An Investigation of the English Vocabulary Knowledge of University Students in Hong Kong

CHUI Sze Yan

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ABSTRACT

This thesis is a study of Hong Kong university students' English vocabulary knowledge, with a special focus on their productive use of vocabulary. The investigation addresses vocabulary knowledge from the two main perspectives which have pre-occupied vocabulary testing in recent years: breadth and depth.

One hundred and eighty-seven students newly admitted to the Chinese University of Hong Kong participated in the study. Two vocabulary measures, (1) the Productive Vocabulary Levels Test (Laufer & Nation, 1999), which assessed students' vocabulary knowledge across different word frequency levels, and (2) a self-constructed depth-of-knowledge test which assessed students' lexical competence across different aspects of vocabulary knowledge, were employed. After the tests were marked, the quantitative data, i.e. the participants' scores, were processed and subjected to statistical analysis; the qualitative data, i.e. the students' specific responses to the tests of depth of knowledge, were also studied in detail.

The results suggest that local tertiary students can master high frequency English words fairly well. However, their knowledge of low frequency words is disappointingly deficient. When comparing the performances according to different subject variables, it was found that certain categories of students, for example, those students admitted to the university through the Early Admission Scheme for Secondary Six Students, exhibited larger vocabulary sizes than others. Although all participants recognized a reasonable range of academic words, the quality of their knowledge of this group of words was unsatisfactory. Limited morphological and collocational knowledge is likely to hinder their productive use of the words in sentences.

The study concludes by recommending that the teaching profession should attach equal emphasis to both breadth and depth in students' English vocabulary development. The patterns of results produced in the present study suggest that further studies need to be conducted targeting English language learners of different backgrounds and proficiency levels, as well as focusing on different kinds of vocabulary and different aspects of vocabulary knowledge.

論文摘要

本項研究旨在檢測本港大學生的英語詞彙知識，尤其是詞彙運用能力，而試卷的設計力爭以兼顧詞彙的廣度和深度測試作爲出發點。

本項研究的對象是一百八十七位在香港中文大學就讀的一年級學生，調查資料有〔一〕一份旨在評估學生使用頻率不同的詞彙的認識水平的試卷及〔二〕一份旨在評估學生不同詞彙理論知識的運用情況的試卷。筆者把試卷中的數量資料，即學生的分數，輸入電腦作進一步處理及分析，同時深入研究定性資料，即學生的具體答案。

研究的結果顯示本地大學生大致上能掌握高頻率英文詞彙，可是對低頻率英文詞彙認識不足。當根據不同的變數比較學生的測驗成績時，發現部分學生，例如經「中六生優先錄取計劃」入學的大學生，比其他學生懂得更多的英文單詞。儘管參與研究的大學生掌握一定程度的學術性詞彙，但他們運用這一類詞彙的能力不如人意。他們那有限的形態學知識和搭配知識會妨礙到他們運用詞彙造句的能力。

最後筆者建議教育界在提升學生的英語詞彙水平問題上應重視知識的廣度及深度。今後的研究可以不同背景、不同水平的學生作爲研究對象，也可把研究重點放在不同種類的詞彙及不同方面的詞彙理論知識上。

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TABLE OF CONTENTS

CHAPTER 3 RESEARCH DESIGN

CHAPTER 4 RESULTS

CHAPTER 5 DISCUSSION

APPENDICES

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 INTRODUCTION

1.1 Introduction

In recent years, there have been growing concern for the general English proficiency of Hong Kong graduates. The expansion of tertiary education leads to an increasing number of university students in the society; however, their English standards cannot satisfy the employers, who voice their complaints and raise public awareness of the issue. A few years ago, the Hong Kong government even introduced the International English Language Testing System (IELTS) as the benchmark test for graduates. All these indicate that there is a pressing need to improve the situation.

Before any effective solution can be proposed, the problems have to be pinpointed. In other words, students' areas of weaknesses in English must be identified so that the teaching profession can adopt suitable strategies to help enhance their language proficiency. As a result, a research study aiming at gaining more insights into Hong Kong university students' English vocabulary knowledge was conducted. This thesis serves as a report of the research project.

In this introductory chapter, the rationale behind the project is first presented in order to convince the readers of the appropriateness of the researcher's implementation of the present study. Next, the significance of the study is discussed, showing that the research topic is deserving of thorough investigation. What then follows is the listed research questions. Lastly, the readers are guided through the organization of this thesis.

1.2 Background of the Present Study

How many English words do Hong Kong students know? No one could probably provide an exact answer to this question for a number of reasons. In Hong Kong, most children begin to learn English at a very young age in kindergarten. However, none of us can be absolutely sure of how much of the language we have mastered at any particular stage, especially at the higher levels of proficiency. Even though English is a compulsory subject in the two public examinations, Hong Kong Certificate of Education Examination (HKCEE) and Hong Kong Advanced Level Examination (HKALE), there is not a separate paper or section on vocabulary. There is not a standard vocabulary list in our syllabus either. Consequently, there is a dearth of information about local students' average English vocabulary proficiency.

But why is students' vocabulary knowledge of such importance to the educational establishment? One main reason is that vocabulary knowledge can be a good indicator of one's second language proficiency: research evidence suggests that the number of words a student knows, as measured by standard vocabulary tests, is closely related to the student's performance in other tests of English ability such as reading and listening (Nation & Meara, 2002, p. 50). Words are the fundamental element of our languages; thus they are a prerequisite for our comprehension and production processes. Furthermore, from the point of view of language testing, it is relatively easy to isolate words and write separate test items out of them, explaining why Schmitt (2000) describes vocabulary as "a language unit particularly suited to objective testing, for technical as well as linguistic reasons" (p. 20).

1.3 A Response: The Present Study

Given the above reasons, the present study was conducted, with the objective of exploring the English vocabulary knowledge of university students in Hong Kong by focusing on both their vocabulary breadth and depth. One hundred and eighty-seven first year students in one local tertiary institution participated: each of them completed a vocabulary size test and thirty-one of them further took another depth-of-knowledge test. The research findings obtained should offer the readers a snapshot of the participants' English vocabulary proficiency.

1.4 Significance of the Study

The significance of the present study can be illuminated from four different perspectives. For one thing, vocabulary is an important factor to, and a reliable predictor of, one's overall second language proficiency. Knowing how good the learners' vocabulary knowledge is promotes our understanding of their English standards. Moreover, in the specific context of university education, a tremendous amount of English is used. Not only do students need to read and write in English, but they also have to attend and participate in English-medium lectures and tutorial discussions. Whether they possess adequate vocabulary knowledge to cope with their studies is an important question to university administrators. Most importantly, better understanding students' stages of vocabulary development enables teachers to adopt suitable pedagogical practices. As tertiary institutions are attaching more importance to improving their students' English proficiency, the findings of the present research should generate valuable information to those responsible for organizing English enhancement courses and related language activities on campus. At the same time, the lack of studies examining both areas of participants' vocabulary knowledge, i.e. their vocabulary size and the quality of their knowledge, makes the present research

even more meaningful. All in all, this topic, university students' English vocabulary knowledge, is one worthy of investigation.

1.5 Research Questions

Four research questions guided the present study, with the first two focusing on vocabulary breadth and the last two on vocabulary depth:

1. How many English words do Hong Kong university students know at different word frequency levels?
2. Do university students with different educational backgrounds show different patterns of vocabulary knowledge in terms of vocabulary size?
3. Concerning academic vocabulary, which aspect(s) of vocabulary knowledge are Hong Kong university students weak in?
4. Which aspect(s) of vocabulary knowledge is/are most important for written productive use of academic vocabulary?

What Question 1 aimed at was students' productive vocabulary size, i.e. the number of English words that they could use. With reference to Question 2, the following sub-questions were addressed:

2.1 Is there a difference in vocabulary size between Hong Kong students and students from mainland China?

2.2 Is there a difference in vocabulary size between students admitted to university straight after Form 6 and those admitted after Form 7?

2.3 Is there a difference in vocabulary size among students from different faculties (Business, Engineering, and Science)?

2.4 Is there a difference in vocabulary size between students who studied through a different medium of instruction at secondary school?

As for Questions 3 and 4, aspects of vocabulary knowledge referred to the various types of knowledge involved in mastering a word and the four aspects of vocabulary knowledge under examination included grammatical, morphological, collocational and semantic knowledge.

1.6 Organization of Thesis

There are altogether six chapters in this thesis. In order to enhance readability, respective introduction and summary sections are available in each chapter.

Chapter 1 Introduction, i.e. the current chapter, offers the readers an overview of the rationale and the scope of the present study. It also articulates the research questions and briefly outlines the overall structure of the thesis.

Chapter 2 Literature Review reviews relevant linguistic concepts, theories and studies. Major topics of discussion involve vocabulary knowledge, second language vocabulary acquisition and vocabulary testing. In addition, information about Hong Kong English language education and vocabulary studies of similar nature is provided so as to familiarize the readers with the background context of the research.

Chapter 3 Research Design explains how the present study was conceived and conducted. Four main components of the research, i.e. participants, instruments, data collection, and data analysis, are discussed in detail.

Chapter 4 Results, with the aid of descriptive and inferential statistics, reports the findings in relation to the previously set research questions. Chapter 5 Discussion further elaborates on the significance of the research findings in the light of literature and speculates about the factors which may explain the patterns of results. The general organization of the two chapters is summarized in Table 1.

Chapter 6 Conclusion ends this thesis by pulling together the various strands of the study and proposing some pedagogical implications of the research. Some

limitations of the project are stated, together with some suggestions for future investigation.

Table 1
Organization of Results and Discussion Chapters

Research Question	Instrument	Chapter 4 Results	Chapter 5 Discussion
1	Productive Vocabulary Levels Test	Section 4.2.1	Section 5.2
2	Productive Vocabulary Levels Test	Section 4.2.2	Section 5.4
3	Depth-of-knowledge test on academic words	Section 4.3.1	Section 5.5.1
4	Depth-of-knowledge test on academic words	Section 4.3.2	Section 5.5.2

1.7 Summary

The unsatisfactory English standard of Hong Kong tertiary students is the driving force behind the present study. The predictability of one's language proficiency from vocabulary knowledge makes it an attractive idea to evaluate students' ability by focusing on vocabulary knowledge, which is relatively easy to measure when compared with other linguistic skills. The present study proposes four research questions about the learners' range of English vocabulary, in terms of word frequency bands, and the quality of their academic word knowledge, in terms of aspects of vocabulary knowledge. It is expected that the findings should produce some implications for the teaching and learning of second language vocabulary for the teaching profession.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Second language vocabulary research has become such a major academic field that its thorough discussion exhausts a series of books. Hence, I do not attempt to provide a comprehensive review of vocabulary literature here; rather, I would like to select some areas of vocabulary research that are particularly relevant to my study for elaboration. The four sections in this chapter proceed from general to specific. The first section, Vocabulary and Vocabulary Knowledge, conceptualizes the fundamental elements, setting the basis for my investigation. The second section, L2 Vocabulary Acquisition, addresses certain issues about the nature of ESL learners' English language knowledge and learning processes. The third section, Vocabulary Testing, explores various considerations of vocabulary assessment in the educational context. Whereas the first three sections constitute the theoretical background for my research project, the last section, Educational Contexts in Hong Kong, offers readers information on the English language education in Hong Kong, where my study was conducted.

2.2 Vocabulary and Vocabulary Knowledge

Vocabulary studies have attracted much attention in recent years. One reason for this phenomenon is that many research findings suggest that vocabulary knowledge can be a good indicator of second language proficiency. In fact, this claim is not really surprising, as words are "the basic building blocks" (Read, 2000, p. 1) of our languages. No matter whether we are reading, writing, speaking or listening, vocabulary plays a crucial role in our daily communication. Although it is true that

we encounter words every day, it is wrong if you consider the concepts behind this language unit crystal clear. Therefore I would like to start my discussion by defining the terms, "word" and "vocabulary knowledge", both of which will appear repeatedly in the rest of my report.

2.2.1 The notion of "word"

Before researching vocabulary, we need to handle one essential question: what do we mean by "a word"? One may think that this question is too simple and it is not worth asking at all. The frequent appearance of the word "word" in our daily conversation suggests that we should all get a sense of what it refers to. Nonetheless, coming to a satisfactory definition of the word is not as easy as one may expect, since its wide range of usage creates much ambiguity. Some define a word as a sequence of letters isolated by space or punctuation marks. Some define it as a minimum meaningful unit. Unfortunately, there are always some limitations in these definitions (Carter, 1998). As a result, linguists have developed a system of terminology to represent specific concepts connected with "word". The term "token" refers to the total number of words in a text and "type" means the number of different words in a text (Macaro, 2003). We also have "lemma" which includes a headword (e.g. *walk*) plus its inflected forms (*walks*, *walked*, *walking*), and "word family" which consists of a base word (e.g. *context*), its inflections, and its common derivatives (*contextual*, *contextualize*) (Nation & Waring, 1997). As Nation and Meara (2002) mention, research evidence points to the fact that, psychologically speaking, language users treat related word forms as a single unit of processing. So when assessing vocabulary knowledge, we should adopt the notion of "word family", or, more conservatively, "lemma".

2.2.2 What does "knowing a word" mean?

Having addressed the problems with the notion of "word", we still have to clarify another issue. According to Wesche and Paribakht (1996), there is a "lack of agreement among theoreticians, researchers and questionnaire respondents about what it means to 'know' a word" (p. 14). For some people, knowing a word simply means being able to recognize it; for others, it may indicate the ability to provide a definition, or even to use it in a sentence. Consequently, one has to be careful about the extent of vocabulary knowledge measured in second language research. In this section, three frameworks of vocabulary knowledge, namely Richards (1976), Carter (1998) and Nation (2001), are discussed. These three proposals should outline the complexity involved in "knowing a word" and the difficulty in assessing vocabulary knowledge.

2.2.2.1 Richards' eight assumptions

One of the most widely cited papers in vocabulary acquisition research is Richards (1976). In this influential article, Richards has listed eight assumptions, which are often regarded by researchers as a vocabulary knowledge framework. These eight assumptions are reproduced in Table 2. It seems rather intriguing, with the benefit of hindsight, that Richards should use the term "assumption" to describe his conception of vocabulary knowledge. In fact, it was not Richards' original intention to establish a vocabulary knowledge framework. His eight assumptions were merely a summary of the major findings based on the linguistic research published in the 1960s and the 1970s, as explained by Meara (1999). Given this explanation, it becomes obvious why not all of the assumptions are related to lexical competence and why some other aspects of word knowledge, notably phonological knowledge, are not present in Richards' list.

Table 2

Richards' Eight Assumptions about Vocabulary Knowledge (Richards, 1976, p. 83)

Assumption 1	The native speaker of a language continues to expand his vocabulary in adulthood, whereas there is comparatively little development of syntax in adult life.
Assumption 2	Knowing a word means knowing the degree of probability of encountering that word in speech or print. For many words we also know the sort of words most likely to be found associated with the word.
Assumption 3	Knowing a word implies knowing the limitations imposed on the use of the word according to variations of function and situation.
Assumption 4	Knowing a word means knowing the syntactic behaviour associated with the word.
Assumption 5	Knowing a word entails knowledge of the underlying form of a word and the derivations that can be made from it.
Assumption 6	Knowing a word entails knowledge of the network of associations between that word and other words in the language.
Assumption 7	Knowing a word means knowing the semantic value of a word.
Assumption 8	Knowing a word means knowing many of the different meanings associated with a word.

2.2.2.2 Carter's seven characteristics

In a chapter devoted to vocabulary teaching in his book, *Vocabulary: Applied Linguistic Perspectives*, Carter (1998) reviews some major lexical acquisition research and pedagogical practice. Concluding his discussion, Carter states that knowing a word in a second language exhibits seven characteristics (see Table 3). When compared with Richards' eight assumptions, Carter's seven characteristics are more comprehensive and descriptive. His list is composed of nearly all aspects that one can think of concerning vocabulary usage: grammar, morphology, semantics,

pragmatics, association, collocation, idiomatic usage, frequency of occurrence, and the distinction between active and passive knowledge. Nevertheless, each of the seven items in his list may correspond to more than one type of lexical knowledge, thus reducing the clarity of presentation. One additional observation is that both Richard and Carter organize their conceptions of vocabulary knowledge into an inventory of discrete, unrelated items.

Table 3

Carter's Proposed Characteristics of Knowing a Word in Second Language Acquisition (Carter, 1998, p. 239)

1. It means knowing how to use it productively and having the ability to recall it for active use, although for some purposes only passive knowledge is necessary and some words for some users are only ever known passively.
2. It means knowing the likelihood of encountering the word in either spoken or written contexts or in both.
3. It means knowing the syntactic frames into which the word can be slotted and the underlying forms and derivations which can be made from it.
4. It means knowing the relations it contracts with other words in the language and with related words in an L1 as well.
5. It means perceiving the relative coreness of the word as well as its more marked pragmatic and discoursal functions and its style-levels.
6. It means knowing the different meanings associated with it and, often in a connected way, the range of its collocational patterns.
7. It means knowing words as part of or wholly as fixed expressions conveniently memorized to repeat – and adapt – as the occasion arises.

2.2.2.3 Nation's model

Like Carter (1998), Nation (2001) encompasses all aspects of vocabulary knowledge; however, unlike the former, the latter incorporates his ideas into one single model with simple and clear representation. This model is shown in Table 4. In Nation's opinion, there are altogether three main components for word knowledge: form, meaning and use. The general category "form" is further divided into three elements. The spoken form refers to the phonological knowledge (e.g. pronunciation) associated with the word, the written form the orthographic representation (e.g. spelling), and the word parts the morphological knowledge. The second category, "meaning", can be more finely classified into form and meaning (e.g. meanings of different derivatives of the word), concept and referents (e.g. what the word refers to in a particular context), and associations (e.g. relationship with other words such as synonyms and hyponyms). Lastly, the category "use" includes grammatical functions (e.g. how the word is used in a sentence), collocations (e.g. what other words usually occur with this word) and constraints on use (e.g. other factors like register and frequency). One extra point to note is that, in the original table in Nation (2001), there is a third column dealing with receptive and productive knowledge. In other words, for each of the nine groups of knowledge in Table 4, there can be a further differentiation between receptive and productive knowledge. This differentiation illustrates that, in Nation's opinion, lexical proficiency should comprise both receptive and productive knowledge.

Table 4

Nation's Word Knowledge Framework (Nation, 2001, p. 27)

Form	Spoken
	Written
	Word parts
Meaning	Form and meaning
	Concept and referents
	Associations
Use	Grammatical functions
	Collocations
	Constraints on use (register, frequency, etc.)

Some test instruments represent vocabulary knowledge as a dichotomy between "yes, I know this word" and "no, I don't know this word", indicating that we can only have either full knowledge of a word or no knowledge at all. However, our vocabulary acquisition "is not an all-or-nothing process in which a word is suddenly and completely available for use" (Schmitt, 2000, p. 6). The above three frameworks proposed by Richards (1976), Carter (1998) and Nation (2001) have already demonstrated the intricate nature of vocabulary knowledge. Knowing a word demands the mastery of many types of lexical knowledge, which means that it is just impossible for our knowledge of a particular lexical item to jump from zero to one hundred percent within an instant. Accordingly, the position that words are learnt incrementally appears to match our intuition better (Macaro, 2003). When encountering a word in spoken discourse or written texts, we accumulate its information in our brain. Hence, at any point in time, the degrees of our stored knowledge of different word items vary. But what actually happens in this acquisition mechanism and how the process can be facilitated remain to be further investigated.

2.3 L2 Vocabulary Acquisition

At first sight, it may appear that second language vocabulary acquisition has little to do with vocabulary testing. One key objective of vocabulary acquisition researchers is to uncover the secret of the acquisition process so as to enhance the teaching and learning of vocabulary in a second language. In order to evaluate how important a certain condition is to our success of acquisition, some sort of vocabulary knowledge assessment is necessary. Consequently, a number of testing instruments have been devised in connection with these vocabulary acquisition studies. In addition, greater understanding of vocabulary acquisition can shed light on our psycholinguistic processes, which in turn can prompt the production of better measures of our mental lexical knowledge. Therefore, the research development of L2 vocabulary acquisition and that of vocabulary testing are closely linked.

Second language vocabulary acquisition is a truly heterogeneous area. A quick perusal of the many recent books on second language vocabulary reveals an amazing diversity of topics: context, extensive reading, multiword units, the place of vocabulary in teaching methodologies, and learning strategies like mnemonic devices and the role of dictionaries. It is simply not feasible, and it is not my intention either, to provide a complete overview of the field here. What I choose to discuss in this section is topics that relate more directly to vocabulary testing: they are concerning the nature of second language learners' mental lexicon and the way second language vocabulary should be learnt.

2.3.1 Development of L2 mental lexicon

Our mental lexicon is "a repository of declarative knowledge about the words" (Levelt, 1989, p. 182) of our languages. Its organization and internal structure have puzzled scientists for decades. As Carter (1998) and Meara (1999) suggest, since we

keep updating our vocabulary knowledge every day, our mental lexical knowledge is ever-changing. The fact that our lexicon is not static, but actively restructured poses great difficulty for researchers who want to find out how vocabulary is stored inside our brain. Although the mystery of the mental lexicon remains largely unsolved, a number of significant achievements have been made by scholars and these are reviewed below.

2.3.1.1 L1 versus L2

What exactly is the relationship between our first and second language vocabulary in our brain? This issue, i.e. whether there is connectivity between the L1 and the L2 lexicons, has been the subject of heated debate. According to Singleton (1999)'s review of copious research evidence, both positions, the proposition that the L1 and the L2 lexicons are totally isolated, and the proposition that the two are in full integration, are highly unlikely. A more plausible model would be this: L1 and L2 words are stored separately in our brain, with certain communication between the two systems. As for how they are connected, one possibility is that individual L1 and L2 lexical nodes are directly linked together; another possibility is that both are linked to a common conceptual store. Singleton (1999) also points out that factors like how we learn the words and how well we know the words all contribute to the individual differences in the relation between L1 and L2 words in our mental lexicon.

2.3.1.2 Receptive vocabulary versus productive vocabulary

In vocabulary assessment, a useful distinction is made between tasks that involve recognition of L2 words and tasks that require production of L2 words. The widely accepted assumption that second language learners recognize a new lexical

item more readily than produce it gives rise to the investigation of receptive vocabulary and productive vocabulary in our mental lexicon. In general, receptive vocabulary is associated with listening and reading, while productive vocabulary with speaking and writing. Table 5 presents some observations on second language learners summarized by Nation (2001). These remarks help to explain why a vocabulary study can yield different results, even if the subjects are the same group of people. If the task is a recognition one, the resultant estimate of vocabulary size will be much larger than when a production task is used. Since the test format can determine the type of vocabulary and the kind of lexical knowledge being measured, it is undoubtedly one of the most important considerations when conducting a vocabulary study.

Table 5

Nation's Observations Drawn from Two Reports (Laufer, 1998; Waring, 1997) on Vocabulary Acquisition (Nation, 2001, p. 371)

- Learners' receptive vocabulary size is greater than their productive vocabulary size.
- The ratio of receptive vocabulary to productive is not constant.
- As learners' vocabulary increases the proportion of receptive vocabulary becomes greater. That is, the gap between receptive and productive vocabulary becomes greater at the lower-frequency levels.
- A large proportion of the high-frequency vocabulary is known both receptively and productively.
- Increases in vocabulary size as measured by direct measures of vocabulary (decontextualised vocabulary tests) are not necessarily reflected in an increase in vocabulary in use (proportion of low-frequency words used in writing a composition).

2.3.2 How vocabulary should be learnt: Explicit versus implicit

A recent trend in language testing is that students' language ability should be judged by holistic tasks that simulate our daily life communication, instead of items that specifically assess their knowledge on one particular area. In other words, vocabulary no longer exists necessarily as an independent section in language proficiency tests nowadays (Read, 2000). A similar phenomenon can be perceived in vocabulary teaching and learning. One can easily notice that in many second language courses, there is often no separate vocabulary component. Courses are organized around the four practical skills: speaking, listening, reading and writing, within which the element of vocabulary is embedded. Whether this kind of implicit vocabulary treatment generates the most beneficial effect for second language learners is one central concern of acquisition researchers.

The dispute over explicit and implicit vocabulary learning revolves around whether vocabulary should be treated consciously in the second language learning processes. The advocates of explicit treatment believe that drawing learners' attention to new words is a must; in contrast, those favouring implicit treatment claim that vocabulary can be acquired subconsciously from language exposure in general. The wide support for implicit vocabulary teaching can be understood in terms of two factors identified by Macaro (2003). First, from the pedagogical perspective, due to the limited class time, second language teachers cannot afford to teach vocabulary in a structured and explicit manner in class. The amount of vocabulary for students to learn is tremendous, but the amount of time available in classroom is incredibly small. Second, the need to learn vocabulary in some formal instruction has been undervalued by early research evidence favouring implicit second language acquisition. It is a popular belief that we should learn an L2, including its vocabulary, naturally, the same as what we do for our L1, through

exposure to authentic texts and interaction (Macaro, 2003). Nevertheless, the learning conditions for an L2 largely differ from those for an L1. For one thing, for many second language learners, there is not a linguistically rich environment available.

Another opinion about the issue of explicit and implicit vocabulary treatment is that both methods should be employed. Carter (1998) suggests that for beginners, explicit vocabulary learning is more helpful; however, beyond a certain level of proficiency, our vocabulary development relies more on incidental learning. Macaro (2003) also holds the view that neither explicit nor implicit vocabulary teaching alone is adequate:

> Vocabulary can certainly be learnt implicitly and, indeed, context appears to be essential in ensuring in-depth understanding of a word. However, consolidation and progression from receptive to productive vocabulary is clearly facilitated by selective attention being brought to bear on the new lexical item. In order for vocabulary to be learnt there has to be some selective attention to it. The human mind just does not seem to be equipped to process and store efficiently in a subconscious manner everything that comes its way. Inferring the correct meaning of a word in a given context does not necessarily mean that there is retention of the inferred meaning since the immediate communicative need will have been met. The research evidence is quite strong that inferred vocabulary is enhanced by explicit and methodical vocabulary learning. (p. 86)

Indeed, it is more sensible to combine explicit and implicit vocabulary learning, which are complementary to each other, so that the second language learners can benefit from both methods and achieve higher vocabulary proficiency. As for the allocation of class time devoted to the two kinds of vocabulary teaching, the teachers

should adjust in relation to their students' needs and abilities.

Before proceeding to the discussion of vocabulary testing, I would like to end this section with some comments on the development of second language vocabulary acquisition research. In his review of the classical research in this field, Meara (1996) has expressed disappointment at what he perceives to be a lack of genuine advancement of L2 vocabulary knowledge during the previous twenty years. Despite the increase in the number of studies, many central questions still remain unanswered. He further criticizes modern researchers for repeating the same mistakes as their predecessors such as being unable to justify the subject size in experiments and ignoring individual factors in the acquisition process. What is more, research tends to focus on a few major languages only, most of which are Indo-European ones, and on learners of a few proficiency levels, but attempts to generalize the findings to all other circumstances. Meara urges the production of comparable data from systematic replications of studies because in his opinion, only in this way can there be genuine breakthroughs in the field. Wesche and Paribakht (1996) also comment that most of the research on vocabulary seems to be isolated from second language acquisition in general. The studies tend to be descriptive in nature, with little connection with theoretical acquisition models. All the issues mentioned above hinder the development of vocabulary acquisition research. These obstacles have to be removed before we can obtain more information on the acquisition process.

2.4 Vocabulary Testing

As mentioned in the previous section, second language vocabulary acquisition and vocabulary testing are two closely related research fields in applied linguistics. To a certain extent, the development of one can spur that of the other. Some scholars argue that our fruitless attempt to seek understanding of the acquisition process is attributable to the lack of sensitive instruments to trace the learners' vocabulary development. Even though some researchers (e.g. Meara, 1997) have raised the importance of constructing theoretical models, nothing can be done if there is no research tool for collecting suitable data (Wesche & Paribakht, 1996). This section examines some inevitable considerations for devising and choosing a suitable vocabulary test. It is hoped that the information will assist readers in understanding the justification of my research design which will be discussed in detail in Chapter 3.

2.4.1 What makes a good vocabulary test

There are several points that one has to pay attention to when constructing or applying a vocabulary test. Like in the case of designing any other language test, reliability, validity, practicality and washback are all important considerations. Nation (2001) interprets these four factors in the light of vocabulary measures:

> In general, a good vocabulary test has plenty of items (around 30 is probably a minimum of a reliable test). It uses a test item type which requires learners to use the kind of vocabulary knowledge that you want to test. It is easy enough to make, mark and interpret, and it has a good effect on the learning and teaching that leads up to the test and follows it. (p. 345)

Nevertheless, it is often hard for the test writers to satisfy the first requirement about the number of items, because they need to strike a balance between reliability and

practicality. If a test demands a large amount of the test-taker's time, it may lower the test-taker's motivation in completing the test and hence become a hindrance to the implementation of the research project. In fact, many well-established vocabulary tests such as Meara's Eurocentres' Vocabulary Size Test and Nation's Vocabulary Levels Test have less than 30 items in each section. But since their reliability and validity have been checked by different researchers, and these studies are available in print, the relatively small number of items does not waver confidence in the tests.

Besides the above four factors, it is also crucial to decide what purpose the vocabulary test shall serve. According to Nation and Meara (2002), there are four common aims of assessing vocabulary knowledge and they are summarized in Table 6. Not only can these different objectives affect the types of tasks or procedures involved in the instruments, but they can also influence the choice of lexical items to be tested and the kinds of vocabulary knowledge covered in the vocabulary tests.

Table 6

Purposes of Vocabulary Tests (Nation & Meara, 2002, p. 46)

- To measure vocabulary size (useful for placement purposes or as one element of a proficiency measure).
- To measure what has just been learned (a short-term achievement measure).
- To measure what has been learned in a course (a long-term achievement measure).
- To diagnose areas of strength and weakness (a diagnostic measure).

2.4.2 Breadth versus depth: Some implications for test design

In second language vocabulary testing, very often, two dimensions of vocabulary knowledge are distinguished: one is "breadth" (i.e. vocabulary size); another is "depth" (i.e. quality of word knowledge). Anderson and Freebody (1981) are among those who first adopted these two terms (as cited in Read, 2000). When estimating vocabulary size, what the researchers aim at is not to get the total numbers of words the second language learners know; instead, they would like to find out how many lexical items the learners know in some specific word lists of the target language. Hence, the accuracy of these measures depends very much upon the representativeness of the sample (Wesche and Paribakht, 1996). Examples of vocabulary breadth tests include the Eurocentres Vocabulary Size Test developed by Meara and his colleagues, and Vocabulary Levels Test designed by Nation (Read, 1997). As for measuring the quality of vocabulary knowledge, researchers either scrutinize the various dimensions of word knowledge or investigate the different stages of vocabulary acquisition. Both Paribakht and Wesche's Vocabulary Knowledge Scale (VKS) and Read's Word Associates Test belong to this category (Read, 1997). These two depth measures, together with the two breadth tests mentioned above, have been widely studied and applied by various researchers. It can be said that these four vocabulary tests are among the most influential ones in the field nowadays and they are examined one by one in this section.

2.4.2.1 Meara's Eurocentres Vocabulary Size Test

Paul Meara and his colleagues (Meara & Buxton, 1987; Meara & Jones, 1988) have developed a computerized checklist test called the Eurocentres Vocabulary Size Test, which measures second language learners' knowledge up to the most frequent 10 000 English words. During the test, the computer program samples 20 words

from each frequency band (i.e. every one thousand words) in Thorndike and Lorge (1944)'s word list. The words are shown on the computer screen successively, and the test-takers indicate whether they know the meaning of the lexical items or not. However, one main problem of this kind of "yes/no test" is that it totally relies on the self-report of test-takers who may overestimate their vocabulary knowledge. In order to minimize this shortcoming, Meara and his colleagues have incorporated a certain proportion of pseudo-English-words in the test, which enables the scoring system to correct for guessing or false claims. So, for example, if a student reports that he knows ten words, five of which are, in fact, nonsense words, five marks will be deducted from his total scores in the test (Read, 1997, 2000; Nation, 2001).

Nation (2001) points out that the attraction of the Eurocentres Vocabulary Size Test is primarily due to its simplicity and efficiency. It allows us to obtain a large amount of data (in terms of the numbers of subjects and words) that can be interpreted easily within a short period of time, making it an optimum candidate for a placement test. Nevertheless, we can hardly check how valid the test-takers' reports are. For instance, they may mistake the meaning of one word for another, or they may think that they know a word, when actually they only have a vague impression of meeting the word somewhere before. Even Meara concedes that the effectiveness of his test is sensitive to factors like the second language learners' mother tongue and their second language proficiency (Read, 2000).

2.4.2.2 Nation's Vocabulary Levels Test

Another example of vocabulary size test is the Vocabulary Levels Test, which is regarded as the "nearest thing we have to a standard test in vocabulary" (Meara, 1996, as cited in Read, 2000, p. 118). One central characteristic of Paul Nation's test is that test items are arranged according to five word frequency levels: 2000, 3000,

5000, University Word List (UWL) and 10 000. The original version of the test measures receptive knowledge by asking the test-takers to match words with their corresponding definitions:

1. file
2. involve _____ look closely
3. oblige _____ stop doing something
4. peer _____ cry out loudly in fear
5. quit
6. scream

(as cited in Nation, 2001, p. 181)

In each level, there are 36 words and 18 definitions to be tested. Later, a new version of the test, in the form of a blank-filling task, has been developed to assess productive vocabulary knowledge (Read, 2000; Laufer & Nation, 1999). Nation and Meara (2002) suggest that this new test can help to illustrate "whether a learner's knowledge of a word has begun to move towards productive mastery" (p. 47). This productive version of the test is one of the instruments used in my study and it will be discussed thoroughly in Chapter 3 Research Design (see section 3.3.1).

Nation (2001) explains that the Vocabulary Levels Test is a diagnostic test which allows the teachers or learners to decide what kind of vocabulary to work on. If the learners obtain satisfactory scores in the high frequency levels, it means that they can manage basic communication in English and thus can proceed to the more difficult low frequency words. For those who need to do academic study in English-medium environment and do not perform well in the UWL section, more effort should be devoted to learning the academic vocabulary. But Read (2000)'s attitude towards the productive test is more sceptical. He doubts the intention of the blank-filling task and feels that more research evidence is needed to support the claims of the test.

2.4.2.3 Wesche and Paribakht's Vocabulary Knowledge Scale

Read (2000) describes the Vocabulary Knowledge Scale (VKS) developed by Marjorie Wesche and T. Sima Paribakht as "a pioneering initiative" (p. 132) in assessing the quality of second language vocabulary knowledge. It is a flexible instrument that can be applied to any set of words. The VKS instrument requires test-takers to report their knowledge of target words in relation to a five-point scale (see Table 7), ranging from "complete unfamiliarity, through recognition of the word and some idea of its meaning, to the ability to use the word with grammatical and semantic accuracy in sentence" (Wesche & Paribakht, 1996, p. 29). So this test does not solely rely upon students' self-perception; it demands them to demonstrate their vocabulary knowledge for the researchers to verify their claims. The VKS is designed for the purpose of detecting early development of certain word knowledge in educational or research settings.

Table 7
VKS Elicitation Scale (Wesche & Paribakht, 1996, p. 30)

Self-report categories	
I	I don't remember having seen this word before.
II	I have seen this word before, but I don't know what it means.
III	I have seen this word before, and I think it means _____. (synonym or translation)
IV	I know this word. It means _____. (synonym or translation)
V	I can use this word in a sentence: _____. (If you do this section, please also do Section IV.)

Macaro (2003) notices one potential problem in the incremental scale proposed by Wesche and Paribakht. The VKS assumes that if one can use a word with semantic appropriateness, he should be able to give correct synonyms for the word.

But this is not necessarily true. Nation (2001) observes the same problem, too. He points out that one can use a word in a sentence without complete understanding of its meaning. Furthermore, in his opinion, VKS should not involve so many different aspects of word knowledge because they cannot fit well into one scale. The "multidimensional nature" (Read, 2000, p. 137) of vocabulary knowledge specifies that our acquisition process is not likely to follow one single linear course as in the VKS model. Last but not least, Schmitt (2000) questions whether the five levels in the scale grow out from any theoretical basis and why the increments between consecutive stages differ from one another. Despite the above criticisms, it is undeniable that the VKS instrument is a milestone in vocabulary assessment. Not only does it serve as an exemplar of daring attempt to capture the complexity of vocabulary knowledge within an instrument, but the discussion that it generates also directs scholars' attention to the testing of vocabulary depth, which in turn facilitates the development of the field.

2.4.2.4 Read's Word Associates Test

The Word Associates Test is another written measure of students' quality of vocabulary knowledge. Understanding that it is impossible to assess the full range of vocabulary knowledge, John Read has decided to focus on testing the various meanings of the target words. In this test, test-takers are asked to identify four words that are semantically related to the test item out of eight words. The four associates in each question are deliberately chosen to represent distinct semantic relationships including paradigmatic (words that are similar in meaning), syntagmatic (words that collocate) and analytic (words that form part of the definition of the test items). Involving just a simple task, this Word Associates Test provides us with an economical means to understand second language learners' range of vocabulary

knowledge. Nonetheless, it is discovered that the test-takers' willingness to guess can greatly affect their scores in the test. As a result, in the revised version of the test, the eight associates and distractors are divided into two groups, with one group focusing on paradigmatic and analytic relationships, and the other group on syntagmatic one, for example:

sudden

beautiful quick surprising thirsty	change doctor noise school

(as cited in Read, 2000, p. 184)

Same as before, the test-takers have to select altogether four associates. So for some of the test items, there are two associates in each of the boxes; for others, there may be one associate in one box and three in the other. It is believed that this design can help to reduce the effect of guessing (Read, 1997, 2000).

From the above review of the four common vocabulary tests, it becomes obvious that no single type of the tests can be perfect. On the one hand, the criticisms that only a partial amount of a learner's vocabulary knowledge, notably meaning, is captured and that the knowledge is only depicted dichotomously as either correct or incorrect are mostly associated with the size tests (Schmitt, 2000). On the other hand, depth of knowledge tests are often constrained by practicality owing to the relatively large amount of time required to complete the meticulous test and by reliability on account of the smaller number of words covered in the test (Schmitt, 2000). Therefore, the fact that no single perfect test exists implies that researchers have to compromise on a test that best fits their research questions. In my research project, the Productive Vocabulary Levels Test was adopted to assess participants' vocabulary knowledge across different word frequency levels. Another

instrument, inspired by the Vocabulary Knowledge Scale and the Word Associates Test, was devised to assess participants' different aspects of vocabulary knowledge about academic words. The details of the instrumentation will be fully attended to in Chapter 3 Research Design.

Over the years, researchers working in the field of language testing have not paid much attention to vocabulary assessment. Consequently, many of the studies on vocabulary testing are conducted by vocabulary acquisition researchers (Read, 2000). Since these researchers bear different intentions in their mind when designing their own instruments, the test format, the items sampled, the knowledge tapped, and the target test-takers greatly vary from one instrument to another. Although the variety of vocabulary tests in the current literature signifies promising prospects for vocabulary research, the range of approaches to assessing vocabulary knowledge has resulted in an unexpected aftermath. The findings of different researchers may become incompatible and this leads to, in Meara's terms, "a serious fragmentation of the field" (Meara, 1996, p. 38). Should we desire genuine breakthroughs in vocabulary research, this lack of agreed fundamental principles in the research is something that must be addressed at some stage in the future.

2.5 Educational Context in Hong Kong

In Hong Kong, most students start to learn English when they are in kindergarten. At the age of six, they go to primary school in which they spend another six years studying various subjects including English. Afterwards, they are promoted to secondary school. At the fifth year of their secondary studies, they sit for a public examination, the Hong Kong Certificate of Education Examination (HKCEE), and English is a compulsory subject for all candidates. If they get

satisfactory results in the examination, they can continue to study a two-year matriculation course in secondary school. Before they can enter university, they have to attend another public examination, the Hong Kong Advanced Level Examination (HKALE). One requirement of university admission is to obtain a pass in the subject Advanced Supplementary Level (AS) Use of English. Therefore, most university students in Hong Kong have already had approximately fifteen-year experience in learning English.

Why do I provide such an English learning profile here? Because my research project aims at investigating the English vocabulary knowledge of Hong Kong university students, it appears to me that equipping my readers with some background knowledge of this particular group of learners is necessary. Some preliminary remarks on the educational system in which the learners are brought up can prepare readers for the findings of my study. In this section, I will give a brief account of two issues that are influential to Hong Kong students' vocabulary development in secondary schooling, the milestone in their English learning, and then I will introduce some relevant vocabulary studies on local tertiary students.

2.5.1 Medium of instruction

The medium of instruction has a great impact on students' vocabulary acquisition, since it determines the amount of their English language exposure. There are not many English lessons per week and thus students can only get limited benefit in class. If they learn other subjects through English as well, they will be given more opportunities to familiarize themselves with the language. According to Johnson (1998) and Littlewood and Liu (1996), most teaching in primary education is conducted through Cantonese. As for the medium of instruction in secondary schools, there appears to be a discrepancy between the stated policy and the actual reality.

While many secondary schools claim to be using English for the entire curriculum, studies reveal that, in fact, only written materials such as textbooks and examinations are in English, and, very often, classroom instruction is in Cantonese (Littlewood & Liu, 1996; Walters & Balla, 1998). Of course, the English lessons are an exception. The English teachers generally disapprove of code-mixing in class (Johnson, 1998). Nevertheless, for other subjects, the bilingual instructional genre is prevalent among Hong Kong secondary classrooms. Pennington (1998) elaborates this pattern of language use: "the content of lessons is introduced in English and then explicated through examples, definitions, and further elaboration in the students' mother tongue, followed by a restatement, conclusion, or transition to a new topic given in English" (p. 7). In spite of the schools' recruitment of more expatriate native English speakers, whose responsibility is merely restricted to English lessons, secondary students are, as a matter of fact, not immersed in an English-speaking environment in school (Walters & Balla, 1998).

Considering the problem of mixed-code teaching, the government advisory body on education policy, the Education Commission, proposed measures to remedy the situation in the Education Commission Report No.4 (ECR4) in 1990. The report made it clear that switching between Chinese and English in classroom instruction was an unacceptable practice in English-medium (EMI) schools. In other words, if a school claimed to be an English-medium one, it had to be a genuine English-medium school (Johnson, 1998). The report also recommended schools to consider their students' abilities when choosing the medium of instruction. As it was estimated that less than 30% of Form 1 students were capable of studying through the English medium, the rest should be educated by using their mother tongue (Littlewood and Liu, 1996). Based on the ECR4, the government implemented some relevant policies in the mid-1990s to alter the situation that as few as 10% of students or less studied

in Chinese-medium (CMI) secondary schools (Johnson & Fan, 1996). One such policy was to stream students into two ability groups, one suitable for learning in English and one for learning in Chinese (Evans, Jones, Rusmin, & Cheung 1998). However, the promotion of mother tongue as the medium of instruction met much opposition from schools and parents. Many parents, fearing that if their children went to the CMI schools, their English standards would not be good enough for them to compete with the EMI school students for opportunities in university and job market, strongly preferred EMI schools. At the same time, some schools resisted the government policy and strove for keeping the name of "EMI school". Nowadays, the medium of instruction remains a heated debate in the society. But the significance of the issue is that the students from genuine English-medium schools will, obviously, possess a much larger pool of English vocabulary than those from Chinese-medium schools on account of their exposure to a richer linguistic environment.

2.5.2 English vocabulary teaching in secondary schools

Besides the medium of instruction throughout the curriculum, the way how vocabulary is presented in English lessons also influences students' vocabulary development. So what a typical English class is like in Hong Kong secondary schools? According to Littlewood and Liu (1996), generally speaking, because of the large class size of 36-40 students, most classes are teacher-centred in nature, with occasional student-involved activities. The teacher does most of the talking in class, while the students are busy jotting down notes. Yeung (2002) has noticed that the current methodology of vocabulary teaching in Hong Kong is quite similar to the grammar-translation approach. Teachers explain the English words which appear in the vocabulary checklists in their textbooks by translating into their students' mother tongue. Moreover, accuracy is very much emphasized in the learning process, as

reflected in dictation tests and pronunciation drill.

With reference to the presentation of vocabulary items in English textbooks, Yeung (2002) observes that new English words are usually introduced through a comprehension passage in each chapter, with follow-up exercises such as blank-filling, matching and synonym-finding to check students' understanding. Nonetheless, unlike the case in mainland China, there is not a standard English vocabulary list for textbook writers to follow in Hong Kong. In the secondary school English language syllabus published in 1999, the Curriculum Development Council states explicitly that it is "not useful to prescribe or suggest a vocabulary list out of context" (Curriculum Development Council, 1999, p. 15) due to the wide range of teaching materials and learning environment in different schools. The authority merely offers some vocabulary selection guidelines, from the perspectives of learners' needs, cultural factors, passive and active vocabulary, and vocabulary building strategies, for the teaching profession. As a result, the vocabulary items that students encounter greatly vary with the textbooks that their schools adopt. Unfortunately, few researchers have conducted studies on the vocabulary coverage in existing English textbooks. Though Cheung and Lee (1986) carried out an investigation of how English vocabulary was used across different subjects in 36 junior secondary textbooks and proposed a basic English vocabulary list from their corpus, nearly 20 years has passed since their study was published and the textbooks involved are no longer available on market. Consequently, how much Hong Kong students have achieved, in terms of English vocabulary knowledge, in their secondary education remains unclear.

2.5.3 Vocabulary studies on Hong Kong tertiary students

The learning conditions in universities demand a much higher English language proficiency of students than in secondary schools. In their study on the medium of instruction of one local tertiary institution, Walters and Balla (1998) found that the written materials, including textbooks, course handouts, assignments, examinations and laboratory manuals, of over 90% subjects were always in English. Concerning verbal communication, nearly 90% students expressed that their lectures were always or often conducted in English. But altogether less than 50% indicated that their tutorial discussions were in this medium and variation existed across different departments. Pennington (1998) has also perceived that "at tertiary level language use becomes specialized to different types of instructional domains (lecture, tutorial, laboratory)" (p. 8) and at the same time "English is maintained to a far greater degree in written genres than in spoken ones" (p. 8). In addition, the actual language use may vary from one discipline to another.

Given the vast amount of English that university students face, it becomes important to determine whether they possess adequate vocabulary knowledge to cope with their studies. Littlewood and Liu (1996) report the findings of the LEAP (Learning Experience, Attitudes and Proficiency) project, a large-scale study intended to obtain a profile of local tertiary students' English. Their sample involved 110 first-year students from seven faculties, with a range of English proficiency levels including A to E grades in AS Use of English examination, in the University of Hong Kong and the Chinese University of Hong Kong. One area of their investigation was students' vocabulary proficiency. Besides analysing students' essays, the researchers asked their participants to complete a shortened productive version (involving just the 3000 word level, the 5000 word level and the University Word List level) of Nation's Vocabulary Levels Test. Their results showed that

students had wider knowledge of academic words than non-academic ones, hinting at the likelihood for local undergraduates to encounter a significant proportion of unfamiliar words when reading general texts. Furthermore, students with Grade D or E in AS Use of English were likely to struggle with reading both general and academic texts, as their scores in all three levels were below 65%.

Two other pieces of research on university students' English vocabulary proficiency are Cobb and Horst (1999) and Fan (2001). Cobb and Horst (1999) conducted a study investigating the vocabulary sizes of some diploma students majoring in language studies by using Nation's Vocabulary Levels Test. They found that the students did well on the high frequency words but gave disappointing performance on the academic words. Nonetheless, due to the small subject size, the research findings could not be generalized. In other words, these were solely relevant to this particular group of learners, but not general university students in Hong Kong. For the sake of a better picture of local tertiary students' English vocabulary knowledge, Fan (2001) ran a research project with a much larger and more representative sample. One thousand and seventy-six students newly admitted to the seven tertiary institutions in Hong Kong participated in the study. The subjects consisted of learners with different English proficiency (in terms of their AS Use of English grades) and from different educational backgrounds (in terms of the medium of instruction of their secondary schools). The instrument was an especially long version of Nation's Vocabulary Levels Test for receptive vocabulary, with 144 words and 72 definitions in each level. The research findings illustrated that, to most students from EMI schools, vocabulary should not be a burden to their university studies: they scored highly in the sections of high frequency words and academic words. However, those from CMI schools or with low grades (i.e. grade E) in the public examination would need special help with vocabulary, especially the

academic words.

The discussion in this section has outlined the context of my research project. The majority of university students in Hong Kong have received English education for at least thirteen years. Nevertheless, the diversity in students' abilities and learning environment poses difficulty in understanding their vocabulary achievement. The government authority's position and the teaching profession's practice complicate the issues of the medium of instruction and the vocabulary treatment in secondary education, both of which seriously affect students' English vocabulary development. Adding to the above is the absence of a separate section on vocabulary in public examinations. Consequently, there is a lack of concrete information on university students' English vocabulary proficiency in Hong Kong. Even though this shortage of information has already spurred the implementation of some research projects, so far, this area has not been fully explored. Hence, I consider my research topic to be one worthy of investigation. At the same time, I perceive it as appropriate to draw upon the research design of Littlewood and Liu (1996) and Fan (2001), the few existing studies of similar nature in the literature.

2.6 Summary

Having concluded the section of Hong Kong educational contexts, I would like to end my literature review with a summary of the principal issues discussed. First of all, the concepts of vocabulary and vocabulary knowledge are not as straightforward as one may expect. There are numerous proposals of components for vocabulary knowledge; however, there is not a consensus reached. One thing for sure is that knowing a word is not as discrete as computer signals, being either 1 or 0; rather, there are varying degrees of knowledge across different words and among different

learners. Secondly, how we could best learn vocabulary involves many factors. One of these is the organization of our mental lexicon, and another discussion, concerning the general second language acquisition as well, deals with the pros and cons of explicit and implicit learning. Although linguistic researchers cannot fully understand our vocabulary acquisition process at the moment, current findings prove to be inspiring. Thirdly, the field of vocabulary testing has developed rapidly in recent years. A number of instruments have been invented and research studies have been carried out to verify their reliability and validity. These different measures focus on distinct areas in vocabulary knowledge and can be categorized into breadth tests and depth tests. Finally, in the present, there is a growing concern on university students' English language standard in Hong Kong society. Reforming the education system, the government has introduced a number of language policies, one regarding the medium of instruction in secondary schools. The tertiary institutions also seek various methods to improve their students' English proficiency. A few projects have been conducted to ascertain whether the students' vocabulary knowledge is adequate for their English-medium tertiary studies. The findings suggest that a significant proportion of less competent students exist in universities and further assistance should be provided to their vocabulary development. Accordingly, more in-depth investigation is desirable.

CHAPTER 3 RESEARCH DESIGN

3.1 Introduction

The dearth of information about Hong Kong tertiary students' English vocabulary proficiency, the productive aspect in particular, in the literature is the factor which initiated my research project. The major objectives of the present study are to find out (1) local university students' vocabulary size, (2) whether students with different educational backgrounds have different vocabulary sizes, (3) the aspects of vocabulary knowledge that students are deficient in, and (4) the aspects of vocabulary knowledge most related to students' productive use of words. The study began with a narrow scope of investigation, that is to say, measuring one specific dimension of second language development. The groups of participants existed naturally in the chosen research context. Two vocabulary tests were employed to elicit the desired data, i.e. university students' English vocabulary knowledge, most of which was quantitative in nature.

In the rest of this chapter, the research method that was adopted to address my research questions will be discussed in detail: the first section describes the selection of participants, as well as their demographic information; the second section examines the two research instruments and their respective appropriateness in the stated research context; the third section outlines the data collection procedures; finally, the fourth section explains the processing and the analysis of the collected data.

3.2 Participants

With the objective of investigating local tertiary students, the English Language Teaching Unit (ELTU) in the Chinese University of Hong Kong (CUHK) was identified as the optimal setting for my research project. The reason for choosing CUHK was one of convenience and accessibility: it was the university that I had been studying in for four years. But most importantly, the ELTU, an organization in CUHK offering a wide variety of English enhancement courses to students across disciplines, enabled me to approach my targets of investigation easily. Then who were the participants? How were they selected? What sort of sampling technique was used? These questions are answered in the subsequent discussion. In addition, a meticulous description of the participants is prepared so that the readers can be provided with adequate background information of the present study.

3.2.1 Selection of participants

In this study, only the newly admitted university students, i.e. year-one students, were investigated so as to minimize the number of variables concerning the participants. One justification for this decision is that Cobb and Horst (1999) observed no significant vocabulary growth when comparing one group of first year students with another group of second year students, and comparing the same group of first year students before and after a six-month period. The first part of my study involved 187 year-one students, while the second part involved a subset of 31 students in the first part.

As mentioned in Nurweni and Read (1999), students in different faculties appear to exhibit distinct patterns of vocabulary knowledge. However, neither Littlewood and Liu (1996) nor Fan (2001), whose studies were conducted in Hong Kong, touch on the issue. Accordingly, one sub-question of my research questions

was dedicated to comparing the performance of learners from different fields of study in the vocabulary size test. In order to achieve this, stratified sampling was adopted to make sure the number of participants in each discipline was comparable. Generally speaking, different faculties in CUHK advise their students to pursue different ELT courses to fulfill the faculty language requirement. For every course, the ELTU runs a number of classes, each of which contains about 20 students, at different timeslots in the week, for students to choose. By selecting a few different courses, I gathered about 50 first year students from each of the different faculties including Business Administration, Engineering and Science as my participants for the first part of the study (see Figure 1). Why is 50 a suitable sample size for each faculty? According to the Chinese University of Hong Kong (2004), there were 630, 482 and 495 students admitted to the Faculty of Business Administration, the Faculty of Engineering, and the Faculty of Science respectively in 2004. Hence, the approximate sampling rates could be controlled within a reasonable range of 1:9 and 1:12. These Hong Kong participants from three faculties, together with 31 participants from mainland China, constituted an overall sample size of 187, which I considered an appropriate number for my design since Littlewood and Liu (1996)'s similar vocabulary study selected only 110 students, on the basis of AS Use of English grades (A-E), as their participants. My larger sample size should enable me to draw meaningful conclusions from the data.

In the second part of my study, because of the instrument's generation of more complex data demanding greater effort in the processing and analysis stage, the sample size was reduced. At the end of the first instrument, there was a note informing the participants about a second vocabulary test, and asking them to leave their contact numbers as well as email addresses, if they were interested in participating in the second part of this study. Although 84 Hong Kong students had

indicated their willingness to join, upon further communication, only 31 did come and complete this second vocabulary test, i.e. the quality of vocabulary knowledge test. Due to the decrease in sample size, participants' performance in this second instrument was treated as a unified whole, with no comparison against disciplines or other factors.

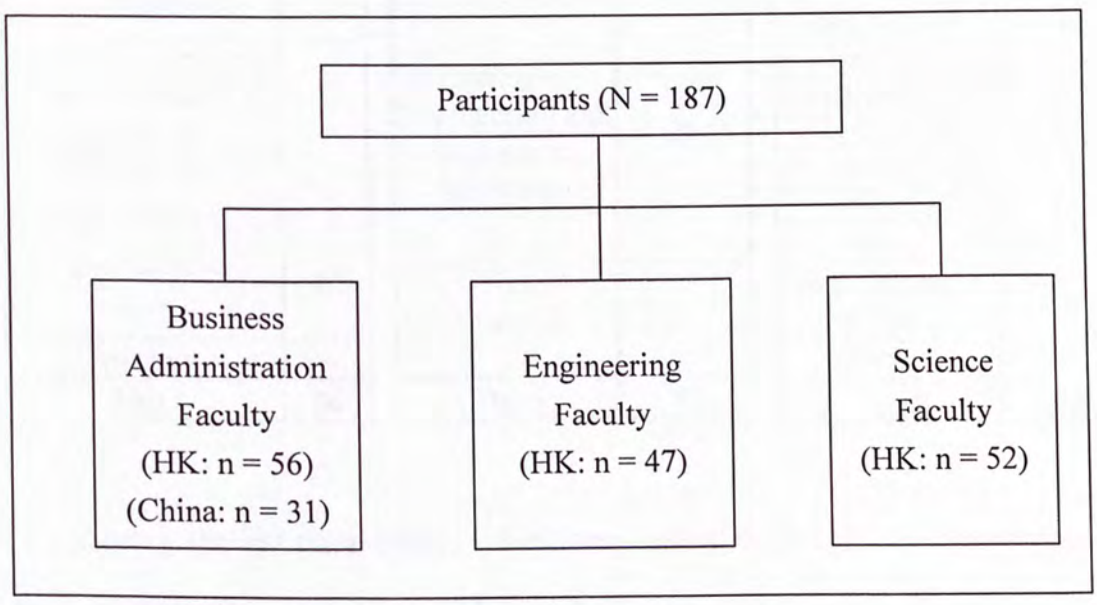


Figure 1. Students constituting the participants in the present study

3.2.2 Profile of participants

One hundred and eighty-seven first year CUHK students participated in the present study. They were aged from 17 to 22, with a male/female ratio of 4:3. They came from three faculties: the Faculty of Business Administration, the Faculty of Engineering and the Faculty of Science. They were all taking one of the three ELT courses, ELT1106 Grammar for University Studies, ELT1111 Technical Communications, and ELT2550 Spoken English for Business Administration, when the data was collected.

Table 8

Participants' Distribution across Three Faculties

Business Faculty	
Integrated Bachelor of Business Administration Programme	11
Hotel and Tourism Management	1
Insurance, Financial and Actuarial Analysis	8
Professional Accountancy	23
Quantitative Finance	12
Missing	1
Total	**56**

Engineering Faculty	
Computer Engineering	1
Electronic Engineering	19
Systems Engineering and Engineering Management	26
Missing	1
Total	**47**

Science Faculty	
Biochemistry	2
Biology	2
Chemistry	10
Environmental Science	5
Food and Nutritional Sciences	2
Mathematics	5
Molecular Biotechnology	3
Physics	18
Risk Management Science	1
Statistics	4
Total	**52**

Among the 187 participants, 155 of them studied in Hong Kong before entering the university. There was an even distribution among the three faculties (see Table 8). In this group of Hong Kong students, 95% spoke Cantonese as their mother tongue. The participants generally had at least 10-year experience in learning English: 60 % of the students had studied English for 11-15 years and over 30% for 16-20 years. Regarding their secondary education, 85% of the Hong Kong participants attended English-medium (EMI) secondary schools, while the rest attended Chinese-medium (CMI) schools. Most of them (over 70%) entered the university after finishing their two-year matriculation course, i.e. Form 6 and Form 7, in secondary schools and taking the public examination, Hong Kong Advanced Level Examination (HKALE). However, some of them were admitted to the university through the Early Admission Scheme for Secondary Six Students (EAS) which selected outstanding students based on their performance in another public examination, the Hong Kong

Certificate of Education Examination (HKCEE), and allowed them to enter the university one year earlier than was normal. The participants' public examination results in the English language subject are presented in Figure 2 and Figure 3.

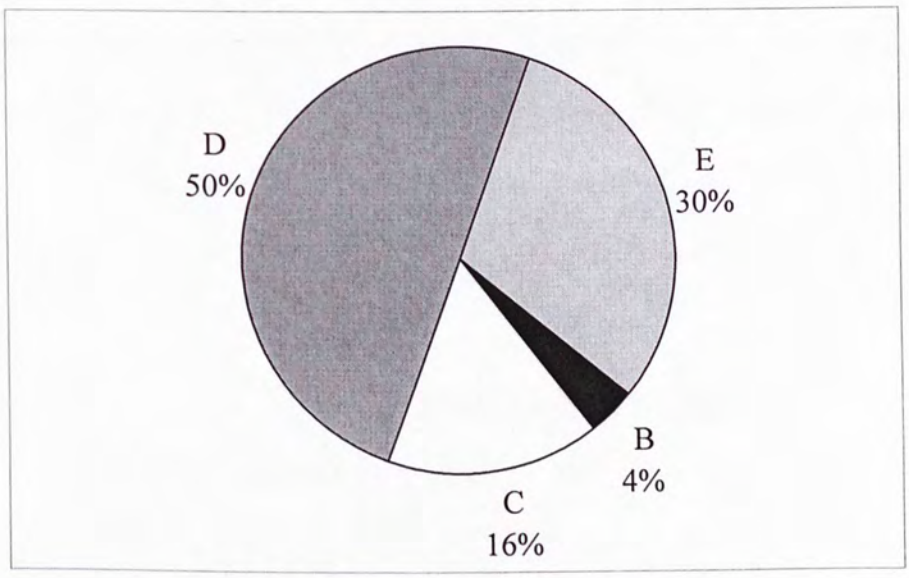


Figure 2. AS Use of English results (in HKALE) of Hong Kong participants who entered university after Form 7 (n = 112)

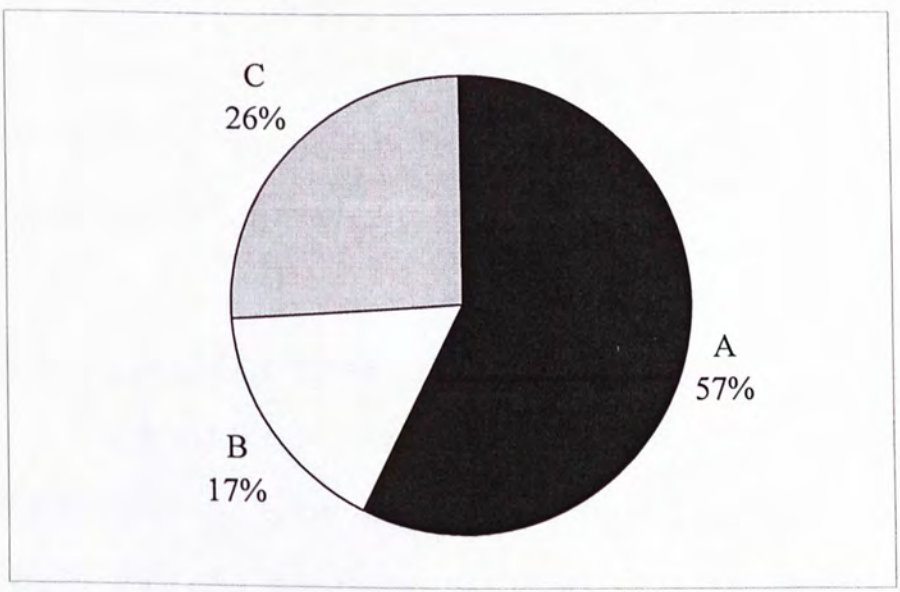


Figure 3. English Language (Syllabus B) results (in HKCEE) of Hong Kong participants who enrolled through EAS (n = 42)

Among the 187 university students joining in this research project, 31 of them studied in mainland China before entering the institution. About 42% of these 31 students came from Beijing, 16% from Shanghai and 13% from Shenzhen. As for their native language, 80% of them spoke Mandarin. Almost all of them attended secondary schools adopting Chinese as the medium of instruction. Nearly 75% of the students had studied English for 6-10 years; about 20% had studied English for 11-15 years. All these mainland China students studied in the Business Faculty in CUHK.

3.3 Instrumentation

Two vocabulary tests were administered to elicit the participants' English vocabulary knowledge. These two tests, one constructed from the perspective of breadth and the other conceptualized from the perspective of depth, constitute a comprehensive framework to examine Hong Kong tertiary students' vocabulary proficiency. On the one hand, the first instrument presents an overall impression of students' range of vocabulary; on the other hand, the second instrument scrutinizes the quality of their knowledge about academic words. Added to the above two instruments is a personal information sheet in which the participants supplied their background information.

3.3.1 Vocabulary breadth measure

The instrument for assessing my participants' vocabulary sizes is adopted in its entirety from one of Laufer and Nation (1999)'s productive versions of Vocabulary Levels Test (Parallel Version 1 [Version C]; see Appendix A), which is a standardized and widely used test in vocabulary studies. As Nation believes that "it is useful to view the vocabulary of English (and indeed any language) as consisting

of a series of levels based on frequency of occurrence" (as cited in Laufer & Nation, 1999, p. 35), his Vocabulary Levels Test is so constructed. In this instrument, 18 lexical items are sampled from each of the 2000, 3000, 5000 and 10 000 word frequency levels, and the University Word List (UWL), which represents a list of 836 words commonly appearing in academic texts. A meaningful sentence context, together with the first few letters of the target item, is provided in each question so that the test-takers can have adequate clues to retrieve that particular lexical item from their mental lexicon and then supply the missing target word. Even though this new version of the test, as opposed to the original one focusing on receptive vocabulary knowledge, is often called the productive version, Laufer and Nation (1999) explain that, more precisely, what is measured is the test-takers' "controlled productive ability", that is to say "the ability to use a word when compelled to do so by a teacher or researcher" (p. 37).

The appropriateness of the utilization of the Productive Vocabulary Levels Test in my research can be interpreted in terms of three factors. First of all, the authors' motivation behind the construction of the instrument is consistent with my objective of investigation. Laufer and Nation (1999) feel that it is essential for language teachers to know their learners' stages in vocabulary development. The percentage score generated in their test indicates roughly the proportion of words acquired in each of the different frequency levels, hence allowing teachers to determine the vocabulary treatment that best fits their students. Similarly, my research project was initiated by the lack of information on newly admitted university students' vocabulary proficiency, which made it hard for the university to help them improve their English knowledge. Second, the Productive Vocabulary Levels Test has been proved to be reliable and valid. One study reported in Laufer and Nation (1999) demonstrates that the instrument is capable of distinguishing EFL learners at

different proficiency levels. Last but not least, the instrument should work well with the population chosen for my study. The studies by Littlewood and Liu (1996), Cobb and Horst (1999), and Fan (2001), all of which explored Hong Kong tertiary students' English vocabulary knowledge, employed the Vocabulary Levels Test as instruments. Among these three studies, only the first one adopted a shortened version of the Productive Vocabulary Levels Test; the other two utilized the original version for receptive vocabulary (see section 2.5.3). However, the recognition vocabulary test may not reflect Chinese learners' English vocabulary proficiency accurately, owing to the influence from their L1, as suggested by Cobb (2000). Consequently, my utilization of the Productive Vocabulary Levels Test is justifiable on the grounds of the gap in literature and the test format.

3.3.2 Vocabulary depth measure

Regarding my participants' quality of vocabulary knowledge, the emphasis of the measure is placed on academic vocabulary. The rationale for focusing on these words is that my target population is university students who need to study English for academic purposes. Since their studies demand them to master words that occur frequently in academic contexts, it makes sense, as Read (2000) points out, to go beyond tests about synonyms or L1 translations, and assess their knowledge of these words thoroughly.

Four dimensions of vocabulary knowledge, including grammatical, morphological, semantic and collocational knowledge, were selected for investigation. One reason for my selection lies in the fact that all of them have been covered by each of the three vocabulary knowledge frameworks, Richards (1976), Carter (1998) and Nation (2001), discussed in Chapter 2 (see section 2.2.2). In other words, they receive significant recognition as components of vocabulary knowledge.

Another reason is that my study primarily deals with written productive vocabulary. According to Levelt (1989), from the point of view of language production, meaning, syntactic properties and morphological specification are essential features in each item in our mental lexicon. The relations between lexical entries are based on the connections derived from these fundamental features and the frequent co-occurrence of the items in language use. Consequently, these four dimensions are considered especially important for productive vocabulary knowledge and thus worthy of investigation.

Nonetheless, due to the apparent absence of any instrument that measures different aspects of vocabulary knowledge of academic words, I decided to develop a depth-of-knowledge test inspired by the test formats that have been previously utilized by other researchers and reviewed in Chapter 2. With Nation (2001)'s word knowledge framework at the back of my mind, I began by considering Paribakht and Wesche's widely known Vocabulary Knowledge Scale (VKS) instrument. As the incremental scale was often criticized as problematic, I took this element of progressive knowledge levels out and opted for a parallel presentation of the four dimensions of vocabulary knowledge in my design. What was retained from the VKS instrument was the construction of a sentence as the demonstration of productive performance and the supply of a synonym or translation as the demonstration of semantic knowledge.

Concerning collocation, my original intention was for the participants to provide a word or words usually occurring with the target item. However, in the trials of the instrument, most test-takers either left this part blank or jotted down "I don't know". As a result, it was decided that, in the revised version, this part should be modelled after Read's Word Associates Test, with four given words for the test-takers to indicate the one most likely to occur with the target item. The answers,

i.e. the collocational words, were picked from various dictionaries including Hill and Lewis (1997), Benson, Benson and Ilson (1997), *Collins COBUILD English Collocations* (1995), and *Oxford Collocations Dictionary for Students of English* (2003). Most of the distractors are words that resemble the answer in meaning, orthographic or phonological forms, or they are words that may collocate with another word similar to the target item (see Appendix B for examples).

The measurement of the two remaining aspects, morphological and grammatical knowledge, is realized respectively by asking the test-takers to produce another specified form of the target item, which is adapted from McNeill (1996), and to identify the correct part of speech of the target item. Even though many scholars argue that vocabulary should be tested in context, Laufer, Elder, Hill and Congdon (2004) note that "[a] test that is decontextualized but that nevertheless measures different dimensions of word knowledge" (p. 204) should be good enough. So I regard the format of this second instrument in my study as appropriate.

Having settled the overall format of the test, I still needed to decide which words to be assessed in the instrument. The academic vocabulary section in Laufer and Nation (1999)'s Productive Vocabulary Levels Test is based on the University Word List (UWL), which was created by Xue and Nation (1984) through an amalgamation of four existing word lists (Coxhead, 2000). However, since Coxhead (2000)'s Academic Word List (AWL) has "the advantage of giving better coverage of academic texts whilst listing fewer words" (Schmitt, Schmitt & Clapham, 2001, p. 63) when compared with the UWL, the AWL was chosen for the present study. The AWL, built from a corpus-based study, contains 570 word families prevalent among academic texts of different disciplines (Coxhead, 2000). In order to construct the depth-of-knowledge test, 20 headwords in the AWL were sampled, forming a sampling rate of 1:30 approximately. The selection criterion is to achieve equal

distributions of words in terms of frequency and grammatical class. Because the AWL is sub-divided into ten sub-lists of different frequency of occurrence, two words are sampled from each of the sub-lists. At the same time, the 20 sampled words are controlled in terms of their grammatical class: there are 7 nouns, 7 verbs and 6 adjectives. (Adverbs are not selected, since there are not many adverb headwords in the AWL.) Furthermore, the words chosen are all polysemous words, each belonging to only one grammatical category, with more than one derivation. The exact copy of this vocabulary depth measure is reproduced in Appendix B.

3.3.3 Personal information sheet

The personal information sheet (see Appendix A) attached to the first instrument was intended for a better understanding of the background of participants. Not only did it collect demographic data like the participants' sex, study discipline and mother tongue, but it also retrieved information about their English learning experience in secondary schools. It was expected that some of the variables could assist the interpretation of the vocabulary test results. Therefore, these variables were used to establish relationship with the collected data in the first instrument.

3.4 Procedures

In early September, I obtained the approval from the CUHK Survey and Behavioural Research Ethics Committee to conduct my research project and the permission from Dr. McNeill, the Director of the ELTU, to distribute vocabulary tests to the year-one students taking ELT courses. The first instrument, the Productive Vocabulary Levels Test, together with a consent form (see Appendix A) and a personal information sheet, was administered to the students in three ELT courses during their class periods in September and October 2004, January and

February 2005. They were allowed 30 minutes to complete the vocabulary size test. The role of the consent form, in addition to obtaining the participants' written consent, was to inform the participants about the research objectives, the research procedures, and the researcher's commitment on the confidentiality of the data collected. It was also stated clearly on the consent form that participation in the study was not compulsory.

After the tests were collected, they were marked according to the suggested answer (see Appendix C), which was basically derived from the model answers provided in an online version of the test (Cobb, n.d.). Each of the correct answers was awarded one mark. No mark was deducted for wrong answers. Minor spelling mistakes and grammatical mistakes such as incorrect tense, person and number agreements in the responses were ignored. A total score, with a maximum of 18, in each word frequency level was calculated for each student. A few weeks later, an email listing their respective scores in the five word frequency levels in the test, as well as the address of the online version of the test, was sent to students who had expressed, in the consent form, their wishes to obtain their results.

Approximately 320 copies of the first vocabulary test were distributed and collected in nine classes of the course ELT1106 Grammar for University Studies, four classes of ELT1111 Technical Communications, and six classes of ELT2550 Spoken English for Business Administration. After discarding incomplete tests, tests with unsigned consent forms, and tests done by non-year-one students, 187 copies remained. The data of these 187 participants including their scores obtained in each of the five word frequency levels and their personal information was then entered into a database, in the software SPSS, for processing.

At the second stage of the study, I attempted to contact, by email and telephone, the 84 of these 187 participants who had indicated their willingness to participate in

the second part of the study at the end of the information sheet and arrange a time when they would be available to do the follow-up depth-of-knowledge test. Unfortunately, many of them changed their mind and refused to join; only 31 participants remained interested. Since the students' timetables differed largely from one another, it was impossible to find a time when most of them could come. Consequently, the second instrument was administered to these 31 agreed participants individually or in a small group of two to three students each time, in a classroom or in the researcher's office. The data collection period of this second part of the study lasted from November 2004 to March 2005. This time, each of the participants could take a maximum of 45 minutes to complete the test. It was promised that the participants' results and the answer of the test, plus some advice on how they could improve their English vocabulary knowledge, would be sent to the participants afterwards (see Appendix D). In this way, the participants could also benefit from participating in the study.

The suggested answer of the second instrument was devised through consulting Coxhead (n.d.) and various dictionaries including *Longman Active Study English-Chinese Dictionary* (1991), *Collins COBUILD English Collocations* (1995), Hornby (1995), Benson, Benson and Ilson (1997), Hill and Lewis (1997), *Collins COBUILD English Dictionary for Advanced Learners* (2001), *Oxford Intermediate Learner's English-Chinese Dictionary* (2002), *Collins COBUILD Learner's Dictionary* (2003), and *Oxford Collocations Dictionary for Students of English* (2003). In the parts assessing grammatical, morphological, collocational and semantic knowledge, one mark was awarded to the correct answer and zero to the wrong answer. In sentence construction, two marks were given to each of the grammatical sentences that could clearly demonstrate the meaning of the tested lexical items. If a sentence did not fully reveal the meaning of the target word, or if a grammatical mistake concerning

the target word was present, only one mark was awarded. For each participant, total scores of different parts were calculated by adding up the marks in the 20 sampled academic words. These total scores were input into the computer database for further analysis.

3.5 Data Analysis

The first step in the data analysis stage was to get an overall picture of students' vocabulary knowledge, which was realized through the descriptive statistics, notably means and standard deviations, of the different word frequency levels in the vocabulary size tests. In this way, the participants' general performance could be shown and the resultant data could be contrasted with studies such as Littlewood and Liu (1996). Next, the scores of students with different educational backgrounds were separated and compared. *T*-tests and analysis of variance were carried out to check if the differences were statistically significant. The variables under investigation included students studying in different places before entering the university, students admitted through different schemes, students coming from different faculties, and students taught through different languages in secondary schools.

Concerning the second instrument, the mean of the participants' scores in each dimension of vocabulary knowledge was calculated. Hence, the area that they were weakest in became obvious. Due to the reduction in the sample size, the results of the depth-of-knowledge test were not analysed by variables as in the first instrument. Subsequently, correlation analysis was performed so as to find out which aspect of lexical knowledge was more relevant to students' productive use of the words. Lastly, the more qualitative data, i.e. the participants' specific responses in the tests, was also examined in greater details in order to gain some more insights into Hong Kong tertiary students' English vocabulary knowledge and their areas of weaknesses.

3.6 Summary

With the aim of understanding university students' English vocabulary proficiency, the Productive Vocabulary Levels Test was administered to a group of first year students coming from three different faculties in one institution in Hong Kong. A follow-up test assessing their grammatical, morphological, collocational and semantic knowledge of 20 academic words was administered to the volunteers in the group in order to study the quality of their English vocabulary knowledge more closely. The tests were then marked and the scores input into the computer, where the data was further analysed statistically.

As Schmitt (2000) suggests, there is no single perfect test that "gives a complete specification of how well a word is known" (p. 178). Since researchers can only obtain partial information on the participants' lexical knowledge, they should be careful in analyzing and interpreting the data. Similarly, there cannot be a single perfect research method. What matters most is to select a research design that best answers the research questions. Therefore, it is crucial to compromise between the pros and cons of the methodology and to think twice before making statements about the generalizability of the research results. I believe that the information about my participants, instruments, data collection and data analysis procedures covered in this chapter can convince my audience of the appropriateness of my research design. In the next chapter, the results of the vocabulary tests will be presented.

CHAPTER 4 RESULTS

4.1 Introduction

As mentioned in the previous chapter, my data-gathering consists of two main components: the first focuses on estimating the vocabulary breadth of Hong Kong university students and the second aims at exploring the depth of their knowledge of academic vocabulary. This chapter is organized in accordance with these areas of focus. In the first part, the data collected in the vocabulary breadth measure is presented. Not only is statistical information such as the participants' mean scores and the standard deviations included for each of the word frequency levels, comparisons are also drawn based on the performance of participants with different backgrounds. In the second part, the findings of the vocabulary depth measure are reported. In addition to the scores gained in the tasks assessing different aspects of lexical knowledge, information about the relationship between these aspects and students' ability to use the academic words productively is also provided.

4.2 Vocabulary Breadth

In this section, the results of the administration of the first instrument, the Productive Vocabulary Levels Test, are presented, with comparisons between Hong Kong and mainland China students, between students completing the matriculation course and students enrolled through the Early Admission Scheme for Secondary Six Students (EAS), among students belonging to different faculties and among students taught through different medium of instruction in secondary education.

Before proceeding to the findings of the study, one issue about the data presentation has to be addressed. In the original test design of Productive Vocabulary Levels Test, the University Word List (UWL) level is placed between the 5000 word level and the 10 000 word level, because it originated from a frequency count of words in university textbooks, excluding the first 5000 frequent words (Read, 2000). However, in this chapter, the scores of the UWL level are always presented after those of the 10 000 word level. This special treatment is based on the consideration that the insertion of the UWL level in between the 5000 and the 10 000 word levels will result in a sudden rise in students' performance in the graphic representation, which counteracts our expectation that the less frequent the words, the fewer the words are known.

4.2.1 Overall performance of Hong Kong university students

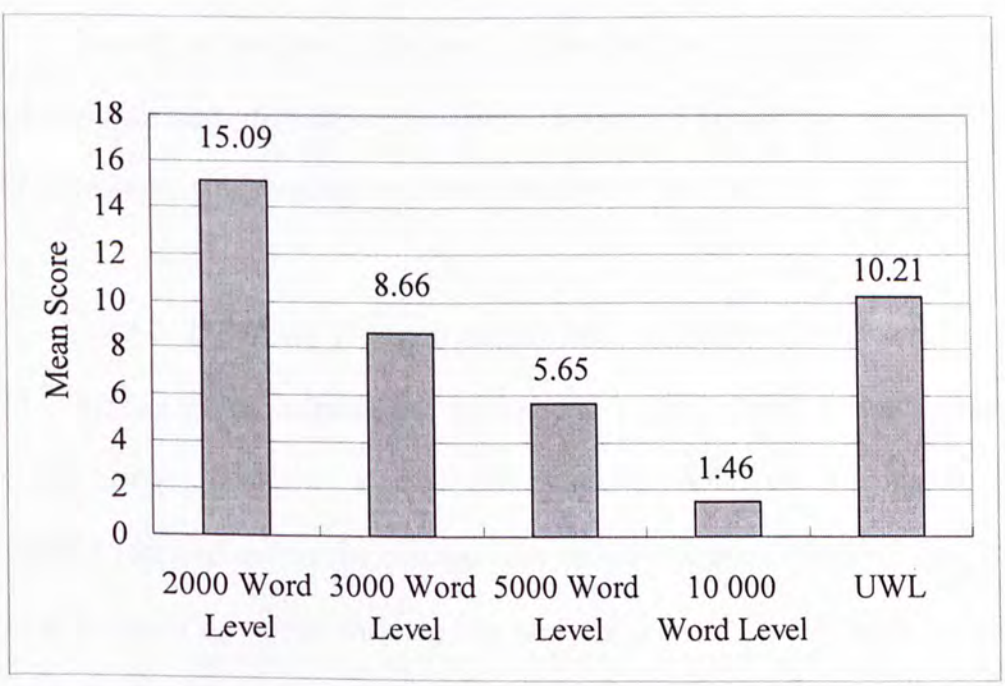


Figure 4. Mean scores of Hong Kong participants (n = 155) in the vocabulary size test (maximum scores = 18)

My first research question is: How many English words do Hong Kong university students know at the different word frequency levels? Figure 4 illustrates how many correct items the participants obtained out of the eighteen items in each of the five categories in the vocabulary size test. The trend observed, as expected, is that the students know more words at the high frequency end and less words at the low frequency end. The mean score decreases from 15.09 at the 2000 word level to 8.66 at the 3000 word level, to 5.65 at the 5000 word level, and finally to 1.46 at the 10 000 word level. At the University Word List level, the average is 10.21 words answered correctly. From these results, it can be estimated that the students knew about 838 words, 481 words, 314 words, 81 words and 474 words at the 2000, 3000, 5000, 10 000 word levels and the University Word List level respectively.

4.2.2 Comparing performance of students with different educational backgrounds

The second research question, i.e. whether university students with different educational backgrounds show different patterns of vocabulary knowledge in terms of vocabulary size, is addressed in the four subsequent sections.

4.2.2.1 Hong Kong students and mainland China students

Among the participants in this study, 155 received their secondary education in Hong Kong, whereas 31 studied in mainland China before entering the university. Table 9 summarizes the mean scores and the standard deviations of these two groups of students in the vocabulary breadth measure. Figure 5 is a graphical representation of their performance. The students from mainland China scored an average of 14.58 at the 2000 word level, 7.03 at the 3000 word level, 3.97 at the 5000 word level, and 1.13 at the 10 000 word level. Similar to the case of Hong Kong participants, the

mainland China group's performance dropped across these four word frequency levels. However, the Hong Kong students outperformed their mainland China counterparts in all the levels, with the most obvious distinction being the University Word List level in which the former scored 10.21 out of 18 and the latter only scored 7.00 out of 18.

Table 9

Mean Scores (out of 18) in the Productive Vocabulary Levels Test by the Hong Kong Students and Mainland China Students

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
Hong Kong (n = 155)	15.09 (SD = 2.40)	8.66 (SD = 3.13)	5.65 (SD = 2.75)	1.46 (SD = 1.75)	10.21 (SD = 3.19)
China (n = 31)	14.58 (SD = 2.38)	7.03 (SD = 2.92)	3.97 (SD = 1.82)	1.13 (SD = 1.63)	7.00 (SD = 2.73)

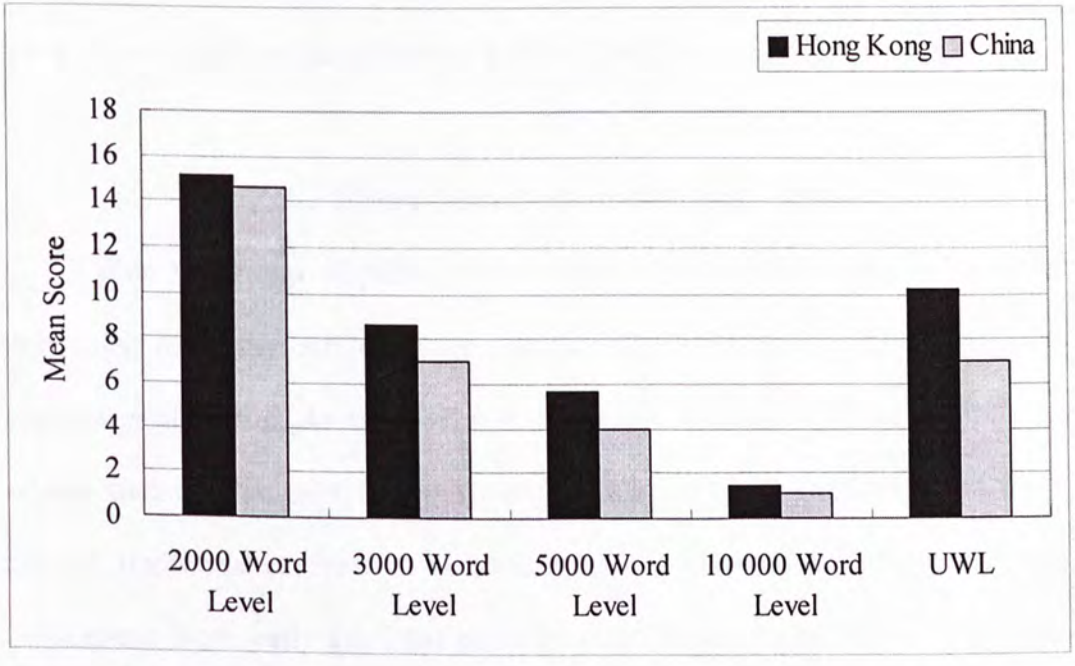


Figure 5. Mean scores of Hong Kong students and mainland China students

Table 10

Results of *t*-test Comparing the Scores of Hong Kong and Mainland China Students

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
***t* -value**[†]	1.08	2.67**	4.27***	0.98	5.23***

[†] According to the Levene's Test for Equality of Variances, the significance value of the statistics is greater than 0.1 at the 2000, 3000, 10 000 word levels and the UWL level. Hence, equal variances can be assumed and the corresponding *t*-values are reported. For the 5000 word level, the *t*-value for the case of equal variances not assumed is reported instead.

*** significant at the 0.001 level (2-tailed)

** significant at the 0.01 level (2-tailed)

A *t*-test (independent-samples) was carried out to compare the scores of these two groups of students. The results (see Table 10) show that the differences in the average scores between the Hong Kong students and the students from mainland China are significant at the 3000 word level ($t = 2.67, p < .01$), the 5000 word level ($t = 4.27, p < .001$) and the University Word List level ($t = 5.23, p < .001$).

4.2.2.2 Form 6 students and Form 7 students

Within the group of participants studying in Hong Kong before entering the university, a further differentiation can be made concerning their completion of secondary education. As mentioned in Chapter 3 Research Design, local secondary school students can apply for university admission either in Form 7, which is the normal, traditional practice, or in Form 6 through the EAS. In the present study, 42 participants were early admitted sixth formers. Table 11 and Figure 6 compare the results of these Form 6 students with those students admitted after Form 7. In all the

categories, the Form 6 students scored higher than the Form 7 students. At the 2000 word level, the former obtained an average of 16.74 and the latter 14.46; at the 3000 word level, the former scored 11.21 and the latter 7.72; at the 5000 word level, the former had a mean score of 8.26 and the latter 4.65; at the 10 000 word level, the former obtained 2.88 marks and the latter 0.94; finally, at the University Word List level, the former obtained an average score of 12.81 and the latter had 9.26.

Table 11

Mean Scores (out of 18) in the Productive Vocabulary Levels Test by University Students Admitted after Form 7 and Those Admitted through EAS

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
Form 6 (n = 42)	16.74 (SD = 1.08)	11.21 (SD = 2.79)	8.26 (SD = 2.72)	2.88 (SD = 2.02)	12.81 (SD = 2.56)
Form 7 (n = 112)	14.46 (SD = 2.47)	7.72 (SD = 2.70)	4.65 (SD = 2.04)	0.94 (SD = 1.31)	9.26 (SD = 2.85)

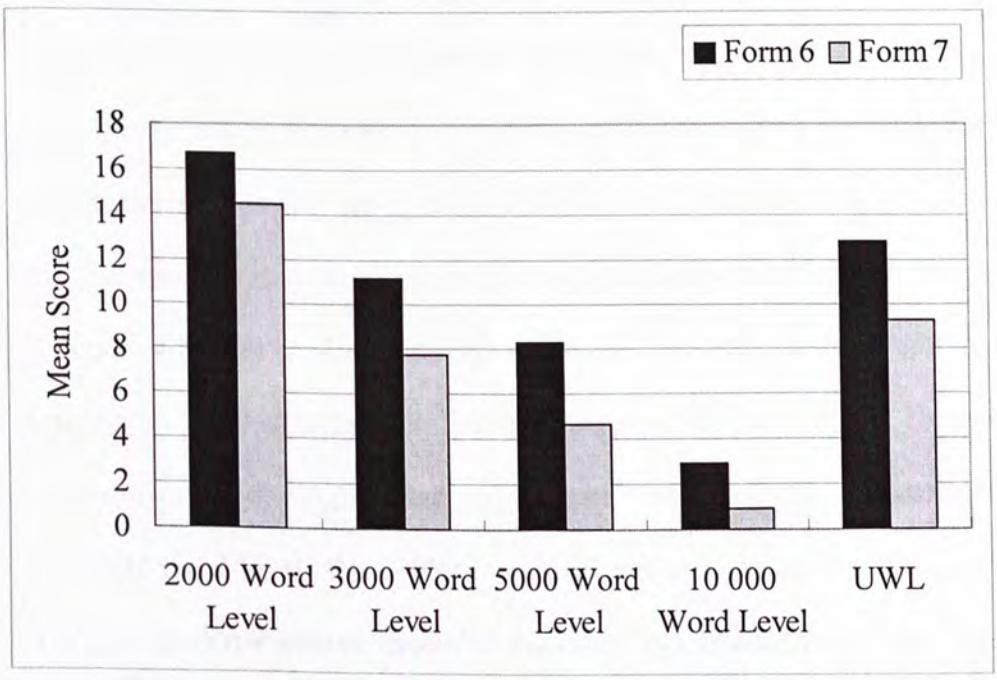


Figure 6. Mean scores of Form 6 and Form 7 students

Table 12

Results of *t*-test Comparing the Scores of Form 6 and Form 7 Students

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
***t* -value**[†]	7.92***	7.08***	7.83***	5.81***	7.07***

[†] According to the Levene's Test for Equality of Variances, the significance value of the statistics is greater than 0.1 at the 3000 word level and the UWL level. Hence, equal variances can be assumed and the corresponding *t*-values are reported. For the 2000, 5000 and 10 000 word levels, the *t*-values for the case of equal variances not assumed are reported instead.

*** significant at the 0.001 level (2-tailed)

The results of a *t*-test (independent-samples) are illustrated in Table 12. The *t*-test confirms that the differences between the mean scores of the Form 6 and the Form 7 students are statistically significant ($p < .001$) at all word frequency levels.

4.2.2.3 Students in the three faculties

Among the 155 Hong Kong students that took part in this study, 56 students were from the Faculty of Business Administration, 47 were from the Faculty of Engineering and 52 were from the Faculty of Science. Their results in the Productive Vocabulary Levels Test are listed in Table 13 and illustrated in Figure 7. Again, there is a decreasing trend from the more frequent 2000 word level to the less frequent 10000 word level in each faculty. In all the five levels, the Engineering and the Science students obtained similar mean scores. In contrast, the Business students outperformed their Engineering and Science counterparts in a noticeable manner. At the 3000 word level, the 5000 word level and the University Word List level, the Business students' scores exceeded the other two groups' by at least 3 marks; in the rest, their scores were also greater than the other two's by about 2 marks.

Table 13

Mean Scores (out of 18) in the Productive Vocabulary Levels Test by Students in the Three Faculties

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
Business (n = 56)	16.50 (SD = 1.40)	10.95 (SD = 2.74)	7.88 (SD = 2.56)	2.70 (SD = 1.94)	12.66 (SD = 2.54)
Science (n = 52)	14.56 (SD = 2.46)	7.71 (SD = 2.05)	4.54 (SD = 2.01)	0.88 (SD = 0.76)	9.08 (SD = 2.90)
Engineering (n = 47)	14.00 (SD = 2.49)	6.98 (SD = 2.97)	4.23 (SD = 1.90)	0.64 (SD = 1.48)	8.53 (SD = 2.31)

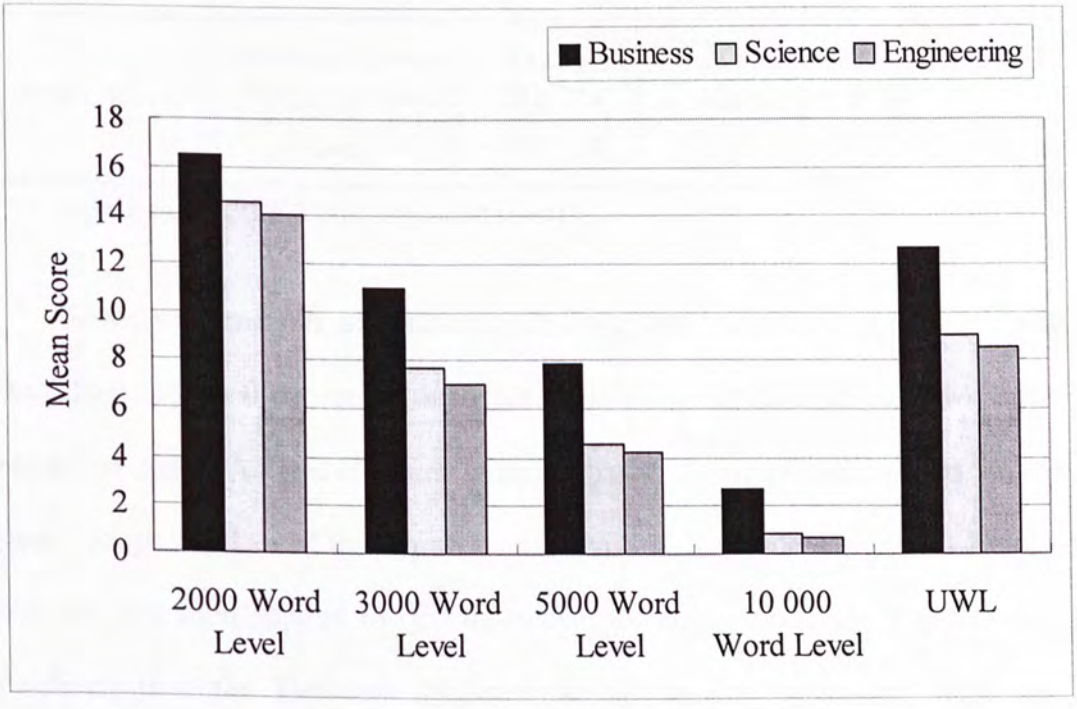


Figure 7. Mean scores of students in the three faculties

Table 14

Results of One-way ANOVA Comparing the Scores of Students from the Three Faculties

	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*
2000 Word Level	Between Groups	181.91	2	90.95	**19.67*** **
	Within Groups	702.83	152	4.62	
	Total	884.74	154		
3000 Word Level	Between Groups	472.39	2	236.19	**34.70*** **
	Within Groups	1034.49	152	6.81	
	Total	1506.88	154		
5000 Word Level	Between Groups	435.71	2	217.86	**45.27*** **
	Within Groups	731.47	152	4.81	
	Total	1167.19	154		
10 000 Word Level	Between Groups	134.56	2	67.28	**30.26*** **
	Within Groups	338.00	152	2.22	
	Total	472.56	154		
UWL Level	Between Groups	535.45	2	267.72	**39.51*** **
	Within Groups	1029.95	152	6.78	
	Total	1565.39	154		

*** significant at the 0.001 level (2-tailed)

A one-way analysis of variance (ANOVA) was performed to establish whether the differences in the three groups were statistically significant. Table 14 shows the results of ANOVA. The *F*-values indicate that some significance exists among the three groups at all word frequency levels. The S-N-K (Student-Newman-Keuls) post hoc test was then applied to find out where the significance lay. The post hoc test confirms that the Business students' scores in the vocabulary size test are significantly different from both the Engineering students' and the Science students' in all the five levels. No significance difference is found between the Engineering students' and the Science students' scores.

4.2.2.4 Students studying through different medium of instruction in secondary schools

In the present study, 132 of the Hong Kong participants came from English-medium (EMI) secondary schools and the rest, i.e. 23 students, came from Chinese-medium (CMI) secondary schools. Their respective average scores in the Productive Vocabulary Levels Test are presented in Table 15 and Figure 8. Scores of both groups drop as the words become less frequent: the EMI school students' mean falls from 15.27 at the 2000 word level, to 8.99 at the 3000 word level, to 5.95 at the 5000 word level, and finally to 1.52 at the 10 000 word level; the CMI school students' mean decreases from 14.04 at the 2000 word level, to 6.74 at the 3000 word level, to 3.96 at the 5000 word level, and finally to 1.17 at the 10 000 word level. In all the five word frequency levels, the EMI school students' scores are higher than the CMI school students'. The greatest gap appears at the University Word List level, in which the EMI students obtained an average of 10.61 and the CMI students 7.87, with a difference of 2.74 between the two scores. One should also pay attention to the extraordinarily large standard deviation of the CMI group at the 3000 word level, which suggests that great variations exist in the students' performance.

Table 15

Mean Scores (out of 18) in the Productive Vocabulary Levels Test by EMI School Students and CMI School Students

	2000 Word Level	**3000 Word Level**	**5000 Word Level**	**10 000 Word Level**	**UWL Level**
EMI (n = 132)	15.27 (SD = 2.28)	8.99 (SD = 2.93)	5.95 (SD = 2.76)	1.52 (SD = 1.72)	10.61 (SD = 3.02)
CMI (n = 23)	14.04 (SD = 2.80)	6.74 (SD = 3.61)	3.96 (SD = 2.01)	1.17 (SD = 1.95)	7.87 (SD = 3.17)

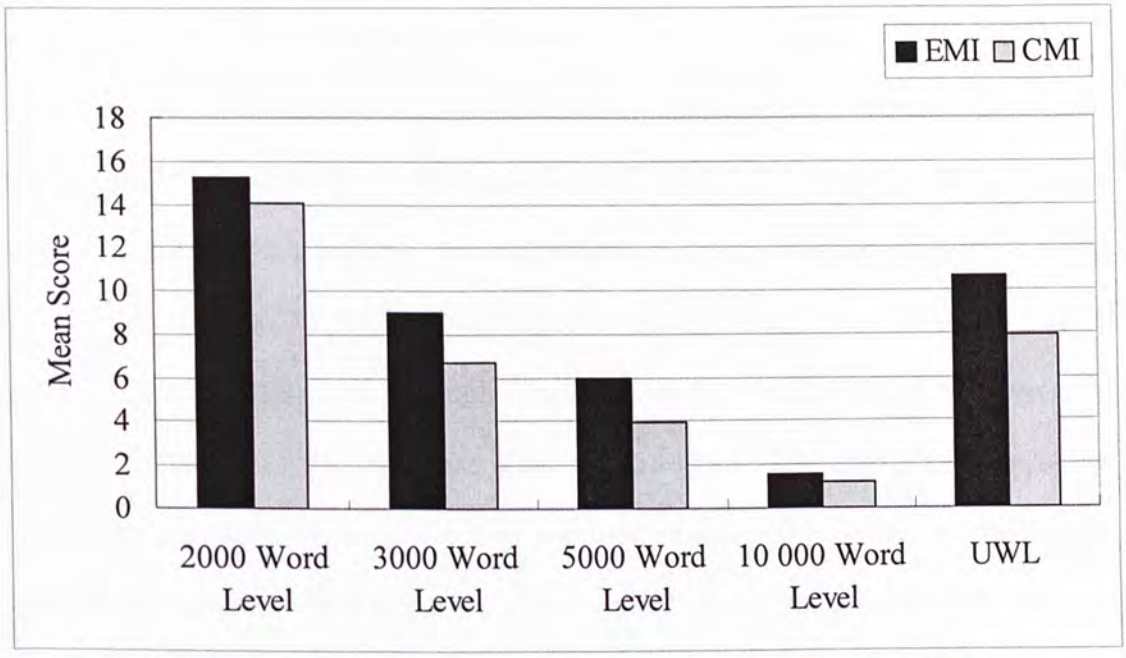


Figure 8. Mean scores of EMI school students and CMI school students admitted to CUHK

Table 16

Results of *t*-test Comparing the Scores of EMI and CMI School Students

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
***t* -value**[†]	1.99	2.84**	4.12***	0.86	3.99***

[†] According to the Levene's Test for Equality of Variances, the significance value of the statistics is greater than 0.1 at the 10 000 word level and the UWL level. Hence, equal variances can be assumed and the corresponding *t*-values are reported. For the 2000, 3000 and 5000 word levels, the *t*-values for the case of equal variances not assumed are reported instead.

*** significant at the 0.001 level (2-tailed)

** significant at the 0.01 level (2-tailed)

The results of a *t*-test (independent-samples) comparing the EMI students' and the CMI students' scores in the vocabulary test are reproduced in Table 16. Except at the 2000 and 10 000 word levels, all the differences between the two groups of students are significant: the 3000 word level ($t = 2.84$, $p < .01$), the 5000 word level

($t = 4.12, p < .001$), and the University Word List level ($t = 3.99, p < .001$).

One item in the personal information sheet attached to the vocabulary size test was to ask the participants to self-report the teachers' actual language use in classes other than the English and the Chinese lessons in their secondary schools. Among the 155 participants, 33 students claimed that mostly English was used in class; 80 students reported that a mix of English and Cantonese was the actual language use; 42 students chose mostly Cantonese. Table 17 and Figure 9 presents the mean scores of students classified by their perceived medium of instruction in secondary schools. The general tendency is that the "mostly English" group gains a higher score than the "mix of English and Cantonese" group which in turn has a higher score than the "mostly Cantonese" group. Nonetheless, on average, the differences among the three groups in each level are not big. One extra point to note is that a wide diversity of scores exists at the 3000 word level in the "mix of English and Cantonese" group, as revealed by the relatively large standard deviation of 3.41.

Table 17

Mean Scores (out of 18) in the Productive Vocabulary Levels Test by Students with Different Perceived Medium of Instruction in Secondary Schools

	2000 Word Level	3000 Word Level	5000 Word Level	10 000 Word Level	UWL Level
Mostly English (n = 33)	15.48 (SD = 2.29)	9.39 (SD = 2.65)	6.61 (SD = 2.65)	1.64 (SD = 1.71)	11.06 (SD = 2.97)
Mix of English and Cantonese (n = 80)	15.21 (SD = 2.52)	8.79 (SD = 3.41)	5.91 (SD = 2.82)	1.65 (SD = 1.92)	10.41 (SD = 3.22)
Mostly Cantonese (n= 42)	14.55 (SD = 2.19)	7.83 (SD = 2.78)	4.40 (SD = 2.29)	0.98 (SD = 1.35)	9.14 (SD = 3.09)

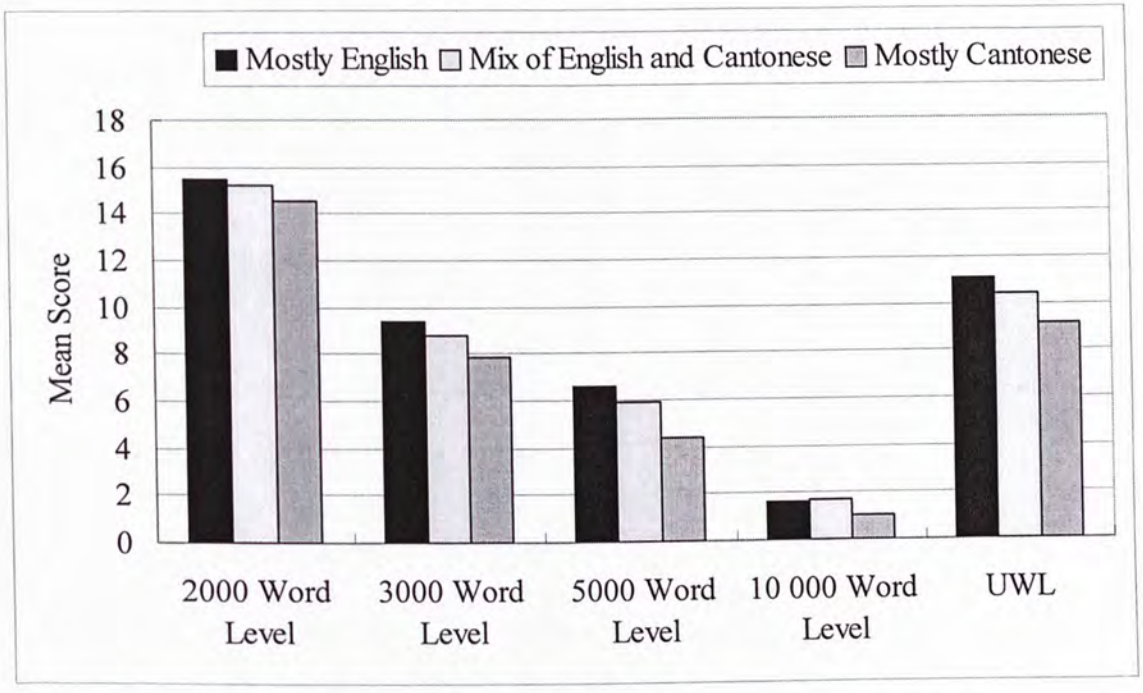


Figure 9. Mean scores of students with different perceived medium of instruction in secondary schools

In order to check whether the differences are significant statistically, a one-way analysis of variance (ANOVA) was implemented and the results are summarized in Table 18. The *F*-values show that some significance lies among the three groups at the 5000 word level and the University Word List level. The S-N-K (Student-Newman-Keuls) post hoc test reveals that at the 5000 word level, the "mostly Cantonese" group is different from both the "mostly English" group and the "mix of English and Cantonese" group. No significance difference is found between the "mostly English" group and the "mix of English and Cantonese" group. At the University Word List level, the "mostly Cantonese" group is only different from the "mostly English" group statistically. No significance difference is obtained between the "mostly Cantonese" and the "mix of English and Cantonese" groups, and between the "mostly English" and the "mix of English and Cantonese" groups.

Table 18

Results of One-way ANOVA Comparing the Scores of Students with Different Perceived Medium of Instruction

	Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	*F*
2000 Word Level	Between Groups	18.70	2	9.35	**1.64**
	Within Groups	866.04	152	5.70	
	Total	884.74	154		
3000 Word Level	Between Groups	47.78	2	23.89	**2.49**
	Within Groups	1459.10	152	9.60	
	Total	1506.88	154		
5000 Word Level	Between Groups	100.80	2	50.40	**7.18*** **
	Within Groups	1066.39	152	7.02	
	Total	1167.19	154		
10 000 Word Level	Between Groups	13.74	2	6.87	**2.28**
	Within Groups	458.81	152	3.02	
	Total	472.56	154		
UWL Level	Between Groups	74.98	2	37.49	**3.82***
	Within Groups	1490.41	152	9.81	
	Total	1565.39	154		

*** significant at the 0.001 level (2-tailed)

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

4.3 Vocabulary Depth

Whereas the first instrument found out the university students' range of English vocabulary, the second instrument in this research collected information concerning how well they knew academic words. In this section, the findings of this self-constructed depth-of-knowledge test are reported. The readers should be reminded that, as described in Chapter 3 Research Design, only 31 participants, all receiving their secondary education in Hong Kong, completed this second test and thus no

comparison is made against variables of different educational backgrounds.

4.3.1 Performance in different aspects of vocabulary knowledge

Concerning academic vocabulary, which aspect(s) of vocabulary knowledge are Hong Kong university students weak in? The answer to this research question can be found in Table 19 and Figure 10. Generally speaking, the participants are weak in both morphological and collocational knowledge. Out of the 20 academic words sampled in the second instrument, they scored 10.45 and 11.48 respectively. It should also be noted that the standard deviations in these two categories are much larger than normal, showing that there is a wide range of performance among the participants. Regarding semantic knowledge, the students obtained a mean of 12.90. The dimension of vocabulary knowledge that they are good at is grammatical knowledge, as demonstrated in the high score, 17.52, in the test.

Table 19
Mean Scores (out of 20) Obtained in the Depth-of-knowledge Test (n = 31)

	Grammatical Knowledge	Semantic Knowledge	Collocational Knowledge	Morphological Knowledge
Mean	17.52 (SD = 1.96)	12.90 (SD = 2.95)	11.48 (SD = 3.37)	10.45 (SD = 3.70)

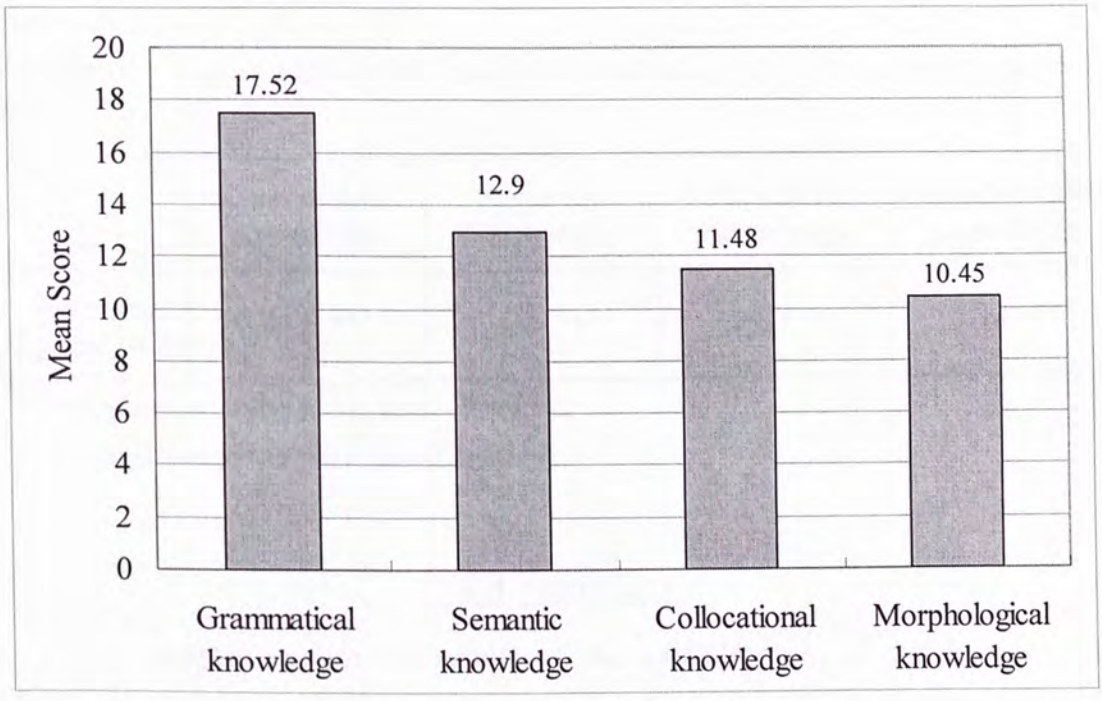


Figure 10. Mean scores of the 31 participants in the depth-of-knowledge test

4.3.2 Relationship between different aspects of vocabulary knowledge and sentence production

My last research question is: Which aspect(s) of vocabulary knowledge is/are most important for written productive use of academic vocabulary? In order to investigate the relationship between the different aspects of knowledge and sentence production, a correlation analysis (Pearson correlation) was performed (see Table 20). Scores in all the four dimensions correlate significantly, as well as positively, with the score in sentence production. The highest correlation appears between collocational knowledge and sentence production (.751). The correlation of morphological knowledge (.714) and that of grammatical knowledge (.617) are also strong with sentence production. The correlation between semantic knowledge and sentence production (.501) is the smallest of the four.

Table 20

Correlation between Different Aspects of Vocabulary Knowledge and Sentence Production

	Grammatical Knowledge	Semantic Knowledge	Collocational Knowledge	Morphological Knowledge
Sentence Production	.617***	.501**	.751***	.714***

*** significant at the 0.001 level (2-tailed)

** significant at the 0.01 level (2-tailed)

4.4 Summary

This chapter reports the results of the administration of the two research instruments and addresses the four research questions in this study. The key findings are summarized as follows:

In the vocabulary size test

- Hong Kong university students could master approximately 80% of the English words at the 2000 word level, 50% at the 3000 word level, 30% at the 5000 word level, 10% at the 10 000 word level, and 60% at the UWL level.
- Students with different educational backgrounds did exhibit different patterns of knowledge in terms of vocabulary breadth.
  - Students educated in Hong Kong possessed a larger English vocabulary size, when compared with their mainland China counterparts.
  - The early admitted Form 6 students knew more English words than those enrolled after Form 7.
  - Students from the Business Faculty had a wider range of English vocabulary than students from the Engineering Faculty and the Science Faculty.
  - The EMI secondary school graduates could produce more English words than their CMI counterparts.

In the depth-of-knowledge test on academic words

- Hong Kong university students showed deficiency of morphological and collocational knowledge.
- Students' morphological and collocational knowledge was highly related to their written productive use of vocabulary.

CHAPTER 5 DISCUSSION

5.1 Introduction

The results presented in Chapter 4 indicate some interesting patterns in the vocabulary profile of university students in Hong Kong. Hence this chapter highlights these findings through a further elaboration on their nature, a discussion on their significance, and a speculation on their causes. The organization resembles that of the previous chapter, starting with insights drawn from the first research instrument, the Productive Vocabulary Levels Test, and ending with those from the second instrument, the test on the quality of academic vocabulary knowledge.

5.2 Vocabulary Size of University Students in Hong Kong

5.2.1 General vocabulary

As shown in scores of the Productive Vocabulary Levels Test, the Hong Kong students joining this study knew, on average, more than 80% of the words at the 2000 word level. In other words, they could master this group of second most frequent 1000 words in English fairly well. What is worrying is that the students' performance fell dramatically when it came to the 3000 word level. The fact that the general participants, except the Form 6 group and the Business group, could barely produce half of the words elicited in the test suggested that about 500 words at this level were not ready for productive use. This is a rather disappointing result, given that the majority of the students had studied English for 11-20 years and they still could not accumulate adequate lexical knowledge of these high frequency items for them to use the words when needed (see sections 2.5 and 3.2). Nation (1990) argues

that the high frequency words in these two word levels are necessary for language learners to function effectively in English. The present results certainly imply that the local tertiary students can be expected to encounter problems frequently even when communicating in English in everyday situations. They may find it difficult to express their ideas because they do not possess an adequate pool of vocabulary.

Regarding the low frequency words, the vocabulary test scores indicate that university students should devote more efforts to expanding their vocabulary. Students' performance in the test continued to drop, even though the drop was less sharp than the transition from the 2000 to the 3000 word levels. At the 5000 word level, only one-third of the blanks were filled in successfully; at the 10 000 word level, the percentage of correct answers was further reduced to less than 10%. One may argue that it is not usual for the second language learners to use these less frequent words in communication. Nevertheless, the overuse of high frequency words may lower the formality of a text, making it more like a spoken one than a written one, because low frequency words are often a characteristic in written discourse (Macaro, 2003). Furthermore, as Nation and Meara (2002) point out, advanced English language learners usually exhibit richer vocabulary in their writing than less advanced learners do. Accordingly, it is the ability to appropriately use words beyond the high frequency band that can differentiate the proficient English language learners from the less competent language users. The university students should continue to acquire these less frequent lexical items.

Unfortunately, there has been relatively few studies, when compared with the amount of research on reading, investigating the vocabulary difficulties that second language learners face in expressing themselves through speaking and writing (Read, 2000). Thus, it is not easy to judge how much vocabulary is needed for productive use in university contexts. In terms of the demand for reading, Nation (2001)

speculates that a vocabulary size of 15 000 to 20 000 words is necessary for language users to read "with minimal disturbance from unknown vocabulary" (p. 20). But Macaro (2003) suspects that this goal is beyond the scope of many second language learners. Laufer, who has researched the vocabulary threshold in a series of studies, estimates that 95% coverage is the minimum level for learners to gain adequate comprehension (as cited in Nation, 2001). Nonetheless, it is certainly true that the amount of vocabulary required for our productive use should be less than that for our receptive comprehension (Macaro, 2003). When second language learners encounter "lexical gaps", that is words or phrases that they need to express their intended meanings but do not know, they can solve the problem by employing different communication strategies like paraphrasing or even abandoning the messages (Read, 2000). Therefore, the participants' small size of general vocabulary may not result in serious communication disruption in English; however, they may need more time and effort to get their ideas and messages across.

5.2.2 Academic vocabulary

The importance of academic vocabulary in my research context makes it worth a separate discussion on the University Word List (UWL) level. The present study focuses on investigating the tertiary students' vocabulary knowledge. To this group of English language learners, words that often appear in their academic studies are especially important. Nation (2001)'s analysis of text coverage in academic texts demonstrates that academic words account for as much as 8.5% of the total words (see Table 21). Nevertheless, in the Productive Vocabulary Levels Test, the mean score in the UWL level was less than 60%, suggesting that the local tertiary students could not even master two-thirds of the words commonly used in university contexts. Nation (2001) specifies that a score of at least 83% in the UWL level is desirable for

learners doing academic study at university. This high standard may seem to be severe, yet it is understandable, taking account of the unusual feature of the English language. One way that English is distinct from many other languages is the presence of "very different vocabulary registers for special areas of discourse" (Nation & Meara, 2002, p. 51). At the same time, the choice of vocabulary is "a strong indicator of whether the writer has adopted the conventions of the relevant discourse community" (Nation, 2001, p. 178). This characteristic adds to the importance of university students' gaining good control of the academic words. However, as revealed in the UWL level score in the vocabulary size test and the results in the depth-of-knowledge test, it cannot be said that the participants mastered the academic words well. It is doubtful that their problem in language proficiency may affect their performance in their majors. A further discussion of the quality of their academic vocabulary knowledge is provided later in this chapter (see section 5.5).

Table 21

Text Coverage in Academic Texts (Nation, 2001, p. 17)

Level	Academic text
1st 1000	73.5%
2nd 1000	4.6%
Academic	8.5%
Other	13.3%

One additional comment on the Hong Kong participants' UWL score in the Productive Vocabulary Levels Test is that, in the present study, it is always higher than the 3000 word level score, no matter whether the Hong Kong students are grouped as a whole or classified by different educational backgrounds. This interesting observation hints that Hong Kong university students are more familiar with the academic vocabulary. Since most of the participants attended EMI secondary schools before, probably they encountered many of the English academic words in their English-medium textbooks. This may explain why the students performed better in the UWL level.

To sum up, the results of the vocabulary breadth measure in this study reveal a worrying inadequacy in terms of English vocabulary knowledge on the part of the local university students. The general picture gives us a cause for alarm about Hong Kong students' English proficiency: it is highly likely that they often experience difficulty in finding the right words to express themselves. The findings also echo Littlewood and Liu (1996) which will be elaborated in the following section. The lack of vocabulary is commonly regarded by second language learners as the culprit of their poor writing (Leki & Carson, 1994, as cited in Nation, 2001). The writer's choice of vocabulary also seriously influences one's perception of the quality of that piece of writing. Consequently, Hong Kong university students, who are the future of this international city, should put more effort in expanding their English vocabulary knowledge.

5.3 Comparison Between the Present Results and Past Studies Conducted in Hong Kong

5.3.1 Littlewood and Liu (1996)

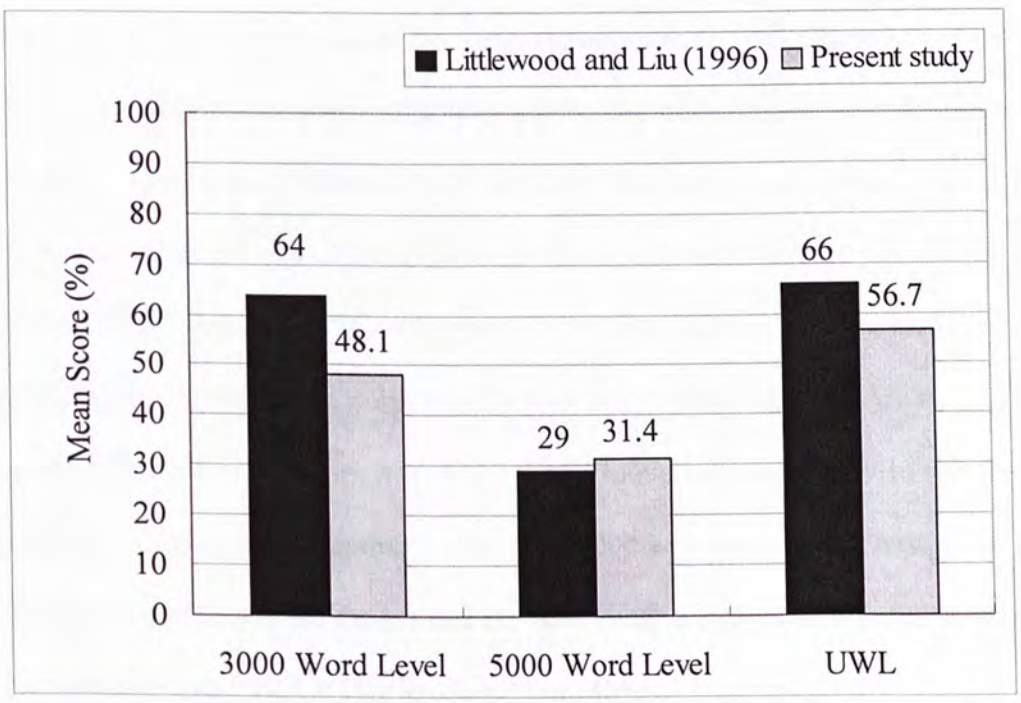


Figure 11. Comparison with vocabulary test scores in Littlewood and Liu (1996)

It is often heard that people criticize university students for their deteriorating English language standard. Do students nowadays really have worse English than students in the past? Figure 11 compares the results of the present study with Littlewood and Liu (1996), a similar study conducted almost ten years ago (see section 2.5.3). Comparisons of the percentage mean scores at only the 3000 word level, the 5000 word level and the University Word List level are available, since there is no data for the other two frequency levels in Littlewood and Liu (1996). Obviously, my participants did get much lower scores than students in Littlewood and Liu (1996)'s LEAP project at the 3000 word level and the University Word List

level. Interestingly, the results in the 5000 word level match each other.

Nevertheless, we could not directly jump to the conclusion that Hong Kong students' English vocabulary knowledge is declining. In fact, although both studies adopted the Productive Vocabulary Levels Test as instruments, two different sets of the test were used, which means that the lexical items sampled in the same frequency level in the two tests are not the same. Consequently, the difference in the results may arise from this reason rather than a potential inferiority of the current university students. Laufer and Nation (1999) concede that, despite the strong correlation, the means of different sets of Productive Vocabulary Levels Test are not similar enough. Hence, they advise that "[f]or diagnostic purposes, any of the four versions could be used, while for test/retest purposes, the two new parallel versions are recommended" (Laufer & Nation, 1999, p. 44). The set of Productive Vocabulary Levels Test that I adopted is the Parallel Version 1. Only the 5000 word level items used in Littlewood and Liu (1996) are from the proved Parallel Version 2. So this is perhaps why similar results were generated at this level, but not others.

5.3.2 Fan (2001)

The research instrument employed in the first part of the present study is the Productive Vocabulary Levels Test, which measures students' vocabulary size by a blank-filling task. It is generally agreed that the vocabulary size measured by this kind of language production tasks would be relatively smaller than measured by some recognition tasks. Figure 12 compares the results of the present study with Fan (2001) in which the Vocabulary Levels Test for receptive vocabulary was used to collect data (see section 2.5.3). Since a matching task was used in Fan (2001)'s instrument, it is not surprising that the percentage mean scores in the present study are lower than those in Fan (2001) at all word frequency levels.

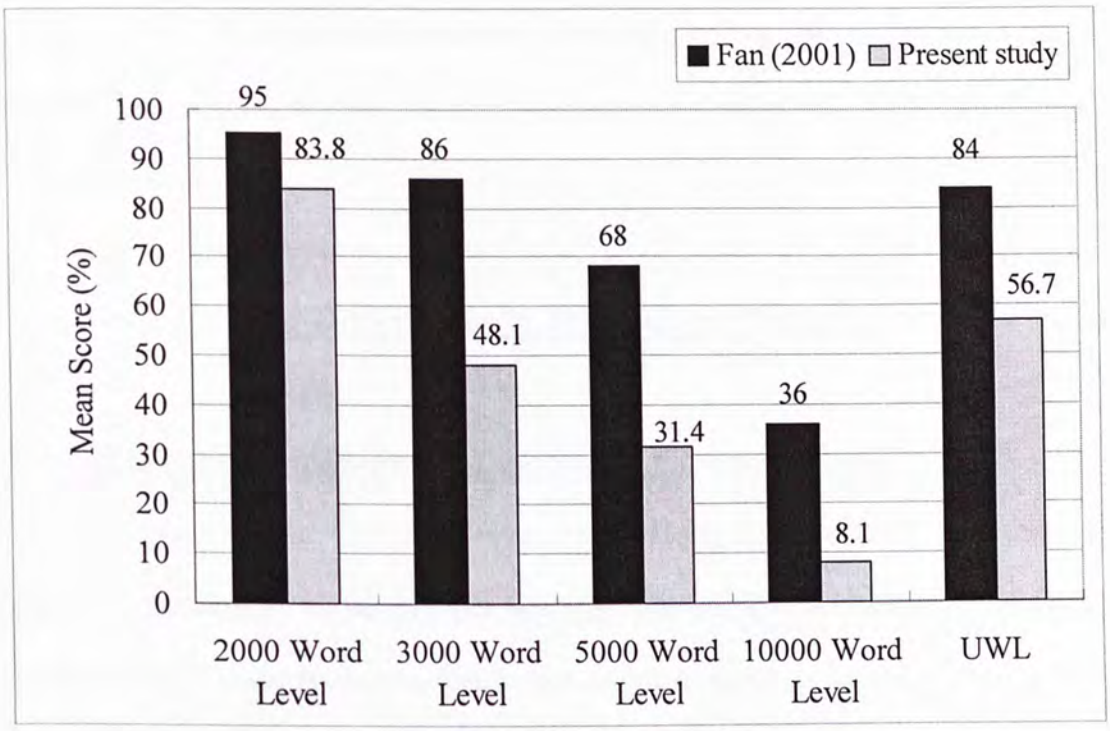


Figure 12. Comparison with vocabulary test scores in Fan (2001)

The pattern illustrated in the figure echoes the discussion of the notions of receptive and productive vocabulary in Chapter 2 Literature Review: (1) language learners' productive vocabulary size is always smaller than their receptive vocabulary size; (2) the ratio between the two is not constant (see section 2.3.1.2). In Figure 12, the ratio of productive vocabulary to receptive vocabulary varies among the five word frequency levels: 1:1.13 at the 2000 word level, 1:1.79 at the 3000 word level, 1:2.17 at the 5000 word level, 1:4.44 at the 10 000 word level, and 1:1.48 at the University Word List level. These ratios also confirm Nation (2001)'s observation that "the gap between receptive and productive vocabulary becomes greater at the lower-frequency levels" (p. 371).

Although rather satisfactory scores were obtained in Fan (2001), it is not enough for students to have good receptive vocabulary only. University studies do not limit to recognition in reading academic texts. Great emphasis is put on the

exchange of ideas. As a result, students should also have a wide range of productive vocabulary which allows them to express themselves well in English communication.

5.4 Differences in Vocabulary Breadth

5.4.1 Hong Kong students and mainland China students

According to the Chinese University of Hong Kong (2005), the intake of non-local students is about 280 per year, but the university is planning to recruit more non-local undergraduates. One major source of these non-local students will be those coming from mainland China. Starting from the 2005 academic year, the institution will also allow more candidates in different provinces and cities in mainland to apply for admission. Therefore, in the foreseeable future, more mainland students will study together with the local university students. It is thus worthwhile to examine the vocabulary breadth of this special group of students.

As reported in the previous chapter, similar vocabulary knowledge patterns were observed in both the Hong Kong and the mainland China groups: students' performance dropped across the four word frequency levels, showing that they all possessed a better knowledge of the more frequent words than the less frequent words (see section 4.2.2.1). But relatively speaking, the Hong Kong students knew a larger percentage of words at each word level, which is quite reasonable considering their very different educational backgrounds and linguistic environments. Yang (2000) has perceived that English language teaching and learning in mainland China is generally confined to the classroom. Outside the classroom, students have little or even no exposure to English. In contrast, students in Hong Kong can get access to more English language materials such as television or radio programmes,

newspapers, books, and so forth. Vocabulary knowledge has to be accumulated through exposure to the language. Given the larger amount of language input, it is no wonder why Hong Kong students have a wider range of English vocabulary than their mainland counterparts.

5.4.2 Form 6 students and Form 7 students

When presenting the results in the previous chapter, it was observed that this group of sixth formers performed exceedingly well in the vocabulary size test. In all the five word frequency levels, the Form 6 group performed much better than the Form 7 group, with the smallest lead of 1.94 words at the 10 000 word level and the largest lead of 3.61 words at the 5000 word level. As described in the previous chapter, the results of *t*-test showed that the differences between the two groups of students were statistically significant in all the five word levels (see section 4.2.2.2).

In fact, it should not be surprising that the early admitted sixth formers performed better than the other normal university students in the vocabulary size test, because students selected through the Early Admission Scheme for Secondary Six Students (EAS) are all students with academic excellence. In order to become eligible for the EAS, the Form 6 students must have obtained grade A in at least six subjects in the Hong Kong Certificate of Education Examination (HKCEE), and grade C or above in both Chinese language and English language (syllabus B). Only 449 students, of which 194 were selected by the Chinese University of Hong Kong, were given an EAS offer in 2004 (Joint University Programmes Admissions System, 2004). Consequently, it can be understood that the sixth formers admitted through the EAS are elite students with outstanding performance in content subjects, together with a high language proficiency.

5.4.3 The faculty factor

In the present study, it did not seem to be the case that university students enrolled to different faculties differed much in their vocabulary breadth. The results of ANOVA and post hoc tests verified that only the students in the Business Faculty were statistically different from the students in the other two faculties (see section 4.2.2.3). On the other hand, in Nurweni and Read (1999)'s study, Indonesian university students in seven faculties (Engineering, Economics, Agriculture, Mathematics and Biology, Law, Politics and Social Science, and Teacher Training) varied in their performance in a vocabulary size test in the form of a translation task. As the difference was shown to be statistically significant, the researchers deduced that some faculties, being more favoured by students, could be more selective in their admission policies, hence resulting in the variation in the admitted students' English language proficiency.

According to the Chinese University of Hong Kong (2004), the general entrance requirement for applicants is to obtain grade E or above in Advanced Supplementary Level (AS) Use of English. However, all the undergraduate programmes under the Business Faculty assign a heavier weighting to AS Use of English in Hong Kong Advanced Level Examination (HKALE). In contrast, only one programme in the Science Faculty and four programmes in the Engineering Faculty have the same admission policy. Programmes in these two faculties attach greater importance to applicants' results related to content subjects. Therefore, the Business Faculty's emphasis on English language proficiency may be one factor contributing to the significantly better performance of the Business students in the vocabulary size test.

When checking against the public examination profiles of participants in the three faculties (see Table 22), it is also true that those Business students got higher English grades. In the Business Administration Faculty, there were 14 students obtaining grade C or above in the AS Use of English examination, whereas there were only 7 such students in the Engineering Faculty and 1 students in the Science Faculty. This is one possible explanation of the significantly better performance of the Business students in my study, since Fan (2001) has shown that the HKALE English results correlate positively with vocabulary test scores. Although quite a large number of participants from the Business Faculty did not possess the AS Use of English results for comparison, it is still true that there was a larger proportion of B-grade and C-grade students in the Business Faculty than in the other two faculties. Accordingly, it is possible to explain the difference in the students' performance in the vocabulary size test by the different admission policies. But of course another possible factor affecting the results is the outstanding early admitted Form 6 students who constituted the major population of the Business Faculty participants in the present study.

Table 22

AS Use of English Grades of Students in the Three Faculties

		Faculty		
		Business	**Engineering**	**Science**
AS Use of English grade	**B**	4	0	0
	C	10	7	1
	D	1	23	32
	E	0	16	18
	Not applicable (F.6 students)	41	0	1

5.4.4 The medium of instruction factor

Fan (2001) also found that the results of students from English medium (EMI) schools were better than those from Chinese medium (CMI) schools in vocabulary tests. Similar findings were obtained in my study. As mentioned in the previous chapter, the differences between the two groups of students were significant in all word levels, except the 10 000 word level (see section 4.2.2.4).

In Chapter 2 Literature Review, I have already discussed the disputable issue of the medium of instruction in Hong Kong education system (see section 2.5.1). Quite a number of research reports have proclaimed that there is a discrepancy between the schools' stated language policy and the actual language use in class. Consequently, besides asking the participants to indicate whether their secondary schools were EMI or CMI, the personal information sheet used in my study also asked the participants to self-report the actual language use in class, excluding the language lessons, in their secondary schools. It was originally expected that classifying students in this way could better evaluate the effects of medium of instruction on students' vocabulary breadth. However, it did not seem to be the case. While it was true that the scores were in a consistent descending order, from the "mostly English" group, across the "mix of English and Cantonese" to the "mostly Cantonese" group, the results of ANOVA and post hoc tests proved that there were only two significant differences.

Although it does not appear to be successful in establishing the relationship between students' perceived medium of instruction and their vocabulary breadth, this item still reinforces the findings of other educational research studies and reveals that many EMI schools still have not fully adopted English as the medium of instruction (see section 2.5.1). In spite of the fact that as many as 132 of the Hong Kong participants came from EMI schools, only 33 students claimed that mostly

English was used in class; 80 students reported that a mix of English and Cantonese was the actual language use, and 42 students chose mostly Cantonese. One participant, in his personal information sheet, even sarcastically added "so-called" next to "EMI" (his secondary school's status) and circled "Mostly Cantonese" as the actual language use to remark upon the discrepancy between his school's official language policy and genuine practice.

5.5 Insights from Students' Quality of Knowledge of Academic Words

Even though the participants' score in the University Word List level was the second highest in the five word frequency levels in the vocabulary size test, further assessment on the quality of their academic word knowledge revealed that, in fact, many of them only operated on partial vocabulary knowledge of these words. In this section, interesting findings from the vocabulary depth measure are discussed in view of the second language acquisition theory and the English language education in Hong Kong.

5.5.1 Negligence of morphology and collocation in English vocabulary teaching

Students' performance in the vocabulary depth measure, to a certain extent, exposes the problems of the English vocabulary teaching methodology in Hong Kong secondary schools. In the depth-of-knowledge test, the participants obtained the highest score (88%) in the section on grammatical knowledge. Their good performance in identifying the part of speech of academic words coincides with Hong Kong English language teachers' strong emphasis on students' grammar. The second best performance in the test occurred in the semantic knowledge section. On

average, the participants could explain the meanings of two-thirds of the 20 sampled lexical items. As mentioned in Chapter 2 Literature Review, it is a common practice of the English textbooks to include matching or synonym-finding exercises to ensure that students understand the meanings of some specific lexical items in the comprehension passages (see section 2.5.2). Therefore, students' familiarity with semantic knowledge of English words is not surprising. Nevertheless, when being asked to supply extra meanings of the words, most of the participants simply left it blank in the vocabulary test. The mean score for this part, which is 1.16 out of 20, is indeed disappointing. The huge difference in the two scores concerning semantic knowledge suggests that Hong Kong students are only taught one meaning, normally the primary or the most common one, of an English word. As a result, they are not acutely aware of the different meanings of polysemous words.

The unsatisfactory scores in the parts testing morphological and collocational knowledge reveals that these two aspects of vocabulary knowledge are, very often, neglected in English language classrooms. In the academic vocabulary test, the participants could convert barely 52% of the headwords into the required derivatives and they could only identify the correct collocational words for 57% of the test items. In fact, the government syllabus for secondary schools does mention morphology and collocation in the vocabulary learning objectives. However, they are described as "basic vocabulary building strategies" (Curriculum Development Council, 1999, p. 16) that should be introduced to students (see Table 23). It sounds that the burden of learning morphology and collocation is put solely on the learners. Unfortunately, the learners, who do not receive formal training on the English language system like the teachers do, cannot possibly perceive the significance of morphological and collocational knowledge. This is probably why these two aspects of vocabulary knowledge receive little attention from both secondary school teachers and students.

Table 23

Some of the Vocabulary Building Strategies in 1999 English Language Syllabus for Secondary Schools (Curriculum Development Council, 1999, pp. 16-17)

Collocation	Collocation refers to the typical occurrence of words together. This is an important aspect of vocabulary development as learners have to be aware of the possible ways words are connected. Collocation can provide a useful framework for revising items and for strengthening the learners' knowledge of them.
Prefixes and Suffixes	Developing knowledge of prefixes and knowledge of suffixes will help learners handle and learn new vocabulary items even if the context is not familiar.
Word Families	Learners may be made aware that certain suffixes are linked with certain parts of speech…When learners are able to generalize from this knowledge, they may be able to work out other members of the word family even though initially only one word is learnt.

5.5.2 Importance of morphology and collocation for sentence production

The transition of learners' receptive vocabulary to productive vocabulary is one of the research pursuits in second language vocabulary acquisition. It is generally agreed that vocabulary knowledge cannot be accomplished instantaneously; rather, we have to accumulate our vocabulary knowledge gradually (see Chapter 2 Literature Review). Every time we receive input from linguistic sources, we process them and take in the digested information. Depending on how active our brains extract and process the vocabulary information, the amount of knowledge that we gain each time varies. How much vocabulary knowledge is needed before a word can be ready for productive use? In my opinion, perhaps the total amount of knowledge of that particular word item is not as decisive a factor as the presence of certain aspects of vocabulary knowledge in the mental lexicon. In the present study, a very

high correlation was reported between the morphological knowledge of academic words and the sentence production task, as well as between the collocational knowledge and the sentence production task. The results hint at the close relationship of morphology and collocation with productive vocabulary. It is likely that one of the criteria that should be satisfied for receptive vocabulary to become productive one is the presence of some morphological and collocational knowledge of the lexical items concerned in our mental lexicon.

5.5.3 Enhancing effectiveness by incorporating explicit vocabulary teaching into implicit vocabulary learning

Most of the participants (26 out of 31) completing this second vocabulary test studied in English-medium secondary schools before. No matter what medium of instruction they used in class, their textbooks should be in English, which meant that they should be quite familiar with the academic words. However, after taking the test, many of them expressed that the test was "rather difficult" for them. Some commented that they could understand the words in context, when they came across the words in their reading, but they could not recognise them in isolation. Indeed, many second language learners, after passing the beginner stage, rely heavily on incidental vocabulary learning. Nonetheless, is an increase in vocabulary knowledge a direct consequence of encountering words in texts? Read (2000) argues that this is not necessarily true:

> Even if learners successfully infer the meaning of an unknown word in a reading text, it does not mean that they will necessarily acquire knowledge of the word....Logically, one can figure out what a word means for immediate comprehension purposes without retaining any long-term memory of the meaning or even the form of the word, once the reading

task is completed. (p. 60)

Furthermore, in secondary schools, the academic words are merely a means, but not the ultimate goal, of study to the students. They may not devote effort to remembering or finding out more information about the words in the context. As a result, it is the context, but not the stored vocabulary knowledge in mental lexicon, that prompts the students to associate the questioned words with certain linguistic information such as semantic senses.

Learners' depending too much upon implicit vocabulary acquisition can lead to adverse effects on their vocabulary development. Since most of the time the students' primary focus is the comprehension task, they may not bother to verify their guesses from contextual cues by looking up the unfamiliar words in dictionary. Consequently, they cannot grasp the exact meanings, as well as proper usage, of the words. In a vocabulary study of English trainee teachers in Hong Kong, McNeill (1996) discovered that the participants could "produce plausible sentences using words which they did not really understand" (p. 54). He explained that the large amount of exposure to English in their secondary and tertiary studies allowed the participants to recognize many words and remember their immediate contexts, which enabled them to construct acceptable sentences, even though they had not fully absorbed the meanings of the words. Similar phenomenon was observed in the present study, too. Table 24 lists some of the examples found. The sentences produced appear to be meaningful; however, after examining the participants' explanations of the words more closely, it becomes obvious that they only had a vague sense of the lexical meanings, or worse still, they misunderstood the words. It is no wonder why, in the vocabulary depth measure, semantic knowledge generated a relatively low correlation with sentence production.

Table 24

Examples of Sentences Constructed by Participants with Misunderstanding of the Word Meanings

Tested Word	Sentence	Explanation
coherent	The content between successive paragraph is coherent.	echo with each other
depress	He was depressed by the examination results.	hit
distinct	His work is distinct from others.	excellent
emphasis	Many people blame the education system for putting too much emphasis on academic result but not on the others.	attention
expose	The poor citizens are exposed to polluted air.	contact, put into, enter
internal	Apart from these internal awards, do you have any other external awards?	within the school
phenomenon	It is good phenomenon for studying.	atmosphere
revolution	The industrial revolution made human's life more comfortable.	improvement

Another problem possibly caused by excessive reliance upon implicit vocabulary acquisition is learners' failure in distinguishing similar word forms. In the present study, it was discovered that the many participants made errors in "synforms" in both the vocabulary size test, in which they were asked to complete the spelling of the tested items, and the depth-of-knowledge test, in which they had to explain the word meanings and make sentences. "Synforms" refer to words that can easily cause confusion because of their similarity in phonological, graphic, or morphological forms (Laufer, 1988). For example, in the depth-of-knowledge test on academic words, some participants mistook *ambiguous* for *ambitious*, *assess* for *access*, *distinct* for *extinct*, *emerge* for *merge*, *region* for *religion*, and *revolution* for

evolution. Their confusions were reflected in both the sentence construction task and the word-meaning explanation task (see Table 25). Their mistakes also confirm Gu and Leung (2002)'s finding that for Chinese EFL learners, an English word is most probably confused with another one that looks or sounds similar.

Table 25
Examples of Synformic Errors of Participants

Tested Word	Sentence	Explanation
ambiguous	*The only way to success is to be ambiguous.	ambitious
assess	*He can have an assess to the Internet here.	access
distinct	*Dinosaur has distincted for 50 000 000 years.	extinct
emerge	*It's difficult to emerge the box into the machine, it's too large.	merge
region	*John believe in the region of Christian.	religion
revolution	*Most of people know the knowledge of revolution here.	evolution

These errors in interlanguage lexicon, to a certain extent, can be traced back to the vocabulary treatment in the teaching and learning process. Laufer (1989) attributes the synformic confusions described in the last paragraph to the two following sources:

> [T]he learner might have learnt one word of the pair/group, but since its representation in the memory is insecure or defective, a similar word which shares most of its formal features might look identical to it. Or, the learner might have studied both synforms but since his knowledge of both is insecure, he is not sure which word form is associated with which

meaning. (p. 13)

But why are mental representations of these English words "insecure"? One possible explanation is this: most students come across the words in reading materials and it is the contexts that enable them to infer the meanings of the words; so in their mental lexicon, stronger links are formed between meanings and contexts, rather than between meanings and forms of the words.

The two types of interesting phenomena found in the depth-of-knowledge test, i.e. the production of acceptable sentences when lacking clear semantic knowledge of the test items, and the confusions of synforms, both originate in the incomplete representation of words in students' mental lexicon. In order to solve the problem, some more deliberate vocabulary teaching and learning should be adopted. This does not mean that the value of incidental vocabulary learning is denied. As discussed in Chapter 2 Literature Review, both explicit and implicit vocabulary learning have their roles to play in second language learners' vocabulary development. While exposure to language in context certainly helps students accumulate lexical information like collocational knowledge, selective attention to specific word items increases learning effectiveness. Consequently, it is most beneficial to students to combine both explicit and implicit vocabulary learning. At present, Hong Kong senior-form secondary school English teachers spend most of their class time in training their students for public examinations. Those practice papers are actually a rich source of linguistic input. If the teachers can provide some direct teaching to raise students consciousness on unknown words, I believe the vocabulary learning process will be greatly facilitated.

5.6 Summary

In this chapter, interesting findings in the present study are discussed in the light of the specific educational contexts and the relevant studies in literature. The results in the Productive Vocabulary Levels Test expose the limited vocabulary size of Hong Kong university students. The fact that they could only barely master the high frequency words and did not know many low frequency words is a cause for concern. Although they possessed a reasonable range of academic words, their quality of vocabulary knowledge of this group of words was unsatisfactory. In addition to evident deficiency in morphological and collocational knowledge, some confusion about word forms and semantic knowledge was also observed. Their weaknesses reflected in the test, to a certain degree, represent the problems of the English language education in Hong Kong.

CHAPTER 6 CONCLUSION

6.1 Introduction

In addition to exposing Hong Kong university students' weaknesses in English vocabulary knowledge, the findings of the present study show insight into pedagogy. This final chapter concludes this thesis with an evaluation of the overall research project. Implications that can be drawn from the results are discussed and pedagogical suggestions are offered. Limitations of the present research are also stated, together with some recommendations for future studies.

6.2 Implications of the Present Study

6.2.1 Recommendation to the university

6.2.1.1 Compulsory academic vocabulary courses to first-year university students

In the present study, it has been found that the local tertiary students have a reasonable size, but an unsatisfactory knowledge quality, in terms of different aspects of vocabulary knowledge, of academic vocabulary. Due to the students' communicative needs and the academic words' usefulness in the university context, it is foremost for the students to gain good control of these English lexical items at an early stage of their university studies. As a result, ELT courses that particularly focus on academic vocabulary would certainly help the newly admitted students develop in-depth knowledge of these words. Besides teaching the different aspects of academic vocabulary knowledge, the language instructors could also introduce

different vocabulary learning strategies, which the students could apply to expand their general vocabulary as well.

6.2.1.2 Policy on students from mainland China

The findings of the present study indicate a significant difference between the English vocabulary sizes of Hong Kong students and students from mainland China, with the latter exhibiting less rich vocabulary than the former. Nonetheless, when examining the data more closely, variations also exist among these 31 mainland participants, who came from different parts of China. For example, it was observed that students from Shenzhen and Shanghai obtained higher scores than students from other regions of China in the vocabulary size test. The performance of the students from these two cities was even comparable to that of the Hong Kong participants. Although their numbers are not large enough for reliable statistical analysis, this apparent discrepancy in vocabulary knowledge suggests that students coming from different parts of China do differ in their English proficiency. Thus, the university should bear this in mind and does not regard them as a unified group. For the benefit of the students, it is recommended that the university should administer some English proficiency tests and identify their areas of weaknesses, before assigning the mainland students to specific ELT courses.

6.2.1.3 Policy on Form 6 EAS students

At the moment, the university authority does not have full confidence in the early admitted Form 6 students' English proficiency. Some special ELT courses are run for these early admitted students and students from mainland China, which means that these two groups of students attend the same courses together. However, as shown in the results of the vocabulary size test, the Form 6 students possess a

larger size of English vocabulary than the general population of university students. Since it has been proved by many studies that vocabulary knowledge is a reliable indicator of one's language proficiency, it is reasonable to predict that this group of sixth formers are more proficient English language learners than the other university students. Therefore, what they need is not some basic language skill training, but some advanced level English courses. The fact that students of two diverse proficiency groups are present within the same classes causes problems for the language teachers. As a result, it is best to separate the Form 6 students and the students from mainland China and then tailor different ELT courses for them so that the interests of both groups can be looked after properly.

6.2.2 Recommendation to secondary school English language teachers

Secondary school education exerts great effects on Hong Kong students' English vocabulary development, because in this period, they usually undergo the transition from the beginner to the intermediate level in English proficiency. It is also during this period that they gain knowledge of most of the high frequency words. Therefore, the secondary school English language teachers should deliver to the learners the important message that vocabulary knowledge is more than knowing one meaning of a word. Actually, in addition to semantic knowledge, the teachers could incorporate other aspects of knowledge like morphology and collocation into classroom instruction in some ways. The major advantage of this pedagogical practice is, of course, to enhance the quality of students' vocabulary knowledge. But at the same time, it may help students to establish more different linkages between items stored in their mental lexicon, which in turn possibly facilitate the lexical retrieval process. Hence, even if class time does not allow the direct teaching of other aspects of vocabulary knowledge, the teachers should also raise students'

awareness towards the existence of these types of lexical information and introduce relevant self-learning strategies, for instance, how to use dictionaries. The good use of dictionaries not only can bring selective attention on words in incidental vocabulary learning, but can also inform students of knowledge like various meanings of polysemous words and different derivatives within the same word families. In other words, English teachers' emphasis on both a large vocabulary size and sophisticated use of words, i.e. breadth and depth, is influential to students' developing good knowledge of high-frequency words in secondary schools.

6.2.3 Recommendation to the government

In earlier parts of this thesis, the government education authority's policy on English vocabulary teaching and learning has been discussed (see sections 2.5 and 5.5). What else can the Hong Kong government do to enhance students' English vocabulary proficiency? In my opinion, there is perhaps something that they can learn from the case in China. In contrast with Hong Kong, the Ministry of Education in the mainland officially sets out targets for the teaching and learning of English vocabulary in the secondary school syllabus, in terms of the number of vocabulary items to be mastered. For example, the 1993 English language curriculum stated explicitly that students completing the junior secondary programme should have "an active oral and written command of around 600-700 frequently used words plus 200 common expressions" (Adamson, 2004, p. 175) and "a passive command of around 400-500 other words" (Adamson, 2004, p. 175). The wordlists used were not merely borrowed from western studies; needs analysis was conducted to tailor the lists to Chinese cultural, political and economic contexts (Adamson, 2004). Perhaps the Hong Kong government can also consider carrying out some research projects on needs analysis and textbook coverage so as to better understand and to guarantee the

standard of English vocabulary teaching and learning in secondary schools.

6.2.4 Recommendation to Hong Kong university students

Despite the lower vocabulary scores of participants from mainland China in the present study, it cannot be concluded that Hong Kong university students will have linguistic advantages over their mainland counterparts. Considering the rapid change in the mainland, it is possible that the mainland students will soon catch up with Hong Kong students in English proficiency. As the 2008 Olympics game is approaching, the mainland government is devoting more efforts to English language teaching. The national education authority has set higher vocabulary standards, adding an extra 200 vocabulary items at each level, when revising the 1993 curriculum preliminarily in 2000 (Adamson, 2004). Jin and Cortazzi (2003) also report an expansion of kindergarten and primary English classes, private English schools and other informal learning opportunities in everyday contexts such as television subtitles and news programmes in English, especially in major cities. As mentioned before, in the present study, students coming from Shenzhen and Shanghai obtained similar scores to Hong Kong participants in the vocabulary size test. Hence, Hong Kong university students should not feel contented with their language proficiency. They should continue to improve their English, vocabulary knowledge in particular, in university, otherwise they will soon be overtaken by their mainland counterparts and lose their competitiveness in the job market.

6.3 Limitations of the Present Study

Although the current research project has been carefully designed, there are still some limitations concerning the participants and the instruments. In the first part of the study, there were 31 students from mainland China completing the vocabulary

size tests. However, this group comprised students from different parts of mainland China such as Beijing, Zhejiang, Shenzhen, Shanghai and Fujian. China is such a large country that English language teaching practices should greatly differ from one province to another and from one city to another. Thus it is simply not feasible to generalize the findings from this heterogeneous sample of mainland China students.

The second part of the present study involved a much smaller number of participants than the first part, due to the lengthy depth-of-knowledge test. This reduction in the sample size limited the possible ways of data analysis. Vocabulary depth comparisons among students with different educational backgrounds, e.g. Hong Kong students and students from mainland China, Form 6 EAS students and Form 7 students, could not be made. Relationship between language learners' vocabulary breadth and depth could not be investigated either.

Regarding the two research instruments, most concerns lie on the sampling of lexical items. Even though Laufer and Nation (1999)'s Productive Vocabulary Levels Test is widely used and recognized, it is still questionable to sample only 18 lexical items in each frequency level which contains 1000 words. As for the self-constructed vocabulary depth measure, the inclusion of academic words that also have technical uses in specific disciplines poses difficulty in the marking process. Two examples are the words *distinct* and *rational*. Many students had learnt the terms *distinct real roots* and *rational numbers* in Mathematics in secondary schools, and so they constructed sentences using these units in the vocabulary test, without knowing what the two words actually meant in general English. In order to eliminate this problem, a more careful pilot study should be carried out to check the research instrument.

6.4 Suggestions for Further Research

Given the above limitations, there are some areas that future vocabulary studies can work on. For one thing, it would be meaningful to conduct similar research projects in universities in mainland China to check whether students' vocabulary sizes coincide the official estimation and to find out more about the quality of their English word knowledge. The findings can then be used to draw comparisons between university students in Hong Kong and those in different parts of mainland China.

More studies should be initiated to examine the relationship between vocabulary breadth and depth. Participants should be asked to complete tests of both types and of the same kind of words. Focusing one kind of vocabulary at a time allows the researchers to sample more lexical items in the test instruments. Besides academic words, the high frequency words can be one topic for investigation. For example, researchers can test the university students' breadth and depth of academic vocabulary, or they can test the senior secondary school students' breadth and depth of high frequency words.

The present study has chosen to measure four dimensions of English vocabulary knowledge, i.e. grammatical, morphological, collocational and semantic knowledge, and written production of sentences. Further research can be done on other dimensions of vocabulary knowledge, e.g. phonological knowledge, and the productive use of words in speech in order to find out more about the similarities and differences between these two modes of communication.

6.5 Summary

The present study sheds light on the English vocabulary knowledge of local tertiary students and provides some pedagogical implications to the teaching profession. The most important piece of advice is for the language teachers to lay equal emphasis on both breadth and depth in students' English vocabulary development. Despite the limitations on participants and instruments, the current research findings still contribute to our understanding of the university students' English proficiency. Further vocabulary studies can be conducted targeting different types of language learners, different kinds of vocabulary, and different aspects of vocabulary knowledge.

REFERENCES

Adamson, B. (2004). *China's English: A history of English in Chinese education.* Hong Kong: Hong Kong University Press.

Benson, M., Benson, E., & Ilson, R. (1997). *The BBI dictionary of English word combinations.* Amsterdam: John Benjamins Publishing Company.

Carter, R. (1998). *Vocabulary: Applied linguistic perspectives.* London: Routledge.

Cheung, Y.-s., & Lee, P. (1986). *A study of the English vocabulary in junior secondary textbooks in Hong Kong.* Hong Kong: Education Department.

Cobb, T. (2000). One size fits all? Francophone learners and English vocabulary test. *The Canadian Modern Language Review, 57(2),* 295-324.

Cobb, T. (n.d.). *Levels tests on-line.* Retrieved August 8, 2004, from http://www.er.uqam.ca/nobel/r21270/levels/

Cobb, T., & Horst, M. (1999). Vocabulary sizes of some City University students. *Journal of the Division of Language Studies of City University of Hong Kong, 1(1),* 59-68. Retrieved March 8, 2004, from http://www.er.uqam.ca/nobel/r21270/cv/CitySize.html

Collins COBUILD English collocations [CD-ROM]. (1995). London: HarperCollins Publishers.

Collins COBUILD English dictionary for advanced learners (3rd ed.). (2001). Glasgow: HarperCollins.

Collins COBUILD learner's dictionary (Chinese bilingual edition). (2003). Hong Kong: Commercial Press.

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly, 34(2),* 213-238.

Coxhead, A. (n.d.). *The Academic Word List.* Retrieved October 2, 2004, from http://www.vuw.ac.nz/lals/research/awl/

Curriculum Development Council. (1999). *Syllabuses for secondary schools: English languages (Secondary 1-5).* Hong Kong: Education Department.

Evans, S., Jones, R., Rusmin, R. S., & Cheung, O. L. (1998). Three languages: One future. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end* (pp. 391-415). Hong Kong: Hong Kong University Press.

Fan, M. Y. (2001). An investigation into the vocabulary needs of university students in Hong Kong. *Asian Journal of English Language Teaching, 11,* 69-85.

Gu, Y., & Leung, C. B. (2002). Error patterns of vocabulary recognition for EFL learners in Beijing and Hong Kong. *Asian Journal of English Language Teaching, 12,* 121-141.

Hill, J., & Lewis, M. (Eds.). (1997). *Dictionary of selected collocations.* Hove: Language Teaching Publications.

Hornby, A. S. (Ed.). (1995). *Oxford advanced learner's dictionary of current English* (5th ed.). Oxford: Oxford University Press.

Jin, L., & Cortazzi, M. (2003). English language teaching in China: A bridge to the future. In W. K. Ho & Y. L.Wong (Eds.), *English language teaching in East Asia today: Changing policies and practices* (pp. 131-145). Singapore: Times Media Private Ltd.

Joint University Programmes Admissions System. (2004). *Statistics on EAS offer results.* Retrieved March 13, 2005, from http://www.jupas.edu.hk/jupas/content_stat_eas.htm

Johnson, R. K., & Fan, M. Y. (1996). *Bridging the technical vocabulary gap: The problem of recoding the technical vocabulary of Chinese medium secondary students moving to English medium tertiary studies.* Hong Kong: Chiu Ming Publishing.

Johnson, R. K. (1998). Language and education in Hong Kong. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end* (pp. 265-276). Hong Kong: Hong Kong University Press.

Laufer, B. (1988). The concept of "synforms" (similar lexical forms) in vocabulary acquisition. *Language and Education, 2(2),* 113-132.

Laufer, B. (1989). A factor of difficulty in vocabulary learning: Deceptive transparency. *AILA Review, 6,* 10-20.

Laufer, B., Elder, C., Hill, K., & Congdon, P. (2004). Size and strength: Do we need both to measure vocabulary knowledge? *Language Testing, 21(2),* 202-226.

Laufer, B., & Nation, P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing, 16,* 33-51.

Levelt, W. J. M. (1989). *Speaking: From intention to articulation.* Cambridge: MIT Press.

Littlewood, W., & Liu, N.-F. (1996). *Hong Kong students and their English.* Hong Kong: Macmillan.

Longman active study English-Chinese dictionary. (1991). Hong Kong: Longman.

Macaro, E. (2003). *Teaching and learning a second language: A review of recent research.* London: Continuum.

McNeill, A. (1996). Vocabulary knowledge profiles: Evidence from Chinese-speaking ESL teachers. *Hong Kong Journal of Applied Linguistics, 1,* 39-63.

Meara, P. (1996). The classical research in L2 vocabulary acquisition. In G. Anderman, & M. Rogers (Eds.), *Words, words, words: The translator and the language learner* (pp. 27-40). Clevedon: Multilingual Matters.

Meara, P. (1999). The vocabulary knowledge framework. Retrieved March 22, 2004, from http://www.swan.ac.uk/cals/calsres/vlibrary/pm96d.htm

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

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

Nation, P., & Meara, P. (2002). Vocabulary. In N. Schmitt (Ed.), *An introduction to applied linguistics* (pp. 35-54). London: Arnold.

Nation, P., & Waring, R. (1997). Vocabulary size, text coverage and word lists. In N. Schmitt, & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 6-19). Cambridge: Cambridge University Press.

Nurweni, A., & Read, J. (1999). The English vocabulary knowledge of Indonesia University students. *English for Specific Purposes, 18(2),* 161-175.

Oxford collocations dictionary for students of English. (2003). Oxford: Oxford University Press.

Oxford intermediate learner's English-Chinese dictionary (3rd ed.). (2002). Hong Kong: Oxford University Press.

Pennington, M. C. (1998). Perspectives on language in Hong Kong at century's end. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end* (pp. 3-40). Hong Kong: Hong Kong University Press.

Read, J. (1997). Vocabulary and testing. In N. Schmitt, & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy* (pp. 303-320). Cambridge: Cambridge University Press.

Read, J. (2000). *Assessing vocabulary.* Cambridge: Cambridge University Press.

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

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

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.

Singleton, D. (1999). *Exploring the second language mental lexicon.* Cambridge: Cambridge University Press.

The Chinese University of Hong Kong. (2004). *Information for JUPAS applicants (2005 Entry).* Retrieved March 13, 2005, from http://www.cuhk.edu.hk/adm/jupas/main.htm

The Chinese University of Hong Kong. (2005, February). New initiatives to broaden student mix. *CUHK E-Newsletter, 2(5).* Retrieved March 19, 2005, from http://mmlab.itsc.cuhk.edu.hk/enews/app/article.aspx/CD34762AAC9017A9573F8A6FE28CA8C7/

Walters, S., & Balla, J. (1998). Medium of instruction: Policy and reality at one Hong Kong tertiary institution. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end* (pp. 365-389). Hong Kong: Hong Kong University Press.

Wesche, M., & Paribakht, T. S. (1996). Assessing second language vocabulary knowledge: Depth versus breadth. *The Canadian Modern Language Review, 53(1),* 13-40.

Yang, Z.-z. (2000). Creating a national English learning environment: A way out for college English teaching and learning in China. *Crosslinks in English Language Teaching, 1,* 1-4.

Yeung, S.-F. B. (2002). *A comparison of the vocabulary self-collection strategy (VSS) and the current methodology of vocabulary teaching in Hong Kong EFL classrooms.* Unpublished master's thesis, The Chinese University of Hong Kong, Hong Kong, China.

APPENDICES

Appendix A. Research Instrument 1

This research project is aimed at investigating the English vocabulary knowledge of students newly admitted to the Chinese University of Hong Kong. The test instrument which is adapted from Nation (2001) estimates students' vocabulary size, i.e. how many words they know, by grouping words according to their occurring frequency. Participants are asked to complete the vocabulary tests and supply some personal information, which is used to understand the general background of participants and the relationship between these factors and vocabulary knowledge.

The researcher will take precautions to preserve the confidentiality of the research data and that all reports of the research will be devoid of identifiers. **So all the data collected will be kept confidential and used for research only.**

If you agree to participate in this research, please sign the consent form below and complete the attached vocabulary test. As the research participant, you have the right to terminate your participation in the study at any time. In addition, it is not compulsory for you to join this study.

If you would like to know your performance in the vocabulary test, please tick the box below and supply your email address. The result will be sent to you a few weeks later.

Thank you very much for your cooperation!

Consent Form

I consent to participate in the research stated above and I understand that my information provided will be used for research purpose.

Signature: _____

Date: _____

☐ I would like to obtain the result of my vocabulary test.
Please send it to my email: _____

Part A. Vocabulary Test (Nation, 2001)

Instruction: Complete the underlined words. E.g. He was riding a bicycle.

The 2000 Word Level

1. I'm glad we had this opp_____ to talk.
2. There are a doz_____ eggs in the basket.
3. Every working person must pay income t_____.
4. The pirates buried the trea_____ on a desert island.
5. Her beauty and cha_____ had a powerful effect on men.
6. La_____ of rain led to a shortage of water in the city.
7. He takes cr_____ and sugar in his coffee.
8. The rich man died and left all his we_____ to his son.
9. Pup_____ must hand in their papers by the end of the week.
10. This sweater is too tight. It needs to be stret_____.
11. Ann intro_____ her boyfriend to her mother.
12. Teenagers often adm_____ and worship pop singers.
13. If you blow up that balloon any more it will bur_____.
14. In order to be accepted into the university, he had to impr_____ his grades.
15. The telegram was deli_____ two hours after it had been sent.
16. The differences were so sl_____ that they went unnoticed.
17. The dress you're wearing is lov_____.
18. He wasn't very popu_____ when he was a teenager, but he has many friends now.

The 3000 Word Level

1. He has a successful car_____ as a lawyer.
2. The thieves threw ac_____ in his face and made him blind.
3. To improve the country's economy, the government decided on economic ref_____.
4. She wore a beautiful green go_____ to the ball.
5. The government tried to protect the country's industry by reducing the imp_____ of cheap goods.
6. The children's pranks were funny at first, but finally got on the parents' ner_____.
7. The lawyer gave some wise coun_____ to his client.

8. Many people in England mow the la_____ of their houses on Sunday morning.
9. The farmer sells the eggs that his he_____ lay.
10. Sudden noises at night sca_____ me a lot.
11. France was proc_____ a republic in the 18th century.
12. Many people are inj_____ in road accidents every year.
13. Suddenly he was thru_____ into the dark room.
14. He perc_____ a light at the end of the tunnel.
15. Children are not independent. They are att_____ to their parents.
16. She showed off her sle_____ figure in a long narrow dress.
17. She has been changing partners often because she cannot have a sta_____ relationship with one person.
18. You must wear a bathing suit on a public beach. You're not allowed to walk na_____.

The 5000 Word Level

1. Soldiers usually swear an oa_____ of loyalty to their country.
2. The voter placed the ball_____ in the box.
3. They keep their valuables in a vau_____ at the bank.
4. A bird perched at the window led_____.
5. The kitten is playing with a ball of ya_____.
6. The thieves have forced an ent_____ into the building.
7. The small hill was really a burial mou_____.
8. We decided to celebrate New Year's E_____ together.
9. The soldier was asked to choose between infantry and cav_____.
10. This is a complex problem which is difficult to compr_____.
11. The angry crowd sho_____ the prisoner as he was leaving the court.
12. Don't pay attention to this rude remark. Just ign_____ it.
13. The management held a secret meeting. The issues discussed were not disc_____ to the workers.
14. We could hear the sergeant bel_____ commands to the troops.
15. The boss got angry with the secretary and it took a lot of tact to soo_____ him.
16. We do not have adeq_____ information to make a decision.
17. She is not a child, but a mat_____ woman. She can make her own decisions.
18. The prisoner was put in soli_____ confinement.

The University Word List Level

1. There has been a recent tr_____ among prosperous families toward a smaller number of children.
2. The ar_____ of his office is 25 square meters.
3. Phil_____ examines the meaning of life.
4. According to the communist doc_____, workers should rule the world.
5. Spending many years together deepened their inti_____.
6. He usually read the sports sec_____ of the newspaper first.
7. Because of the doctors' strike, the cli_____ is closed today.
8. There are several misprints on each page of this te_____.
9. The suspect had both opportunity and mot_____ to commit the murder.
10. They insp_____ all products before sending them out to stores.
11. A considerable amount of evidence was accum_____ during the investigation.
12. The victim's shirt was satu_____ with blood.
13. He is irresponsible. You cannot re_____ on him for help.
14. It's impossible to eva_____ these results without knowing about the research methods that were used.
15. He finally att_____ a position of power in the company.
16. The story tells us about a crime and subs_____ punishment.
17. In a hom_____ class all students are of a similar proficiency.
18. The urge to survive is inh_____ in all creatures.

The 10 000 Word Level

1. The baby is wet. Her dia_____ needs changing.
2. The prisoner was released on par_____.
3. Second year University students in the U.S. are called soph_____.
4. Her favourite flowers were or_____.
5. The insect causes damage to plants by its toxic sec_____.
6. The evac_____ of the building saved many lives.
7. For many people, wealth is a prospect of unimaginable felic_____.
8. She found herself in a pred_____ without any hope for a solution.
9. The deac_____ helped with the care of the poor of the parish.
10. The hurricane whi_____ along the coast.
11. Some coal was still smoul_____ among the ashes.
12. The dead bodies were muti_____ beyond recognition.
13. She was sitting on a balcony and bas_____ in the sun.

14. For years waves of invaders pill_____ towns along the coast.
15. The rescue attempt could not proceed quickly. It was imp_____ by bad weather.
16. I wouldn't hire him. He is unmotivated and indo_____.
17. Computers have made typewriters old-fashioned and obs_____.
18. Watch out for his wil_____ tricks.

Part B. Personal Information

Please circle as appropriate.

Student ID: | | | | | | | *(first six digits only, e.g. 041234)*

Age: _____ **Sex:** M / F

Year of Attendance: 1 / 2 / 3 / 4 / 5

Faculty:
Arts / Business Administration / Education / Engineering /
Medicine / Science / Social Science

Department: _____

ELT courses that you are taking now (course code): _____

How many years have you studied English?
1-5 years / 6-10 years / 11-15 years / 16-20 years / More than 20 years

What is your mother tongue? Cantonese / Mandarin / Others: _____

About your secondary school:

Did you study in Hong Kong before entering university? Yes / No

If you choose "No", where did you study? _____
for how long? _____

Was it an EMI or CMI school? EMI / CMI
("EMI": English as the Medium of Instruction;
"CMI": Chinese as the Medium of Instruction)

What was the actual language use in class (excluding the language lessons)?
Mostly English / Mostly Cantonese / Mix of English and Cantonese / Others: _____

Which stream were you in? Arts / Science / Commercial / Others: ___

What grade did you get in AS Use of English? A / B / C / D / E

If you don't have AS Use of English results, please supply your grade in other English qualifications (e.g. *Grade C in English (Syl.B) in HKCEE*):

_____

This study involves another part to get more detailed information about the vocabulary knowledge of students in CUHK. If you are interested in taking part, please leave the following information:

Tel: _____

Email address: _____

~ The End ~

Thank you very much!

Appendix B. Research Instrument 2

Student ID: | | | | | | | *(first six digits only, e.g. 041234)*

Vocabulary Test

AMBIGUOUS

Please use "ambiguous" to make a grammatical and meaningful sentence:

_____

What part of speech is "ambiguous"? noun / verb / adjective / adverb	Please turn "ambiguous" into a noun:	Which word typically occurs ***after*** "ambiguous"? flight frustration situation success	What is the meaning of "ambiguous" in your sentence? (in Chinese / in English)

Any other meaning(s) of "ambiguous"? (in Chinese/ in English) _____

ASSESS

Please use "assess" to make a grammatical and meaningful sentence:

_____

What part of speech is "assess"? noun / verb / adjective / adverb	Please turn "assess" into a noun:	Which word typically occurs ***with*** "assess"? accidentally accurately accusingly acutely	What is the meaning of "assess" in your sentence? (in Chinese / in English)

Any other meaning(s) of "assess"? (in Chinese/ in English) _____

COHERENT

Please use "coherent" to make a grammatical and meaningful sentence:

_____

What part of speech is "coherent"? noun / verb / adjective / adverb	Please turn "coherent" into an adverb:	Which word typically occurs ***after*** "coherent"? museum opportunity policy song	What is the meaning of "coherent" in your sentence? (in Chinese / in English)

Any other meaning(s) of "coherent"? (in Chinese/ in English) _____

CONCEIVE

Please use "conceive" to make a grammatical and meaningful sentence:

_____

What part of speech is "conceive"? noun / verb / adjective / adverb	Please turn "conceive" into an adjective:	Which word typically occurs ***after*** "conceive"? for from of on	What is the meaning of "conceive" in your sentence? (in Chinese / in English)

Any other meaning(s) of "conceive"? (in Chinese/ in English) _____

COOPERATE

Please use "cooperate" to make a grammatical and meaningful sentence:

_____

What part of speech is "cooperate"? noun / verb / adjective / adverb	Please turn "cooperate" into an adjective:	Which word typically occurs ***after*** "cooperate"? about against for with	What is the meaning of "cooperate" in your sentence? (in Chinese / in English)

Any other meaning(s) of "cooperate"? (in Chinese/ in English) _____

DEPRESS

Please use "depress" to make a grammatical and meaningful sentence:

_____

What part of speech is "depress"? noun / verb / adjective / adverb	Please turn "depress" into a noun:	Which word typically occurs ***before*** "depress"? happiness time weather worth	What is the meaning of "depress" in your sentence? (in Chinese / in English)

Any other meaning(s) of "depress"? (in Chinese/ in English) _____

DISTINCT

Please use "distinct" to make a grammatical and meaningful sentence:

_____

What part of speech is "distinct"? noun / verb / adjective / adverb	Please turn "distinct" into a noun:	Which word typically occurs ***after*** "distinct"? about against from to	What is the meaning of "distinct" in your sentence? (in Chinese / in English)

Any other meaning(s) of "distinct"? (in Chinese/ in English) _____

EMERGE

Please use "emerge" to make a grammatical and meaningful sentence:

_____

What part of speech is "emerge"? noun / verb / adjective / adverb	Please turn "emerge" into an adjective:	Which word typically occurs ***after*** "emerge"? at from on with	What is the meaning of "emerge" in your sentence? (in Chinese / in English)

Any other meaning(s) of "emerge"? (in Chinese/ in English) _____

EMPHASIS

Please use "emphasis" to make a grammatical and meaningful sentence:

_____

What part of speech is "emphasis"? noun / verb / adjective / adverb	Please turn "emphasis" into a verb:	Which word typically occurs ***before*** "emphasis"? land lay lie lift	What is the meaning of "emphasis" in your sentence? (in Chinese / in English)

Any other meaning(s) of "emphasis"? (in Chinese/ in English) _____

EXPOSE

Please use "expose" to make a grammatical and meaningful sentence:

_____

What part of speech is "expose"? noun / verb / adjective / adverb	Please turn "expose" into a noun:	Which word typically occurs ***with*** "expose"? frankly generally honestly publicly	What is the meaning of "expose" in your sentence? (in Chinese / in English)

Any other meaning(s) of "expose"? (in Chinese/ in English) _____

INTERNAL

Please use "internal" to make a grammatical and meaningful sentence:

_____

What part of speech is "internal"? noun / verb / adjective / adverb	Please turn "internal" into a verb:	Which word typically occurs ***after*** "internal"? origin security shadow technology	What is the meaning of "internal" in your sentence? (in Chinese / in English)

Any other meaning(s) of "internal"? (in Chinese/ in English) _____

LOGIC

Please use "logic" to make a grammatical and meaningful sentence:

_____

What part of speech is "logic"? noun / verb / adjective / adverb	Please turn "logic" into an adverb:	Which word typically occurs ***before*** "logic"? apply master say think	What is the meaning of "logic" in your sentence? (in Chinese / in English)

Any other meaning(s) of "logic"? (in Chinese/ in English) _____

PERIOD

Please use "period" to make a grammatical and meaningful sentence:

_____

What part of speech is "period"? noun / verb / adjective / adverb	Please turn "period" into an adverb:	Which word typically occurs ***before*** "period"? high peak tall top	What is the meaning of "period" in your sentence? (in Chinese / in English)

Any other meaning(s) of "period"? (in Chinese/ in English) _____

PHENOMENON

Please use "phenomenon" to make a grammatical and meaningful sentence:

_____

What part of speech is "phenomenon"? noun / verb / adjective / adverb	Please turn "phenomenon" into an adjective:	Which word typically occurs ***before*** "phenomenon"? check insert investigate peruse	What is the meaning of "phenomenon" in your sentence? (in Chinese / in English)

Any other meaning(s) of "phenomenon"? (in Chinese/ in English) _____

PROPORTION

Please use "proportion" to make a grammatical and meaningful sentence:

_____

What part of speech is "proportion"? noun / verb / adjective / adverb	Please turn "proportion" into an adjective:	Which word typically occurs ***before*** "proportion"? enhance increase promote rise	What is the meaning of "proportion" in your sentence? (in Chinese / in English)

Any other meaning(s) of "proportion"? (in Chinese/ in English) _____

RATIONAL

Please use "rational" to make a grammatical and meaningful sentence:

_____

What part of speech is "rational"? noun / verb / adjective / adverb	Please turn "rational" into a verb:	Which word typically occurs ***after*** "rational"? behaviour decline resources unity	What is the meaning of "rational" in your sentence? (in Chinese / in English)

Any other meaning(s) of "rational"? (in Chinese/ in English) _____

REGION

Please use "region" to make a grammatical and meaningful sentence:

_____

What part of speech is "region"? noun / verb / adjective / adverb	Please turn "region" into an adjective:	Which word typically occurs ***before*** "region"? refined reliable remote retired	What is the meaning of "region" in your sentence? (in Chinese / in English)

Any other meaning(s) of "region"? (in Chinese/ in English) _____

REVOLUTION

Please use "revolution" to make a grammatical and meaningful sentence:

_____

What part of speech is "revolution"? noun / verb / adjective / adverb	Please turn "revolution" into an adjective:	Which word typically occurs ***before*** "revolution"? bloody pitiless raging violet	What is the meaning of "revolution" in your sentence? (in Chinese / in English)

Any other meaning(s) of "revolution"? (in Chinese/ in English) _____

TERMINATE

Please use "terminate" to make a grammatical and meaningful sentence:

_____

What part of speech is "terminate"? noun / verb / adjective / adverb	Please turn "terminate" into a noun:	Which word typically occurs ***with*** "terminate"? abruptly briskly heavily incidentally	What is the meaning of "terminate" in your sentence? (in Chinese / in English)

Any other meaning(s) of "terminate"? (in Chinese/ in English) _____

VISIBLE

Please use "visible" to make a grammatical and meaningful sentence:

_____

What part of speech is "visible"? noun / verb / adjective / adverb	Please turn "visible" into an adverb:	Which word typically occurs ***before*** "visible"? barely dearly queerly wearily	What is the meaning of "visible" in your sentence? (in Chinese / in English)

Any other meaning(s) of "visible"? (in Chinese/ in English) _____

Appendix C. Suggested Answer for Research Instrument 1

The 2000 Word Level

1. I'm glad we had this **opportunity** to talk.
2. There are a **dozen** eggs in the basket.
3. Every working person must pay income **tax**.
4. The pirates buried the **treasure** on a desert island.
5. Her beauty and **charm / charisma** had a powerful effect on men.
6. **Lack** of rain led to a shortage of water in the city.
7. He takes **cream** and sugar in his coffee.
8. The rich man died and left all his **wealth** to his son.
9. **Pupils** must hand in their papers by the end of the week.
10. This sweater is too tight. It needs to be **stretched**.
11. Ann **introduces / introduced** her boyfriend to her mother.
12. Teenagers often **admire** and worship pop singers.
13. If you blow up that balloon any more it will **burst**.
14. In order to be accepted into the university, he had to **improve** his grades.
15. The telegram was **delivered** two hours after it had been sent.
16. The differences were so **slight** that they went unnoticed.
17. The dress you're wearing is **lovely**.
18. He wasn't very **popular** when he was a teenager, but he has many friends now.

The 3000 Word Level

1. He has a successful **career** as a lawyer.
2. The thieves threw **acid** in his face and made him blind.
3. To improve the country's economy, the government decided on economic **reform**.
4. She wore a beautiful green **gown** to the ball.
5. The government tried to protect the country's industry by reducing the **import** of cheap goods.
6. The children's games were amusing at first, but finally got on the parents' **nerves**.
7. The lawyer gave some wise **counsel** to his client.
8. Many people in England mow the **lawn** of their houses on Sunday morning.
9. The farmer sells the eggs that his **hens** lay.
10. Sudden noises at night **scare / scared** me a lot.
11. France was **proclaimed** a republic in the 18th century.

12. Many people are **injured** in road accidents every year.
13. Suddenly he was **thrust** into the dark room.
14. He **perceives / perceived** a light at the end of the tunnel.
15. Children are not independent. They are **attached** to their parents.
16. She showed off her **slender** figure in a long narrow dress.
17. She has been changing partners often because she cannot have a **stable** relationship with one person.
18. You must wear a bathing suit on a public beach. You're not allowed to bath **naked**.

The 5000 Word Level

1. Soldiers usually swear an **oath** of loyalty to their country.
2. The voter placed the **ballot** in the box.
3. They keep their valuables in a **vault** at the bank.
4. A bird perched at the window **ledge**.
5. The kitten is playing with a ball of **yarn**.
6. The thieves have forced an **entrance / entry** into the building.
7. The small hill was really a burial **mound**.
8. We decided to celebrate New Year's **Eve** together.
9. The soldier was asked to choose between infantry and **cavalry**.
10. This is a complex problem that is difficult to **comprehend**.
11. The angry crowd **shoved** the prisoner as he was leaving the court.
12. Don't pay attention to this rude remark. Just **ignore** it.
13. The management held a secret meeting. The issues discussed were not **disclosed** to the workers.
14. We could hear the sergeant **bellow / bellowing** commands to the troops.
15. The boss got angry with the secretary and it took a lot of tact to **soothe** him.
16. We do not have **adequate** information to make a decision.
17. She is not a child, but a **mature** woman. She can make her own decisions.
18. The prisoner was put in **solitary** confinement.

The University Word List Level

1. There has been a recent **trend** among prosperous families toward a smaller number of children.
2. The **area** of his office is 25 square meters.
3. **Philosophy** examines the meaning of life.
4. According to the communist **doctrine**, workers should rule the world.

5. Spending many years together deepened their **intimacy**.
6. He usually read the sports **section** of the newspaper first.
7. Because of the doctors' strike, the **clinic** is closed today.
8. There are several misprints on each page of this **text / textbook**.
9. The suspect had both opportunity and **motive** to commit the murder.
10. They **inspect / inspected** all products before sending them out to stores.
11. A considerable amount of evidence was **accumulated** during the investigation.
12. The victim's shirt was **saturated** with blood.
13. He is irresponsible. You cannot **rely** on him for help.
14. It's impossible to **evaluate** these results without knowing about the research methods that were used.
15. He finally **attains / attained** a position of power in the company.
16. The story tells about a crime and **subsequent** punishment.
17. In a **homogeneous** class all students are of a similar proficiency.
18. The urge to survive is **inherent** in all creatures.

The 10 000 Word Level

1. The baby is wet. Her **diaper** needs changing.
2. The prisoner was released on **parole**.
3. Second year university students in the US are called **sophomores**.
4. Her favourite flowers were **orchids**.
5. The insect causes damage to plants by its toxic **secretion**.
6. The **evacuation** of the building saved many lives.
7. For many people, wealth is a prospect of unimaginable **felicity**.
8. She found herself in a **predicament** without any hope for a solution.
9. The **deacon** helped with the care of the poor of the parish.
10. The hurricane **whips / whipped** along the coast.
11. Some coal was still **smouldering** among the ashes.
12. The dead bodies were **mutilated** beyond recognition.
13. She was sitting on a balcony and **basking** in the sun.
14. For years waves of invaders **pillaged** towns along the coast.
15. The rescue attempt could not proceed quickly. It was **impeded** by bad weather.
16. I wouldn't hire him. He is unmotivated and **indolent**.
17. Computers have made typewriters old-fashioned and **obsolete**.
18. Watch out for his **wily / wilful** tricks.

Appendix D. Webpage Sent to the Participants: Explanation and Suggested Answer for Research Instrument 2, and Advice on Vocabulary Acquisition

Explanation

This second vocabulary test aims at testing how well CUHK students' know English academic words (i.e. words that appear frequently in academic texts of different disciplines).

20 academic words are selected for testing:

ambiguous	assess	coherent	conceive
cooperate	depress	distinct	emerge
emphasis	expose	internal	logic
period	phenomenon	proportion	rational
region	revolution	terminate	visible

The format of the test is like this:

AMBIGUOUS

Please use "ambiguous" to make a grammatical and meaningful sentence: **Part A**

What part of speech is "ambiguous"?	Please turn "ambiguous" into a noun:	Which word typically occurs ***after*** "ambiguous"?	What is the meaning of "ambiguous" in your sentence? (in Chinese / in English)
noun / verb / adjective / adverb		flight frustration situation success	
Part B	**Part C**	**Part D**	**Part E**

Any other meaning(s) of "ambiguous"? (in Chinese/ in English) **Part F**

In the email that you receive, 6 marks are listed out:

Part A: __ / 40	Part D: __ / 20
Part B: __ / 20	Part E: __ / 20
Part C: __ / 20	Part F: __ / 20

Part A (Sentence Construction)	

	If the sentence is grammatical and can clearly demonstrate the meaning of the tested word, 2 marks will be given.
	E.g. The teacher's explanation is so ambiguous that none of the students can understand what he says.
	If (1) there is some grammatical problems concerning the tested word, or (2) the sentence is acceptable but the meaning of the tested word is not fully revealed in the sentence, 1 mark will be given.
	E.g. The speech of the guest is quite ambiguous.
	If (1) the tested word is used wrongly in the sentence, or (2) the sentence doesn't show any meaning at all, 0 mark will be given.
	E.g. She is ambiguous.
	There are 20 tested words. So the full mark for this part is 20X2 = 40

Part B (Grammatical Knowledge)	
	If the correct part of speech is identified, 1 mark will be given. So your mark in Part B is the number of correct answers you've got out of the 20 tested words.
Part C (Morphological Knowledge)	
	If you turn the tested word into another grammatical class successfully, 1 mark will be given. So your mark in Part C is the number of correct answers you've got out of the 20 tested words.
Part D (Collocation)	
	If you can select the right word that usually appears with the tested word, 1 mark will be given. So your mark in Part D is the number of correct answers you've got out of the 20 tested words.
Part E (Meaning)	
	If the meaning of the tested word is explained, 1 mark will be given. So your mark in Part E is the number of words that you know the meaning out of the 20 tested words.
Part F (Additional Meaning)	
	If you can supply an additional meaning of the tested word, 1 mark will be given. So your mark in Part F is the number of words that you know more than one meaning out of the 20 tested words.

In fact, knowing a word does not only mean knowing its meaning. Knowing a word involves knowing some other information about the word as well, as shown in Part A - F above. The higher the mark you get, the better you know about that aspect of vocabulary knowledge of academic words.

Suggested Answer for the Test

Vocabulary Learning Strategies

Suggested Answer

ambiguous	**assess**	**coherent**	**conceive**
cooperate	**depress**	**distinct**	**emerge**
emphasis	**expose**	**internal**	**logic**
period	**phenomenon**	**proportion**	**rational**
region	**revolution**	**terminate**	**visible**

AMBIGUOUS

- Part of speech: **adjective**
- Turn "ambiguous" into a noun: **ambiguity**
- Which of the following usually occurs after "ambiguous"?
  flight / frustration / **situation** / success

- Meaning:
  Oxford Dictionary - **1)** That can be interpreted in more than one way; **2)** Not clearly stated or defined

  Cobuild Dictionary - **1)** If you describe something as ambiguous, you mean that it is unclear or confusing because it can be understood in more than one way. 含糊不清的, 不明確的, 引起歧義的, 可作多種解釋的; **2)** If you describe something as ambiguous, you mean that it contains several different ideas or attitudes that do not fit well together. 曖昧的,難以確定的,不明確的

  Longman Dictionary - 可有兩種以上解釋的; 意義不明確的; 模棱兩可的

ASSESS

- Part of speech: **verb**
- Turn "assess" into a noun: **assessment**
- Which of the following usually occurs with "assess"?
  accidentally / **accurately** / accusingly / acutely

- Meaning:
  Oxford Dictionary - **1)** To estimate the nature, quality or value of somebody/ something; **2)** To decide or fix the amount or extent of something; **3)** To decide or fix the value of something

  Cobuild Dictionary - **1)** When you assess a person, thing, or situation, you consider them in order to make a judgement about them. 估定, 評定, 評估, 鑒定; **2)** When you assess the amount of money that something is worth or should be paid, you calculate or estimate it. 估價, 評估, 審核

  Longman Dictionary - **1)** 估定(財產); 確定; **2)** 評價; 評估

COHERENT

- Part of speech: **adjective**
- Turn "coherent" into an adverb: **coherently**
- Which of the following usually occurs after "coherent"?
  museum / opportunity / **policy** / song

- Meaning:
  Oxford Dictionary - **1)** (of ideas, thoughts, speech, reasoning, etc.) logical or consistent; easy to understand; clear; **2)** (of a person) able to talk clearly

  Cobuild Dictionary - **1)** If something is coherent, it is well planned, so that it is clear and sensible and all its parts go well with each other. 連貫的, 前後一致的; **2)** If someone is coherent, they express their thoughts in a clear and calm way, so that other people can understand what they are saying. 有條理的, 思路清晰的

  Longman Dictionary - (尤指講演,思想,意見等)連接自然而合理的; 易懂的; 前後連貫的

CONCEIVE

- Part of speech: **verb**
- Turn "conceive" into an adjective: **conceivable**
- Which of the following usually occurs after "conceive"?
  for / from / **of** / on

- Meaning:
  Oxford Dictionary - **1)** to form an idea, a plan, etc in the mind; to imagine something; **2)** to become pregnant with a child

  Cobuild Dictionary - **1)** If you cannot conceive of something, you cannot imagine it or believe it. 想出; 想像; **2)** If you conceive something as a particular thing, you consider it to be that thing. 設想…爲; **3)** If you conceive a plan or idea, you think of it and work out how it can be done. 構想; **4)** When a woman conceives, she becomes pregnant. 懷孕

  Longman Dictionary - **1)** 構想出; 想像; 想到; 考慮; **2)** 受孕; 懷胎

COOPERATE

- Part of speech: **verb**
- Turn "cooperate" into an adjective: **cooperative**
- Which of the following usually occurs after "cooperate"?
  about / against / for / **with**

- Meaning:
  Oxford Dictionary - **1)** to work or act together with another or others for a common purpose; **2)** to be helpful by doing what one is asked to do

  Cobuild Dictionary - **1)** If you cooperate with someone, you work with them or help them for a particular purpose. 合作; **2)** If you cooperate, you do what someone has asked or told you to do. 合作, 配合

  Longman Dictionary - 合作; 協作

DEPRESS

- Part of speech: **verb**
- Turn "depress" into a noun: **depression**
- Which of the following usually occurs before "depress"?
  happiness / time / **weather** / worth

- Meaning:
  Oxford Dictionary - **1)** to make somebody sad and without enthusiasm or hope; **2)** to make something, especially trade, less active; **3)** to press, push or pull something down

  Cobuild Dictionary - **1)** If someone or something depresses you, they make you feel sad and disappointed. 使沮喪, 使消沉; 使抑鬱; **2)** If something depresses prices, wages, or figures, it causes them to become less. 減少; 減低

  Longman Dictionary - **1)** 使沮喪, 使消沉, 使情緒低落; **2)** 使蕭條, 使不景氣, 使衰退; **3)** 按下, 壓下, 降低

DISTINCT

- Part of speech: **adjective**
- Turn "distinct" into a noun: **distinction**
- Which of the following usually occurs after "distinct"?
  about / against / **from** / to

- Meaning:
  Oxford Dictionary - **1)** easily heard, seen, felt or understood; definite; **2)** different in kind; separate

  Cobuild Dictionary - **1)** If something is distinct from something else of the same type, it is different or separate from it. 截然不同的; 有區別的; **2)** If something is distinct, you can hear, see, or taste it clearly. 清晰的; 清楚的; 明顯的; **3)** If an idea, thought, or intention is distinct, it is clear and definite. (思想或意圖等)清楚的, 明確的; **4)** You can use distinct to emphasize something is great enough in amount or degree to be noticeable or important. 明顯的, 顯著的

  Longman Dictionary - **1)** 獨特的, 截然不同的; **2)** 清楚的, 明顯的

EMERGE

- Part of speech: **verb**
- Turn "emerge" into an adjective: **emergent**
- Which of the following usually occurs after "emerge"?
  at / **from** / on / with

- Meaning:
  Oxford Dictionary - **1)** to come out of a place or up from water; **2)** to develop and become noticeable, important or prominent; (of facts, ideas, etc) to become known; **3)** to survive a difficult situation with the specified result

  Cobuild Dictionary - **1)** To emerge means to come out from an enclosed or dark space such as a room or a vehicle, or from a position where you could not be seen. 浮現; 出現; 顯現; **2)** If you emerge from a difficult or bad experience, you come to the end of it. 從(困境或惡劣的處境)中擺脫出來; **3)** If a fact or result emerges from a period of thought, discussion, or investigation, it becomes known as a result of it. (事實或結果通過思考, 討論或調查等)顯露; 暴露; **4)** If someone or something emerges as a particular thing, they become recognized as that thing. 顯現; 成爲; **5)** When sth such as an organization or an industry emerges, it comes into existence. (機構, 行業等) 出現; 產生; 興起

  Longman Dictionary - **1)** 出現; 浮現; **2)** (真相)暴露; (事實)顯露

EMPHASIS

- Part of speech: **noun**
- Turn "emphasis" into a verb: **emphasize / emphasise**
- Which of the following usually occurs before "emphasis"?
  land / **lay** / lie / lift

- Meaning:
  Oxford Dictionary - **1)** the force or stress given to a word or words when spoken, esp in order to make the meaning clear or to show importance; **2)** special meaning, value or importance, or the placing of this on something

  Cobuild Dictionary - **1)** Emphasis is a special or extra importance that is given to an activity or to a part or aspect of something. 特別的重要性; 格外的重要性; 重視; **2)** Emphasis is extra force that you put on a syllable, word, or phrase when you are speaking in order to make it seem more important. 加強語氣; 強調

  Longman Dictionary - 加強語氣; 強調; 重點

EXPOSE

- Part of speech: **verb**
- Turn "expose" into a noun: **exposure**
- Which of the following usually occurs with "expose"?
  frankly / generally / honestly / **publicly**

- Meaning:
  Oxford Dictionary - **1)** to make something visible; to display something; **2)** to leave somebody/ something/ oneself no longer covered or protected; **3)** to make known something that was secret; to reveal something; **4)** to allow light to reach film, especially by using camera; **5)** to show one's sexual organs in public

  Cobuild Dictionary - **1)** To expose something that is usually hidden means to uncover it so that it can be seen. 暴露; 顯露; **2)** To expose a person or situation means to reveal that they are bad or immoral in some way. 揭露; 揭發; 揭穿; **3)** If someone is exposed to something dangerous or unpleasant, they are put in a situation in which it might affect them. 置身於(危險或不愉快的事物)之中; 面臨…的處境; **4)** If someone is exposed to an idea or feeling, usually a new one, they are given experience of it, or introduced to it. (使)接觸(通常是新的思想); (使)體驗(通常是新的感覺); **5)** A man who exposes himself shows people his genitals in a public place, usually because he is mentally or emotionally disturbed. (當眾)裸露(性器官)

  Longman Dictionary - **1)** 使暴露; 使面臨; **2)** 揭露; 揭發(罪犯/行)

INTERNAL

- Part of speech: **adjective**
- Turn "internal" into a verb: **internalize / internalise**
- Which of the following usually occurs after "internal"?
  origin / **security** / shadow / technology

- Meaning:
  Oxford Dictionary - **1)** of or on the inside; **2)** of the inside of the body; **3)** occurring in the mind, but not expressed to other people; **4)** existing or happening entirely within an organization and not involving people from outside; **5)** of or relating to political, economic, etc activity happening entirely within a country rather than with other countries; domestic; **6)** coming from within the thing itself

  Cobuild Dictionary - **1)** Internal is used to describe things that exist or happen inside a country or organization. 國內的; 內政的; 內部的; **2)** Internal is used to describe things that exist or happen inside a particular person, object, or place. 體內的; 內部的

  Longman Dictionary - **1)** 內部的, 內在的, (尤指)體內的; **2)** 國內的; 非外來的

LOGIC

- Part of speech: **noun**
- Turn "logic" into an adverb: **logically**
- Which of the following usually occurs before "logic"?
  apply / master / say / think

- Meaning:
  Oxford Dictionary - **1)** the science of thinking about or explaining the reasons for something; **2)** particular method or system of reasoning; a way of thinking or explaining something, whether right or wrong; the ability to reason correctly; **3)** a system or set of principles used in preparing a computer to perform a particular task

  Cobuild Dictionary - **1)** Logic is a method of reasoning that involves a series of statements, each of which must be true if the statement before it is true. 邏輯, 邏輯學; **2)** The logic of a conclusion or an argument is its quality of being correct and reasonable. 邏輯性, 理由; **3)** A particular kind of logic is the way of thinking and reasoning about things that is characteristic of a particular type of person or particular field of activity. (某種)推理方法, 邏輯

  Longman Dictionary - **1)** 邏輯(學); **2)** 推理(法); **3)** 邏輯思維; 合理的想法

PERIOD

- Part of speech: **noun**
- Turn "period" into an adverb: **periodically**
- Which of the following usually occurs before "period"?
  high / **peak** / tall / top
- Meaning:
  Oxford Dictionary - **1)** a length or portion of time; **2)** a portion of time in the life of a person, nation or civilization; a portion of time in the development of the Earth's surface; **3)** a lesson in school, etc; **4)** a flow of blood that occurs for a few days each moth from the body of a woman when she is not pregnant; **5)** full stop

  Cobuild Dictionary - **1)** A period is a length of time. 一段時間, 時期; **2)** A period in the life of a person, organization, or society is a length of time which is remembered for a particular situation or activity. 時期, 階段, 時代; **3)** A particular length of time in history is sometimes called a period. 時代, 時期; **4)** Exercise, training, or study periods are lengths of time that are set aside for exercise, training, or study. (騰出來做運動, 訓練, 學習等的)時間; **5)** At a school or college, a period is one of the parts that the day is divided into during which lessons or other activities take place. 課時, 一節(課); **6)** When a woman has a period, she bleeds from womb. 月經; **7)** Some people say period after stating a fact or opinion when they want to emphasize that they are definite about something and do not want to discuss it further. 就是如此, 到此爲止; **8)** A period is the punctuation mark (.) which you use at the end of a sentence when it is not a question or exclamation. 句點; 句號

  Longman Dictionary - **1)** 時期; 時代; 時間; 一段時間; **2)** 特定的) 時期; 時代; 年代; **3)** 課; 課時; **4)** 月經期

PHENOMENON

- Part of speech: **noun**
- Turn "phenomenon" into an adjective: **phenomenal**
- Which of the following usually occurs before "phenomenon"?
  check / insert / **investigate** / peruse
- Meaning:
  Oxford Dictionary - **1)** a fact or an event, especially in nature or society; **2)** a remarkable person, thing or event

  Cobuild Dictionary - A phenomenon is something that is observed to happen or exist. 現象

  Longman Dictionary - **1)** 現象; **2)** 非凡的人材; 稀有之物, 奇蹟

PROPORTION

- Part of speech: **noun**
- Turn "proportion" into a noun: **proportional / proportionate**
- Which of the following usually occurs before "proportion"?
  enhance / **increase** / promote / rise

- Meaning:
  Oxford Dictionary - **1)** a part or share of a whole; a fraction; **2)** the relationship of one thing to another in quantity, size, etc; ratio; **3)** a correct or ideal relationship in size, degree, etc between one thing and another, or between the parts of a whole; **4)** measurements or dimensions; size; **5)** the equal relationship between two pairs of numbers

  Cobuild Dictionary - **1)** A proportion of a group or an amount is a part of it. 部分; **2)** The proportion of one kind of person or thing in a group is the number of people or things of that kind compared to the total number of people or things in the group. (部分與整體的)比例, 比重; **3)** The proportion of one amount to another is the relationship between the two amounts in terms of how much there is of each thing. (兩物體之間的)比例; **4)** If you refer to the proportions of something, you are referring to its size, usually when this is extremely large. (尤指非常大的)體積, 大小; **5)** If you refer to the proportions of in a work of art or design, you are referring to the relative sizes of its different parts. (藝術作品或設計中的)協調, 相稱, 各部分的比例; **6)** If one thing increases or decreases in proportion to another thing, it increases or decreases to the same degree as that thing. 與…成比例, 與…相稱; **7)** If something is small or large in proportion to something else, it is small or large when compared with that thing. 與…相比; **8)** If you say that something is out of proportion to something else, you think that it is far greater or more serious than it should be. 比…大(嚴重)得多, 過分; **9)** If someone has a sense of proportion, they know what is really important and what is not. 區別輕重緩急的能力, 有分寸

  Longman Dictionary - **1)** 相稱; 均衡; 調和; **2)** 比例, 比率; **3)** 部分; 份兒

RATIONAL

- Part of speech: **adjective**
- Turn "rational" into a verb: **rationalize / rationalise**
- Which of the following usually occurs after "rational"?
  behaviour / decline / resources / unity

- Meaning:
  Oxford Dictionary - **1)** (of a person) able to think and make decisions based on reason; **2)** (of ideas or actions) based on reason; sensible; reasonable; **3)** able to think clearly and normally

  Cobuild Dictionary - **1)** Rational decisions and thoughts are based on reason rather than on emotion. (决定或想法)理性的, 理智的, 合理的; **2)** A rational person is someone who is sensible and is able to make decisions based on intelligent thinking rather than on emotion. (人)理智的, 頭腦清醒的, 神智正常的

  Longman Dictionary - **1)** (人)有理性的; 有推理能力的; **2)** (思想和行爲)理智的, 理性的; 合理

REGION

- Part of speech: **noun**
- Turn "region" into an adjective: **regional**
- Which of the following usually occurs before "region"?
  refined / reliable / **remote** / retired

- Meaning:
  Oxford Dictionary - **1)** an area, usually without fixed limits; **2)** an administrative division of a country; **3)** all of a country except the capital

  Cobuild Dictionary - **1)** A region is a large area of land that is different from other areas of land, for example because it is one of the different parts of a country with its own customs and characteristics, or because it has a particular geographical feature. 地區, 區域, 地帶; **2)** The regions are the parts of a country that are not the capital city and its surrounding area. (首都以外的)各地區, 外地; **3)** You can refer to a part of your body as a region. (身體)部位; **4)** You say in the region of to indicate that an amount that you are stating is approximate. 大約, 左右

  Longman Dictionary - 地方, 地區; 區域

REVOLUTION

- Part of speech: **noun**
- Turn "revolution" into an adjective: **revolutionary**
- Which of the following usually occurs before "revolution"?
  bloody / pitiless / raging / violet

- Meaning:
  Oxford Dictionary - **1)** an attempt to change the system of government, especially by force; **2)** a complete or dramatic change of method, conditions, etc; **3)** a movement in a circle round a point, especially of one planet round another

  Cobuild Dictionary - **1)** A revolution is a successful attempt by a large group of people to change the political system of their country by force. 政變, 革命; **2)** A revolution in a particular area of human activity is an important change in that area. 革命性劇變, 徹底變革, 重大改變

  Longman Dictionary - **1)** 革命(時期); 劇烈的社會革命; **2)** (思考或行爲方式的)徹底改變; **3)** 旋轉, 繞轉; **4)** (機器輪子的)轉動, 周轉

TERMINATE

- Part of speech: **verb**
- Turn "terminate" into a noun: **termination / terminal**
- Which of the following usually occurs with "terminate"?
  abruptly / briskly / heavily / incidentally

- Meaning:
  Oxford Dictionary - **1)** to come to or bring sth to an end; **2)** (of a train or bus) to end a journey somewhere and go no further

  Cobuild Dictionary - **1)** When you terminate something or when it terminates, it ends completely. (使)終結, (使)終止; **2)** To terminate a pregnancy means to end it. 終止(妊娠); **3)** When a bus or train terminates somewhere, it ends its journey there. (火車或公共汽車)到達終點

  Longman Dictionary - (使)結束; (使)終止

VISIBLE

- Part of speech: **adjective**
- Turn "visible" into an adverb: **visibly**
- Which of the following usually occurs before "visible"?
  barely / dearly / queerly / wearily
- Meaning:
  Oxford Dictionary - **1)** that can be seen; in sight; **2)** noticeable; clear; obvious

  Cobuild Dictionary - **1)** If something is visible, it can be seen. 看得見的, 可見的; **2)** You use visible to describe something or someone that people notice or recognize. 明顯的; 易察覺的; 引人注目的

  Longman Dictionary - 看得見的; 可見的

Vocabulary Learning Strategies

Words are the fundamental elements of our languages. No matter whether we are reading, writing, speaking or listening, vocabulary plays a crucial role in our daily communication. The words that you use can deeply affect others' judgment on your language proficiency. One piece of evidence is that the marking scheme of IELTS attaches importance to the candidates' range and proper use of vocabulary. Therefore, good vocabulary knowledge is the key to success in your academic studies and in your future career.

There are in fact quite a large number of strategies that can help you improve your English vocabulary knowledge. So you can try these different strategies and then find out which combination works best for you.

- **If you meet a word that you don't know, try to guess its meaning by:**
  - making use of the logical development (e.g. cause and effect) in the context
  - making use of your common sense and knowledge of the world
  - making use of your knowledge of the topic
  - making use of the sentence structure
  - looking for any definitions or paraphrases in the passage
  - looking for any examples provided
  - analyzing the word structure (e.g. words ending with "-ion" like "correction" and "relation" are usually nouns)

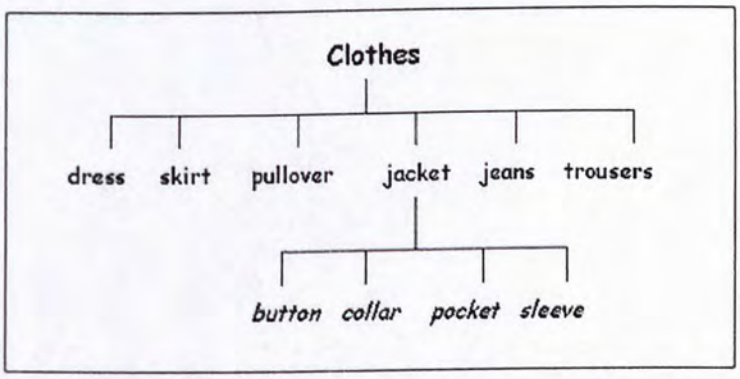
- **Try to confirm your guess of meaning by looking up the new word in dictionary**
  - Research shows that GOOD language learners always confirm their guesses by checking the dictionary
  - Although some teachers don't favour the use of bilingual dictionaries, there is in fact nothing wrong with using English-Chinese dictionaries: they can also contribute to your vocabulary learning!!

- **When checking the dictionary, pay attention to:**
  - different meanings of the word
  - examples (which tell you how the word should be used)
  - phrases or set expressions that go with the word
  - other related forms of the word (e.g. "pollute", "pollution", "pollutant")

- words with subtle differences in meaning (e.g. "in contrast" and "on the contrary")

➢ **In order to memorize the new words, you can**

- draw diagrams showing relationship between words, e.g.



- group words with similar spellings or sounds (e.g. "sweet", "sweat")
- make a vocabulary list or some vocabulary cards and read frequently
- repeat the pronunciation of the word (in your mind/ aloud)
- break the spelling into several parts (e.g. "surveillance" – sur/veil/lance)
- act out the new word
- create a mental image of the new word
- associate one or more letters in a word with the word meaning (e.g. "look" has two "eyes" in the middle)
- connect the word to your personal experience
- use the words in sentences

➢ **If you really want to improve your vocabulary knowledge, one of the best ways is to seek help from your professional English teachers. There is an ELT course called ELT1109 Vocabulary Expansion Strategies which is particularly designed for you. Through this course, you can not only expand your English vocabulary, but also develop strategies that enable you to learn, remember and use English words appropriately.**

Sources:

Schmitt, N. (1997) Vocabulary Learning Strategies. In N. Schmitt, & M. McCarthy (Eds.), Vocabulary: Description, Acquisition and Pedagogy (pp. 199-227). Cambridge: Cambridge University Press.

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