be memorized (memorization) and the belief that vocabulary can be acquired in the context (acquisition) showed no significant correlation with either vocabulary proficiency or general proficiency. In fact the belief in memorization even showed a slight negative correlation with both learning outcomes.

Interview data on the relationship between "intentional study and use" and vocabulary proficiency

The interview question "Which way do you consider the most efficient in learning vocabulary?" generated some information about the significant correlation between the students' belief that vocabulary should be learned deliberately/intentionally and should be put to use (intentionally study and use) and vocabulary proficiency. (See Appendix M). Table 15 summarizes the relevant interview information.

Table 15 Interview data on "intentional study and use" and vocabulary proficiency

	Intentional study and use
Higher proficiency interviewees (10)	6
Lower proficiency interviewees (12)	8
Total	14

Table 15 reveals the responses of the 22 interviewees seemed not to support the significantly positive correlation of the belief in intentional study and use with vocabulary proficiency. Among the 14 interviewees who held this belief, 6 passed the vocabulary test, making up three fifths of the higher proficiency group; while 8 failed, making up two thirds of the lower proficiency group. Moreover, the 14 interviewees' vocabulary test scores ranged from 0 to 87 (the highest score is 90). Hence, students of different vocabulary proficiency levels believed that vocabulary should be learned deliberately/intentionally, and should be put to use. This seems to disprove the significantly positive correlation of this belief with vocabulary proficiency revealed in the survey, and will be discussed further in section 5.4.

Discussion

The previous research has revealed a mixed picture of the correlation between metacognitive VLB and learning outcomes. Findings in the present study confirmed such a picture in the literature. The significantly positive correlation between the belief that vocabulary should be learned deliberately /intentionally, and should be put to use and vocabulary proficiency revealed in the present study was in line with findings in Yang[2]'s (2006) study and Subasi[3]'s (2007) study. In Yang[2]'s study of Chinese vocational college students, a t-test was performed to find the differences in VLB between good learners and poor learners. The good learners consisted of the top-scoring group and the poor learners consisted of the bottom-scoring group in the vocabulary test (general proficiency was not explored in Yang[2]'s study). Yang[2]'s study showed "statistically significant differences between two types of learners in vocabulary learning beliefs" (p.43). The good learners most strongly believed that words should be used. Likewise, in Subasi[3]'s study among English majors in Turkey, paired-samples correlation revealed the belief in "learn and use" was a predictor of vocabulary proficiency. It is worthwhile to note that though interview data in the present study showed some evidence against

this significant correlation revealed in survey, interview data in Yang[2]'s study and in Subasi's study conformed to the findings in their questionnaire surveys.

In comparison, Gu and Johnson (1996) found no significant correlation between the two. Instead, they found a significantly negative correlation of memorization ("vocabulary should be memorized") with both vocabulary proficiency and general proficiency. The former significantly negative correlation was echoed in Yang[2]'s (2006) study focusing on vocabulary proficiency only. Though the present study revealed no significant correlation between the VLB in memorization and learning outcomes, which was in line with Subasi[3]'s (2007) study, it did show the correlations are negative. It seemed that belief in memorization did not significantly and positively correlate with learning outcomes. Instead, it tended to negatively correlate with learning outcomes. This may be attributed to the fact that besides remembering the form-meaning association, a large part of EFL vocabulary learning involves learning to use the words in appropriate context (Richards, 1976), for vocabulary has two dimensions: knowledge and the skill of use (Carter, 1998; McCarthy, 1984; Nation, 2001; Robinson, 1989). This may also help to understand the significantly positive correlation between the VLB in intentional study and use and leaning outcomes in literature and the present study.

The insignificant correlation between the belief that vocabulary can be acquired and learning outcomes in the present study conformed to Gu and Johnson's (1996) and Zhang[1]'s (2005) findings. The latter study adopted independent sample test on the responses of the good learners and poor learners, who were identified by general English proficiency tests. To compare, Subasi[3]'s (2007) study revealed that the VLB in acquisition was also a predictor of vocabulary proficiency. However, as discussed in introduction (4.4.1), with less than 50 participants, the reliability of the significant correlation in Subasi[3]'s study is open to question. In addition, the insignificant correlation between VLB in acquisition and learning outcomes in the studies in China may be related to the EFL context in China—it is a in-put poor context, thus learners lack sufficient opportunities for acquisition (Hu, 2002; Wen & Johnson, 1997).

It has also been noted that the present study revealed no significant correlation between

metacognitive VLB and general proficiency, which contradicted Gu and Johnson's (1996) and Zhang[1]'s (2005) findings. In Gu and Johnson's study, significantly negative correlation between VLB in memorization and general proficiency was revealed; while in Zhang[1]'s study which only focused on the general proficiency, good learners differ from poor learners significantly on the VLB that "words should be learned through use". The good learners were more positive with this belief.

The differences in the findings about the correlation between metacognitive VLB and learning outcomes may have resulted from the nature of beliefs: they are context-specific (Barcelos, 2003). Moreover, the differences may also be attributed to different correlation analyzes performed in these studies: in Gu and Johnson's (1996) study, a simple correlation analysis was reported; in Zhang[1]'s (2005) study, an independent sample test was performed; in Subasi[3]'s (2007) study, paired-sample correlation was performed; and in Yang[2]'s (2006) study, a t-test was reported; and in the present study, a bivariate correlation was performed. Hence, more research with identical analysis method and detailed reporting of their respective analysis method may help to reveal the correlation between metacognitive VLB and learning outcomes.

Summary

Overall, the questionnaire survey revealed only one significant correlation between metacognitive VLB and learning outcome: the positive correlation between the belief that "vocabulary should be learned deliberately/intentionally, and should be put to use" and vocabulary proficiency. However, interview data revealed a mixed correlation between the two with almost equal numbers of higher and lower proficiency interviewees holding this belief. As mentioned previously, this will be further discussed in section 5.4.

Literature in the correlation between metacognitive VLB and learning outcomes revealed mixed results. The present study confirmed such a mixed picture by conforming to some previous work at certain points, while conforming to other work on other points. The significantly positive correlation between the belief that "vocabulary

should be learned deliberately /intentionally, and should be put to use" and vocabulary proficiency in the present study was in line with Yang[2]'s (2006) and Subasi[3]'s (2007) findings, but deviated from Gu and Johnson's (1996) finding. The insignificant correlation between VLB in acquisition and learning outcomes echoed findings of Gu and Johnson's (1996) study and Zhang[1]'s (2005) study. The insignificant correlation between VLB in memorization and learning outcomes echoed Subasi[3]'s and Zhang[1]'s findings.

However, it is noted, unlike previous research addressing general proficiency (i.e.,Gu and Johnson's 1996 study and Zhang[1]'s 2005 study), the present study revealed no significant correlation between metacognitive VLB and general proficiency. Such a difference in findings may be attributed to the context-specific nature of beliefs. Research in different groups of EFL learners at different time may generate different results. In addition, differences in correlation analysis may have played a role as well. As mentioned previously, different kinds of analysis were conducted in these three studies.

In fact, these two factors may have played a role in the mixed picture of correlation between metacognitive LVB and learning outcomes in literature. As a result, more research with identical analysis method would help to reveal the correlation between metacognitive VLB and learning outcomes.

4.4.3 Correlation between VLS and learning outcomes

Results

Table 16 presents results of the correlation analysis between 17 VLS variables and 2learning outcome variables—vocabulary proficiency and general proficiency.

Table 16 Correlations between VLS and learning outcomes

			VOCABSIZE	CET2
Spearman's rho	selective attention	Correlation Coefficient	.381**	.419**
		N	102	58
	selfinitiation	Correlation Coefficient	.177	.214
		N	102	58
	contextual guessing	Correlation Coefficient	.289**	.292*
		N	102	58
	dictionary strategies for comprehension	Correlation Coefficient	-.134	-.185
		N	102	58
	extend dictionary strategies	Correlation Coefficient	.096	.121
		N	102	58
	meaning oriented notetaking	Correlation Coefficient	.024	.240
		N	102	58
	usage oriented notetaking	Correlation Coefficient	.346**	.203
		N	102	58
	wordlist	Correlation Coefficient	.119	.035
		N	102	58
	Repetition	Correlation Coefficient	.157	.290*
		N	102	58
	association	Correlation Coefficient	.307**	.286*
		N	102	58
	imagery	Correlation Coefficient	.030	.162
		N	102	58
	auditory encoding	Correlation Coefficient	.342**	.329*
		N	102	58
	wordstructure	Correlation Coefficient	.138	.170
		N	102	58
	context encoding	Correlation Coefficient	.241*	.324*
		N	102	58
	activation	Correlation Coefficient	.125	.223
		N	102	58

		VOCABSIZE	CET2
comunication & cooperation	Correlation Coefficient	-.105	.153
	N	102	58
emotion adjustment	Correlation Coefficient	.108	-.032
	N	102	58

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

It reveals that, among the metacognitive VLS, selective attention had a significantly positive correlation with both vocabulary size (r=.381, p<.01) and general proficiency at the CET2 level (r=.419, p<.01), while self-initiation showed no statistically significant correlation with learning outcomes. Indeed, the correlation of selective attention with learning outcomes was the highest of all the VLSs. Among the cognitive VLSs, four strategies showed significant and positive correlation with both vocabulary size and CET2. They were contextual guessing (r=.289, p<.01 with vocabulary size, r=.292, p<.05 with CET2), association (r=.307, p<.01 with vocabulary size, r=.286, p<.05 with CET2), auditory encoding (r=.342, p<.01 with vocabulary size, r=.329, p<.05 with CET2), and contextual encoding (r=.241, p<.01 with vocabulary size, r=.324, p<.05 with CET2). The latter three VLSs were mnemonic devices aiming at word retention (Gu & Johnson, 1996). Some interesting patterns were shown up for other cognitive VLS. Usage oriented note taking (r=.346, p<.01) had a significantly positive correlation with vocabulary proficiency, but not with general proficiency. In comparison, repetition showed a significantly positive correlation with general proficiency at the CET2 level (r=.290, p<.05), but not with vocabulary size.

The interviews with 22 students generated some information on the correlation between the interviewees' VLS and vocabulary proficiency, which is summarized in Table 17.

Table 17 Interview data on VLS and vocabulary proficiency

	Extra work (10 Ss)		Note-taking (20 Ss)		Usage oriented note-taking (6 Ss)	Emotion adjustment (11 Ss)	Contextual guessing (20 Ss)
	Selective	not selective	Selective	not selective			
HVPG (10 Ss)	5	1	8	0	6	5	8
LVPG (12 Ss)	4	0	12	0	0	6	12
Total	9	1	20	0	6	11	20

HVPG: higher vocabulary proficiency group.

LVPG: lower vocabulary proficiency group.

Ss: interviewees.

Interview data on the relationship between selective attention and vocabulary proficiency

Table 17 indicates the interviews generated data on selective attention in two fields: extra work and note-taking. Of the 10 interviewees who did extra work in vocabulary learning besides their teachers' assignments, 9 were selective in what to learn (5 higher proficiency ones and 4 lower proficiency ones). The only one who was not selective was of higher vocabulary proficiency. Likewise, everyone who took vocabulary notes was selective in what to note down despite their different proficiency levels. Hence, in both fields, a mixed correlation between this VLS and vocabulary proficiency was revealed, which contradicted the questionnaire findings. Such differences in questionnaire and interview data will be explored in section 5.4.

Interview data on the correlation between usage-oriented note-taking and vocabulary proficiency

Nonetheless, the interview data provided evidence for the significantly positive correlation between usage oriented note-taking and vocabulary proficiency in the survey. All 6 interviewees adopting this VLS were of higher vocabulary proficiency. They made up three fifths of interviewees of higher vocabulary proficiency. In contrast, none of the 12 lower vocabulary proficiency interviewees mentioned using this strategy when

reporting what to note down as they all reported that they took vocabulary notes. Thus, a notable difference in this VLS between higher and lower proficiency students was revealed in the interviews. This conformed to the moderately significant positive correlation revealed in the questionnaire survey.

Interview data on the correlation between emotion adjustment and vocabulary proficiency

Similarly, the insignificant correlation between emotion adjustment and vocabulary proficiency is supported in the interviews. Half of the higher proficiency interviewees (5 out of 10) and half of the lower proficiency interviewees (6 out of 12) adopted this VLS, indicating no significant correlation between this VLS and vocabulary proficiency.

Interview data on the correlation between contextual guessing and vocabulary proficiency

However, Table 17 indicates the reports of the interviewees' disproved the significantly positive correlation between contextual guessing and vocabulary proficiency. Among the 20 interviewees using this VLS when encountering a new word, 8 were from the higher vocabulary proficiency group, making up four fifths of their proficiency group. In comparison, all the 12 lower proficiency interviewees reported use of contextual guessing. Thus, it seems this VLS had a negative correlation with vocabulary proficiency, which contradicted the questionnaire finding. However, a close look at the interviewees' preference order of VLS use when encountering a new word reveals a different picture. This information is summarized in Table 18.

Table 18 Interview data on contextual guessing and vocabulary proficiency

	Contextual guessing first
Higher vocabulary proficiency group (10 interviewees)	6
lower vocabulary proficiency group (12 interviewees)	4
Total	10

A comparison between Table 17 and Table 18 shows though 20 interviewees used

contextual guessing, only half of them used it as a first choice. Among these interviewees, six were from the higher proficiency group, making up three fifths of their proficiency group. In comparison, only one third of the lower proficiency group (4 interviewees) adopted this VLS as their first choice. Thus, it shows the tendency for higher proficiency students to use contextual guessing was higher than their lower proficiency peers. This was in line with the significantly positive correlation between this VLS and vocabulary proficiency in questionnaire data.

Summary

Overall, the survey in the present study revealed that one metacognitive VLS—selective attention—had a moderately significant correlation with both vocabulary proficiency and general proficiency. Indeed, its positive correlations with both learning outcomes were the highest among all the VLS. Among the cognitive VLS, four strategies also showed significantly positive correlations with both learning outcomes. They were: contextual guessing and three mnemonic devices—association, auditory encoding, and context encoding. In comparison, usage oriented note-taking correlated significantly and positively with vocabulary proficiency, but not general proficiency. In contrast, repetition showed a moderately significant and positive correlation with general proficiency, but no significant correlation with vocabulary proficiency.

The significantly positive correlation of usage oriented note-taking and contextual guessing with vocabulary proficiency found supports from the interview data. In contrast, the significantly positive correlation of selective attention with vocabulary proficiency was disproved in the interviews, which will be discussed in section 5.4.

Discussion

Literature reveals a body of VLS research where the questionnaire initiated by Gu and Johnson (1996) was adopted and adapted, as in the case of the present study. All these replication studies were conducted in mainland China except the one by Subasi[3] (2007) which was of English majors in Turkey. These studies, together with Gu and Johnson's original study revealed a somewhat mixed picture about the correlation between VLS

and learning outcomes. Their findings agreed with one another on some points, while differed from one another on other points. Among the replication studies in China, only Yang[2]'s (2006) study, Zhang[1]'s (2005) study and Lou[14]'s (2006) study will be considered here, for they also targeted the vocational college students like the present study, though in different provinces. In addition, it is worthwhile to mention that the learning outcome in Lou[14]'s study was measured by a combination of vocabulary test score and CET3 (a general English proficiency test) score. Yet, the correlation between the two kinds of learning outcomes was not analyzed. Thus, a question is raised: to what extent the combination of two test scores represents each of its components? Moreover, Gu and Johnson's study revealed that even if the two kinds of learning outcomes are highly correlated with each other, the VLS that significantly correlated with vocabulary proficiency may not significantly correlated with general proficiency, for vocabulary learning is only a part of language learning. Hence, findings on the correlations relevant to learning outcome in Lou[14]'s study are of limited value in supporting/disproving correlations revealed in other studies. However, it is still included in the discussions for illustration and triangulation as there are too few studies addressing the relationship between VLS and learning outcomes among vocational college students, who are the target population of the present study.

The significantly positive correlation between selective attention and learning outcomes in the present study conformed to Gu and Johnson's (1996) finding as well as findings in Subasi[3]'s (2007) study and Yang[2]'s (2006) study. The latter two studies focused on vocabulary proficiency only. Likewise, the same kind of correlation between two cognitive strategies — contextual guessing and context encoding — and learning outcomes conformed to Gu and Johnson's study and Lou[14]'s (2006) study. Nonetheless, as discussed above, the support from Lou[14]'s study is limited. Moreover, Subasi[3] found context encoding a negative predictor of vocabulary proficiency. However, as mentioned in the introduction of this section (section 4.4.1), with only 45 participants in Subasi[3]s study, the significance of the correlation is difficult to support.

In addition, in the present study, both contextual guessing and contextual encoding

correlated more highly with general proficiency than vocabulary proficiency—the same correlation pattern as in Gu and Johnson's (1996) study. In both Gu and Johnson's study and the present study, vocabulary proficiency was measured by vocabulary size tests, and general proficiency was measured by CET2. The vocabulary size tests test the participants' knowledge of word meaning discretely (See Chapter 3 Methodology). Thus, vocabulary proficiency in the two studies was more related to the knowledge aspect of vocabulary. In comparison, the CET2 involves testing the contextual use of words both receptively and productively (See Chapter 3 Methodology). Hence, general proficiency in the two studies "arguably is more related to the skill aspect of vocabulary" (Gu, 2005, p.194). As contextual- related VLS—contextual guessing and contextual encoding—provide the learner with repeated contextual exposure (Gu, 2005), they are more related to the skill aspect of vocabulary. Therefore, they were more highly correlated with general proficiency than vocabulary proficiency in the two studies.

Similarly, the significantly positive correlation of association with both learning outcomes in the present study matched the pattern in Gu and Johnson's (1996) study—this VLS is more highly correlated with vocabulary proficiency than general proficiency. This is reasonable. As association involves only decontextualized activities aiming at word retention rather than using the word in appropriate contexts, it is more related to the knowledge aspect of vocabulary. Thus, it correlates more highly with vocabulary proficiency than general proficiency.

Moreover, the significant correlation of repetition with general proficiency but not with vocabulary proficiency was partially in line with Gu and Johnsons' (1996) findings. In the latter study, one aspect of repetition—oral repetition— was significantly correlated with general proficiency. Indeed, it was a positive predictor of general proficiency, but not of vocabulary proficiency in their study. However, Gu and Johnson also found that another aspect of repetition—visual repetition— was significantly but negatively correlated with both vocabulary proficiency and general proficiency. Indeed, it was a negative predictor of both learning outcomes in their study. In addition, the moderately significant correlation between usage oriented note-taking and vocabulary proficiency

conformed to findings in Subasi[3]'s (2007) study, where it was found to be a positive predictor of vocabulary proficiency. The significantly positive correlation between auditory encoding and both learning outcomes was in line with Zhang[1]'s (2005) study, which focused only on general proficiency.

It is also noted that all the replication studies found no significant correlation between self-initiation and learning outcomes. In contrast, Gu and Johnson's (1996) study revealed such a correlation. Indeed, self-initiation was the best predictor of both learning outcomes in the original study. The difference in the original study and the replication ones in China discussed above may be related to a possible strategy variation. As mentioned in Chapter 2 Literature Review, Jiang and Smith's (2009) study on LLS of Chinese learners of English from the historical perspective revealed an LLS change (including VLS change) among different generations of learners. According to their illustration, the changing English learning context in China played a role in the change of LLS, including VLS change. In addition, the different English proficiency level of the participants in Gu and Johnson's study and those in the replication studies in China discussed above may have played a role too. The university students (in Gu and Johnson's study) were of higher English proficiency than the vocational college students (in the replication studies). As LLS research has shown that L2 stage is a factor influencing the LLS choice (Oxford, 1994), it is reasonable that learners of different proficiency choose different strategies that suit them.

It must also be noted, in the present study, both social VLS and affective VLS showed no significant correlation with learning outcomes. Though these VLS were not explored in Gu and Johnson's (1996) study and Subasi[3]'s (2007) study, they were explored in the three replication studies among Chinese vocational college students. The insignificant correlation between social VLS and vocabulary proficiency in the present study conformed to Yang[2]'s (2006) study addressing social VLS. It was also in line with Zhang[1]'s (2005) study addressing both social VLS and affective VLS, but differed from Lou[14]'s (2006) findings. However, the insignificant correlation between affective VLS and vocabulary proficiency in the present study differed from Zhang[1]'s study and

Lou[14]'s study. In their studies, affective VLS was found to significantly and positively correlate with learning outcomes. However, besides the limited support from Lou's findings to this significantly positive correlation, the consistency of the participants' responses was not checked in those studies as both adopted a questionnaire only in data collection. Thus, the possibility that their participants may have misunderstood the questionnaire items could weaken the reliability of this significant correlation they found. By comparison, in the present study, the consistency of participants' responses on this issue is supported in the interviews. In addition, learning context may have played a role in the difference here, for Kojic-Sabo and Lightbown's (1999) study of VLS revealed context was a factor influencing VLS use. Thus, the VLS use of the vocational college students in west China in the present study may be different from that of their peers in mid China in both Zhang[1]'s study and Lou[14]'s study.

Indeed, the differences in the correlations between VLS and learning outcomes in the studies discussed above may be attributed to the impacts of different context. As these studies were conducted at different times among different groups of English learners, it is possible that they generated different findings. The differences in analysis in these studies may have contributed to the differences too. In Gu and Johnson's (1996) study, a simple correlation analysis was reported; in Zhang[1]'s (2005) study, an independent sample test was performed; in Subasi[3]'s (2007) study, a paired-samples correlation was performed; in the present study, a bivariate correlation was performed; while in both Yang[2]'s (2006) and Lou[14]'s (2006) study, a t-test was reported. Hence, more research with identical analysis method and more detailed repots on analysis method may help to reveal the correlation between metacognitive VLB and learning outcomes.

Summary

In short, the comparison between the findings in the present study and previous work demonstrates the complexity of the correlation between VLS and learning outcomes. Though the six studies discussed above agree with one another at some points, they do not unanimously reach an agreement even on one point. The differences in their findings may have resulted from the impact of learning contexts, as learning context has

been revealed as a factor affecting VLS use (Kojic-Sabo & Lightbown, 1999). These studies were conducted at different times among different groups of English learners. Hence, different findings could be found. However, the differences in findings may also have been caused by the different types of correlation analysis adopted in these studies mentioned above. As a result, more research with identical analysis method would help for clarification. In addition, it is worthwhile to mention that among the six studies discussed above, Yang[2]'s (2006), Subasi[3]'s (2007) and the present study adopted interviews to triangulate questionnaire surveys, while Gu and Johnson's (1996), Zhang[1]'s (2005) and Lou[14]'s (2006) study solely relied on questionnaire data collection. Though both Yang[2]'s study and Subasi[3]'s study found consistency in their participants' responses, the present study did show inconsistency in the students' responses. Hence, the reliability of the questionnaire data may also be a factor of the differences in findings. Therefore, more research on this issue with triangulated data collection methods is also needed for clarification. In addition, regarding the correlation between selective attention and vocabulary proficiency, the interview data differed from the questionnaire data. This will be explored and evaluated in detail in section 5.4.

4.4.4 Correlation between VLB and VLS

Results

Table 19 presents the correlation between VLB and VLS. As the table of correlation between VLB and VLS is too large to be presented on one page, it is presented on two separate pages.

Table 19 Correlation between VLB and VLS

			selective attention	self-initiation	contextual guessing	dictionary strategies for comprehension	extended dictionary strategies	meaning oriented note-taking	usage oriented note-taking	wordlist	repetition
Spearman's rho	self-efficacy	Coefficient	.232*	.382**	.215*	.147	.154	.123	.165	.208*	-.011
		N	102	102	102	102	102	102	102	102	102
	importance for tests	Coefficient	.081	.121	.024	.339**	.076	.097	.092	.096	.094
		N	102	102	102	102	102	102	102	102	102
	interests	Coefficient	.160	.253*	.106	.070	.152	.266**	.238*	.261**	.104
		N	102	102	102	102	102	102	102	102	102
	opinion on memorisation	Coefficient	-.170	-.142	-.193	.050	-.188	.021	-.031	.248*	-.080
		N	102	102	102	102	102	102	102	102	102
	opinion on acquisition	Coefficient	-.013	.275**	.219*	.170	-.001	.093	.137	.191	.186
		N	102	102	102	102	102	102	102	102	102
	opinion on intentional study and use	Coefficient	.214*	.111	.251*	.138	.215*	.102	.215*	-.145	.184
		N	102	102	102	102	102	102	102	102	102

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficient: Correlation Coefficient

(continued)

Table 19 Correlation between VLB and VLS (continued)

			association	imagery	auditory encoding	word structure	contextual encoding	activation	communication and cooperation	emotion adjustment
Spearman's rho	self-efficacy	Coefficient	.267**	.321**	.255**	.312**	.184	.214*	.026	232*
		N	102	102	102	102	102	102	102	102
	importance for tests	Coefficient	.152	.037	.052	.060	.092	.140	.109	.243*
		N	102	102	102	102	102	102	102	102
	interests	Coefficient	.285**	.182	.274**	.280**	.273**	.182	.295**	.225*
		N	102	102	102	102	102	102	102	102
	opinion on memorisation	Coefficient	-.133	-.054	-.091	-.079	-.047	-.110	.375**	.038
		N	102	102	102	102	102	102	102	102
	opinion on acquisition	Coefficient	.145	.280**	.134	.081	.071	.024	.241*	.123
		N	102	102	102	102	102	102	102	102
	opinion on intentional study and use	Coefficient	.255**	-.012	.166	.182	.160	.144	-.175	.038
		N	102	102	102	102	102	102	102	102

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficient: Correlation Coefficient

Table 19 shows among the motivational beliefs, learner's belief in their ability in vocabulary learning (self-efficacy) and their interest in vocabulary learning (interest in vocabulary learning) were correlated notably more widely than the importance of vocabulary learning for tests (the importance for tests). The students' belief in their ability in vocabulary learning (self-efficacy) showed moderately significant correlation with self-initiation (r=.382, p<.01), imagery (r=.321, p<.01), and word structure (r=.312, p<.01). Moreover, it correlated weakly but significantly with selective attention (r=.232, p<.05), contextual guessing (r=.215, p<.05), wordlists (r=.208, p<.05), association (r=.267, p<.01), auditory encoding (r=.255, p<.01), activation (r=.214, p<.05), and emotion adjustment (r=.232, p<.05). In comparison, their interest in vocabulary learning also significantly correlated with a wide range of VLS, but the significance of all the correlations was all weak: self-initiation (r=.253, p<.05), meaning oriented note-taking (r=.266, p<.01), usage oriented note-taking(r=.238, p<.05), wordlists (r=.261, p<.01), association (r=.285, p<.01), auditory encoding (r=.274, p<.01), word structure (r=.280, p<.01),contextual encoding (r=.273, p<.01), communication/cooperation (r=.295, p<.01), and emotion adjustment (r=.225, p<.05). In contrast, the importance of vocabulary learning for tests—the VLB ranked highest by the participants—only significantly correlated with two VLS. Its correlation with dictionary strategies for comprehension was moderate (r=.339, p<.01), while its correlation with emotion adjustment was weak (r=.243, p<.05).

By comparison, metacognitive beliefs correlated with fewer VLS. Among the metacognitive beliefs, the belief that "vocabulary should be learned deliberately/intentionally, and should be put to use" (intentional study and use) showed the widest range of correlations with VLS. The significance of its correlation with all the five VLS was weak: selective attention (r=.214, p<.05), contextual guessing (r=.251, p<.05), extended dictionary strategies (r=.215, p<.05), usage oriented note-taking (r=.215, p<.05), and association (r=.255, p<.01). Similarly, the belief that "vocabulary can be acquired in the context" (acquisition) was weakly but significantly correlated with four VLS: self-initiation (r=.215, p<.01), contextual guessing (r=.219, p<.05), imagery (r=.280, p<.01), and communication/cooperation (r=.241, p<.05). The third

metacognitive VLB, belief that "vocabulary should be memorized" (memorization), only significantly correlated with two VLS. Its correlation with wordlists was weak ($r=.248$, $p<.05$), while its correlation with communication/cooperation was moderate ($r=.375$, $p<.01$). Indeed, it was the most significant correlation among those between VLB and VLS.

The interviews with the 22 student participants generated some information about the relationship between VLB and VLS. As discussed in the introduction (section 4.4.1), only VLB/VLS identified by at least five interviewees are reported to minimize the influence of random factors. This information is summarized in Table 20 to Table 22.

Interview data on self-efficacy and VLS

Table 20 summarizes interview information relevant to the correlation between the students' belief in their ability in vocabulary learning (self-efficacy) and VLS.

Table 20 Interview data on self-efficacy and VLS

	Selective attention (20 Ss)	**Wordlists (10 Ss)**	**Contextual guessing (20 Ss)**	**Emotion adjustment (11 Ss)**
Self-efficacy (20 Ss)	15	7	14	9

Ss: interviewees.

Table 20 shows, among the 22 interviewees, 20 were confident about their ability in vocabulary learning. Among these 20 interviewees, 15 used selective attention and 14 used contextual guessing, making up approximately three fourths of the interviewees using these two VLSs. As a result, their reports lent some support to the significantly positive correlation of this VLB with selective attention and contextual guessing.

By comparison, regarding the significant correlations of this VLB with wordlists and emotion adjustment, reports of the 22 interviewees provided information contradicting each other. On the one hand, a little more than one third (7 out of 20) interviewees reported using wordlists and less than half (9 out of 20) reported using emotion adjustment. This undermined the significantly positive correlations of learners' belief in

their ability with these two VLS. On the other hand, with 7 out of 10 interviewees using wordlists and 9 out of 11 interviewees using emotion adjustment confident about their ability in vocabulary learning, these two significant correlations found in questionnaire survey were supported in the interviews. Such differences in interview data will be explored in section 5.4.

Interview data on importance for tests and VLS

Table 21 summarizes interview information relevant to the correlation between the importance of vocabulary learning for tests (importance for tests) and VLS.

Table 21 Interview data on importance for tests and VLS

	Emotion adjustment (11 Ss)
importance for tests (12 Ss)	**4**

Ss: interviewees.

Table 21 indicates that only one third (4 out of 12) of the interviewees believing in the importance of vocabulary learning for tests adopted emotion adjustment. Simultaneously, a little more than one third (4 out of 11) of the interviewees using emotion adjustment held this belief. Hence, the significantly positive correlation between this VLB and emotion adjustment was disproved by the interviewees' reports.

Interview data on intentional study and use and VLS

Table 22 summarizes interview information relevant to the correlation between the students' belief that "vocabulary should be learned deliberately/intentional, and should be put to use" (intentional study and use) and VLS.

Table 22 Interview data on intentional study and use and VLS

	Selective attention (20 Ss)	**Usage oriented note-taking (6 Ss)**	**Contextual guessing (20 Ss)**
Intentional study and use (13 Ss)	**13**	**3**	**10**

Ss: interviewees.

Table 22 indicates that all the 13 interviewees believing in intentional study and use

reported use of selective attention, making up a large majority of the interviewees using selective attention. This conformed to the significantly positive correlation between the two found in the survey. Likewise, a large majority of these interviewees (10 out of 13) reported use of contextual guessing, making up half of the interviewees using contextual guessing. This also conformed to the significantly positive correlations between the two in the survey.

In contrast, this group of interviewees' reports seemed to disprove the significantly positive correlation between this VLB and usage oriented note-taking as less than a quarter of them (3 out of 13) reported using this VLS. However, such interviewees made up half of the interviewees using this VLS. This lent some support to this significantly positive correlation revealed in questionnaire survey. The difference in the interview data will be discussed in section 5.4.

Summary

Overall, the questionnaire survey revealed that motivational VLB significantly correlated with more VLS than metacognitive VLB. Among the three motivational VLB, interest in vocabulary learning significantly correlated with ten of all the four categories of VLS: metacognitive, cognitive, social and affective VLS. In comparison, though the students' belief in their ability in vocabulary learning also significantly correlated with ten VLS, it did not significantly correlate with the social VLS－communication/cooperation. In contrast, the importance of vocabulary learning for tests －the VLB ranked the highest by the participants－only significantly correlated with two VLS. One was dictionary strategies for comprehension, a cognitive VLS, and the other was emotion adjustment, the affective VLS.

Among the metacognitive VLBs, on the one hand, the belief in intentional study and use correlated with more VLS than other metacognitive beliefs in terms of numbers of VLS. It significantly correlated with five VLS in two VLS categories: metacognitive and cognitive VLS. On the other hand, the belief in acquisition correlated with more types of VLSs. It significantly correlated with four VLSs in three VLS categories:

metacognitive, cognitive and social VLS. In contrast, the belief in memorization only significantly correlated with two VLSs. One was wordlists (cognitive VLS), the other was communication/cooperation (social VLS).

The interviews generated some information about some of the correlations revealed in the survey. On the one hand, interview data supported the significant correlations of learners' belief in their ability in vocabulary learning with selective attention and contextual guessing. They also supported the significant correlations between the belief that "vocabulary should be learned deliberately/intentionally, and should be put to use" and these two VLSs. On the other hand, interview data disproved the significant correlation between the importance of vocabulary learning for tests and emotion adjustment. In addition, interview data provided information contradicting each other regarding the significant correlations of the students' belief in their ability in vocabulary learning with wordlists and emotion adjustment as well as the significant correlation between the belief in intentional study and use and usage oriented note-taking. The contradicting information will be explored and evaluated in section 5.4.

Discussion

Though there is a dearth of literature about the correlation between VLB and VLS to draw on, the correlation patterns revealed in the present study can be compared with previous work on correlations between VLM and VLS as well as those on LLB and LLS.

Correlation between motivational VLB and VLS

In Fu[8]'s (2003) study on the correlation between VLM and VLS, Pearson correlation analysis showed that inherent interest motivation (learner's inherent interest in vocabulary learning) and score motivation (the motivation to achieve high scores in the tests and obtain the diplomas) were significantly correlated with all the eight types of VLS in her study—metacognitive, guessing, dictionary, note-taking, rehearsal, encoding, activation, and social/affective VLS. Moreover, self-efficacy—learner's belief in their ability in vocabulary learning—was significantly correlated with metacognitive,

activation, guessing and encoding VLS. The correlations between metacognitive VLB and VLS in the present study echoed the findings in Fu[8]'s study in general. The significant correlations of interest in vocabulary learning with self-initiation, and two note-taking strategies—meaning oriented note-taking and usage meaning oriented note-taking—conformed to those of inherent interest motivation with metacognitive VLS and note-taking VLS in Fu[8]'s study. The same was true with the correlations of this VLB with repetition, association, auditory encoding, word structure and contextual guessing since repetition was a rehearsal VLS in Fu[8]'s study and the latter four VLS were clustered under encoding in Fu[8]'s study. Likewise, the significant correlations of the importance of vocabulary learning for tests with dictionary strategies for comprehension and emotion adjustment confirmed Fu[8]'s relevant findings. Similarly, the significant correlations of learners' belief in their ability in vocabulary learning with both metacognitive VLS (i.e., selective attention and self-initiation), contextual guessing, association, imagery (also clustered under encoding in Fu[8]'s study) auditory encoding, word formation and activation in the present study conformed to Fu[8]'s relevant findings.

However, the significantly positive correlations of this VLB with wordlists and emotion adjustment differed from Fu[8]'s findings. Nonetheless, the correlation between this VLB and emotion adjustment was in line with Yang's (1999) study on the correlation between LLB and LLS. In her study, emotion adjustment is clustered under metacognitive LLS. Pearson correlation analysis revealed learners' belief in their ability in English learning significantly and positively correlated with all types of LLS in her study. It is noted that motivational VLB, especially the importance of vocabulary learning for tests and the students' interest in vocabulary learning, showed a notably wider range of correlation with VLS in Fu[8]'s (2003) study. The differences between the participants in the two studies may have played a role. The university students (in Fu[8]'s study) are higher achievers in the national entrance examination to tertiary education (including English examination) than the vocational college students (in the present study). As L2 stage is a factor affecting LLS choice (Oxford, 1994), the notably narrower VLS repertoire of the present participants (the lower proficiency learners) may have led to the narrower

correlations between the motivational VLB and VLS.

Correlation between metacongitive VLB and VLS

The correlation patterns between metacognitive VLB and VLS are generally in conformity with Wen and Johnson's (1997) study focusing on 16 learner's variables and English achievement. In their study, the effects of LLB on LLS were examined, including form focused beliefs (FFB), meaning focused beliefs (MFB), form focused strategies (FFS) and meaning focused strategies (MFS). In their study, FFB referred to learners' opinion on the importance of repetition, memorization and intensive study of text. MFB referred to learners' opinion on the importance of extensive exposure to and communicative use of the target language (TL). FFS referred to strategy used in form focused activities and text-based intensive study, including memorization and analysis of materials in TL selected by the learner. MFS referred to strategy used in communicative activities and in seeking exposure to the TL on the learner's own initiative. Hence, FFB and MFB in their study covered belief in memorization and belief in acquisition respectively in the present study. The belief of intentional study and used had components of FFB and MFB. The analysis in Wen and Johnson's study (Partial Least Squares procedure) revealed the effects of FFB and MFB on FFS and MFS respectively was direct, strong and consistent. In other words, the belief in memorization would lead to a learner's use of intentional learning strategies, the belief in acquisition would lead to a learner's use of acquisition strategies, and the belief in intentional study and use would lead to a learner's use of both intentional learning strategies and acquisition strategies.

The general trend of correlations between metacognitive VLB and VLS in the present study echoed the effects of LLB on LLS in Wen and Johnson's (1997) study. Though in the present study, the VLB in memorization only significantly correlated with wordlists and communication/cooperation, both are intentional learning strategies. The former is a memory VLS (Gu, 2005). The latter is a social VLS covering interactions with others involving three steps in intentional vocabulary learning─ figuring out word meaning, memorising word learned and sharing VLS to facilitate learning. Hence, such a

correlation pattern between the VLB of memorization and VLS conformed to the effect of FFB on FFS in Wen and Johnson's study.

It should be noted that although the correlation of memorization with communication/cooperation was the most significant one among the correlations between VLB and VLS, memorization showed the minimum rage of correlation with VLS both in terms of VLS numbers and types. Yang's (1999) study may shed some light on this phenomenon. In her study on LLB and LLS, the LLB item of memorization showed no significant correlation with any LLS. Responses to the open-ended questions on the questionnaire suggested that the students with this belief had a minimum LLS repertoire. The same might be true with the present participants. Indeed, the minimum range of correlation of memorization with VLS may be attributed to the minimum VLS repertoire of students holding this belief. Besides, this may also be a factor underpinning the correlation between memorization and communication/cooperation as the most significant one. As these students used few VLS, and communication/cooperation covers more steps in vocabulary learning than other VLS, these students may be more likely to use it than other VLS. As a result, the correlation between this VLB and VLS was the most significant one among correlations between VLB and VLS.

Likewise, the VLB of intentional study and use significantly correlated with selective attention, usage oriented note-taking, extended dictionary strategies, association (a memory VLS) and contextual guessing. The former four strategies are intentional learning VLS and the latter is an acquisition VLS (Gu, 2005). As this belief contains both components of FFB and MFB, such a correlation pattern was in line with the effect pattern in Wen and Johnson's (1997) study.

In comparison, the correlation pattern between the VLB of acquisition and VLS in the present study conformed to the relevant effect pattern in Wen and Johnson's (1997) study at some points, while deviating at other points. The significant correlations of this VLB with self-initiation (See Appendix J for the definition) and contextual guessing were in line with the effect of MFB on MFS. In contrast, the significant correlations of

this VLB with two intentional learning strategies－imagery (a mnemonic device) and communication/cooperation－ in the present study deviated from Wen and Johnson's relevant finding. However, as Gu (2005) pointed out "Even for these learners [the more effective users of acquisition VLB], the usefulness of incidental leaning [acquisition] does not exclude the use of intentional learning strategies" (p.50). Hence, it is reasonable that the VLB of acquisition significantly correlated with both intentional learning VLS and acquisition VLS.

Summary

In short, though there is a shortage of literature about the correlation between VLB and VLS to draw on, the correlation patterns revealed in the present study seemed to generally conform to the previous work on the correlation between VLM and VLS as well as the correlation between LLB and LLS. The notably fewer correlations of motivational VLB with VLS in the present study than in Fu[8]'s (2003) study may be attributed to the different types of participants in the two studies. The vocational college students (the lower proficiency learners) in the present study had a narrower strategy repertoire than the university students in Fu[8]'s study. Nonetheless, more studies among vocational college students will help for clarification.

The metacognitive VLB showed an even narrower correlation range with VLS. Yet, their correlation patterns are generally in line with Wen and Johnson's (1997) study relevant to the effect of LLB on LLS. The VLB of acquisition in the present study correlated significantly with both acquisition VLS and intentional learning VLS, which deviated from Wen and Johnson's findings. However, it is reasonable as Gu (2005) pointed out that the usefulness of acquisition does not exclude the intentional learning strategies.

It is worthwhile to remind that interview data did not conform to all the significant correlations revealed in the questionnaire survey in the present study. This may weaken the reliability of these correlations and will be explored and evaluated in section 5.4.

Chapter 5 CONCLUSION

5.1 Introduction

This chapter first presents a summary of the key findings of the research, followed by a consideration of its contributions, as well as recommending implications for further research with reference to the limitations of the present study.

5.2 Summary of key findings

The present study aimed to capture the VLB and VLS profiles of English learners in vocational colleges in China with triangulation by their English teacher's long term observation. It also aimed to examine the interrelationships between VLB, VLS and learning outcomes.

To provide a more objective and comprehensive picture of VLB and VLS of EFL learners, the present study adopted a mixed-method approach. The study was conducted among the second-year International Trade majors at a vocational college in west China. A triangulated approach was adopted to collect data with multiple instruments—a vocabulary size test, a battery of general English proficiency test, self-reported questionnaire, interviews with the questionnaire participants, and an interview with their English teacher.

Results of the study revealed that the students tended to be positive about the three motivational VLB studied. They predominately believed in the importance of vocabulary learning for tests. They were also confident in their ability in vocabulary learning, while they expressed less interest in vocabulary learning. Nonetheless, they ranked the third VLB (interest) above medium (3 in the five-point Likert scale), indicating they still tended to be positive about this VLB. Similarly, regarding the metacognitive VLB, the students predominately believed that "vocabulary should be studied deliberately/intentional, and should be put to use". They also tended to agree that "vocabulary can be acquired", but tended to disagree that "vocabulary should be

memorized". In addition, among the 17 VLS studied, the students reported high use of dictionary strategies, contextual guessing, usage oriented note-taking and selective attention, while low use of communication/cooperation and wordlists.

However, discrepancies had been found between the students' self-reports and their teacher's observations. Their teacher's observations of the students' vocabulary learning behaviors in class supported the strong belief in the importance of vocabulary learning for tests in the students' reports, but contradicted the high use of dictionary strategies and low use of wordlists reported by the students. These discrepancies may weaken the reliability of the students' self reports. However, due to the unknown proportion of the students' vocabulary learning that occurred in class, the extent that the teacher's observations could disprove the students' self-reports is unknown.

The study also revealed two motivational VLB (learners' belief in their ability in vocabulary learning and their interest in vocabulary learning) and one metacognitive VLB (vocabulary should be studied deliberately/intentional, and should be put to use) were significantly correlated with vocabulary proficiency, but not with general English proficiency. Moreover, the study revealed not all the VLS that significantly correlating with vocabulary proficiency had the same correlation with general proficiency—usage oriented note-taking showed a moderately significant correlation with vocabulary proficiency, but showed no significant correlation with general proficiency. In addition, the study revealed two motivational VLB (learners' belief in their ability and their interest in vocabulary learning) significantly correlated with a wide range of VLS (in both cases, 10 out of 17 VLS), while another motivational VLB (the importance of vocabulary learning for tests) and a metacognitive VLB ("vocabulary should be memorized") showed the minimum range of correlation with VLS (in both cases, 2 out of 17 VLS).

5.3 Contribution of this study

5.3.1 Theoretical contribution

Theoretically, this study provides evidence for the distinction between the knowledge dimension and the skill dimension of vocabulary (Carter, 1998; McCarthy, 1984; Nation, 2000; Robinson, 1989), In other words, as vocabulary is a combination of both knowledge and skill of use, how well the learner knows a word differs from how well he/she use it—vocabulary cannot be separated from discourse. Even a complete knowledge of a word (the knowledge aspect of vocabulary) would not guarantee the contextually appropriate use of it (the skill aspect of vocabulary), though the former is a prerequisite of the latter.

This concept of vocabulary is important for understanding VLS, for task type is a factor influencing strategy use (Oxford, 1994). Learning the knowledge aspect of vocabulary may involve VLS different from learning the skill aspect of vocabulary. In the present study, the vocabulary size test gave the participants the highest credit for their knowledge of a word, and tests the words in an isolated way (Moir & Nation, 2002). By comparison, CET2 involved testing the contextual use of words both receptively and productively (See Chapter 3 Methodology). Arguably, general English proficiency measured by CET2 is more related to the skill dimension of vocabulary than vocabulary proficiency measured by the vocabulary size test (Gu, 2005). In the present study, usage oriented note-taking, a VLS focusing on the knowledge of use rather than actual use of the words, showed moderately significant correlation with vocabulary proficiency, but showed no significant correlation with general English proficiency. As this VLS is more related to the knowledge aspect of vocabulary than the skill aspect, its correlation pattern supports the two-dimensional concept of vocabulary.

In addition, four cognitive VLS, i.e., contextual guessing, association, auditory encoding and contextual encoding, showed significant correlations with both vocabulary proficiency and general English proficiency. The latter three strategies are mnemonics that aim at vocabulary retention (Gu & Johnson, 1996). Yet, the correlation

pattern of contextual encoding deviated from that of the other two mnemonic devices. It correlated more highly with general English proficiency than with vocabulary proficiency, the same correlation pattern as contextual guessing. As context-related strategies provide the learner with repeated contextual exposure (Gu, 2005), they are more related to the skill aspect of vocabulary. Hence, it is normal for contextual encoding, a mnemonic device to correlate more highly with general proficiency, which is also more related to the skill aspect of vocabulary. Therefore, the different correlation patterns between contextual encoding and the other two mnemonic devices (association and auditory encoding) in the present study also support the distinction between the knowledge dimension and the skill dimension of vocabulary.

5.3.2 Empirical contribution

Empirically, findings of this study add new knowledge to our understanding of vocabulary learning, for this study initiates research into motivational beliefs in vocabulary learning and research into the correlation between VLB and VLS. It revealed that the students predominately believe in the importance of vocabulary learning for tests. They were also confident in their ability in vocabulary learning, while they expressed less interest in vocabulary learning.

This study also revealed two motivational VLB, learners' beliefs in their ability in vocabulary learning and learner's interest in vocabulary learning, significantly and positively correlated with one aspect of learning outcome—vocabulary proficiency. This suggests these two beliefs may be factors beneficial to vocabulary learning. In addition, among all the VLB, they correlated most widely with VLS (in both cases, 10 out of 17 VLS), while the importance of vocabulary learning for tests and the belief in memorization showed the minimum range of correlation with VLS (in both cases, 2 out of 17 VLS). These findings of this piece of initial work were generally in line with previous studies focusing on VLM and VLS (Fu[8], 2003; Marttinen[9], 2008) as well as those focusing on LLB and LLS (Ehrman & Oxford, 1995; Yang, 1999). They suggest the important role that motivational beliefs play in vocabulary learning vocabulary learning—an aspect that seems to have been neglected in literature.

Moreover, findings in this study propose a new data collection instrument in the research of VLB－classroom observation. Though there are no reports available in literature on classroom observation in VLB studies, in the present study, The teacher observed that the students' vocabulary learning in class was related to the coming tests. This can suggest the students' belief in the importance of vocabulary learning for tests. Hence, classroom observation can be a useful instrument for triangulation of learners' self-reports in studies of VLB.

In addition, the study helps to clarify the metacognitive VLB and VLS in the Chinese EFL context. The profile of the metacognitive VLB of the present participants confirmed the one in literature that Asian EFL learners tended least to believe in memorization (Gu & Johnson, 1996; Subasi[3], 2007; Yang[2], 2006; Zhang[1], 2005). The VLS pattern of the present participants supports the findings that vocational college students in China use social VLS the least (Lou[14], 2006; Yang[2], 2006; Zhang[1], 2005).

Additionally, findings on the correlations between metacognitive VLB/VLS and learning outcomes in the present study conformed to different previous studies at different points. For example, the significant correlation between selective attention and learning outcomes conformed to Gu and Johnson's study, Subasi[3]'s study and Yang[2]'s study. Yet, the significantly positive correlation between contextual encoding and learning outcomes conformed to Gu and Johnson's study and Lou[14]'s study, but contradicted Subasi[3]'s study, where the correlation was significantly negative. This confirms the mixed picture of correlation between VLS and learning outcomes in literature. The mixed picture of correlation reveals the complexity of vocabulary learning and English learning, and suggests there might not be universally good VLS for all.

Furthermore, this study reveals that the VLSs that are significantly correlated with vocabulary proficiency do not always have the same kind of correlation with general proficiency. As this is the first study among vocational college students that addresses both vocabulary proficiency and general proficiency aspects of learning outcome, Gu and Johnson's (1996) conclusion on this point among Chinese university students is

found to be also true with the Chinese vocational college students.

5.3.3 Pedagogical implications

There are clear pedagogical implications from this study. Teachers should be informed that regulating students to adopt certain “good” VLS might be in vain. The mixed picture of correlations between VLS and learning outcomes, which was confirmed in the present study, suggests there might not be universally good VLS for all learners. Instead, the students can make steady and notable progress if they find out the VLS most suitable for them, thus improving their learner autonomy. Teachers can help the students to foster such beliefs and aid the students with their knowledge of VLS. Previous work on the correlations between LLB and LLS (Wen & Johnson, 1997; Yang, 1999) has revealed significant correlation between the two factors in SLA, and the present study confirmed the existence of such correlations in vocabulary learning. Moreover, previous work has shown the role instruction played in the change of learner’s beliefs (Allen, 1996).

It is also suggested that motivational VLB should be taken into consideration in instruction. The predominant belief in the importance of vocabulary learning for tests among the present participants indicated their strong test orientation in vocabulary learning. However, it was the only motivational VLB that has no significant correlation with learning outcome. This illustrates to some extent the requirement of Ministry of Education (2001) in the new national English teaching syllabus that teaching and learning to the tests should be avoided. Hence, teachers should help the students to give up this VLB and cultivate other beliefs to facilitate their vocabulary learning, such as learners’ belief in their ability and their interest, which shows significant correlation with learning outcome and a correlation with more VLS. This can be achieved by helping the students to establish realistic short term goals in vocabulary learning. By achieving their goals, the students will have successful experiences. Such experiences can help to improve the students’ confidence in their ability and their interest in vocabulary learning.

In addition, Gu and Johnson (1996) found among university students that not all factors significantly correlated with vocabulary proficiency have a similar relationship with general proficiency. This was confirmed in the present study of vocational college students. As a result, the status of vocabulary learning in English teaching and learning should be taken with care. Important as it is, its importance should not be over emphasized, for it is only a part of language learning.

5.4 Limitations and implications for further research

The present study provided further evidence for VLB and VLS as important factors in vocabulary learning and English learning. It described the profiles of VLB and VLS among vocational college students in China. It also revealed the interrelationships between VLB, VLS and learning outcomes among these students. In addition, it shed light on the motivational beliefs in vocabulary learning for the first time. An increased knowledge of VLB and VLS will aid our understanding of different progress made by the learners both in vocabulary learning and English learning.

However, as mentioned previously, some drawbacks decreased the quality of the present study. The teacher's long term observation of students' VLS was adopted to triangulate students' self-reports, and discrepancies had been revealed between the two. However, as the proportion of the students' vocabulary learning that took place in class is unknown, the reliability of the students' self-reports is uncertain. Future research with some items in the questionnaire or interviews addressing the proportion that vocabulary learning in class holds in the students' whole vocabulary learning will help for clarification.

Moreover, interviews were adopted to triangulate questionnaire survey in the present study. However, in some cases, the interview data failed to check the consistency in the participants' responses, making the reliability of some findings in the questionnaire survey uncertain. First, as mentioned in section 4.2.2, wordlist as the second least used VLS revealed in the survey seems to be undermined in the interviews, where using CET wordlists were reported by five out of 12 interviewees doing extra work in vocabulary

learning. However, a close look at the questionnaire items indicates that reviewing vocabulary notes mentioned by the interviewees—one aspect of using wordlists— was addressed in the questionnaire, while using the CET wordlists mentioned by the interviewees—another aspect of using wordlists— was not addressed in the questionnaire. Instead, the questionnaire addressed use of self-made vocabulary cards rather than wordlists prepared by others like the CET wordlists. In addition, the interviewees were not asked to address the self-made vocabulary cards which were in the questionnaire. Hence, the difference between questionnaire data and interview data on this VLS may have attributed to the inconsistency in the questionnaire items and items generated in the interviews. As a result, more research with improved triangulation instruments is needed for clarification.

Likewise, as mentioned in section 4.4.2.1, the significant correlation between self-efficacy and vocabulary proficiency revealed in questionnaire survey seems to be supported only in the interviewees' responses addressing their present ability but not their potential ability in vocabulary learning. The differences in questionnaire data and interview data might have resulted from the different numbers of items addressing this VLB in the questionnaire and interviews. In the questionnaire, there were two items addressing the students' present ability in vocabulary learning, but one item addressing their potential ability. To compare, in the interviews, there was one item for each of the two aspects of this VLB. Therefore, the inconsistency in questionnaire and interview design in the present study may have contributed to the stronger positive correlation between this VLB and vocabulary proficiency in the questionnaire data. Hence, further studies with more consistent design for the data collection instruments are necessary for clarification.

Similarly, as mentioned in section 4.4.3, regarding the relationship between selective attention and vocabulary proficiency, interviews and the questionnaire survey yielded contradicting data. The interviews generated data on selective attention in two fields: extra work and note-taking. In both fields, a mixed relationship between this VLS and vocabulary proficiency was revealed, which contradicted the questionnaire findings.

However, these two fields are only parts of selective attention, and were not explored in the questionnaire. To compare, the questionnaire items focused on the learners' attention when encountering a new word. Since the interviewees were not required to address this aspect of selective attention, interview data may differ from the questionnaire data. Hence, further research with more consistent design of data collection instruments is needed for clarification.

Furthermore, as mentioned in section 4.4.2.2, the significant correlation between the VLB in "intentional study and use" and vocabulary proficiency was not supported in the interviews, where equal numbers of higher and lower proficiency interviewees held this VLB. These differences may have been caused by problems with both the questionnaire and interviews in the present study. On the one hand, items prescribed in the questionnaire by the researcher may have been misunderstood by the participants (Barcelos, 2003). On the other hand, beliefs are not static, they can change over time (Allen, 1996; Barcelos, 2003). As there was a two-week interval between the questionnaire survey and interviews, the students' VLB may have changed during this period. The items in the questionnaire might have served as incentives for a change in the students' VLB. However, the possible variation of VLB during the interval was not explored in the interviews. Thus, more in-depth questions are needed in future studies adopting interviews for data collection.

In addition, as mentioned in section 4.4.4, interviews also generated data contradicting to one another regarding the relationship between the VLB in self-efficacy and two VLSs—wordlist and emotional adjustment, as well as the relationship between the VLB in "intentional study and use" and the VLS of usage oriented note-taking. In the three cases, the differences in interview data may be attributed to the unbalanced number of interviewees holding either of these VLBs and those using each of these VLSs. The former is nearly twice the number of the latter. In addition, the possible VLB change in the interval between the questionnaire survey and the interviews may have played a role here as well. However, it was not explored in the interviews. Thus, the interviews did not provide sufficient information to check the consistency in the students' responses.

As a result, the reliability of relevant correlations revealed in the questionnaire survey is uncertain. Thus, improved interview design and a larger sample of interviewees are required in future research for clarification.

Besides, the present study tried to cover learning outcomes in both vocabulary learning and English language learning. However, due to time limitation, interviewees were selected mainly with reference to their scores in the vocabulary test, rather than those of the general English proficiency test (CET). As a result, the interviewees lacked in representation of their peers in terms of general English proficiency. This had led to failure in checking the reliability of correlations relevant to general proficiency revealed in the questionnaire survey with the interview data. Though correlation analysis show a moderately significant correlation between vocabulary proficiency and general proficiency at the CET2 level (See Table 13), inferring the relationships between VLS and general proficiency from those between VLS and vocabulary proficiency in the interview data is impossible. As vocabulary learning is only a part of English learning, VLS significantly correlated with vocabulary proficiency may not have a similar correlation with general proficiency (Gu & Johnson, 1996). Using CET scores as another criterion in the recruitment of interviewees would have improved the quality of the present study.

Apart from all these weaknesses, as this is an initial study on motivational VLB, more research on this issue is needed for confirmation of the patterns revealed in the present study. Improved research design is needed, such as equal numbers of questions in questionnaire and interviews addressing the same VLB/VLS, and addressing the same aspect of a VLB/VLS in questionnaire and interviews. Finally, as this is an exploratory study, correlations between VLB and learning outcomes, between VLS and learning outcomes and between VLB and VLS revealed in the present study do not mean causal links between them (Gall, Gall & Borg, 2005) . To explore the possible casual links between the factors in vocabulary learning, qualitative studies like longitudinal case studies exploring factors underpinning the change in VLB, VLS and learning outcomes will further our understanding of vocabulary learning.

NOTES

1. Unpublished MA thesis.
2. Unpublished MA thesis.
3. Conference paper.
4. National English teaching syllabus issued by the Ministry of Education, P. R. China.
5. Conference paper.
6. Unpublished MA thesis.
7. Unpublished PhD thesis.
8. Unpublished MA thesis.
9. Unpublished MA thesis.
10. Unpublished MA thesis.
11. Unpublished MA thesis.
12. Unpublished MA thesis.
13. Unpublished MA thesis.
14. Unpublished MA thesis.
15. Unpublished MA thesis.
16. Unpublished MA thesis.

REFERENCES

Allen, L. (1996). The evolution of a learner's beliefs about language learning. *Carleton Papers in Applied Language Studies, 5*(12), 67-80.

Allison, B., O'sullivan, T., Owen, A., Rice, J., A., R., Saunders, C., et al. (1996). *Research skills for students*. London, England: Kegan Paul.

Baba, k. (2009). Aspects of lexical proficiency in writing summaries in a foreign language. *Journal of Second Language Writing, 18*(3), 191-208.

Barcelos, A. M. F. (2003). Researching beliefs about SLA: A critical review. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA new research approaches* (pp. 7-34). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Barcroft, J. (2009). Effects of synonym generation on incidental and intentional L2 vocabulary learning during reading. *TESOL Quarterly, 43*(1), 79-103.

Boers, F., Demecheleer, M., & Eckmans, J. (2004). Etymological elaboration as a strategy for learning idioms. In P. Bogaards & B. Laufer (Eds.), *Vocabulary in a second language* (pp. 53-78). Amsterdam, The Netherlands: John Benjamins Publishing Company.

Bogaards, P., & Laufer, B. (2004). Introduction. In In P. Bogaards & B. Laufer (Eds.), *Vocabulary in a second language* (pp. vii-xiv). Amsterdam, The Netherlands: John Benjamins Publishing Company.

Brannen, J. (1992). Combining qualitative and quantitative approaches: An overview. In J. Brannen (Ed.), *Mixing methods: Qualitative and quantitative research* (pp. 3-38). Vermont: Ashgate Publishing Company.

Brown, J. D. (2001). *Using surveys in language programs.* Cambridge, England: Cambridge University Press.

Brown, C., & Payne, M. E. (1994). *Five essential steps of processes in vocabulary learning*. Paper presented at the meeting of the the TESOL convention, Baltimore, MD.

Bryman, A. (1992). Quantitative and qualitative research: Further reflections on their integration. In J. Brannen (Ed.), *Mixing methods: Qualitative and quantitative research* (pp. 57 - 78). Vermont: Ashgate Publishing Company.

Cameron, L. (2002). Measuring vocabulary size in English as an additional language. *Language Teaching Research, 6*(2), 145-173.

Carter, R. (1998). *Vocabulary: A linguistic perspective*. NY: Routledge.

Chamot, A. U., Barnhardt, S., El-Dinary, P. B., & Robbins, J. (1999). *The learning strategies handbook*. NY: Addison Wesley Longman, Inc.

Coverdale-Jones, T. (2006). Afterword: The Chinese learners in perspective. *Language, Culture and Curriculum, 19*(1), 148-153.

Craik, F., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology, 104*(3), 268-284.

Crothers, E., & Suppes, P. (1967). *Experiments in second language learning*. New York: Academic Press.

Cruse, D. A. (2000). The lexicon. In M. Aronoff & J. Rees-Miller (Eds.), *The handbook of linguistics* (pp. 238-264). Oxford, England: Blackwell publishing.

Day, R. R., Omura, C., & Hiramatsu, M. (1991). Incidental EFL vocabulary learning and reading. *Reading in a Foreign Language, 7*(2), 541-551.

Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2006). Synthesising qualitative and quantitave evidence: A review of possible methods. In A. Bryman (Ed.), *Mixed methods* (Vol. IV,

pp.31-53). London, England: Sage Publications.

Dornyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Dornyei, Z. (2007). *Research methods in applied linguistics*. Oxford, England: Oxford University Press.

Dornyei, Z., & Skehan, P. (2003). Individual differences in second language learning. In C. J. Doughty & M. Long (Eds.), *Handbook of second language acquisition* (pp. 589-630). Malden, MA: Blackwell.

Ehrman, M. E., & Oxford, R. L. (1995). Cognition Plus: Correlates of Language Learning Success. *The Modern Language Journal, 79*(1), 67-89.

Elley, W. B. (1989). Vocabulary acquisition from listening to stories. *Reading Research Quarterly, 24*(2), 174-187.

Ellis, R. (2008a). Learner beliefs and language learning. *Asian EFL Journal, 10*(4), 7-25.

Ellis, R. (2008b). *The study of second language acquisition* (2nd ed.). Oxford, England: Oxford University Press.

Erten, I. H., & Williams, M. (2008). A comparative look into how to measure the effectiveness of vocabulary learning strategies: Through using percentages or correlation coefficients. *Journal of Language and Linguistic Studies, 4*(2), 56-72.

Fan, M. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. *The Modern Language Journal, 87*(2), 222-242.

Fan, W. (2007). “中国高等职业教育现状及发展趋势”(*The present situation of higher vocational education in China).* Paper presented at the 2007 National Seminar of Higher Vocational Education, China. Retrieved from http://www.chinazy.org/Item/769.aspx

Freeman. (1998). *Doing teacher research: From inquiry to understanding*. Boston, MA: Heinle & Heinle.

Fu, Y. (2003). *Motivation and vocabulary learning strategies.* Unpublished master’s thesis, Southewest Jiaotong University, Chengdu, P.R. China.

Gall, J. P., Gall, M. D., & Borg, W. R. (2005). *Applying educational research: A practical guide*. Boston: Pearson Eduction.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston: Pearson Education.

Gitsaki, C. (1999). *Second language lexical acquisition: A study of the development of collocatioanal knowledge*. Bethesda, MD: International Scholars Publications.

Green, J. M., & Oxford, R. (1995). A closer look at learning strategies, L2 proficiency, and gender. *TESOL Quarterly, 29*(2), 261-297.

Greene, J. C. (2001). Mixing social inquiry methodologies. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 251-258). Washington DC: American Educational Research Association.

Griffiths, C. (2003). Patterns of language learning strategy use. *System, 31*(3), 367-383.

Gu, P. Y. (2005). *Vocabulary learning strategies in the Chinese EFL context*. Singapore: Marshall Cavendish Academic.

Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and languages learning outcomes. *Language Learning, 46*(4), 643-679.

Hatch, E., & Lazaraton, A. (1991). *The research manual: Design and statistics for applied linguistics.* Boston, MA: Heinle and Heinle Publishers.

Ho, Y. M. (2008). *A study of vocabulary learning strategies for Form Three students in an English-medium-instruction secondary school*. Unpublished master’s thesis, the University of Hong Kong, Hong Kong.

Hong-Nam, K., & Leavell, A. G. (2006). Language learning strategy use of ESL students in an intensive English learning context. *System, 34*(3), 399-415.

Horwitz, E. K. (1987). Surveying student beliefs about language learning. In A. L. Wenden & J. Rubin (Eds.), *Learning strategies in language learning* (pp. 119-132). London, England: Prentice Hall.

Horwitz, E. K. (1988). The beliefs about language learning of beginning university foreign language students. *The Modern Language Journal, 72*(3), 283-294.

Horwitz, E. K. (1999). Cultural and situational influences on foreign language learners' beliefs about language learning: A review of BALLI studies. *System, 27*(4), 557-576.

Hsiao, T. Y., & Oxford, R. (2002). Comparing theories of language learning strategies: A confirmatory factor analysis. *The Modern Language Journal, 86*(3), 368-383.

Hu, G. (2002). Potential cultural resistance to pedagogical imports: The case of communicative language teaching in China. *Language, Culture and Curriculum, 15*(2), 93-105.

Hymes, D. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.), *Sociolinguistics* (pp. 269-293). NY: Penguin.

Jiang, X., & Smith, R. (2009). Chinese learners' strategy use in historical perspective: A cross-generational interview-based study. *System, 37*(2), 286–299.

Jin, L., & Cortazzi, M. (2006). Changing practices in Chinese cultures of learning. *Language, Culture and Curriculum, 19*(1), 5 - 20.

Jin, Y., & Yang, H. (2006). The English proficiency of college and university students in China: As reflected in the CET. *Language, Culture and Curriculum, 19*(1), 21 - 36.

Johnson, D. M. (1992). *Approaches to research in second language learning*. NY: Longman.

Johnson, B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative and mixed approaches* (2nd ed.). Boston: Pearson Education.

Kalaja, P., & Barcelos, A. M. F. (2003). Introduction. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA new research approaches* (pp. 1-4). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Kerlinger, F. N. (1973). *Foundations of behavioral research* (2nd ed.). New York: Holt, Rinehart & Winston Inc.

Kern, R. G. (1995). Students' and teachers' beliefs about language learning. *Foreign Language Annals, 28*(1), 71-92.

Knight, S. (1994). Dictionary use while reading: The effects on comprehension and vocabulary acqusition for students of different verbal abilities. *The Modern Language Journal, 78*(2), 285-299.

Kojic-Sabo, I., & Lightbown, P. M. (1999). Students' approaches to vocabulary learning and their relationship to success. *The Modern Language Journal, 83*(2), 176-192.

Krashen, S., & Terrel, T. (1983). *The natural approach: Language acquisition in the classroom.* Oxford, England: Pergamon.

Kudo, Y. (1999). *L2 vocabulary learning strategies*. Retrieved from http://www.nflrc.hawaii.edu/Network/NW14/NW14.pdf.

Lawson, M. J., & Hogben, D. (1996). The vocabulary-learning strategies of foreign-language students. *Language Learning, 46*(1), 101-135.

Lewis, M. (1993). *The lexical approach: The state of ELT and a way forward*. Hove, England: Language Teaching Publications.

Li, S. (2007). An investigation into the present English demands of International Business. *Market Moderization, 34*(48), *229-231*.

Li, X. (2006). Vocabulary strategy use in first and second foreign language by English majors. *CELEA Journal, 29*(1), 40-46.

Li, X. P. (2004). *An analysis of Chinese EFL learners' beliefs about the role of rote- learning in vocabulary learning strategies.* Unpublished PhD thesis, University of Sunderland, Sunderland, UK.

Lightbown, P. M., & Spada, N. (1999). *How languages are learned*. Oxford, England: Oxford University Press.

Lou, Y. (2006). *Vocabulary learnling strategies.* Unpublished master's thesis, Shandong Universty, Jinan, P.R.China.

Lu, J. (2007). *Vocabulary learning strategies*. Unpublished master's thesis, Shandong University, Jinan, P.R. China.

Luppescu, S., & Day, R. R. (1993). Reading, dictionaries, and vocabulary learning. *Language Learning, 43*(2), 263-287.

Mackey, A. M., & Gass, S. M. (2005). *Second language research: Methodology and design*. NY: Lawrence Erlbaum Associations, Inc.

Marttinen, M. (2008). *Vocabulary learning strategies used by upper secondary school students studying English as a second language*. Unpublished master's thesis, University of Jyväskylä, Jyväskylä, Finland.

McCarthy, M. J. (1984). A new look at vocabulary in EFL. *Applied Linguistics, 5*(1), 12-22.

Meara, P. (1984). The study of lexis in interlanguage. In A. Davies, C. Criper & A. P. R. Howatt (Eds.), *Interlangugage: Papers in honour of S. Pit Corder,* (pp. 225-235). Edinburgh, UK: Edinburgh University Press.

Meara, P. (1992). *EFL vocabulary tests*. Centre for Applied Language Studies, University College, Swansea.

Ministary of Education, PRC. (2001). *The new English teaching syllabus for full-day secondary schools*. Beijing, P.R. China: Beijing Normal University Press.

Mitchell, R., & Myles, F. (2004). *Second language learning theories* (2nd ed.). London, England: Arnold.

Moir, J., & Nation, I.S.P. (2002). Learners' use of strategies for effective vocabulary learning. *Prospect, 17*(1), 15-35.

Myles, F., Hooper, J., & Mitchell, R. (1998). Rote or rule? Exploring the role of formulaic language in classroom foreign language learning. *Language Learning, 48*(3), 323-363.

Nation, I.S.P. (1990). *Teaching and learning vocabulary*. Boston, MA: Heinle & Heinle Publishers.

Nation, I.S.P. (2001). *Learning vocabulary in another language*. Cambridge, England: Cambridge University Press.

Nation, I.S.P. (2008). *Teaching vocabulary: Strategies and techniques*. Boston, MA: Heinle Cengage Learning.

Nattinger, J.R. & DeCarrico, J. S. (1992). *Lexical phrases and language teaching.* Oxford, England: Oxford University Press.

Nemati, A. (2008). Using and rankings of vocabulary learning strategies by India EFL learners. *Language in India, 4*, 1-11.

O'Mally, J., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge, England: Cambridge University Press.

Oxford, R. (1990). *Language learning strategies: What every teacher should know.* NY: Newbury House.

Oxford, R. (1994). *Language learning strategies: An update. ERIC Digest*. Retrieved from http://www.cal.org/ericcll/digest/oxford01.html.

Pan, G. (2006). *Vocabulary learnig strategies*. Unpublished master's thesis, Shandong University , Jinan, P.R.China.

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Pavicic, V. (2007). *Vocabulary learning strategies and foreign language acquisition*. Clevedon, UK:

Multilingual Matters Ltd.

Peacock, M. (1999). Beliefs about language learning and their relationship to proficiency. *International Journal of Applied Linguistics, 9*(2), 247-265.

Pitts, M., White, H., & Krashen, S. (1989). Acquiring second language vocabulary through reading: A replication of the Clockwork Orange study using second language acquirers. *Reading in a Foreign Language, 5*(2), 271-275.

Politzer, R. L. (1978). Errors in English speakers of German as perceived and evaluated by German natives. *Modern Language journal, 62*(4),253-261.

Porte, G. (1988). Poor language learners and their strategies for dealing with new vocabulary. *ELT Journal, 42*(3), 167-172.

Qian, D. D. (2004). Second language lexical inferencing: preferences, perceptions, and practices. In P. Bogaards & B. Laufer (Eds.), *Vocabulary in a second language* (pp.153-171). Amsterdam, the Nethelands: John Benjamins Publishing Company.

Richards, J. C. (1976). The role of vocabulary learning. *TESOL Quarterly, 10*(1), 77-89.

Richards, J. C. (2000). Series editor's preface. In N. Schmitt (Ed.), *Vocabulary in language teaching* (pp. xi-xii). Cambridge, England: Cambridge University Press.

Richards, J. C., & Rodger, T. S. (1986). *Approaches and methods in language teaching: A description and analysis*. NY: Cambridge University Press.

Robinson, P. J. (1989). A rich view of lexical competence. *ELT Journal, 43*(4), 274-282.

Rubin, J. (2005). The expert language learner: A review of good language learner studies and learner strategies. In K. Johnson (Ed.), *Expertise in second language learning and teaching* (pp. 37-63). NY: Palgrave Macmillan.

Sale, J. E. M., & Brazil, K. (2006). A strategy to identify critical appraisal criteria for primary mixed-method studies. In A. Bryman (Ed.), *Mixed methods* (Vol. IV, pp. 55-70). London: Sage Publications.

Sanaoui, R. (1995). Adult learners' approach to learning vocabulary in second languages. *The Modern Language Journal, 79*(2), 15-28.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Shmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp.199-227). Cambridge, England: Cambridge University Press.

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge, England: Cambridge University Press.

Schmitt, N., & Shmitt, D. (1993). Identifying and assessing vocabulary learning strategies. *Thai TESOL Bulletin, 5*(4), 27-33.

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test. *Language Testing, 18*(1), 55-88.

Seliger, H., & Shohamy, E. (1989). *Second language research methods*. Oxford, England: Oxford University Press.

Shek, M. S. (2007). *A comparative study of the vocabulary learning strategies and vocabulary size between EMI (English as a medium of instruction), CMI (Chinese as a medium of instruction) and partial EMI secondary six students in Hong Kong*. Unpublished master's thesis, the University of Hong Kong, Hong Kong.

Si, J. (2005). An investigation report on the learning strategies use of the students of vocational colleges. *Foreign Language Teaching Abroad, 1*(4), 23-27.

Subasi, G. (2007, November 21-24). *What are the vocabulary learning beliefs and strategies of Turkish EFL learners?* Paper presented at the LED 2007 Conference, Hamilton, New Zealand. Retrieved from

http://www.bildiri.anadolu.edu.tr/papers/materyel/114-913d60.ppt

Sun, W. (2006). *Vocabulary learning strategies*. Unpublished master's thesis, Shandong University, Jinan, P.R.China.

Tanaka, L., & Ellis, R. (2003). Study abroad, language proficiency, and learner beliefs about language learning. *JALT Journal, 25*(1), 63-85.

Teijlingen, E. R. V., & Hundley, V. (2001). *Social Research Update, 4*(35), 1-4.

Tseng, W., Dornyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics, 27*(1), 78-102.

Victori, M. (1999a). An analysis of writing knowledge in EFL composing: a case study of two effective and two less effective writers. *System, 27*(4), 537-555.

Victori, M. (1999b). *Methodological issues in research on learners' beliefs about language learning*. Paper presented at the meeting of the 12th World Congress of Applied Linguistics (AILA99), Tokyo, Janpan.

Wang, W. (1998). Beliefs, strategies and memorization of English vocabulary. *Foreign Languages Teaching and Research, 113*(1), 47-52.

Wen, Q., & Johnson, R. K. (1997). L2 Learner Variables and English Achievement: A Study of Tertiary-level English Majors in China. *Applied Linguistics, 18*(1), 27-48.

Wenden, A. L. (1986). What do second-language learners know about their language learning? A second look at retrospective accounts. *Applied Linguistics, 7*(2), 186-205.

Wenden, A. L. (1987). How to be a successful language learner: Insights and prescriptions from L2 learners. In A. L. Wenden & J. Rubin (Eds.), *Learner Strategies in Language Learning* (pp. 103-118). London, England: Prentice-Hall.

Wu, M. M. (2008). Language learning strategy use of Chinese ESL learners of Hong Kong-findings from a qualitative study. *Journal of Foreign Language Teaching, 5*(1), 68–83.

Wu, W. (2005). Use and helpfulness rankings of vocabulary learning strategies employed by EFL learners in Taiwan. *Journal of Humanities and Social Sciences, 1*(2), 7–13.

Wu, W. (2006). *Vocabulary learning strategies*. Unpublished master's thesis, Shandong University, Jinan, P.R.China.

Yang, N. (1999). The relationship between EFL learners' beliefs and learning strategy use. *System, 27*(4), 515-535.

Yang, S. (2006). *Vocabulary learning strategies*. Unpublished master's thesis, Shandong University, Jinan, P.R.China.

Yuen, C. G. (2002). *Secondary students English learning beliefs and oral proficiency: A Hong Kong case study*. Unpublished master's thesis, the University of Hong Kong. Hong Kong.

Zhang, Y. (2005). *Vocabulary learning strategies.* Unpublished master's thesis, Shandong University, Jinn, P.R.China.

Zimmerman, C. B. (1997). Historical trends in second language vocabulary instruction. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 5-19). Cambridge, England: Cambridge University Press.

.

Appendix A Introduction to the study

Introduction to the study

(purpose of the study and procedure for questionnaire, vocabulary size test and interview)

Investigator: Su Li
MA student in Applied Language Studies
School of Languages and Social Sciences, AUT University
Tel: (China) +86 28 87774726
(New Zealand) +64 211012431
E-mail: (dds3236@aut.ac.com)
lisuanna @126.com
leesue25@yahoo.com

Purpose: The purpose of the study is to gain a better understanding of the relationship between English vocabulary learning beliefs and strategies among the vocational college students in China. Besides, the study will explore how such students' English vocabulary learning beliefs and strategies are related to their vocabulary size and English learning achievement.

Procedure for questionnaire, vocabulary size test and interview: After receiving information about the majors and courses of the students, the investigator will seek participation of the students and their English and class teachers.

First, the students will finish a questionnaire about their English vocabulary learning beliefs and strategies, then they will finish an English vocabulary size test. After the preliminary data analysis, the investigator will interview some of the participants for a better understanding of their English vocabulary learning beliefs and strategies, and explore any possible English vocabulary learning beliefs and strategies that the students hold but which are not covered in the questionnaire. After that, the student participants' English teachers will be interviewed individually for their perception of the general pattern of their students' English vocabulary learning strategies (in order to explore the

differences between students' self-report and the teachers' perception).

The data collection will last 2-3 months. The questionnaire and vocabulary size test will take about 20 minutes respectively. The interview with students in groups of four/five will take 30 minutes each time, while the interview with the teachers will take about 15 minutes each. The interviews will be audio-taped, and the investigator will take notes during the interviews.

Confidentiality: The questionnaire and vocabulary size test will bear no names. These will be identified with a number or a pseudonym the student prefers. In the interviews, pseudonyms will be used.

Any information from this study will be kept strictly confidential. Participants will not be identified in any reports of the completed study as no names will be used in the reports.

课题介绍

（课题研究目的及问卷调查，
词汇量测试与访谈的步骤）

研究者：李粟
新西兰 AUT 大学语言及社会科学系运用语言研究专业硕士生
E-mail: dds3236@aut.ac.nz
lisuanna @126.com
leesue25@yahoo.com

目的：本课题旨在更好地了解中国高职院校学生的英语词汇学习信念和策略间的关系。另外，本课题还将探寻学生英语词汇学习信念和策略与其词汇量和英语学习综合成绩间的关系。

步骤：取得学生专业及课程信息后，研究者将寻求学生及其英语教师和班主任/班导师的参与。

学生将首先完成一份关于其英语词汇学习信念和策略的调查问卷， 然后完成一份词汇量测试试卷。在对数据进行初步分析后，研究者将访谈部分完成调查问卷和词汇量测试的学生， 以进一步理解学生的词汇学习信念和策略， 并探寻调查问卷所未覆盖到的学生词汇学习信念和策略。

之后，研究者将访谈参与本课题的学生的英语教师和班主任/班导师， 了解他们自己班级学生词汇学习策略的总体使用情况。

数据采集将持续 2-3 个月。调查问卷和词汇量测试将分别占用约 20 分钟。与学生的访谈（组访谈）每次将占用约 30 分钟，与教师的访谈每次将占用约 15 分钟。每次访谈都将录音，同时研究者将记笔记。

保密措施：调查问卷和词汇量测试试卷上都将不会出现学生真实姓名，仅以代号或学生自选的假名识别。访谈中将使用假名。

本课题所获得的任何信息都将受到严格的机密保护。研究结束后，任何报告都不会识别参与者的姓名。

Appendix B Letter of Consultation

AUT
UNIVERSITY
TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

Letter of Consultation

Sichuan Business Vocational College
Address: No.88 Hesheng Avenue, Wenjiang district, Chengdu, Sichuan Province, P.R. China, 610091
E-mail of liaison: zhangqian585@163.com
Date: July 16, 2009

To whom it may concern:

This is to confirm that Miss Su Li, an MA student in Applied Language Studies at School of Languages and Social Sciences, AUT University, New Zealand has already undertaken consultation with me about the suitability and usefulness of her research design and instruments.

After intensified discussion, Associate President in charge of teaching affairs —Associate Professor Xu Danya and I consent that Su Li's research project will not only benefit the students, but also the English teaching and research at our college.

Therefore, on behalf of Sichuan Business Vocational College, I am willing to permit her to collect data with the students and teachers at our college for her research project on students' vocabulary learning.

Should you need further information concerning her issues, please do not hesitate to contact me at the address above.

Yours sincerely,

Zhang Qian

Associate Prof. Zhang Qian

Head of the Research Department of Sichuan Business Vocational College

Appendix C Participant Information Sheet for students

Participant Information Sheet

(for student participants)

Date Information Sheet Produced:

24 July, 2009

Project Title:

Vocabulary learning beliefs, strategies, and English learning outcomes

An Invitation

I'm an MA student majoring in Applied Language Studies at AUT University. The study on the correlation between vocabulary learning beliefs and strategies, and their correlation with vocabulary size and English learning achievement, is the topic of my MA thesis.

You are warmly invited to participate in the study. Your participation will be highly appreciated. You may withdraw yourself or any information that you have provided for this project at any time prior to the completion of data collection, without being disadvantaged in any way. If you withdraw, all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

What is the purpose of this research?

The research is to find out how vocabulary learning beliefs and strategies are correlated to each other, and how they are correlated with vocabulary size and English learning achievement to help English teaching and learning practice. As a result, reports, papers and articles based on the thesis may be published in the future.

How was I chosen for this invitation?

You are chosen because you are majoring in International Business and Economy in the only vocational college that specializes in business in Sichuan, China, and English is a working language in the day-to-day activities of International Business and Economy nowadays. Hence, you are warmly invited to be a participant of the study.

What will happen in this research?

There will be a questionnaire on your opinions and ways in vocabulary learning and an audio-recorded

interview with the researcher. Questions on the same issue will be asked. The researcher will take notes during the interview. There will also be a vocabulary size test. Your CET score will be asked in the questionnaire.

What are the discomforts and risks?

There will be no risk at all and I do not expect that you will feel any form of discomfort. If you do, please feel free to discuss any issue with me, your class teacher, the dean of your department, or the Head of the Research Department.

How will these discomforts and risks be alleviated?

If your feel uncomfortable about the recording or interview, any question will be skipped without being answered, or the recording and/or interview will be stopped at any time you say so to the interviewer, and you will not be disadvantaged in any way.

If your feel uncomfortable about or during answering the questionnaire or the vocabulary size test, you are free to quit it at any time or skip any question without answering it， and you will not be disadvantaged in any way.

What are the benefits?

The results of the study will inform English teaching and learning on the correlation between vocabulary learning beliefs and strategies, and their correlation with vocabulary size and English learning achievement—which has not received much attention in the research literature. Particularly, participating in the study (the questionnaire, vocabulary size test and interview) would help you to reflect your vocabulary learning process, and you will have a better understanding of your own vocabulary learning. Thus, it is expected that you will be able to make adjustments accordingly to facilitate your English learning.

How will my privacy be protected?

Your questionnaire and vocabulary size test paper will not have your real name on them. These will be identified by a pseudonym like an English name you prefer. These papers will be held by only the researcher and the supervisor. They will not be seen by anybody else.

In the interview, a pseudonym will be used too instead of your real name. The tape will be transcribed by the researcher. Only the student researcher and the supervisor have access to them, and they will not know your real name.

What are the costs of participating in this research?

The questionnaire will take you about 25 minutes and vocabulary size test will take you about 15 minutes. The interview will take about 15 minutes.

What opportunity do I have to consider this invitation?

You will have 2 days to think it over from now on. If you decide not to take part, it will have no effect on your final results for your class. Participating in this research project is purely voluntary.

How do I agree to participate in this research?

You need to complete a Consent Form before you participate.

Will I receive feedback on the results of this research?

Yes. If you wish, please tick or circle accordingly the relevant item on the Consent Form, and you will receive a copy of report on the research when it is completed.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Prof. John Bitchener,
john.bitchener@aut.ac.nz, 921 9999 ext7830.
Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, *madeline.banda@aut.ac.nz* , 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:

Su Li, dds3236@aut.ac.nz; leesue25@yahoo.com

Project Supervisor Contact Details:

Prof. John Bitchener, john.bitchener@aut.ac.nz, 921 9999 ext7830.

Approved by the Auckland University of Technology Ethics Committee on Aug.26, 2009, AUTEC Reference number 09/179.

参与者须知

（ 适用于学生）

制作日期:

2009 年 7 月 24 日

课题名称：*词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系*

邀请：

我是一名奥克兰理工大学应用语言研究专业的硕士生。我的硕士毕业论文的题目是词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系。
诚邀你参与此课题研究并感谢你的参与。在数据采集结束前的任何时段，你都可以退出研究，或收回你为此课题提供的任何信息。此举不会对你产生任何负面影响。一旦你退出此研究，所有相关信息，包括磁带、访谈记录或相关部分，都将被销毁。

此课题研究的目的是什么？

此课题研究旨在探寻词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系以促进英语教学和学习。因此，以此学位论文为基础的报告论文或文章将来可能会发表。

为何邀请我参与此课题研究？

邀请你是因为你是中国四川省唯一一所集内外贸为一体的职业学院中的外经贸专业学生。而在中国，英语是外经贸日常工作的工作语言之一。因此，诚邀你参与此课题研究。

研究奖以什么方式进行？

研究将采用问卷调查、词汇量测试和与研究者进行个人访谈的形式。问卷调查将询问一些关于你的词汇学习观念和策略的问题， 及一些相关信息如 CET 2 考试成绩。个人访谈将录音同时由研究者做笔录。录音将由研究者整理成访谈记录。

会有什么不适或危险吗？

此研究不会带来任何危险。你也不会有任何形式的不适感。如果你有此感觉，请随时与我或你的班主任， 系主任或科研处处长商讨。

有何措施减轻不适或危险?

如果你在访谈或录音的过程中感觉不适，你可随时告知研究者，该问题可跳过不答，或者录音或访谈将立即中止，且不会对你产生任何负面影响。
如果你在回答调查问卷或词汇量测试的过程中感觉不适，你可随时中止答题 或跳过不答该问题。任何一种情形都不会对你产生任何负面影响。

参与此课题研究我有何受益?

此课题研究旨在探寻词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系。这是一个尚未受到重视的领域。研究结果有望为英语教学和学习提供有价值的信息。尤其是作为参与此课题的学生，调查问卷，访谈和词汇量测试将有助于你反思你的英语词汇学习过程，你将更了解自己的英语词汇学习，从而有望更有效地学好英语。

将如何保护我的隐私权?

调查问卷和词汇量测试卷上将使用你的假名，如英文名，而非真名。只有研究者及其导师能接触这些资料。

访谈中亦将使用假名而非你的真名。录音将由研究者整理成访谈记录。此后只有研究者及其导师能接触这些资料。他们将不知道你的真名。

参与此课题研究我将有何付出?

问卷调查将持续 25 分钟左右。词汇量量测试将持续 15 分钟左右。访谈将持续 15 分钟左右。

我有何机会考虑此邀请?

从现在起你有 2 天时间仔细考虑。若你决定不参与，对你不会产生任何负面影响。参与此课题研究纯属自愿。

这样表示我同意参与此课题研究?

参与此课题前，你须签一份同意书。

我回得到此研究的反馈吗?

是的。若你有此意图，请在同意书上的相关项目旁打勾或画圈。据此，在研究 结束后，你将得到一份研究报告的副本。

我将如何处理与此研究相关的事宜?

任何与此研究性质相关的事宜请首先与此课题的导师联系，John Bitchener 教授，*john.bitchener@aut.ac.nz, 921 9999 ext7830*.
与此研究操作原则相关的事宜请与奥克兰理工大学伦理委员会执行秘书联系, Madeline Banda, *madeline.banda@aut.ac.nz* , 921 9999 ext 8044.

更多关于此研究的信息与谁联系?

请与研究者及其导师联系。

研究者的联系方式:

Su Li, dds3236@aut.ac.nz; leesue25@yahoo.com

研究者导师的联系方式:

John Bitchener 教授, john.bitchener@aut.ac.nz, 921 9999 ext7830.

于 26/08/2009 由奥克兰理工大学伦理委员会通过。参考文号：09/179.

Appendix D Participant Information Sheet for teachers

Participant Information Sheet

（for teacher participants）

Date Information Sheet Produced:

24 July, 2009

Project Title：

Vocabulary learning beliefs, strategies, and English learning outcomes

An Invitation

I'm an MA student majoring in Applied Language Studies at AUT University. The study on the correlation between vocabulary learning beliefs and strategies, and their correlation with vocabulary size and English learning achievement, is the topic of my MA thesis.

You are warmly invited to participate in the study. Your participation will be highly appreciated. You may withdraw yourself or any information that you have provided for this project at any time prior to the completion of data collection, without being disadvantaged in any way. If you withdraw, all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

What is the purpose of this research?

The research is to find out how vocabulary learning beliefs and strategies are correlated to each other, and how they are correlated with vocabulary size and English learning achievement to help English teaching and learning practice. As a result, reports, papers, and articles based on the thesis may be published in the future.

How was I chosen for this invitation?

You are chosen because you are an English teacher of students majoring in International Business and Economy in the only vocational college that specializes in business in Sichuan, China，and English is a working language in the day-to-day activities of International Business and Economy nowadays. Hence, you are warmly invited to be a participant of the study.

What will happen in this research?

There will be an audio-recorded interview with the researcher, who will take notes simultaneously. The interview will last for about 15 minutes. Questions on your students' ways of vocabulary learning will be asked.

What are the discomforts and risks?

There will be no risk at all and I do not expect that you will feel any form of discomfort. If you do, please feel free to discuss any issue with me, the dean of your department, or the Head of the Research Department.

How will these discomforts and risks be alleviated?

If your feel uncomfortable about the recording or interview, any question will be skipped without being answered, or the recording and/or interview will be stopped at any time you say so to the interviewer, and you will not be disadvantaged in any way.

What are the benefits?

The results of the study will inform English teaching and learning on the correlation between vocabulary learning beliefs and strategies, and their correlation with vocabulary size and English learning achievement—which has not received much attention in literature. Particularly, as the teacher of student participants, you will have a better understanding of your students' vocabulary learning. Thus, it is expected that you will be able to help them more efficiently with their English learning.

How will my privacy be protected?

In the interview, a pseudonym will be used instead of your real name. The tape will be transcribed by the researcher. Only the researcher and the supervisor will have access to them, and they will not know your real name.

What are the costs of participating in this research?

The interview will take about 15 minutes.

What opportunity do I have to consider this invitation?

You will have 2 days to think it over from now on. If you decide not to take part, it will have no effect on you. Participating in this research project is purely voluntary.

How do I agree to participate in this research?

You need to complete a Consent Form before you participate.

Will I receive feedback on the results of this research?

Yes. If you wish, please tick the relevant item on the Consent Form, and you will receive a copy of report on the research when it is completed.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Prof. John Bitchener, *john.bitchener@aut.ac.nz, 921 9999 ext7830*.
Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, *madeline.banda@aut.ac.nz* , 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:
Su Li, dds3236@aut.ac.nz; leesue25@yahoo.com
Project Supervisor Contact Details:
Prof. John Bitchener, john.bitchener@aut.ac.nz, 921 9999 ext7830.

Approved by the Auckland University of Technology Ethics Committee on Aug.26, 2009, AUTEC Reference number 09/179.

参加者须知

（适用于教师）

制作日期:

2009 年 7 月 24 日

课题名称：*词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系*

邀请：

我是一名奥克兰理工大学应用语言研究专业的硕士生。我的硕士毕业论文的题目是词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系。
诚邀你参与此课题研究并感谢你的参与。在数据采集结束前的任何时段，你都可以退出研究，或收回你为此课题提供的任何信息。此举不会对你产生任何负面影响。一旦你退出此研究，所有相关信息，包括磁带、访谈记录或相关部分，都将被销毁。

此课题研究的目的是什么？

此课题研究旨在探寻词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系以促进英语教学和学习。因此，以此学位论文为基础的报告论文或文章将来可能会发表。

为何邀请我参与此课题研究？

邀请你是因为你是中国四川省唯一一所集内外贸为一体的职业学院中外经贸专业学生的英语老师。而在中国，英语是外经贸日常工作的工作语言之一。因此，诚邀你参与此课题研究。

研究奖以什么方式进行？

研究将采用录音访谈的形式。同时由研究者做笔录。访谈将持续约 15 分钟。录音将由研究者整理成访谈记录。访谈将询问一些关于你的学生的词汇学习方面的问题。

会有什么不适或危险吗?

此研究不会带来任何危险。你也不会有任何形式的不适感。如果你有此感觉，请随时与我或你的系主任或科研处处长商讨。

有何措施减轻不适或危险?

如果你在访谈或录音的过程中感觉不适，你可随时告知研究者，该问题可跳过不答， 或者录音或访谈将立即中止，且不会对你产生任何负面影响。

参与此课题研究我有何受益?

此课题研究旨在探寻词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系。这是一个尚未受到重视的领域。研究结果有望为英语教学和学习提供有价值的信息。尤其是作为参与此课题的学生的老师，你将更了解你班学生的英语词汇学习，从而有望更有效地帮助他们学好英语。

将如何保护我的隐私权?

访谈中将使用假名而非你的真名。录音将由研究者整理成访谈记录并由你核查。此后只有研究者及其导师能接触这些资料。他们将不知道你的真名。

参与此课题研究我将有何付出?

访谈将持续 15 分钟左右。

我有何机会考虑此邀请?

从现在起你有 2 天时间仔细考虑。若你决定不参与，对你不会产生任何负面影响。参此课题研究纯属自愿。

怎样表示我同意参与此课题研究?

参与前你须签一份同意书。

我会得到此研究的反馈吗?

是的。若你有此意图，请在同意书上的相关项目旁打勾。据此，在研究结束后，你将得到一份研究报告的副本。

我将如何处理与此研究相关的事宜?

任何与此研究性质相关的事宜请首先与此课题的导师联系, John Bitchener 教授, john.bitchener@aut.ac.nz, *921 9999 ext7830.*
与此研究操作原则相关的事宜请与奥克兰理工大学伦理委员会执行秘书联系, Madeline Banda, *madeline.banda@aut.ac.nz* , 921 9999 ext 8044.

更多关于此研究的信息与谁联系?

请与研究者及其导师联系。

研究者的联系方式:

Su Li, dds3236@aut.ac.nz; leesue25@yahoo.com

研究者导师的联系方式:

John Bitchener 教授 , john.bitchener@aut.ac.nz, 921 9999 ext7830.

Appendix E Consent Form

Consent Form

For use when interviews are involved.

Project title: ***V****ocabulary learning beliefs, strategies, and English learning outcomes*

Project Supervisor: *Prof. John Bitchener*

Researcher: *Su Li*

○ I have read and understood the information provided about this research project in the Information Sheet dated 24 July, 2009.

○ I have had an opportunity to ask questions and to have them answered.

○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.

○ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.

○ If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

○ I agree to take part in this research and allow my speech and information in it to be used for the second language teaching and learning study.

○ I understand only the researcher and the supervisor have access to the tape with my speech. It will always be kept confidential.

○ I wish to receive a copy of the report from the research (please tick one):

Yes○ No○

Participant's signature : .....……

Participant's name: .....……..

Participant's Contact Details (if appropriate): ……

Date:

Approved by the Auckland University of Technology Ethics Committee on Aug. 26, 2009, AUTEC Reference number 09/179.

Note: The Participant should retain a copy of this form.

同意书

（用于个人访谈）.

课题名称：词汇学习观念和策略间的关系其与词汇量、英语学习成绩的关系
导师： John Bitchener 教授
研究者： Su Li

- ○ 我已阅读并理解 2009 年 7 月 16 日的课题参与须知上关于此课题研究的介绍。
- ○ 我已有机会提出质疑并得到解答。
- ○ 我知道个人访谈会录音并同时由研究者做笔录。录音将被整理成访谈记录。
- ○ 我知道在数据采集结束前的任何时段，我都可以退出研究，或收回我为此课题提供的任何信息。此举不会对我产生任何负面影响。
- ○ 我知道一旦我退出此研究，所有相关信息，包括磁带、访谈记录或其中的相关部分，都将被销毁。
- ○ 我同意参加此课题研究，并允许我的言谈及其所包含的信息用于关于外语教学和学习的研究。
- ○ 我知道只有研究者及其导师能接触含有我言谈的磁带。它将一直作为机密资料保管。
- ○ 我希望得到一份这次研究报告的副本（请打勾） 是○ 否 ○

参与者签字：

……

参与者姓名：

……

参与者的联系方式（如果方便话）：

……..
……..
……..

日期:

于 2009 年 8 月 26 日 由奥克兰理工大学伦理委员会通过。参考文号：09/179

注: 参加者应持有一份此同意书的副本。

Appendix F Vocabulary learning questionnaire

Vocabulary learning questionnaire

English name: **Gender:**

CET score: **The year taken CET:**

Major: **Grade:**

Age:

Dear participant:

Thank you for your kind participation. The purpose of the questionnaire is to explore the vocabulary learning beliefs and strategies of vocational college students in P.R. China. Please fill out the questionnaire according to your situation. This is *not* a test, there is no right or wrong answer. Do not spend too much time on a question. Usually, your first reaction is the best.

Thanks for your cooperation.

Section 1: Beliefs about vocabulary learning

Please weigh the following statements by circling an appropriate number.
1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Metacognitive beliefs:

Opinion about VLS: Memorization

1. Once the English equivalents of all Chinese words have been remembered, English is learned.

   1 2 3 4 5

2. The best way to remember words is to memorize word lists or dictionaries.

   1 2 3 4 5

3. English words have fixed meanings. 1 2 3 4 5

4. You can only acquire a large vocabulary by memory of individual words.

   1 2 3 4 5

Opinion about VLS: Acquisition:

1. One can expand his vocabulary simply through reading a lot. 1 2 3 4 5

2. Guessing words in context is one of the best ways to learn vocabulary.

   1 2 3 4 5

3. When you come across a word several times indifferent contexts, you will know what it means.

   1 2 3 4 5

Opinion about VLS: Intentional study and use:

1. Words studied should be put to use before they are finally learned.

   1 2 3 4 5

2. Using the language is more important than memorize words. 1 2 3 4 5

3. The least a learner should know about a word is its form, its meaning, and its basic usage.

   1 2 3 4 5

Motivational beliefs:

Self-efficacy:

1. I believe my vocabulary learning can reach a level better than half of my classmate.
   1 2 3 4 5

2. I'm sure I have my own ways to motivate myself in Vocabulary learning.
   1 2 3 4 5

3. I'm sure I have my own ways to help me remember the words I learnt.
   1 2 3 4 5

Importance for tests:

1. I'm motivated to learn English vocabulary because I believe it is very important for passing tests (eg. CET).
   1 2 3 4 5

Interests in vocabulary learning:

1. Learning vocabulary is interesting. 1 2 3 4 5

2. I like learning vocabulary. 1 2 3 4 5

(Adapted from Gu & Johnson, 1996)

Section 2: vocabulary learning strategies

Please weigh the following statements by circling an appropriate number.
1 = not true to me at all, 2 = seldom true to me, 3 = sometimes true to me,
4 = often true to me, 5 = always true to me

Metacognitive VLS:

Selective attention:

1. I look up words that I'm interested in. 1 2 3 4 5

2. When I meet a new word, I have a clear sense of whether I need to remember it.
   1 2 3 4 5

3. I know what cues I should use in guessing the meaning of a particular word.

1 2 3 4 5

4. I make a note of words that seem important to me. 1 2 3 4 5

Self-initiation:

1. Besides textbooks, I look for other readings that fall under my interest.

1 2 3 4 5

2. I learn what my English teacher doesn't tell us to learn.

1 2 3 4 5

3. I do not only focus on things that are directly related to exams.

1 2 3 4 5

4. I care about vocabulary items that teacher doesn't explain in class.

1 2 3 4 5

Cognitive VLS:

Guessing strategies: Contextual guessing

1. I used alternative cues and try again if I fail to guess the meaning of a word.

1 2 3 4 5

2. I make use of the logical development in the context. 1 2 3 4 5

3. I make use of my common sense and knowledge of the world when I guess the meaning of a word.

1 2 3 4 5

4. I search for the examples in the context when I guess the meaning of a word.

1 2 3 4 5

Dictionary strategies: Dictionary strategy for comprehension

1. When I see an unfamiliar word again and again, I look it up. 1 2 3 4 5

2. When not knowing a word prevents me from understanding a whole sentence or even paragraph, I look it up.

1 2 3 4 5

3. I look up words that are crucial to the understanding of the sentence or even paragraph in which it appears.

1 2 3 4 5

Dictionary strategies: Extended dictionary strategy

1. I pay attention to the examples of use when I look up a word in a dictionary.

1 2 3 4 5

2. I look for expressions or set phrases that go with the word. 1 2 3 4 5

3. When looking up a word in a dictionary, I read sample sentence illustrating various meaning of the word.

1 2 3 4 5

4. If the unknown appeared to be an irregularly inflected form or a spelling variant, I will scan nearby entries.

1 2 3 4 5

Note-taking strategies: Meaning-orientated note-taking

1. I write down the English synonyms or explanations of the word I look up.

1 2 3 4 5

2. I write down both Chinese equivalent and English synonyms of the word I look up.

1 2 3 4 5

Usage-orientated note-taking strategy

1. I make a note when I see a useful phrase or expression. 1 2 3 4 5

2. I take down the collocations of a word I look up. 1 2 3 4 5

3. I note down the examples showing the usages of the word I look up.

1 2 3 4 5

Memory strategy: rehearsal

Using word list

1. I make vocabulary cards and take them with me wherever I go. 1 2 3 4 5

2. I make regular and structured reviews of new words I have memorized.

1 2 3 4 5

Repetition

1. When I try to remember a word, I repeat it aloud to myself. 1 2 3 4 5

2. I write down both the new words and their Chinese equivalent repeatedly in order to remember them.

1 2 3 4 5

Memory strategy: Encoding

Association/elaboration:

1. I remember a group of new words that share a similar part in spelling.

1 2 3 4 5

2. I associate a group of new words that share a similar part in spelling with a known word that look or sound similar to the shared part.

1 2 3 4 5

Imagery:

1. I create a mental image of the new word to help me to remember it.

1 2 3 4 5

2. I associate one or more letters in a word with the word meaning to help me to remember it.

1 2 3 4 5

Auditory encoding

1. I remember together words that sound similar. 1 2 3 4 5

2. I remember together words that are spelled similarly. 1 2 3 4 5

3. I associate a new word with a known English word that sounds similar.

1 2 3 4 5

Word structure

1. I analyze words in terms of prefixes, stems, and suffixes. 1 2 3 4 5

2. I deliberately study word-formation rules in order to remember more words.

1 2 3 4 5

3. I memorize the commonly used stems and affixes. 1 2 3 4 5

Contextual encoding;

1. When I try to remember a word, I try to remember the sentence in which the word is used.

1 2 3 4 5

2. I deliberately read books in my area of interest so that I can find out and remember the special terminology that I know in Chinese.

1 2 3 4 5

3. I remember the words together with its context, and pay attention to the extend of its collocation, part of speech and meanings.

1 2 3 4 5

Activation strategies:

1. I try to read as much as possible so that I can use the words I try to remember.

1 2 3 4 5

2. I make up my own sentence suing the words I just learned. 1 2 3 4 5

3. I try to use newly learned words in real situations. 1 2 3 4 5

Social VLS: Communication and cooperation:

1. When I encounter a new word, I would turn to a teacher for its meaning.

1 2 3 4 5

2. I review mew words with my friends/classmates. We play games like crossword puzzles, or one says an English word, the other translates it into Chinese, or define it in simpler English.

1 2 3 4 5

3. I share my experience and feelings in vocabulary learning with others.

1 2 3 4 5

Affective VLS: Emotion adjustment:

1. When I encounter difficulty in vocabulary learning, I encourage myself to overcome it and fulfill the learning task. For example: I say to myself that vocabulary learning is not that difficult, I can learn it well.

1 2 3 4 5

2. When in a negative mood while learning vocabulary, such as boring, I will control or adjust my emotion, then go on with study.

1 2 3 4 5

(Adaped from Gu & Johnson, 1996)

Section 3: Background information

1. Which year did you start to learn English?

2. Do you remember your scores on listening and reading sections in CET 2? (please circle one): Yes No

3. If so, can you tell me what are they?
   Listening: reading:

4. What was the most difficult part for you in CET 2?

5. What is the most difficult part for you in English learning?

6. Have you taken CET 3? (please circle one): Yes No

7. If so, would you please tell me your score on it or whether you have passed it?

词汇学习调查问卷

（答案请写在答题纸上）

英文名字： **英语水平考试成绩：**

参加考试时间 (年)： **专业班级名称；**

年龄： **性别；**

同学：
你好！ 本调查问卷的目的是了解中国学生英语词汇学习的观念和策略。请你根据自己的情况如实填写。 这*不是*考试， 答案不分正误。 不要花太多时间在一个问题上。你的第一个反应 通常是最好的。
谢谢合作！

第一部分；词汇学习观念

请在下面的各题中选一个合适的数字， 表明你对该陈述的认可度。
1 = “强烈反对”，2 = “反对”，3 =“不赞成不反对”，4 =“赞成”，5 = “强烈赞成”

1．一旦记住所有汉语单词在英语中的对应词语， 就学会了英语。 1 2 3 4 5

2．记单词最好的方法是背生词表或字典。 1 2 3 4 5

3．仅通过大量阅读就可以扩大词汇量。 1 2 3 4 5

4．我喜欢学习词汇。 1 2 3 4 5

5．我确信我有自己的办法激励自己学习词汇。 1 2 3 4 5

6．我想学习英语词汇是因为我相信它对我通过英语水平考试（如 CET ）很重要。

1 2 3 4 5

7．英语单词的意思是固定的。 1 2 3 4 5

8．我相信我的词汇学习能达到全班中上水平。 1 2 3 4 5

9． 我确信我有自己的办法帮助我记住所学的单词。 1 2 3 4 5

10．通过上下文猜词是学习词汇最好的方法之一。 1 2 3 4 5

11．使用语言比背单词重要。 1 2 3 4 5

12．学会单词至少要弄清它的形式， 意义和基本用法。 1 2 3 4 5

13．一个生词在不同的上下文中遇到几次后， 你自然就知道了它 的意思。

1 2 3 4 5

14．不使用单词就不能最终学会它。 1 2 3 4 5

15．词汇学习很有趣。 1 2 3 4 5

16．只有一个个地背单词才能掌握大量词汇。 1 2 3 4 5

第二部分；词汇学习策略

请在下面的各题中选一个合适的数字， 表明你对该陈述的认可度。
1 = “很不符合我的情况”，2 = “不符合我的情况”，3 =“基本符合我的情况”，4 =“符合我的情况”，5 = “很符合我的情况”

17．除教材外， 我还阅读自己感兴趣的英语读物。 1 2 3 4 5

18．当我猜不出一个生词的意义时， 我会换一种思路再试。 1 2 3 4 5

19．我和同学或朋友一起复习词汇， 如互相抽背，练习运用新学单词或玩拼字游戏。

1 2 3 4 5

20．遇到生词，我会向老师请教。 1 2 3 4 5

21．我分析单词的前、后缀 和词干以帮助记忆。 1 2 3 4 5

22．我在记单词时会连同这个单词出现的句子一起记。 1 2 3 4 5

23．我尽量扩大阅读量以便运用我记过的单词。 1 2 3 4 5

24．我会自己学习老师未要求我们学的东西。 1 2 3 4 5

25．我会利用上下文逻辑关系来猜词义。 1 2 3 4 5

26．我会寻找上下文所提供的例子来猜词义。 1 2 3 4 5

27．我查字典时会注意所给的例子。 1 2 3 4 5

28． 查字典时， 我会用笔记下该单词的搭配。 1 2 3 4 5

29．我在背单词时会大声重复这个词。 1 2 3 4 5

30．我在脑海里想象新词的形像以帮助记忆。 1 2 3 4 5

31．我将发音相似的单词放在一起记忆。 1 2 3 4 5

32．我有意识地学习构词法以帮助记单词。 1 2 3 4 5

33．我会用刚学过的单词自己造句。 1 2 3 4 5

34．我并不是只注意与考试直接相关的东西。 1 2 3 4 5

35．当我多次遇到一个生词时， 我就查字典。 1 2 3 4 5

36．查字典时， 我会用笔记下该单词的用法内容。 1 2 3 4 5

37．我将拼写有相同部分的词放在一起记。 1 2 3 4 5

38．我记 常用的词干和前、后缀。 1 2 3 4 5

39．我将生词与其出现的上下文一起记忆， 并注意其搭配，词性和词义的广度。

1 2 3 4 5

40．当我遇到一个生词时， 我清楚是否需要记住它。 1 2 3 4 5

41．对老师在课堂上没有解释过的词汇，我也比较注意。 1 2 3 4 5

42．当一个生词阻碍我理解整个句子， 甚至整个段落时， 我就查字典。

1 2 3 4 5

43．我查字典时会注意单词搭配和固定词语。 1 2 3 4 5

44．若生词似乎发生了不规则变化， 我在查字典时看字典同一页上是否有它的原形。

1 2 3 4 5

45．我反复书写单词及其中文意思以记住它。 1 2 3 4 5

46．记一组拼写有相同部分的生词时，我会联想一个与它们这一相同部分相似的熟词。

1 2 3 4 5

47．我将生词与发音与之相似的熟词一起来记。 1 2 3 4 5

48．我尽量在真实情景中使用刚学过的单词。 1 2 3 4 5

49．在猜词义时， 我知道使用怎样的线索。 1 2 3 4 5

50．一个生词对理解整个句子， 甚至整个段落至关重要时， 我就查字典。

1 2 3 4 5

51．我会利用我知道的与所读内容相关的背景知识来猜词义。 1 2 3 4 5

52．查字典时， 我会写下该单词的英文同义词或英文解释。 1 2 3 4 5

53．我制作生词卡片， 并随身携带。 1 2 3 4 5

54．我对背过的单词进行有计划的定期复习。 1 2 3 4 5

55．查字典时， 我写下单词的英文同义词和中文对应词。 1 2 3 4 5

56．我查字典时会读一读显示单词用法的例子。 1 2 3 4 5

57．在词汇学习的过程中出现负面情绪，如烦躁，我会及时调整情绪， 然后继续学习。

1 2 3 4 5

58．我将拼写相似的单词放在一起记忆。 1 2 3 4 5

59．我与同学或朋友交流词汇学习经验和感受。 1 2 3 4 5

60．我有意识地读我感兴趣的英文专业书， 找出并记忆其中我已知中文意义的专业术语。

1 2 3 4 5

61．在词汇学习的过程中遇到困难时， 我会激励自己战胜困难，完成学习任务。如：反复告诉自己词汇学习其实并不难， 我能学好的。

1 2 3 4 5

62．我会把我认为重要的单词记在笔记本上。 1 2 3 4 5

63．记单词时，我看见单词里的一两个字母就联想到它的意义 （如：look 里有两只眼）。

1 2 3 4 5

64．我对一个生词有兴趣时就会查字典。 1 2 3 4 5

65．当我遇到有用的词组或表达法时，我会记笔记。 1 2 3 4 5

（改编自 Gu & Johnson, 1996)

第三部分：背景信息

1．你哪年开始学习英语的？

2．你还记得你英语水平考试中的听力和阅读成绩吗？
（请画圈）是 否

3．若记得，能告诉我各是多少吗？
听力： 阅读:

4．在英语水平考试中你感觉哪部分最难？

5．在英语学习中你感觉哪部分最难？

词汇学习调查问卷答题纸

（Answer sheet for questionnaire）

英文名字：　　性别:　　英语水平考试成绩：

参加考试时间 (年)：　　专业班级名称；　　年龄：

同学：
你好！ 本调查问卷的目的是了解中国大学生英语词汇学习的观念和策略。请你根据自己的情况如实填写。 这*不是*考试， 答案不分正误。 不要花太多时间在一个问题上。你的第一个反应 通常是最好的。
谢谢合作！

第一部分；词汇学习观念

请在下面的各题中填一个合适的数字， 表明你对该陈述的认可度。
1 = “强烈反对”，2 = “反对”，3 =“不赞成不反对”，4 =“赞成”，5 = “强烈赞成”

1. _____ 2. _____ 3. _____ 4. _____ 5. _____
6. _____ 7. _____ 8. _____ 9. _____ 10. _____
11._____ 12._____ 13. _____14. _____15. _____
16. _____

第二部分；词汇学习策略

请在下面的各题中填一个合适的数字， 表明你对该陈述的认可度。
1 = “很不符合我的情况”，2 = “不符合我的情况”，3 =“基本符合我的情况”，4 =“符合我的情况”，5 = “很符合我的情况”

17 ____ 18. ____ 19. ____20. ____21. ____

22.____ 23. ____ 24____25 ____ 26____

27.____ 28. ____ 29. ____30. ____31. ____

32. ____ 33____ 34____ 35 ____ 36 ____

37.____ 38___ 39. ____ 40. ____ 41. ____

42.____ 43. ____ 44____ 45____ 46. ____

47 ____ 48. ____ 49. ____50. ____51. ____

52.____53._____54.____55____56.____

57.____ 58. ____ 59. ____ 50. ____61. ____

62. ____ 63. ____ 64. ____ 65. ____

第三部分：背景信息

1．你是哪年开始学习英语的？

2．你还记得你英语水平考试中的听力和阅读成绩吗？

（请画圈）是　　否

3．若记得，能告诉我各是多少吗？

听力：　　阅读：

4．在英语水平考试中你感觉哪部分最难？

5．在英语学习中你感觉哪部分最难？

Appendix G Vocabulary Size Test

Vocabulary Size Test

（答案请写在答题纸上）

英文名:　　词汇测试成绩:

专业班级名称:　　英语水平考试成绩：

年龄：　　性别：

Match the word in the left column with its meaning in the right column. Write the number of that word next to its meaning. Here is an example.

1. business　　____ part of a house
2. clock　　____ animal with four legs
3. horse　　____ something used for writing
4. pencil
5. shoe
6. wall

You answer it in the following way.

1. business　　_6_ part of a house
2. clock　　_3_ animal with four legs
3. horse　　_4_ something used for writing
4. pencil
5. shoe
6. wall

Now try to do every part of the test.

The 3000 word level

1. bull　　1. ___formal and serious manner
2. champion
3. dignity　　2. ___building where valuable objects are shown

4. **hell**
5. **museum** **3. ___winner of a sporting event**
6. **solution**

1. **blanket** **4. ___holiday**
2. **contest**
3. **generation** **5. ___wool covering used on beds**
4. **merit**
5. **plot** **6. ___good quality**
6. **vacation**

1. **comment** **7. ___ long formal dress**
2. **gown**
3. **import** **8. ___parts of the body which carries feeling**
4. **pasture**
5. **nerve** **9. ___goods from a foreign country**
6. **tradition**

1. **administration** **10. ___group of animals**
2. **angel**
3. **frost** **11. ___managing business and affairs**
4. **herd**
5. **fort** **12. ___spirit who serves God**
6. **pond**

1. **atmosphere** **13. ___advice**
2. **counsel**
3. **factor** **14. ___female chicken**
4. **hen**
5. **lawn** **15. ___a place covered with grass**
6. **muscle**

1. **abandon** **16. ___live in a place**
2. **dwell**
3. **oblige** **17. ___leave something permanently**
4. **pursue**
5. **quote** **18. ___follow in order to catch**
6. **resolve**

1. **assemble** **19. ___look closely**
2. **attach**
3. **peer** **20. ___cry out loudly in fear**
4. **quit**
5. **scream** **21. ___stop doing something**
6. **toss**

1. drift	**22. ___suffer patiently**
2. endure	
3. grasp	**23. ___hold firmly with your hands**
4. knit	
5. register	**24. ___join wool threads together**
6. tumble	

1. brilliant	**25. ___thin**
2. distinct	
3. magic	**26. ___without clothes**
4. naked	
5. slender	**27. ___steady**
6. stable	

1. aware	**28. ___usual**
2. blank	
3. desperate	**29. ___best or most important**
4. normal	
5. striking	**30. ___knowing what is happening**
6. supreme	

词汇测试答题纸

（Answer sheet for Test）

英文名: 词汇测试成绩:

所学课程名称: 英语水平考试成绩：

年龄： 性别：

The 3000 word level

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

6. ____ 7. ____ 8. ____ 9. ____ 10. ____

11.____ 12.____ 13. ____14. ____15. ____

16. ____ 17 ____ 18. ____ 19. ____20. ____

21. ____ 22. ____23. ____24. ____ 25. ____

26 ____27. ____ 28. ____ 29. ____ 30. ____

Appendix H Semi-structured Interview Guide for students

Semi-structured Interview Guide

(for the student participants)

Dear participant:

Thank you once again for your kind participation. In this interview, like in the previous task, I would like you to share your opinions on vocabulary learning and use of strategies in your regular practice. You will be given a list of interview questions in advance and 5 minutes for your preparation. In any case, you can answer the questions in any language that is comfortable to you. Thank you for your kind help.

Regards,

Miss Li

Interview questions

1. How important do you think vocabulary learning is? Why?
2. Do you consider yourself an efficient vocabulary learner? Can you give me any illustration?
3. Do you think as long as you work hard enough, you can learn English vocabulary well?
4. Have you ever set a goal in vocabulary learning? If so, what is it? Have you fulfilled it? Keep on working for it? If you haven't reached it, did you adjusted it, then work for it again, or quit the goal completely? The same is true with English learning?
5. What is the most common feeling in your vocabulary learning? What are the occasions it usually emerges?
6. Which way do you consider the most efficient in learning vocabulary? For example: rote memorization, unintentional learning in the context.
7. What does it mean to you when you say you have learnt a word?
8. Do you do extra work in vocabulary learning other than the teachers' requirements? How?

9. What do you do when you meet a new word?
10. Do you think the method(s) is/are effective to discover a new word meaning?
11. What do you do after you find out the meaning of a new word?
12. Do you think the method(s) is/are effective to help you remember a new word?
13. Is vocabulary learning more a kind of self-study or cooperation and/or communication with others? Can you give me some examples for illustration?
14. If you are in bad mood when learning vocabulary, eg. feel frustrated, or dull, do you try to control such feelings? If so, how?
15. When you can't concentrate on vocabulary learning, do you try to control your attention? How?
16. Do you encounter any puzzle when answering the questionnaire? For example, you don't understand the statement.

（adapted from Ho, 2008)

半结构访谈提纲

（适用于与学生的个人访谈）

同学：

感谢你的参与。与上次问卷调查一样，这次访谈请你谈谈你关于词汇学习的观念和策略。你事先将得到这份提纲，并有5分钟的准备时间。所用语言请自由选择。

致

礼！

李粟

提纲：

1. 你认为词汇学习有多重要？为什么？
2. 你认为自己的词汇学习效率高吗？请举例说明。
3. 你是否认为只要自己尽力， 就能学好英语词汇？
4. 你曾为词汇学习制定学习目标吗？ 若是，其内容是什么？实现过这个目标码？坚持实施了吗？若没有，为什么？ 若没有实现过这个目标， 你是调整目标，再执行， 还是放弃不管了？对于总体的英语学习也是这样的吗？
5. 你在词汇学习中最常经历的感受是什么？请举例说明。
6. 你认为怎样学习词汇最有效？如：背单词， 在语境中无意习得等。
7. 对你而言，学会一个单词包含了哪些方面？
8. 课外除完成老师要求的任务外，你还自己给自己布置任务吗？请举例说明。
9. 当你遇到一个生词时，你怎样做？
10. 你认为这些方法对发现生词的意义有效吗？
11. 在你发现了生词的意义后，你又怎样做？
12. 你认为这些方法对你记住生词有效吗？
13. 对你而言，词汇学习是个人独立学习多些还是与他人的合作与/或交流，及向他人求教多些？能举例说明吗？
14. 在词汇学习中，当你情绪不好， 如；感到沮丧或枯燥或不想学时，你会调整自己的情绪及激励自己继续学习吗？怎样调整、怎样激励？
15. 在词汇学习中，当你感觉分心时，你会调整自己的注意力吗？怎样调整？
16. 你在回答调查问卷的过程中， 是否遇到不能理解问卷中的陈述的情况？记得是哪些吗？

（改编自 Ho, 2008)

Appendix I Semi-structured Interview Guide for teachers

Semi-structured Interview Guide

(for the teacher participants)

Dear teacher:

Thank you for your kind participation. In this interview, I would like you to share your opinions on your Chinese students' ways of learning vocabulary learning. You will be given a list of interview questions in advance and 5 minutes for your preparation. Please answer the questions in English. Thank you for your kind help.

Regards,

Miss Li

Interview questions：

1. Do you know how important vocabulary learning is for your Chinese students? Would you please tell me some instances that reveal the points you make?

2. What ways do they appear to use often in vocabulary learning? Would you please tell me some instances that reveal the points you make?

3. Do you feel the methods they use are effective /appropriate for them? Why? Would you please tell me some instances that reveal the points you make?

4. What kind of activity in class do they like to participate in most / least in vocabulary learning? Would you please tell me some instances that reveal the points you make?

半结构访谈提纲

（适用于与教师的个人访谈）

老师：

感谢你的参与。这次个人访谈请你谈谈你班学生英语课堂内/外的词汇学习情况。你事先将得到这份提纲，并有5分钟的准备时间。所用语言请自由选择。

谢谢！

致

礼！

李粟

提纲：

1. 你知道你班学生认为词汇学习有多重要吗？能举一些具体事例吗？
2. 在词汇学习中，你班学生看起来最常用哪些方法？能举一些具体事例吗？
3. 你感觉这些方法对他们有效吗？为什么？能举一些具体事例吗？
4. 在词汇学习中，你班学生最愿意和最不愿意参加哪些课堂活动？能举一些具体事例吗？

Appendix J Glossary of VLS

Categories and specific strategies

Term		Definition
Categories	Initial handling	VLS used by the learner when encountering a new word
	Consolidation	VLS used by the learner to remember the new word after figure out its meaning
	Activation	VLS used by the learner to use the word learned
	Dictionary	Use of dictionary in vocabulary learning
	Note-taking	Taking notes in vocabulary learning
	Rehearsal	Repetition of information (silently or aloud) of a vocabulary item in order to keep it in short-term memory
	Encoding	Remember the word meaning by establishing mental links of the new vocabulary item with concepts already in memory
Specific strategies	Selective attention	Knowing which word/aspect of word knowledge is important in various tasks (Gu, 2005)
	Self-initiation	Actions in vocabulary learning initiated by the learner's inherent interest
	Contextual guessing	Using available information in the context to guess meaning of new vocabulary items
	Dictionary strategies for comprehension	consulting dictionary for comprehension only (Gu &Johnson, 1996)
	Extended dictionary strategies	Skillful use of dictionary for learning purposes (Gu &Johnson, 1996)
	Meaning oriented note-taking	Writing down important points of a new vocabulary item while focusing on the meaning only
	Usage oriented note-taking	Writing down important points of a new vocabulary item with a focus on its use
	Word lists	Learning vocabulary items on lists many times
	Repetition	Reading/writing vocabulary items again and again
	Association	Remembering a new vocabulary item by relating it to concepts already in memory (Oxford, 1990)
	Imagery	Remembering a new vocabulary item by relating it to concepts already in memory by means of meaningful visual imagery (Oxford, 1990)
	Auditory encoding	Remembering a new vocabulary item according to its sound (Oxford, 1990)
	Word structure	Using word formation knowledge to facilitate retention of a new vocabulary item such as analyzing its stem and affix (Oxford, 1990)

(continued)

Glossary of VLS

Categories and specific strategies (continued)

Term		Explanation
Specific strategies	Contextual encoding	Placing a vocabulary item in a meaningful context to remember it (Oxford, 1990)
	Activation	Putting the new vocabulary item to use in recognition and /or production
	Communication/ cooperation	Interpersonal behaviors to facilitate vocabulary learning, such as finding out the meaning and retention of a new vocabulary item, and exchange VLS (Oxford, 1990)
	Emotion adjustment	Actions used to regulate one's emotional conditions in vocabulary learning, including self-encouragement and control of negative emotion (Oxford, 1990)

Appendix K Dimensions and Categories (65 items)

Dimensions	Categories	variables	No. of items	Items	Reliability
Meta-cogni-tive beliefs	Opinion about vocabulary learning strategies (VLS):	memorization	4	1,2,7,16	a=.61
		acquisition	3	3,10,13	a=.45
		intentional study & use	3	11,12,14	a=.48
Moti-vation-al beliefs		Self-efficacy	3	5,8,9	a=.81
		Importance for tests	1	6	
		Interest	2	4,15	a=.65
Metaco gni-tive VLS		Selective attention	4	40,49, 62,64	a=.51
		Self-initiation	4	17,24, 34,41	a=.47

(continued)

Dimensions and Categories (65 items)

(continued)

Dimensions	**Categories**		**variables**	**No. of items**	**Items**	**Reliability**
Cognitive VLS	Initial Handling	Guessing	Contextual guessing	4	18,25, 26,51	a=.78
		Dictionary	Dictionary strategies for comprehension	3	35,42,50	a=.62
			Extend dictionary strategies	4	27,43, 44,56	a=.67
		Note-taking	Meaning oriented note-taking	2	52,55	a=.58
			Usage oriented note-taking	3	28,36,65	a=.52
	Consolidation	Rehearsal	Wordlists	2	53,54	a=.65
			Repetition	2	29,45	a=.50
		Encoding	Association	2	37,46	a=.56
			Imagery	2	30,63	a=.61
			Auditory encoding	3	31,47,58	a=.53
			Word structure	3	21,32,38	a=.56
			Context encoding	3	22,39,60	a=.65
	Activation		Activation	3	23,33,48	a=.63

(continued)

Dimensions and Categories (65 items)

(continued)

Dimensions	**Categories**		**variables**	**No. of items**	**Items**	**Reliability**
Social VLS			Communication / cooperation	3	19,20,59	a=.65
Affective VLS			Emotion adjustment	2	57,61	a=.46

Appendix L Self-report details regarding motivational VLB

	Why do you think vocabulary learning is important?	**What's the most common feeling in vocabulary learning?**	**Do you consider yourself an efficient vocabulary learner?**	**Do you think as long as you work hard enough, you can learn English vocabulary well?**
S1	Because I only know words in Junior high school.	It's dull.	Not at all.	Should be so.
S2	Even if I don't know grammar, I can guess the meaning of sentences if I know the words.	Happy.	No.	No. sometimes background knowledge and sensitiveness to English is more important.
S3	Your need to know words before translating the sentences.	Not very hard, but I lack of perseverance.	No.	Yes.
S4	With a larger vocabulary, I can cope with the items in reading comprehension more easily (in tests).	No feeling.	Just so so.	Should be so.
S5	Need the meaning of the words to understand the sentence. Then you can cope with the items in reading comprehension easily (in tests).	It's difficult. But I don't want to lag behind.	No.	Yes. But need strategy too.
S6	Need meaning of words for translating the whole text.	Generally no feeling. A bit difficult.	No.	Yes.
S7	It's the base of English language.	Disappointed first, then a bit anxious.	No.	Yes.
S8	It's important for passing CET tests, which are important in job hunting.	Feel bored more. But when master a word, very happy.	Just so so.	Yes.
S9	Our study is more test-oriented. Vocabulary is important for tests.	No feeling.	It' OK.	Yes. But strategy is important too.
S10	It's important for CET tests. If I have had a large vocabulary, I can finish the reading comprehension items in CET4 quickly.	Memorize, then forget, then memorize, then forget. Chaos.	No.	No. sensitiveness to English is important.

(continued)

Self-report details regarding motivational VLB

(continued)

	Why do you think vocabulary learning is important?	**What's the most common feeling in vocabulary learning?**	**Do you consider yourself an efficient vocabulary learner?**	**Do you think as long as you work hard enough, you can learn English vocabulary well?**
S11	It's important for tests.	Fidget.	No.	No. strategy is more important.
S12	You won't be good at English if you don't have a good command of vocabulary.	Pleasant.	It's OK.	Yes.
S13	It's important for both tests and English learning as a whole.	Pleasant.	It's OK.	No. strategy is more important.
S14	It's the base of English study and translation.	No feeling.	No.	Yes.
S15	It affects my interests in English learning. I found I don't have enough vocabulary. It has affected my test scores.	Happy as a beginner. But the more words needed to learn, the more fidget I become.	No.	Yes.
S16	It's the base of English language.	Depressed.	No.	Yes.
S17	One needs a large vocabulary to pass CET4.	Painful.	No.	Not sure. Also need strategy.
S18	Vocabulary learning is not important. As long as I can manage oral communication, it's OK.	I'm always calm.	No.	Not sure.
S19	It affects my reading comprehension in tests and mimic tests.	More feeling of unhappiness than that of happiness.	No.	Maybe.
S20	It's the vase of language.	No feeling.	It's OK.	Theoretically, yes. But strategy counts in fact.
S21	It's important for both CET tests and future work.	No feeling.	It's OK.	Yes.
S22	It affects my dealing with the items in tests.	No special feeling.	It's OK.	Yes.

Appendix M Self-report details regarding metacognitive VLB

	Which way do you consider the most efficient in learning vocabulary?
S1	Learn it together with the context it occurs.
S2	Acquire incidentally in communication.
S3	Use it often.
S4	Memorize word lists.
S5	Put the word in a sentence/text. Then learn its meaning, and part of speech.
S6	Learn it together with the context.
S7	Should be learnt in the context. But I'm too poor at English to do this. I can only learn the words as separate items.
S8	Learn it in the context…use it in communication.
S9	For me, word list works efficiently.
S10	Learn it in the context and use it. Better make up a sentence of your own.
S11	Acquire incidentally if a word occurs again and again. Like in TV.
S12	Connecting memorization of a word with its context.
S13	Separate a word into different parts to facilitate memorization.
S14	Use the word in a sentence. Make up a sentence or dialogue.
S15	Writing the word again and again while repeat its spelling orally.
S16	After learn it, deliberately memorize it, still need to use it for consolidation.
S17	Learn a word in its context, especially reading. It's no use to memorize the words separately.
S18	Memorize word lists.
S19	Acquire incidentally, especially when watching TV. I seldom memorize words. Useless.
S20	Lean the words in reading.
S21	Lean the words in reading.
S22	Learn and memorize words in reading.

Appendix N Self-report details regarding VLS

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or does it involves more cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S1	No.	Consult the dictionary. If I can't use it, (I) will guess.	Pronunciation.	Note down pronunciation to remember it.	Both.	No. I'll just stop study.	No. I'll just stop study
S2	Yes. Read English magazines.	Skip it or guess.		Review vocabulary notes.	Self study make up about 70% of vocabulary learning.	Listen to music to adjust my mood.	If it's near CET test, will try to control my mind. Otherwise, let it be.
S3	No.	Ask a classmate. If can't do so, consult dictionary. If can't do this, will guess.	Pronunciation, meaning, and part of speech.	Take notes. Then, review notes.	Ask others the meanings of words more often. It's quick to know the word.	Take a rest to relax, or read some familiar notes.	
S4	No.	Guess first. If it doesn't work, consult dictionary.		Read aloud while write the spelling of the word.	Self-study.	I don't adjust mood or attention. Just stop studying.	

(**continued**)

Self-report details regarding VLS (continued)

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S5	Yes. But not persistent.	I'll ask a classmate first. If I can't do so, just consult the dictionary or guess.	Meaning and part of speech.	Review notes.	Self study.	Just stop studying. Waiting for my mood get better or attention comes back to the study naturally.	
S6	No.	I'll ask a classmate first. If I can't do so, just consult the dictionary or guess.	Meaning, spelling and part of speech.	Note down part of speech, meaning and pronunciation.	Self study. It's not easy to find others around to answer your questions.	Stop study and do something else to disturb the negative mood.	Try to force my mind to focus on the words.
S7	Yes. But not persistent.	I'll guess first. If this doesn't work, I'll ask a classmate or consult the dictionary.	Pronuncia-tion and spelling.	Pronounce it while spelling it.	Self study.	Just stop studying. Waiting for my mood get better.	Try to force my mind to focus on the words.

(**continued**)

Self-report details regarding VLS (continued)

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S8	No.	I'll guess first. If this doesn't work, I'll consult the dictionary. If I don't have a dictionary, I'll ask a classmate.	Meaning, pronunciation and set phrases.	Divide the word into parts. Pronounce it while spelling it.	Self study primarily. Communication for practicing the use of the words learnt.	Stop study. Do something else to relax. Never forced myself to focus on vocabulary.	
S9	Yes. Learn "New Concept English". Idiomatic language.	Consult dictionary. If I can't, usually skip it.	Examples to illustrate the usage.	Review notes.	Self study.	Don't adjust mood or concentration. Just stop study. Let it be.	
S10	Yes. Use CET word lists.	First guess. Then consult dictionary to check the results.	English and Chinese meaning of the word, collocation, part of speech and grammar usage.	Note down English and Chinese explanation.	Mainly self study. Speak English with others to use the new word.	Just stop studying. Waiting for my mood get better or attention comes back to the study naturally.	

(**continued**)

Self-report details regarding VLS (continued)

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S11	No.	First guess. Sometimes consult dictionary to check the results		Read aloud while spelling it letter by letter.	Self study.	Stop study and do something else to disturb the negative mood.	Force my mind to focus on the words. Stare at them.
S12	No.	First guess. If fail, skip it. But consult dictionary next time encounter it.	Meaning, usage and pronunciation.	Note down meaning, usage and pronunciation.	Self study.	Read other books for adjustment. Then go on study.	
S13	Yes. Read and listen to English a lot to use the words learnt.	First guess. Then consult dictionary to check the results.	Spelling, meaning and collocation.	Divide the word into parts. Review vocabulary notes.	Self study.	Never such a case. so don't need to adjust mood.	Just stop study. Let it be.
S14	No.	Consult dictionary.	Pronunciation, spelling and meaning.	Read aloud while write the spelling simultaneously.	Self study.	So some exercises to adjust mood.	Let it be. The concentration will come back to study itself.

(**continued**)

Self-report details regarding VLS (continued)

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S15	Yes. Word lists for CET tests.	Consult the dictionary. If I can't use it, will guess.		Read aloud and write it simultaneously.	Self study.	Stop study and do something else to disturb the negative mood.	Finish the things that distract me first.
S16	Yes. Word lists for CET tests.	If it's a key word, consult the dictionary; if not, just guess.	Only meaning.	Memorize it in the context.	Self study. In fact, no memory of talking with others for vocabulary learning.	Stop studying. Waiting for my mood get better or the distraction pass.	
S17	Yes. Word books for CET tests.	In tests, just guess. Otherwise, use dictionary.	Chinese meaning only.	Nothing.	Self study.	Stop studying. Waiting for my mood get better or the distraction pass.	
S18	Yes. Memorize words in high school.	First guess. Then consult dictionary to check the results.		Divide the word into parts. Pronounce it while spelling it.	Self study.	Always in normal mood. Don't need to adjust mood.	If the thing distracting me is important, tend to it first; otherwise, I can focus on words.
S19	No.	Consult the dictionary. If can't, will guess or skip it.	Chinese meaning.	Note down Chinese meaning.	Self study.	Stop study. Let it be. It's no use to study in this case.	

(**continued**)

Self-report details regarding VLS (continued)

	Do you do extra work in vocabulary learning other than teachers' requirements?	**What do you do when you meet a new word?**	**What do you note down? (To students reported note taking VLS)**	**What do you do after you find out the meaning of a new word?**	**Is vocabulary learning more a kind of self-study or cooperation and/or communication?**	**If you are in bad mood when learning vocabulary, do you adjust your feelings?**	**When you can't focus on vocabulary learning, do you try to control your attention?**
S20	Yes. CET word lists.	Consult the dictionary. If I can't use it, will guess.	Part of speech and meaning. For words used often, also note down usage.	Read aloud and write letter by letter simultaneously. Memorize the word with words learnt before that have similar pronunciation or meaning..	Self study only. Want quiet study.	Stop looking at the words. Calm down. Two minutes later, I'll be ready for study again.	If the thing distracting me is important, tend to it first; otherwise, I can focus on words.
S21	Yes. Memorize any word encountered.	First guess. Then consult dictionary to check the results.	Chinese meaning.	Pronounce it while spelling it. Memorize it in the context.	Self study.	Listen to music or look at the scenery outside. 30 minutes later, I can go on with study.	
S22	No.	First guess. Then consult dictionary to check the results.	Part of speech, Chinese meaning, and pronunciation.	Note down part of speech, Chinese meaning and pronunciation.	More self study.	Listen to English songs to adjust my mood.	Drink tea or look outside to adjust my concentration.

Appendix O Excerpts of interviews

Interview with the teacher (T):

R (the researcher): Teacher, thank you for participating in this investigation into the vocabulary learning beliefs and strategies of the Chinese university students. Do you know how important vocabulary learning is for your Chinese students?

T: Yes, I do. Well, I think they think it very important.

R: Would you please tell me some instances that reveal the points you make?

T: It is a general practice, when the test is drawing near, I will leave some time in the class for the students to review for the test themselves. And every time, the students will memorize or read vocabulary

R: All read vocabulary?

T: Yes, most of them. Maybe it's attributed to the learning orientation in junior high schools. At that time, they met the language for the first time. Vocabulary is more important than other aspects of English learning.

R: What ways do they appear to use often in vocabulary learning? Would you please tell me some instances that reveal the points you make?

T: Rote memorization.

R: Memorize dictionary, wordlist, or something else?

T: Word list.

R: CET vocabulary list?

T: Yes

R: For what kind of students? How about students of high proficiency?

T: The same. Most students do the same ... Most students adopt rote memorization. Use the CET vocabulary lists, and the vocabulary lists in the text book. Only a few, of different levels, will consult dictionary.

R: Do you feel the methods they use are effective /appropriate for them? Why? Would you please tell me some instances that reveal the points you make?

T: I think their way is not efficient.

R: For example?

T: For example. I often teach them three words: contrast, contract and contact. They are easily confused. Every time, when we encounter these words in class, I will tell the students (their differences). Such language points are often tested on CET. After I told them three times, the fourth time we encounter these words in clad, few students can recall what I have told them about these words previously. So, I think their way is not efficient.

R: What kind of activity in class do they like to participate in most in vocabulary learning?

T: The activity they like to participate most. Should be introduction of some gimmicks to memorize words. For example, tell them the prefix and suffix to facilitate memorization.

R: Oh. That is introducing some vocabulary learning strategies?

T: Yes, you're right.

R: What kind of activity in class do they like to participate in least in vocabulary learning?

R: The activities they like to participate in least. Should be doing exercises in class. Because their memory of words is not good, the chance for them to make mistakes in exercises is high. Thus, they are a bit afraid of dong exercises. I think that's it.

R: O.K. Thank you.

T: Not at all.

Interview with student 1 (S1):

R (the researcher): How important do you think vocabulary learning is? Why?

S1: Important.

R: Why do you think vocabulary learning is important?

S1: Because I only know words in Junior high school. So vocabulary learning is important for me.

R: Do you consider yourself an efficient vocabulary learner? Can you give me any illustration?

S1: Not at all.

R: Can you give an example?

S1: I’m poor at English comprehension. Anyway, the efficiency of my English learning is low.

R: That means, it’s true not only with vocabulary learning but also with English learning.

S1: Yes.

R: Do you think as long as you work hard enough, you can learn English vocabulary well?

S1: Should be so. But though I worked hard, my vocabulary learning efficiency is not high.

R: Have you enlarged your vocabulary size?

S1: Yes. But sometimes later, without continuous practice, I forget them.

R: Have you ever set a goal in vocabulary learning?

S1: Yes, but not persistently.

R: What is the most common feeling in your vocabulary learning? What are the occasions when it usually emerges?

S1: It’s dull. When the new word is too long, it’s hard to remember it. I may remember it today, but forget it tomorrow.

R: So shorter word length will make memorization easier?

S1: It’s dull to memorize long word. So, I just let it pass.

R: Which way do you consider the most efficient in learning vocabulary? For example: rote memorization, unintentional learning in the context.

S1: Learn it together with the context it occurs.

R: In your eyes…

S1: It’s very useful…

R: Sorry. I mean to ask what it means to you when you say you have learned a word?

S1: Know a word. I should know its spelling, then I know this word a bit.

R: Only know its spelling? Not knowing its Chinese meaning?

S1: If I say I know it, then I won't know its Chinese meaning.

R: Do you do extra work in vocabulary learning other than the teachers' requirements?

S1: No.

R: What do you do when you meet a new word?

S1: Consult the dictionary. If I can't use it, (I) will guess.

R: Do you think the methods are effective to discover a new word meaning?

S1: Yes.

R: What do you do after you find out the meaning of a new word?

S1: Note down pronunciation to remember it.

R: How?

S1: Remember it with its pronunciation.

R: Do you think the method is effective to help you remember a new word?

S1: Yes.

R: Is vocabulary learning more a kind of self-study or does it involves more cooperation and/or communication with others? Can you give me some examples for illustration?

S1: Both.

R: Self-study plus cooperation. Then, if you are in bad mood when learning vocabulary, eg. feel frustrated, or dull, do you try to control such feelings? If so, how?

S1: No. I'll just stop study.

R: For how long?

S1: About a week.

R: Why so long?

S1: No interest.

R: No interests in English learning?

S1: You’re right.

R: When you can’t concentrate on vocabulary learning, do you try to control your attention?

S1: No. I’ll just stop study

R: Did you encounter any problems when answering the questionnaire? For example, you don’t understand the statement.

S1: I was completely at loss.

R: Are you referring to the vocabulary size test or the questionnaire in Chinese?

S1: The words in the test. Completely unknown words.

R: How about the questionnaire in Chinese?

S1: That one. It’s comprehensible.

R: O.K. Thank you for the conversation.

Appendix P Learning outcomes of the student interviewees

	Vocabulary test score	**CET2 score**	**CET3 score**	**CET4 score**
S1	13	65		
S2	90			468
S3	0	60		
S4	67		64	
S5	50	60		
S6	27	60		
S7	47	65		
S8	60		64	
S9	77		60	
S10	67		78	
S11	40	76		
S12	63	87.5		
S13	60		60	
S14	87	68		
S15	20	70		
S16	33	65		
S17	0	55		
S18	18	63		
S19	19	68		
S20	63		78	
S21	70			410
S22	43	60		