REALIZING PERSONALIZED VOCABULARY LEARNING IN HONG KONG CONTEXT —

DIFFERENTIATING THROUGH FULFILLMENT OF INTRINSIC NEEDS

CHOI MUI LAN

EdD

THE HONG KONG INSTITUTE OF EDUCATION

2013

Realizing Personalized Vocabulary Learning in the Hong Kong Context — Differentiating through Fulfilment of Intrinsic Needs

by

CHOI, Mui Lan

A Thesis Submitted to

The Hong Kong Institute of Education

in Partial Fulfilment of the Requirement for

the Degree of Doctor of Education

June 2013

STATEMENT OF ORIGINALITY

I, CHOI Mui Lan, hereby declare that I am the sole author of the thesis and the material presented in this thesis is my original work except as indicated in the acknowledgements. I further declare that I have followed the Institute's policies and regulations on Academic Honesty, Copy Right and Plagiarism in writing the thesis and that no material in this thesis has been published or submitted for a degree in this or other universities.

_____

CHOI, Mui Lan

June, 2013

Thesis Examination Panel Approval

Members of the Thesis Examination Panel approve the thesis of CHOI, Mui Lan defended on 09/09/2013.

Supervisors

Dr. Ma Qing
Assistant Professor
Department of Linguistics and Modern Language Studies,
Hong Kong Institute of Education

Professor David C.S. Li
Professor
Department of Linguistics and Modern Language Studies,
Head of Centre for Language in Education,
Hong Kong Institute of Education

Examiners

Dr. Peter Yongqi Gu
Senior Lecturer
School of Linguistics and Applied Language Studies,
Victoria University of Wellington

Professor Philip Benson
Professor
Department of Linguistics and Modern Language Studies,
Director of Centre for Popular Culture and Education,
Hong Kong Institute of Education

Approved on behalf of the Thesis Examination Panel:

_____

Chair, Thesis Examination Panel
Lo Sing Kai
Chair Professor of Social Research,
Associate Vice-President (Graduate Studies),
Dean of Graduate School,
Co-Director of Assessment Research Centre, HKIEd.

ABSTRACT

Realizing Personalized Vocabulary Learning in the Hong Kong Context — Differentiating through Fulfilment of Intrinsic Needs

by CHOI, Mui Lan

The Hong Kong Institute of Education

Abstract

Most of the teenage students in Hong Kong experience difficulties in learning English vocabulary. This is notably due to the linguistic distance between Chinese and English, inadequate exposure to English in the social context as well as the standardized curriculum and the controlling instruction which expects every student to learn with the same input and at the same pace while pursuing the same goal. While personalized learning becomes the pedagogical ideology of quality education in the 21st century with a view to celebrating diversity, respecting individual differences and maximizing learning potential, this teacher research has constructed, implemented and evaluated a new personalized instruction approach *Personalized Vocabulary Learning (PVL)*, based on William Glasser's Control Theory, to see whether and how PVL attends to learner differences and motivates students in vocabulary building. This research, which was spread over eight months, uses a case study method to examine how 57 limited proficiency secondary students engage in the

three-component PVL, which frees and empowers students in *learning input*, *learning process* and *learning output*. The central literature on which the study draws is William Glasser's (1986) Control Theory, which contends that fulfilment of students' intrinsic needs such as freedom and power motivates responsible behaviour in learning. Supported by an array of quantitative and qualitative data, the study shows that the low banding students selected words for vocabulary growth, developed multiple personalized strategies for strategic learning, and built learning confidence in the challenging task. Also, the students achieved a high retention rate of their self-selected words in personalized assessment. The positive effects of PVL shown in this study validate the potential of the new approach in realizing personalized vocabulary learning in the EFL classroom and developing a higher degree of personalized vocabulary instruction in the research field. The study also reveals a robust picture of what the low banding students needed in vocabulary building.

Key words: *Personalized vocabulary learning, Control Theory, learning differences, intrinsic needs, freedom and power, case study*

ACKNOWLEDGEMENTS

The writing of this thesis has been one of the most significant challenges I have ever confronted. I would like to extend my sincere and earnest gratitude to my supervisors, Dr. Ma Qing and Prof. David C.S. Li, for their stimulating discussions and illuminating feedback, and also their enlightenment, encouragement and great understanding. Their guidance inspired me in setting the research direction, accessing useful and informative resources, selecting appropriate research methodology and furnishing and refurnishing the finalized version.

My thanks also go to my 57 student participants whose trust and engagement encouraged me to persist in the research. In particular, I would like to express my gratitude to my husband Mountain Kwok, my daughter Yi-lam and my son Yi-man for supporting me spiritually and pragmatically throughout my long journey of thesis writing.

This thesis is dedicated to my mother and father, who suffered much in their hard lives and could not share my joy brought by the completion of the thesis.

TABLE OF CONTENTS

List of Abbreviations

CMI	Chinese as medium of instruction
EFL	English as a foreign language
EMI	English as medium of instruction
ESL	English as the second language
FL	Foreign language
LFP	Lexical Frequency Profile
MOI	Medium of instruction
PVL	Personalized Vocabulary Learning approach
SL	Second language
VSS	Vocabulary Self-collection Strategy

List of Tables

List of Figures

CHAPTER 1

INTRODUCTION

English has been an international lingua franca with increasing demand for global communication between English and non-English speakers and among non-native English speakers of different L1 background (Jenkins, 2007; Kirkpatrick, 2007; McArthur, 2001). However, in Hong Kong, an international financial centre, most secondary school students' English language proficiency has been rather limited and their vocabulary knowledge, the basic block of language learning, insufficient. Research reveals that many first-year Hong Kong undergraduates have a word power of less than 3,000 word families (Chui, 2005; Fan, 2000) while the Hong Kong curriculum requires secondary students to attain 5,000 families before graduation (HKCDU, 2007). There is also a consensus that attaining 3,000 to 5,000 families is crucial for reading comprehension of different genres from stories to academic articles (Laufer, 2010; Nation and Waring, 1997).

The inter-linguistic distance between Chinese and English and the intra-linguistic complexity of English vocabulary are surely to blame. The socio-contextual factor and the controlling instruction are also the causes of the problem. Hong Kong is essentially a foreign language context (Li, 1999, 2009a), or at most a "semi-language-rich" environment in terms of learning and using English (Ma, 2013). With limited opportunities to practise English, it is difficult for the students to develop their vocabulary "to levels that would permit them to communicate, read or write adequately despite years of formal study" (Atay & Kurt, 2006: 256). Furthermore, the teacher-centred, textbook-centred and exam-oriented intervention hardly caters for students' learning differences.

The developed world is marching towards an era of quality education which is to realize social justice, meaning that every student should have the same opportunity to *learn* in school rather than simply have the same chance to access school. After the mass education system has been implemented for several decades, the education reform in Hong Kong, like elsewhere in the world, emphasizes catering for students' different abilities and aptitudes to develop their fullest potential (Education Commission, 2005). Personalization in vocabulary instruction might be an effective means to attend to Hong Kong

students' learning differences and unleash their potential in building adequate vocabulary knowledge for language use. The current study constructs a new personalized instruction approach -- *Personalized Vocabulary Learning* (*PVL*) -- based on William Glasser's (1986) Control Theory, attempting to attend to individual differences and motivate vocabulary building through fulfilling students' common intrinsic needs. While some previous personalized instructions suggest offering *student choice* in what words to learn or what approaches to adopt to retain words, PVL recommends teachers to *free* and *empower* students in all three domains of learning and teaching -- learning input, learning process and learning output. The effect of the PVL is evaluated through examining the engagement of 57 low banding students in the three components of PVL -- "student-selected vocabulary", "vocabulary learning strategy training" and "oral tasks of word use". The students' responsible behaviour in vocabulary building is expected when their intrinsic needs of freedom and power are fulfilled in PVL.

1.1 Background

Hong Kong has been a special administrative region (SAR) of China since 1997 and Cantonese (a dialect of Chinese) and English are the official languages both in the colonial period and after the Handover in July, 1997. Due to the prestige of the English language, Hong Kong educational stakeholders, who include educators, parents and students, usually take a pragmatically positive attitude towards English learning, and good English proficiency is regarded as a prerequisite for success in academic and career fields. However, research shows that even the top secondary graduates who succeed in getting the publicly funded places in university have inadequate vocabulary knowledge for reading comprehension (Chui, 2005; Fan, 2000). Apart from the linguistic distance between Chinese and English, the contextual factor and the highly competitive education system pose great difficulties for students' vocabulary building.

Regarding the contextual factor, Hong Kong has always been a Cantonese-speaking Chinese community with Cantonese speakers accounting for about 90% of the population according to the Government census data in 1991 and 2011. Basically, Hong Kong is an EFL context and teenage students

have little exposure to English in their social lives (Li, 1999, 2009a). Regarding the education system, Hong Kong started nine-year compulsory education in 1978 and this has been twelve years since 2009 -- six years at elementary level (Primary 1-6), three years at junior secondary (Secondary 1-3) and three years at senior secondary level (Secondary 4-6). Only around 18% of the secondary school-leavers can gain publicly funded places in one of the eight local universities through the university entrance exam, *the Hong Kong Diploma of Secondary Examination (HKDSE)*. Under such a highly competitive education system, the Hong Kong curriculum has long been examination-centred and the classroom instruction has been based on the exam syllabus.

Students' scores for English are used to separate the secondary schools into three bandings with Band one being the highest in terms of academic performance. The Band one schools account for around 22% among the 500 plus secondary schools (Poon, 2009). They recruit most of the top students and are qualified to use English as medium of instruction (EMI) in *all* content subjects except *Chinese language* and *Chinese history*. On the other hand, the Band two and Band three schools, basically, have to use Chinese as the medium of instruction (CMI) in content subject teaching except *English language*. The

Band one students usually have far more opportunities to go to university while the Band three teenagers are regarded as the losers in the system. Former Secretary of Education, Michael Suen, (2008) revealed that there were over 130 Band three schools, around 25% of the total number, in a Legislative Council press release published on November 26, 2008.

English language is a compulsory subject from Primary 1 to Secondary 6 with around seven to eight 40-minute periods a week. Three English elective courses such as *social issues* and *workplace communication* are added to the senior secondary education (S.4 - S.6). As for the medium of instruction (MOI), EMI is always supposed to be used in the secondary level but *mixed code* has been used in most of the classrooms. The curriculum reform, which is a key part of the education reform responding to the multilingual world prompted by the advanced information technology like the World Wide Web, attaches more importance to a *student-centred* approach and pragmatic language use through authentic tasks and projects (CDC, 1999). In this task-based communicative curriculum, grammar teaching is supposed no longer to be the sole focus and students' English proficiency is examined in the four types of communicative language use -- reading, writing, speaking and listening. Students' success is

usually measured in terms of their ability to "get things done" (Lightbown & Spada 2006:113). Nevertheless, the reorientation to language use in the form of tasks from the grammar-oriented syllabus has not brought about any substantial changes to the instruction. Teachers, relying on commercially produced English language textbooks, keep transmitting knowledge using a teacher-centred approach and preparing all students for the uniform examinations with lots of exam paper practice, examination skills instruction and tips (Lee, 2005).

The teacher-centred and textbook-centred approach apparently results in students' passive learning (Braine & McNaught, 2007) and English remains one of the most difficult subjects, especially for the students studying in CMI schools. Taking reading comprehension as an example, most students are frustrated by many unfamiliar words in the texts. McNeill (2006), an educator in charge of devising the vocabulary curriculum for the Hong Kong Government, admits that there is a growing concern in Hong Kong students' limited vocabulary knowledge. Studies (e.g. Chui, 2005; Fan, 2000) have demonstrated that most first-year university students in Hong Kong know fewer than 3,000 English word families. It is rather disappointing as those university freshmen who are already the top 18% among the secondary school-leavers fail

to reach the minimal reading comprehension threshold. Attaining 3,000 and 5,000 word families are necessary to reach the comprehension range, which is 95% - 98%, of reading different genres from stories to academic texts (Laufer, 2010; Nation & Waring, 1997). Secondary school leavers in Hong Kong are supposed to attain 5,000 word families (HKCDU, 2007; McNeill & Lai, 2007).

1.2 Statement of the problem

Contextual and instructional factors contribute to the difficulties of English language learning in general and English vocabulary building in particular. Students obviously lack adequate exposure to English use in the Cantonese-speaking community and the teacher-centred and textbook-centred instruction approach is more concerned with the exam syllabus than with the students. In Band three schools, including the one to which the participants of this study belong, *mixed-code* is often used as the medium of instruction and most of the lesson time is spent on doing exam-oriented exercises in the textbooks. As for vocabulary, the basic block of language learning, the conventional method inherited from the previous grammar-focused curriculum continues to be used.

In the CMI school where the participants study, the teachers usually introduce new words recommended in the textbooks, explain them in Chinese or ask students to look up the L1 meanings in the dictionary, model the pronunciation of the words a few times, and ask students to jot down the new words with the L1 meanings in their notebooks. Yet a number of students do not bother to take any vocabulary notes in the daily lesson as some teacher-designated vocabulary lists of 30 to 40 words are often provided before assessment as "tips" for "focused" cumulative revision. The EFL context and the passive learning environment make retaining an adequate vocabulary for reading comprehension an arduous task for most of the students.

1.3 Proposed solution and the research questions

A new instruction approach, *Personalized Vocabulary Learning* (*PVL*), based on Glasser's (1986) Control Theory, is constructed in an attempt to attend to the EFL teenage learners' differences and motivate them in their vocabulary building. Personalized learning is considered as quality education in the 21st century as it caters for learner differences, unleashes students' potential and

promises no losers (Bishop, 2008; Fullan et al., 2006; Keefe & Jenkins, 2008; Rudd, 2008; U.S. Department of Education, 2010; Webster, 2008). It advocates offering *student choice* for students to decide what to learn, how to learn and when to learn to cater for learning differences. Realizing personalization in vocabulary learning has good potential to facilitate vocabulary building to an adequate size for language use. As for Control Theory, it contends that motivation is generated from inside and students can effectively control their learning as long as their common intrinsic needs such as freedom and power are met. The three components of PVL, namely, "student-selected vocabulary", "vocabulary learning strategy training" and "oral tasks of word use", are devised to free and empower students in all the three domains of instruction – learning input, learning process and learning output.

The effect of PVL was examined quantitatively and qualitatively through the engagement of two groups of Band three students in the three components of the new approach for over one semester in 2010. Four research questions were raised as follows to investigate whether and how their learning differences are catered for and their internal motivation is generated in vocabulary building when PVL is implemented.

1. How do the participants select words to learn?
2. What personalized vocabulary retention strategies do the participants develop?
3. How are the participants engaged in the oral task of word use?
4. How effectively does PVL facilitate the participants' vocabulary building?

1.4 The significance of the study

Individual differences in SL/FL vocabulary learning and teaching have received considerable attention since the 1970s to inform teaching and promote learner autonomy but most of the studies examine one variable such as motivation or predispositions independently of other variables (Ellis, 2004). Personalized learning proposes offering *student choice* in high school classrooms to cater for more variables of individual differences (Tomlinson, 2003; U.S. Department of Education, 2010; Webster, 2008), and the focus of research in personalized vocabulary learning and teaching is either learning input or learning approach. PVL, the new approach constructed in the current study, is an attempt to realize a higher degree of personalization, attending to individual differences in all

three domains of learning and teaching -- input, process and output. In addition, not only *student choice* but also another motivating element, *power*, is incorporated in the new approach.

The concept *student choice* started to be integrated into some vocabulary instruction strategies in the 1980s. Haggard's (1986) *Vocabulary Self-collection Strategy* advocates opening up the curriculum for students to decide what to learn. Also, experts like Oxford (2003) and Schmitt (1997) suggest conducting *strategy training*, allowing students to decide how to learn with their personal strategies developed according to individual differences. A vocabulary pedagogical framework of higher degree of personalization is greatly needed to address the problem of vocabulary building in the Hong Kong context, which is more likely to be an EFL learning environment whereas students' monolingual life provides limited opportunities to practise English. PVL is not only to attend to different learning goals, learning content, learning approaches, learning products and learning paces, but also supported by Control Theory as theoretical grounding, motivating learning through fulfilment of learners' intrinsic needs for freedom and power. It may enable teachers to shift their focus to personalized vocabulary instruction and facilitate most secondary

school students controlling their vocabulary growth according to their learning differences. This teacher research might also provide some insights into a wider territory -- mainland China, as the difficulties the Hong Kong students experience in vocabulary learning are most likely shared by most Chinese learners in mainland China (Ma, 2009; Schnell, 1990; Wong, 1988). The significance of the study is also reflected in displaying, with an array of quantitative and qualitative data, a robust picture of what the limited proficiency participants need in vocabulary building.

1.5 Definition of terms used in the study

1.5.1 Personalized learning

There are various definitions and confusing messages related to personalized learning. In this study, personalized learning is narrowed down to personalized instruction (Webster, 2008) instead of referring to the personalized education system. Since personalized instruction caters for learner differences and unleashes students' potential, the new personalized approach constructed in the

study frees and empowers students in order to attend to individual differences and motivate learning. The term "personalized learning" sometimes goes with "individualized instruction" and "differentiated Instructions". In fact, personalized instruction, differentiated instruction and individual instruction are all alternatives to the one-size-fits-all model of teaching which applies the same intervention for all learners. The current study adopts the definition of *personalization* set by the U.S. Department of Education (2010), regarding "individualized instruction", "differentiated instructions" and "personalized instruction" as personalization from lower to higher degrees. The following table, summarized from the U.S. Department of Education's website (http://www.ed.gov/technology/draft-netp-2010/individualized-personalized-differentiated-instruction), demonstrates the basic differences between these three forms of instructions concerning the learning goals, the learning content, the learning approaches and the learning pace.

Table 1.1 Differences among individualization, differentiation, personalization

Instruction with…	Individualization	Differentiation	Personalization
Learning goals varied			✓
Learning content varied			✓
Learning approaches varied		✓	✓
Learning pace varied	✓		✓

Note: Information retrieved from the U.S. Department of Education website

According to the U.S. Department of Education (2010), “individualized instruction” refers to intervention which attends to different learning paces. While learning goals are the same for all students, individual students can progress through the learning material at different speeds according to their learning differences. As for “differentiation”, this refers to instruction which caters for individual preferences for learning approaches to achieve the same learning goals. Instruction method varies according to the preferences of individual students. While “individualization” caters for when to learn and “differentiation” attends to how to learn, “personalization” refers to intervention which is paced according to learning needs and tailored to individual preferred learning approaches, learning goals and learning content.

1.5.2 Control Theory

American psychiatrist William Glasser’s Control Theory, also known as Choice Theory, is a concept evolved during the 1980s from his Reality Therapy. While Reality Therapy was originally based on William T. Powers’ Perceptual Control Theory in the 1950s and specialized in psychiatric and counselling fields, Control

Theory broadens the application to social issues such as education, management and marriage. Control Theory is an alternative to behaviorism and other external control psychologies. Regarding classroom learning, it argues that students are internally motivated when their basic needs, i.e. *belongingness*/*love*, *power*, *freedom* and *fun*, are satisfied. Control Theory was renamed as Choice Theory in 1996 to avoid mixing up the concepts of *self-control* with *external control* or outside stimulus. The term "Control Theory" instead of "Choice Theory" is used in this study simply so as not to mix up the Theory with "student choice" in the field of personalized learning. Personalized learning supports offering learning choices to address learner differences and optimize learners' potential (Tomlinson, 2003). Control Theory holds that *effective control* or "responsible behavior in learning" results from fulfilment of students' intrinsic needs.

1.5.3 Learning differences

Personalized learning recognizes that every student is an individual, with a distinct learning style, learning pace, learning path and learning aspiration. Thus individual learners have different learning needs. Smith and Throne's (2009)

delimitation of *learning differences* or *different learning needs* is used in this study. The three primary traits of learning needs are:

(1) Students' interests -- students' curiosity or favourites

(2) Levels of readiness-- what students know at the current stage of proficiency development or the current preparedness

(3) Learning profile--what preferred way to learn, shaped by intelligence, learning style, cultural influence and gender-based preferences.

1.6 The organization of the study

The study is structured as follows. The *Introduction* gives a brief description of the background of English vocabulary learning and teaching in Hong Kong secondary schools, and outlines the conflict between the necessity of attaining English communication skills and the arduousness in building an adequate vocabulary. The constructed approach PVL is an attempt to address the problem, and its effectiveness in attending to learning differences and motivating vocabulary building are investigated with a view to addressing the four research questions in Section 1.5.3. Also, the significance of the study is stated and three

key terms used in the study are defined.

Chapter two and Chapter three are the *Literature review*. Chapter two, Part I of the literature review, depicts students' learning needs in the English language and their vocabulary learning difficulties in the Hong Kong context which is more characteristic of an EFL context than an ESL environment (Li, 1999, 2009a). The difficulties are discussed from four angles:

- The inter-linguistic distance between Chinese and English
- The intra-linguistic complexity of English vocabulary
- The social context which considerably affects learning objective, motivation, strategies used and vocabulary size and
- The standardized curriculum and the controlling instruction.

Chapter three is Part II of the literature review summarizing the development of the personalized learning concept and listing the core features of personalized instruction -- "catering for individual needs", "student choice", "the best chance of success" and "challenging and attainable tasks". The personalized vocabulary intervention in the past fifty years is also portrayed, encompassing "teaching specific vocabulary strategies", "strategy training" and Haggard's

(1986) “Vocabulary Self-collection Strategy”.

Chapter four is about the constructed approach *PVL*. The theoretical grounding, the construction and the rationale of the approach are discussed. Chapter five describes the methodology of the study encompassing the research methods, setting, participants, instruments and data collection procedure. Chapter six sets out the results of the data analysis which are also the responses to the four research questions: how the participants select words to learn, what personalized strategies they develop, how they are engaged in the oral performance and how effective PVL is as a whole in facilitating vocabulary retention. Chapter seven contains the discussion and conclusion with the implications derived from the findings of the research.

Chapter 2

Difficulties in English Vocabulary Learning

This chapter is Part I of the literature review depicting the second language (SL) /foreign language (FL) students' needs in English learning, and the difficulties of English language learning and English vocabulary building facing teenage students in Hong Kong. Although Hong Kong English learners are well aware of the importance of English for their academic development and future career, they are confronted with many difficulties on account of the inter-linguistic distance between English and Chinese, the intra-linguistic complexity of English vocabulary, the disadvantaged social context which influences the teenagers' learning objective, motivation, etc., as well as the standardized curriculum and the teacher-centred instruction which neglect learner differences.

2.1 SL/FL students' needs in English language learning

While English maintains its prestige as the most common lingua franca in the world, English competence becomes a need among the new generations. Due to the rapid development of science and technology in the last thirty years, especially computer science and the internet technology, information density grows and people need tools to communicate and interact in a much faster manner. English is firmly established as a vital communication tool between speakers of different mother languages in the IT industry, academic research, popular culture, etc. English plays an important role in bridging different cultures and languages in both everyday life and the e-world. Clyne and Sharifian (2008) estimate that over one billion people are studying English as a second language or a foreign language in most parts of the world. Graddol (2006) postulates around 1.9 billion of English learners are between the ages of 6–24, representing the key ages of education and training, with EFL learners already far outnumbering ESL learners at the turn of the 21st century. Among the EFL learners, Li (2009b) estimates that there should be no less than 300 million Chinese students in the education systems of mainland China, Hong Kong, Macao and Taiwan.

While there is a global demand to learn English for communication, attaining adequate vocabulary knowledge, the basic building block of English language (Brown, 1974), for communicative use is not easy. ESL/EFL vocabulary is closely associated with English language proficiency. Neither can one convey one's thought nor read others' ideas without an adequate vocabulary. However, vocabulary building is the greatest obstacle in language learning (Alderson, 1984; Cohen, 1991; Huckin & Bloch, 1993; Huckin & Coady, 1999; Ma, 2009; Miller, 1996; Stahl, 2005). Stahl (2005) explains that vocabulary attainment is quite complex as "vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world" (Stahl, 2005: 95).

2.2 Difficulties of English vocabulary learning in the Hong Kong context

Attaining an adequate English vocabulary for communication is difficult for the teenage students in the Cantonese-speaking community in Hong Kong. Growing concerns have been raised about Hong Kong students' English proficiency (Bolton, 2002) and their limited vocabulary knowledge (McNeill &

Lai, 2007). Evans and Green's (2007) large-scale survey regarding Hong Kong tertiary students' English language problems shows that they stem from their lack of an adequate command of English vocabulary. Studies also show that many first-year undergraduates have a vocabulary size of less than 3,000 word families (Chui, 2005; Fan, 2000). The problem of the average Hong Kong secondary students' deficiency in vocabulary knowledge is much more serious as the tertiary participants in those studies are among the 18% elite of the secondary school leavers. Hong Kong teenage students' difficulties in vocabulary building mainly come from the linguistic, contextual and instructional aspects. In fact, most learners in mainland China share Hong Kong students' difficulties in attaining an adequate vocabulary for communication (Ma, 2009; Schnell, 1990; Wong, 1988).

2.2.1 The inter-linguistic distance

Chinese and English are languages of great distance from one another. Crystal (1987) writes about linguistic distance in The Cambridge Encyclopedia of Language as follows: "The structural closeness of languages to each other has

often been thought to be an important factor in foreign language learning" (Crystal, 1987: 371). English and Chinese (including Putonghua and Cantonese, the official language in mainland China and the major dialect in Hong Kong spoken by 90% of the Hong Kong people respectively) belong to two distant language families – the Indo-European language family (including Spanish, English, French, etc.) and the Sino-Tibetan language family (encompassing Chinese, Tibeto-Burman, etc.). The linguistic distance between English and Chinese is remote in both spoken and written forms. According to Chiswick and Miller's (2004) scale of the linguistic distance between English and each of 43 other languages, Chinese and Japanese are ranked as the most remote languages from English. Their study which focuses on the immigrants in North America demonstrates that when other determinants of English language proficiency are the same, such as years of schooling, age and duration in the English-speaking countries, the greater the linguistic distance between the immigrants' L1 and English, the poorer the immigrants' English language proficiency. The study develops the range of language scores from the lowest (meaning most difficult to attain English proficiency) of 1.00 for Japanese to the highest score (the least difficult) of 3.00 for Afrikaans, Norwegian and

Swedish, with French 2.50, Putonghua 1.50, and Cantonese 1.25 in between (Chiswick & Miller, 2004). The scores suggest a ranking of linguistic distance from English among those languages, Japanese being the remotest followed by Cantonese and Putonghua, and Afrikaans, Norwegian and Swedish as the least distant.

The great inter-linguistic distance between the Chinese and English can easily be observed at the vocabulary level, together with phonology and morphology. English and Chinese employ two very different writing systems. English belongs to an alphabetic one in which phonological and morphological information of a word has relevance to its spelling (Cook & Bassetti, 2005). On the other hand, Chinese belongs to a logographic writing system which greatly contrasts with the alphabetic principle of English spelling in how it represents meaning (semantic features) and speech (phonological features).

An English word is an individual unit and also a lexical item represented by a string of letters. To know how to spell a word one has to be equipped with phonological and morphological knowledge. Phonological knowledge is about regular correspondences between phonemes (sounds) and graphemes (letters). A

grapheme can be composed of more than one letter (e.g. *'sh'*) and a single grapheme can represent at least one phoneme (e.g. the word "box" has three graphemes but four phonemes), or no phonemes at all in the case of 'silent' letters. An English morpheme is the smallest meaningful unit of an English word and contains several graphemes. Morphological knowledge mainly relates to the spelling of morphemes and the structure of the word. A morpheme can be a root word (e.g. *boy*), a prefix (e.g. "*un-*"), a derivational suffix (e.g. noun suffix "*-ation*" and adjective suffix "*-al*") or an inflectional suffix (e.g. "*–ed*" marking a verb as either a past tense or a past participle).

There are many English root words of which each contains only one morpheme. The corresponding morphological knowledge is achieved either phonologically or mechanically. The idiosyncratic spelling patterns have to be learned probably with the help of memory strategies. There are also many English words containing more than one morpheme such as a compound word, which combines two root words, and the "root+affix(es)", a combination of the root and at least one prefix or suffix. There are two kinds of suffixes – derivational and inflectional. The derivational suffix gives the root word a different meaning and/or changes its word class. For instance, the word PRINCESS combines the

noun suffix "*-ess"* with the root word "*prince"* with a change of meaning indicating gender. As for the inflectional suffix, there are only eight inflectional suffixes but they are extremely frequent and important. The eight suffixes are two noun inflections *"-s"* (plural) and "*-s"* (possessive); four verb inflections *"-s"* (3rd-person singular), "*-ed"* (past tense), "*-en"* (past participle), and "*-ing"* (present participle); and two adjective and adverb inflections *"-er"* (comparative) and "*-est"* (superlative).

Obviously, the basic components in an alphabetic writing system represent sounds but have little reference to meaning. Each of the phonemes and graphemes in an English word represents part of the pronunciation of the word and thus acquiring the phonological knowledge of English words facilitates attaining the word form or the spelling of the word (Cook & Bassetti, 2005). Also, morphological knowledge of English words helps acquire the spelling through understanding the structure of the words. On the other hand, English vocabulary has little semantic reference. English vocabulary generally obeys the rule of the arbitrary nature of the linguistic sign (De Saussure, 1974), indicating that meaning is arbitrarily assigned to a particular word form.

Chinese belongs to a logographic writing system which does not have an alphabet to represent units of sound or phonemes. Cantonese and Putonghua, a Chinese dialect and the official language in China respectively, are written with characters called “hanzi” which can be decomposed into a series of writing strokes within an invisible square framework. There are also some common radicals to help form Chinese characters. These radicals sometimes show semantic hints, sometimes phonetic hints and sometimes a merely artificial portion. In short, one hardly pronounces the “hanzi” in accordance with the strokes. Chinese is also regarded as a morpho-syllabic language (Li, 2009b, 2010) in which a word consists of at least one “hanzi” or character, a “hanzi” being a symbol representing, with few exceptions, one morpheme and one segment of sound. Therefore, in Chinese the syllabic structure is comparatively simple as the “hanzi” does not take grammatical endings and tends to be one syllable long. Chinese do not need inflections to indicate tense/aspect and number/person of the subject or object for verbs, or gender and case for nouns.

But the tones in the Chinese language make the pronunciation more complicated than English. Chinese is a tone language with a pitch pattern within a syllable and different pitches of a phoneme sound are used to

distinguish the written forms and the meanings. That is, different tones of the same sound represent completely different “hanzi”. In English, the stress features multi-syllable patterns in the lexicon, and changes in pitch or tone are used mostly only to stress the speaker’s emotion.

There are also differences between Cantonese and Putonghua, which have existed for over fifty years. A simplified version of “hanzi” developed in the mid-1950s and “pinyin”, the Chinese Romanization system with 23 phonemes and four phonemic tones, developed in 1958 to represent the sound of the “hanzi”, have been added to the writing system of Putonghua, while Cantonese still employs traditional script with little guide for pronunciation. In this regard, while phonemic awareness is important in English learning (Read et al., 1987, cited in Cook & Bassetti, 2005), the Cantonese L1 speakers always show less phonemic awareness of English vocabulary than the Putonghua L1 speakers.

2.2.2 The intra-linguistic complexity

English language learning is also made more difficult by the intra-linguistic complexity of its vocabulary (Ma, 2009). For Hong Kong students whose L1 is

very distant from English, the intra-linguistic complexity of English vocabulary poses major obstacles for vocabulary building. Furthmore, compared to the grammar-translation curriculum, the current task-based communicative syllabus is more demanding in respect of vocabulary knowledge. Instead of memorizing a rule-based system, attaining the four communication skills (reading, listening, writing and speaking) necessitates the learning of thousands of word families. Also, learning vocabulary in a foreign language involves much more than making form-meaning correspondences and simply piling up individual words (Nation, 2001). The breadth and depth dimensions of English vocabulary knowledge, the incremental process of vocabulary learning, the confusing lexical forms and the strict structure and non-compositionality of multiword items all contribute to the intra-linguistic difficulties of vocabulary learning for Hong Kong students.

2.2.2.1 The scope of word knowledge

Vocabulary knowledge retention entails both the breadth and depth dimensions. It requires accumulating thousands of individual words with arbitrary meanings,

and attaining the knowledge of their word families and various word characteristics such as phonemic (pronunciation), graphemic (spelling), morphemic, syntactic, semantic and collocational and phraseological (register, frequency) properties (Qian, 1999, 2002). Though attaining receptive vocabulary knowledge is believed to be less difficult than retaining productive vocabulary knowledge, reading vocabulary knowledge is more than knowing the meanings of words. Both vocabulary breadth and depth dimensions such as a word's derivatives and collocations are important for reading comprehension (ibid). According to Nation (2001), knowing a word involves knowing its meaning (including linking the form and the meaning, concept and referents, and associations), its form (including spoken form, written form and word parts) and its usage (such as grammatical functions, collocation and constraints on use). In other words, meeting the curriculum requirement of 5,000 word families means having a *comprehensive* knowledge of their meaning, form and use.

2.2.2.2 The incremental process of vocabulary learning

Vocabulary expansion is a life-long task and learning a word is an incremental process. From the perspective of cognitive psychology, Atkinson and Schiffrin's (1968) model of memory functioning argues that there are at least two major stages – short term and long term retention. Also, Nation (2001) affirms that various types of word knowledge such as word family members and collocations are mastered at different rates and each of the types is known to different degrees at any one point of time. Schmitt and Zimmerman (2002) observe that even advanced learners do not necessarily know all family members of the headwords they have already acquired. Schmitt (1998) claims most learners might know the core meaning or sense of a word, but they are unlikely to know all of the other possible meanings or senses. Moreover, retaining a word in long-term memory involves being exposed to a word several times. Nagy et al., (1985) report only a 5%–15% probability of a word being learned at first exposure. Furthermore, researchers (e.g. Jiang, 2000) have already indicated that a learner's lexical competence may fossilize or cease to develop even with plenty of contextualized input.

2.2.2.3 Confusing lexical forms

English vocabulary attainment is often disturbed by lexical form confusion (Laufer, 1990; Ma, 2009). Laufer (1990) cites ten categories of confusing word forms with similar phonological, graphic and/or morphological features, termed synforms. The ten categories of synforms include words with the same root but different suffixes (e.g. *considerable* and *considerate*), words differing in having or lacking a suffix (e.g. *sect* and *sector*), words differing in having or lacking a prefix (e.g. *passion* and *compassion*), words with the same root but different meanings (e.g. *integrity* and *integration*), words of identical form except for one vowel (e.g. *affect* and *effect*), words of identical form except for one consonant (e.g. *extend* and *extent*), etc. Such confusion affects learners of different L1 backgrounds and even native speakers of English (ibid).

2.2.2.4 Multiword items

The multiword items account for a big share of English vocabulary in authentic texts. English learners not only have to learn thousands of individual words, but

also need to cope with a great number of multiword items (Moon, 1997, 1998; Wray, 2002). The multiword item works as a single unit with a single meaning. Compound nouns (e.g. *ballroom*), phrasal verbs (e.g. *give up*), verb+noun collocations (e.g. *commit a crime*) and idioms (e.g. *couch potato*) are some major types of multiword items. Attaining frequently-used multiword units can facilitate fluent language use (Pawley & Syder, 1983). Also, accurate use of collocations is important for ultimate success in language learning (Stockdale, 2004). Lewis' (1993) lexical approach strongly contends that attention should be paid to the authentic use of multiword units. McNeill and Lai (2007) advise Hong Kong secondary school students to learn more collocations and idioms. However, acquiring multiword items might require more linguistic awareness and memory effort as many multiword items are structurally constrained and/or semantically non-compositional. Most English learners' collocational knowledge lags behind their single word knowledge (Bahns & Eldaw, 1993).

2.2.3 The social context

There are basically two types of English learning contexts -- English as the second language (ESL) and English as a foreign language (EFL). The former is usually used to refer to the non-English speaking students staying and studying in an English community such as Australia, while the latter refers to those students who are living and studying in their L1 community. Whether education in Hong Kong is a case of ESL or EFL is controversial.

Hong Kong is an ex-British colony, and has been a special administrative region of China since 1997, with English as one of her two official languages before and after the Handover. Some experts (e.g. McArthur, 2001) take Hong Kong as an ESL context while some (e.g. Falvey, 1998) think Hong Kong has changed from an ESL to an EFL status since the Handover in 1997. Li (1999, 2009a) argues that Hong Kong is more an EFL context than an ESL one. He points out that Hong Kong people seldom use English for intra-ethnic communication. Li and Tse (2002) also observe that Cantonese-English code-switching, which plays a part in communication, takes place more often at the intra-sentential than inter-sentential level. The current study considers Hong

Kong as an EFL context based on the fact that Cantonese L1 speakers account for 90% (Hong Kong Census, 1991, 2011) and that they have a strong intra-group cohesion maintaining the use of their L1 for daily communication (Bond & Hewson, 1988). Therefore, English has little to do with the teenagers' social life inside and outside the classroom.

English vocabulary learning is especially challenging to EFL learners as their monolingual lives offer limited opportunities to practise English (Littlewood et al., 1996), and they have far less immediate needs in English learning than the ESL students (Carless, 2002). Unlike ESL students who use English as their essential tool for survival (Ho, 1998; Oxford, 2003), many students in Hong Kong, especially the low banding teenagers studying in the CMI schools, have their learning objective fade into an abstract notion. It in turn affects their motivation, strategy use and vocabulary size.

2.2.3.1 Learning objective

Learning contexts tend to influence learning objectives. Unlike the ESL learners who are immigrants in English-speaking nations and need to survive in an

exotic community, Hong Kong teenagers live in their own L1 society and do not have the immediate needs for English learning. Therefore, while the ESL students aim to make a successful transition to the all-English curriculum and the all-English life (ACTFL, 2006), the objective of EFL students, especially those studying in CMI schools, might be narrowed down to meeting a single requirement -- getting a pass in the examination. They might be aware of the need of a good English proficiency for developing academic and career success in the future, but such awareness becomes abstract as it does not relate to the current stage of their life.

2.2.3.2 Motivation

Most of the EFL students have lower learning motivation as the English language to them is not a living language but a difficult and even boring subject. Studies agree that ESL learners generally have stronger motivation as English is their essential tool for survival (Ho, 1998; Oxford, 2003). Dörnyei (1990) believes that integrative motivation might be much higher in ESL than EFL contexts. Most Hong Kong Chinese are motivated externally in English

learning (Richards, 1998; Axler et al., 1998). The Hong Kong Government's Standing Committee on Language Education and Research (SCOLAR) conducted a survey on students' attitude to and motivation for language learning in 2003. The data showed that, from the perspective of the teacher, only 8% of students had strong or very strong motivation to learn English (SCOLAR, 2003).

2.2.3.3 Strategy use

Learning contexts play an important role in learners' strategy use (Kojic-Sabo & Lightbown, 1999). Research suggests that the number and frequency of strategy use is usually higher in a second language setting than in a foreign language setting (Rossi-Le, 1989; Yang, 1999). ESL learners are surrounded by the English language and the social environment drives them to make use of more learning strategies for effective learning and better survival. In contrast, Schmitt (2000) points out most EFL learners are used to rote-learning and would not be able to get used to a new strategy.

2.2.3.4 Vocabulary size

Vague objective, lower motivation and using fewer and less effective strategies affect Hong Kong students' vocabulary size, and it is a formidable task for them to reach even the minimum comprehension threshold of 3,000 word families (Chiu, 2005). Like other languages, a number of English words occur frequently and cover a large proportion of the running words or tokens in a written or spoken text. With around 3,000 to 5,000 word families, learners can reach the minimum and maximum comprehension thresholds of 95% and 98% of the text coverage, and read authentic texts ranging from stories to academic articles (Laufer, 1997, 2010; Nation & Waring, 1997). ESL learners mostly acquire 2,000 frequently-used word families from their daily social interaction, and then the content subject instruction further pushes them to a level of 5,000-7,000 word families for understanding the important concepts in each subject area (Singer, 1981, Beck et al., 2002). For the EFL students, to attain the 2,000 frequently-used words families from the learning material in the English class is a hard job (Harmon et al., 2005).

2.2.4 Curriculum and instruction

The English language curriculum in Hong Kong has shifted from the grammar-translation to task-based communication for the last twenty years with the education reform. The change is a response to the communication needs in the multilingual world but what the communicative curriculum emphasizes is far from what an EFL social context can support. While language proficiency in the task-based communicative curriculum refers to using language in meaningful communication instead of mastering the structure of the language, students' salient weakness in vocabulary knowledge is completely exposed in task-based learning. The examination-oriented syllabus, the inadequate vocabulary guidance, the mixed-code medium of instruction and the controlling instructional approach all seem least facilitative to students' vocabulary building.

2.2.4.1 Examination-orientation

The examination-orientation has its long history in the Hong Kong education system. During the colonial era, the examination with high-stake characteristics was employed for screening an educated middle class for the governing and administrative needs of the society (Biggs, 1998). When mass education has replaced the elitist system, examinations at different levels of learning are adopted for selecting the most able for tertiary education. The government noticed that a good number of schools taught according to the exam-syllabuses as early as the 1980s: "schools disregarding the suggested teaching syllabuses and simply following the examination syllabuses" (Hong Kong Government Secretariat, 1981: 117). Lee (2005) claims that what teachers in Hong Kong care about most is preparing the students for the uniform exam with a great deal of exam paper practice, examination skills instruction and tips.

The curriculum reform aims to lessen students' examination pressure but students are still frustrated by numerous assessments. The *334 New Senior Secondary System* (3 years of junior and senior secondary education respectively and 4 years of university education) reschedules the two highly

selective open examinations for the secondary graduates into one. Starting from 2012, the Hong Kong Diploma of Secondary Examination (HKDSE) is held for screening the Grade 12 graduates for further academic study in university, replacing the HKCEE (Hong Kong Certificate of Education Examination) and HKALE (Hong Kong Advanced Level examination) which are held for sorting Form five graduates (Grade 11) for the two-year Matriculation course and the matriculants for the university places respectively. However, replacing one assessment of high-stake characteristics with formative assessments does not alter the examination-orientation feature of the education system due to fierce competition. The education authority suggests adopting "the low-stake formative assessment such as projects, portfolios, observations, tests, etc." (CDC, 2001: 81). Consequently, students are frustrated by numerous high-stake assessments like TSA (Territory-wide system assessment in Grade 3, Grade 6 and Grade 9) and term-end examinations, as well as formative assessments like SBA (School-based assessment in Grade 11 and Grade 12), mid-term tests, quizzes, dictations, projects, portfolios, experiments, etc., thereby generating high pressure on students and greatly diminishing their learning interest.

2.2.4.2 Inadequate vocabulary guidance

Vocabulary has not been an important part in the education authority's secondary curriculum guidelines. Though explicit instruction positively impacts vocabulary acquisition (Beck & McKoewn, 1991; Blachowicz & Fisher, 2000; Graves, 1987; Stahl & Fairbanks, 1986), vocabulary guidance has little place in the secondary (Grade 7-12) language curriculum. *Vocabulary List 1996* (HKCDU, 1996) was compiled for the six-year elementary education (Grade 1-6), and was replaced by a revised version in 2007 (HKCDU, 2007). The education authority attempted to develop a systematic English vocabulary curriculum covering both elementary and secondary education after research had found that many freshmen had a vocabulary size of less than 3,000 word families (Chui, 2005; Fan, 2000). As a result, the vocabulary requirement was raised from 3,000 to 5,000 word families for the task-based communicative curriculum with primary graduates attaining 2,000 families, junior secondary students another 1,500 families and senior secondary students a further batch of 1,500 word families (McNeill & Lai, 2007). Also, some suggestions like teaching collocations and affixes are put forward for the secondary education.

Vocabulary learning strategy training or vocabulary tasks are still rarely mentioned. Explicit vocabulary intervention is not taken seriously in most low banding classrooms.

2.2.4.3 Medium of instruction (MOI)

English is supposed to be the MOI of the subject English in all secondary schools before and after the implementation of the Chinese Medium Instruction Policy Guidance in 1998 but students studying in CMI (Chinese as the medium of instruction) schools are constantly taught in mixed code in English classes. In fact, English has been taught with mixed code before and after the Guidance in most classrooms. It considerably deprives learners of the opportunity to listen and speak in English. Some English teachers explain that using mixed code is due to the students' limited proficiency. Some say instruction in mixed code can transmit knowledge faster and cover more of the over-tight syllabus. Hong Kong is not a unique case. Some teachers in South Korea also excessively depend on the mother tongue to teach communication tasks in the English lesson (Lee, 2005).

The Chinese Medium Instruction Policy Guidance (Education Department, 1997) was originally a policy to cater for low banding students' learning differences through teaching content subjects in Chinese L1. According to the Guidance, the 500 plus secondary schools are categorized into three bandings and the primary graduates' English performance is used as the screening criterion. The Band one schools, accounting for around 22% (Poon, 2009), mainly recruit the Primary six graduates with the best English performance. These schools are entitled to use English as the medium of instruction (EMI) for all content subjects except Chinese language and Chinese history. The Band two and Band three schools, on the other hand, are mandated to use Chinese as the medium of instruction (CMI) in the junior levels (Grade 7 to Grade 9) to teach content subjects except English (Education Department, 1997). The number of CMI schools has thus surged from 12% in the colonial period to 38% in 1994 (before the Handover) and to over 70% today (Poon, 2009). Voices of objection against the Guidance, blaming it for the deteriorating standard of English among the students, led to the "fine-tuning amendment" of MOI in 2009. The amendment offers flexibility in the MOI Policy and allows part of some content subjects in CMI schools to be taught in English, with effect from

2010 (EDB, 2009), aiming at exposing students in the CMI schools to a richer language environment. However, content subject teachers often teach the "fine-tuned" part of the syllabus with mixed code, or even using what Johnson and Lee (1987) called "insertion switching", referring to classroom bilingual discourse in which English is only used to express technical terms.

The scenarios of MOI in most classrooms before and after the implementation of the Guidance are almost the same (Lee, 2005). Teachers' unsatisfactory communication proficiency might be one of the factors determining mixed code teaching. The Education Commission (1995) has pointed out that most Hong Kong secondary teachers are untrained in the spoken language. And the EFL teachers, according to the published Government data, have not scored satisfactorily in the English teacher benchmark test Language Proficiency Assessment for Teachers (English Language) (LPATE) since its inception in 2001. The over-tight curriculum could be another factor encouraging teachers to transmit knowledge with mixed code.

2.2.4.4 Controlling instruction

The education reforms worldwide aim to pursue quality education catering for individual differences and unleashing each student's potential, but in most of the Hong Kong classrooms, instruction has neglected students' learning interest, levels of readiness and learning profiles. Studies report that the teacher-centered, textbook-centered and grammar-oriented approach is often used in most classrooms (Liu & Littlewood, 1997; Nisbet et al., 2005) and students were trained for the uniform examination (Lee, 2005). Berryman (1993) criticized placing control over learning in the teacher's hands as the industrial management style of education. The controlling instruction may be attributed to teachers' heavy workload including coping with the over-tight curriculum and dealing with non-teaching tasks such as administrative work and extracurricular activities. A survey conducted in 2010 involving around 3,000 primary and secondary school teachers in Hong Kong shows that most teachers work more than 61 hours per week on average, far more than the 48.4 hours of the average workforce in Hong Kong (Lai, 2011).

The traditional teacher-centred, textbook-centred and grammar-oriented approach does not seem to facilitate students' English learning and vocabulary building, and results in students' disengagement. The conventional grammar-oriented teaching rarely emphasizes context, with the result that many students are unable to use their language knowledge effectively (McNeill & Lai, 2007). The authority finds that such teaching method along with the examination-oriented culture leads to students' low motivation in learning (SCOLAR, 2003).

In sum, Chapter two highlights the fact that Hong Kong teenagers studying in CMI schools, which represent the majority of the secondary students, face great difficulties in English vocabulary building at least from linguistic, contextual and instructional aspects and thus their English language proficiency in general is seriously affected. As the linguistic and contextual obstacles have hardly changed, the mission of addressing the vocabulary learning difficulties falls in the domain of curriculum and instruction. Personalized instruction is the pedagogical ideology of quality education in the 21st century with a view to respecting individual differences and unleashing students' potential to the fullest. Realizing personalization in EFL vocabulary learning may be the most

feasible way to help Hong Kong teenagers to achieve an adequate vocabulary for language use, as in reading comprehension.

Chapter 3

Personalized Learning and Vocabulary Building

This chapter is Part II of the literature review and concerns personalized learning and personalization in vocabulary instruction which is believed to be able to assist the Hong Kong teenagers who experience learning difficulties in respect of linguistic, contextual and instructional aspects. Personalized learning is a pedagogical model in the 21st century catering for individual learning needs, facilitating the best chance of success and helping learners to grow and advance. Offering *student choice* in learning content, learning approach and/or learning pace is usually a core strategy in personalized learning to meet individual learning differences. Also, devising challenging and attainable tasks is a means of providing the best chance for students to experience learning success. Personalized vocabulary instruction strategies "teaching individual vocabulary learning strategies", "strategy training" and "Vocabulary Self-collection Strategy" are also portrayed in this chapter.

3.1 Personalized learning—a modern pedagogical model

Personalized learning is considered the pedagogical ideology for the 21st century; it celebrates diversity and caters for individual difference (U.S. Education Department, 2010). Our world has entered the fully informational era and the communication breakthrough affects everyone in the world. While the geographical distance is substantially shortened, diversity increases and pluralism is an ideological value which asks everyone to respect others' differences and uniqueness (Adams, 2008). In the new world, human resources should be more personalized and more creative, and education should offer more equal opportunities to every learner *to learn in his/her own way* and thus develop into a unique person (U.S. Education Department, 2010). Personalized education believes every student has the right to *learn* in school rather than simply to get a place in the education system. Personalized learning contends that every child can learn at different rates with different approaches when meeting the right conditions (Personalized Learning Foundation: http://personalizedlearningfoundation. org). Many students fail in the mass education system simply because the curriculum is exclusively designed for the

elite and it gives up the majority from the very beginning.

Personalized learning is rooted in Keller's Personalized System of Instruction (PSI) in the early 1960s and was formally advocated at the turn of the 21st century. It is not just a theoretical construct that challenges the basis of mass education but also consists of a range of practical instruction approaches directed by learners (Rudd, 2008). Personalization of instruction aims to help every young person to grow to be a unique human being by catering for their learning differences through offering *student choice* (U.S. Department of Education, 2010; Webster, 2008), and facilitating the best chance of success in challenging and attainable tasks (Fullanet al., 2006). A number of concepts in personalized instruction such as "student- centeredness", "life-long learning", "assessment for learning" and "skills and strategies learning" have been adapted to different degrees by education reforms worldwide. As for personalized instruction approaches, a number of explicit classroom strategies such as project learning, mastery-based teaching, interest corners, etc. are constructed and integrated into the formal curriculum.

3.1.1 The development of personalized learning

The origin of personalized learning could be traced back to Keller's Personalized System of Instruction (PSI) in the early nineteen sixties (Keefe & Jenkins, 2008). PSI is a neo-behaviourist teaching approach of instruction combining individually paced mastery-oriented teaching method with reinforcement theory (Sherman, 1982). Individualized instruction is one of its descendants (ibid). PSI pilots the movement in the classroom from the teacher to the student, from rigid group processing of instruction to self pacing and more personal interaction between the teacher and students (Keefe & Jenkins, 2008). In the mid-1970s, Carroll (1975) pushed personalized learning towards the cognitive dimension. She advocated facilitating successful learning through programmes built on students' strengths, skill development and productive goals set by both individual students and the teacher (ibid).

Personalized learning was formally advocated and implemented in 1996 in the public high schools in California, emphasizing flexibility and innovation. The National Association of Secondary School Principals (NASSP) publicized the need for high school personalization in the article *Breaking Ranks: Changing*

an American Institution, recommending ways to personalize the high school experience for each student (Clarke, 2003). It involves bringing together curriculum, learning supports and pedagogy to meet the needs of individual learners, and giving learners choices of what is learned, when it is learned and/or how it is learned, and thus they have the opportunity to learn in their own ways and at their own speed (U.S. Department of Education, 2010). The UK started to value personalized learning in 2004 when the education system underwent reforms. David Miliband, the then Minister of State for School Standards in the UK, stated that personalized learning is the way in which schools tailor education to ensure that every pupil achieves the highest standard by catering for their individual learning styles, motivations and needs (West & Muijs, 2009).

Since then, personalized learning has been used in varied contexts with different coverage. Ritchie and Crick (2007) hold personalized learning as designed to localize power and choice in the provision of schooling, with the goal to improve pupils' achievements and well-being. Tomlinson (2003) regards curriculum and instruction as the vehicle for personalized learning addressing students' individual differences. Keefe and Jenkins (2008) and Webster (2008)

define personalized learning as personalization of instruction, the effort on the part of a teacher to take into account individual student characteristics and learning needs by providing choices and flexible instructional practices.

3.1.2 Personalized instruction

Personalization of teaching is the intervention which takes into account learner differences with flexible instructional practices in organizing the learning environment (Keefe & Jenkins, 2008). *Personalized instruction* is broader in scope than *individualized instruction* and *differentiated instruction* (U.S. Department of Education, 2010). It is more systematic in organization and more authentic in its goals and strategies (Keefe & Jenkins 2008). The U.S. Department of Education (2010) suggests focusing on instructional flexibility that affords the learner a degree of choice about learning content, learning time and learning approaches to cater for his/her learning needs. The U.S. Department of Education (2010) also suggests regarding *individualization, differentiation* and *personalization* are personalized instruction from lower to higher degrees. A higher degree of personalized instruction accompanies

individual differences in more learning variables. Schlemmer and Schlemmer (2008) advocate focusing on all of the three domains of learning and teaching -- the input, the process and the output. They propose to allow students to choose from a menu of content topics, learning approaches and product options.

The gist of personalized instruction may be summarized as follows: it attends to individual different needs; employs *student choice* as an effective strategy (Webster, 2008); provides the best chance of learning success (U.S. Department of Education, 2010); facilitates students' experience of success through challenging yet attainable tasks (Fullan et al., 2006).

3.1.2.1 Individual needs

Quality instruction focuses on the uniqueness of each student and what he/she has in common with others (Tomlinson, 2003). Individual differences in learning are what personalized instruction cares about more (U.S. Department of Education, 2010). The ideology of personalization urges that different individual needs be met for facilitating learning success. Personalized instruction contends that everyone can learn, everyone learns differently, and

that students grow more distinctively different as they mature (Sizer, 1996). On the other hand, some researchers (e.g. Glasser, 1986; Tomlinson, 2003) also emphasize the commonality of student needs.

Differentiation in learning needs

Humans are shaped by many factors in any stages of their lives -- age, gender, ability, culture, race, neurological "wiring", past experience, interest, adult support, peer influence, etc., and students grow more distinctively different as they mature (Sizer, 1996). It is not surprising that in every classroom there are some students who are self-motivated and learn autonomously, some who prefer a certain degree of guidance, and others who follow step-by-step instruction. Smith and Throne (2009) conclude that there are three primary traits that shape learning differentiation. They are (1) students' interest, referring to students' curiosity or passions, (2) levels of readiness which represent what students know at the current stage of proficiency development, and (3) learning profile which includes intelligence, learning style and culture- and gender-based preferences. All these affect how a student learns.

Learning interest

Interest areas refer to those topics or pursuits that evoke curiosity and passion in a learner (Smith & Throne, 2009; Tomlinson, 2003). They are the things which students enjoy doing or learning about and which can help them find meaning in their world and a sense of purpose in their lives (Tomlinson, 2003). Interest and motivation are closely linked. Students whose interests are catered for and developed in school are more likely to be engaged in learning (Maslow, 1962), and to take up the challenges of learning (Ginsberg & Wlodkowski, 2000). Also students' attitude, persistence and achievement improve when they find the school work they do is interesting (Tomlinson et al., 2004). According to the concept of personalized learning, students are allowed to select the learning input of their interest, or connect teaching content with their experiences, talents or preferences. Interest centres, problem-based learning, inquiry-oriented strategies, learning contracts, Web Quests, independent study and the like are strategies relating to students' interests (Keefe & Jenkins, 2008). Tomlinson (2003) reminds us of the importance of offering opportunities for students to develop new interests as part of effective instruction.

Readiness levels

The level of learning readiness refers to a student's cognitive capacity in the current stage (Smith & Throne, 2009), or a student's knowledge, understanding and skill related to a particular sequence of learning (Tomlinson & Cooper, 2006). A student's general cognitive proficiency, prior learning and life experiences, attitudes regarding school and habits affect his/her level of readiness (Tomlinson, 2003). *Readiness level* is different from *ability*. While ability seems more fixed and less amenable to intervention, learning readiness can vary widely over time, topic and circumstance. When a student works at a level of difficulty which is challenging but attainable, learning occurs (Howard, 1994; cited in Tomlinson, 2003). Pre-assessment is usually used to understand learners' readiness levels. Small group instruction, three-tiered level activities, varied reading texts by reading levels and tiered assignments are strategies for catering for learners' different readiness levels (Tomlinson, 2003).

Learning profile

Learning profile or learning preference is shaped by factors such as intelligence, learning style and culture- and gender-based preferences (Smith & Throne, 2009; Sousa, 2001). As interest is more about motivation and readiness levels

based on student growth, attending to students' learning preference is necessary for enhancing the efficiency of learning (Tomlinson & Cooper, 2006). If classrooms can offer and support different modes of learning, it is likely that more students will learn more effectively and efficiently (Campbell & Campbell, 1999; cited in Tomlinson, 2003).

"Intelligence preference" is largely influenced by neurological wiring and culture. Howard Gardner (1993) proposes eight neurologically influenced ways of processing information. He stresses that our capacity to process information and to solve problems is determined by multiple intelligences which are quite independent of each other and develop in different stages (Gardner & Hatch, 1989). Some intelligences fit into schooling like linguistic intelligence and logical mathematical intelligence; and some are about art such as musical intelligence and bodily-kinesthetic intelligence. Learners' intelligence preference can be influenced by their culture. For example, the goal-oriented Chinese learners might be keen on listening and practising while the spontaneous Western students may prefer initiating discussion when learning (Chan, 1992). Tomlinson and Cooper (2006) suggest that teachers present in multiple modalities, show the relationship between parts and the whole, and

design assessments that respond to different learning modes.

"Learning style" is the 'general approach preferred by the students when learning a subject, acquiring a language or dealing with a difficult problem' (Oxford, 2003: 273). Learning style is stable, biological in nature and difficult to manipulate. But learners sometimes have to go beyond their stylistic comfort zone for more effective learning (Oxford, 2001). Reid (1987) states that basically there are three types of learners in terms of learning styles -- visual learners who are good at reading, studying charts, etc., auditory learners keen on listening to lectures and audiotapes, and kinesthetic learners preferring experiential learning or "physical involvement with a learning situation" (Reid, 1987: 89). Lightbown and Spada (2006) suggest that teachers encourage students to use more means to learn a second language.

Commonality in developmental needs

Though addressing students' common needs is not the focus of personalized learning and teaching, Tomlinson (2003) believes personalization of instruction begins with awareness of commonality in students' basic needs because it is from there that individuals develop themselves in different ways depending on

life experiences, interests, learning preferences, etc. She stresses that the teacher building lives in a differentiated classroom "means building them both collectively and individually" (Tomlinson, 2003:14). Some cognitive psychologists are largely in agreement that there is always something basic in common among a group of students or among human beings, and satisfying their basic needs is essential to learning effectively in the school environment (e.g. Glasser, 1998; Maslow, 1943). Educators observe that many teenager problems in school are the results of a mismatch between their common needs and the learning environments of their schools (Braddock & McPartland, 1993). For instance, when teenagers need to experience freedom, they come up against many rigid rules in school (Keefe & Jenkins, 2008).

Regarding basic human needs, Maslow (1943) argues that these are "physiological need", "safety", "belongingness", "esteem" and "self actualization". Coopersmith (1967) mentions "significance", "competence", "power" and "virtue" while Brendtro, Brokenleg and Van Brockern (1990) propose "belongingness", "mastery", "interdependence" and "generosity". Glasser's (1998) five intrinsic needs are "belongingness/love", "fun", "power", "freedom" and "survival". He maintains that students are able to engage in

meaningful learning in a need-satisfied environment where one feels that one is being accepted, significant, and is able to act according to one's own will and experiences joy (ibid).

3.1.2.2 Student choice

Student choice is a core concept of personalization (Bishop, 2008; Tomlinson, 2003; Stevenson, 1992; Renzulli, 1994) and also a powerful strategy of personalized instruction (Schlemmer & Schlemmer, 2008), as offering options that make learning experience more personally suitable and relevant (Tomlinson, 2003). *Student choice* is probably the commonest and simplest way of personalized instruction. Schlemmer and Schlemmer (2008) claim that it is a specific strategy that can be implemented without dramatic change from the teacher's established instructional approaches, meaning teachers can incorporate "student choice" into any of the instructional domains including content, process and product. There is consensus in the educational and psychological fields that offering choices can improve students' academic achievements, especially the low achievers' performance (e.g. Cordova &

Lepper, 1996; Kohn,1993; Glasser, 1986; Reynolds & Symons, 2001). Teacher-student relationship, learning responsibility and motivation are closely linked to "student choice". Researchers (e.g. Ritchie & Crick, 2007; Pintrich, Marx & Boyle, 1993) stress that positive relationships between the teacher and students and among peers are established when students make their learning choice. Guskey and Anderman (2008) find that teenage students with choices offered to manage their own time to complete tasks and choose their learning approaches demonstrate learning responsibility. Crick (2006) and Hopkins (2004) see providing learning with options as a pathway for empowerment. Researchers also support a strong correlation between choice and the development of intrinsic motivation (e.g. Alfassi, 2004; Clark, 2004; Gambrell & Marinak,1997; Haggard, 1986; McCombs, 2001).

3.1.2.3 The best chance of success

As a quality paradigm, personalized learning aims at unleashing students' potential and providing them with the best chance of success by catering for their individual differences (Fullan et al., 2006). The very idea of learning in

basic schooling (elementary and secondary) is moving from what students know to what they do not yet know. Personalized learning contends that most of the students who are the least likely to make continuous progress simply need some more time to learn and some modifications of the learning content (U.S. Department of Education, 2010). A student-centered teacher should create a caring environment where *student choice* and other encouraging facilitation (e.g. extended time with individual students) ensure that learning differences are respected. Thus students can experience learning success when they learn in a more personally suitable and relevant way (Tomlinson, 2003).

3.1.2.4 Challenging and attainable tasks

While student choice is an effective strategy to address different learning needs and provide students with the best chance of success, students' successful experience is achieved through accomplishing challenging yet attainable tasks (Keefe & Jenkins, 2008). A task is defined as, according to the Hong Kong Government Secondary School Syllabus for English Language 1999, any school work involving a series of learning steps, focusing on meaning rather

than linguistic structures, authenticity and closeness to the real world, and allowing students to make choices (CDC, 1999: 43). Ginsberg and Wlodkowski (2000) claim that authenticity of tasks lies in how personal experience is activated, and learning with students' personal experiences makes the task meaningful.

Devising challenging and attainable tasks is essential to learning engagement, motivation, improvement and success. *Challenging* means the task is the "intellectually demanding work that is so compelling that students persist when they experience difficulties, and so challenging that students achieve a sense of satisfaction or delight when they accomplish it" (Schlechty, 1977: 49). Tomlinson (2003) agrees that a challenging task involving higher order thinking can develop the student into a unique adult. Crick (2006) holds that complex thinking like creativity or imagination stimulates students who work on the task. On the other hand, *attainability* refers to the difficulty level of the task only a step beyond the students' reach. Attainability is achieved through offering options and/or teaching learning strategies. Allowing students to decide what and how to produce, when to complete the task, etc., and scaffolding students with learning strategies are effective ways for facilitating task completion.

3.1.3 Personalized instruction strategies

Research on personalized instruction strategies has gained increasing attention but is mostly concerned with general content subjects, with personalized SL/FL vocabulary instruction accounting for a small portion. Under the big climate of research on learning autonomy, claimed to be an ultimate goal of education (Benson, 2001, 2009) with freedom, choice and negotiation identified as crucial environment factors for learner autonomy development (Sinclair, 2009), various personalized instructional strategies have been developed to be incorporated into the daily classroom intervention. For instance, Tomlinson (2003) proposes flexible grouping, learning centres, and three-tiered assignments for struggling learners, on-target learners and advanced learners respectively. Different degrees of personalization are reflected in whether learning differences in one, some or more learning domains such as learning pace, learning approach, learning content and learning goal are catered for (U.S. Department of Education, 2010). Keefe and Jenkins (2008) compiled a list of 22 instructional strategies with different degrees of personalization, from the lowest *individualized instruction* and *direct instruction* to the highest *cooperative*

learning and *topic study*. Some strategies in their taxonomy like *Guided Practice* are better applied in the arts and athletics, some like *topic study* can integrate several content subjects, and some can be used in language learning, like *cooperative learning* and *Technology-assisted learning*. Basically, language learning strategies in general are mostly applicable to vocabulary learning, a sub-class of language learning (Oxford, 1990). Yet personalized instruction strategies which specify vocabulary learning are only a few (Gu, 2003).

3.2 Personalization in vocabulary instruction

As personalized instruction is rooted in *student centredness* and reaches to a paradigm of higher degree of personalization, the development of personalized vocabulary instruction strategies can be traced back to the 1960s when instruction of specific vocabulary strategies was emphasized, and developed to instructions in which the concept of *student choice* is incorporated in learning approaches and learning input in the 1980s and 1990s. *Teaching specific vocabulary learning strategies* is student-focused, facilitates independent learning (Oxford, 1990, 2003; Scarcella & Oxford, 1992) and develops learner

autonomy (Wenden, 2002). Once different vocabulary learning strategies were constructed and developed, a number of taxonomies were generated from different perspectives. They become valuable references when research reveals that good learners tend to employ a series of strategies, and use multiple strategies in a complementary way, this proving more effective in response to the complex process of vocabulary retention (e.g. Gu & Johnson, 1996; Nation, 1982). Researchers suggest *strategy training,* which means teaching an inventory of learning strategies to facilitate students' personal strategy development (Chamot & O'Malley, 1994; Cohen, 1998; O'Malley et al., 1985; Oxford, 2003; Oxford et al., 1990; Oxford & Scarcella, 1994, Schmitt, 1997). Apart from offering options of learning strategies, *Vocabulary Self-collection Strategy* (Haggard, 1986) offers student choice in learning input, opening up the curriculum for students to decide what words to learn.

3.2.1 Teaching specific vocabulary learning strategies

Educators and researchers had long neglected explicit vocabulary intervention until the 1960s when methodologists and linguists started turning their attention

to the importance of explicit vocabulary instruction as well as vocabulary learning strategies. Learning strategies are specific actions students perform consciously to improve their progress in apprehending, internalizing and using the second language (Oxford, 1990). Researchers hold that teachers should teach selective words and equip learners with specific strategies to expand their vocabulary knowledge (Hulstjin, 1993, cited in Morin & Goebel, 2001). Strategic learning makes vocabulary learning more effective and more self-directed (Scarcella & Oxford, 1992), creates a sense of responsibility, confidence and power (Keefe & Jenkin, 2008; Oxford, 1990, 2003), assists students in becoming independent learners (Chamot, 1999; Oxford, 1990, 2003), and develops learner autonomy (Wenden, 2002). Studies before the 1970s mainly focused on strategies of selective attention which led to word list generating, and various strategies of *word list repetition* (Gu, 2003). The 1980s started with a good amount of studies on deeper processing strategies such as the *keyword method* and after that a number of taxonomies of vocabulary learning strategies were constructed from different perspectives.

3.2.1.1 Word list repetition strategies

Research before the 1970s focused on word list generating and various strategies of word list repetition (Gu, 2003). The computer science and corpus studies have greatly contributed to word list generation, providing teachers and students with a focus on what to teach and learn among an enormous number of English words. West's (1953) General Service List (GSL) is a frequency-based list of the 2,000 commonest word families (1K+2K) entailing around 3,500 word types in the original list. The w*ord token, word type* and *word family* are three basic concepts in word counts. Each occurrence of a word in a discourse is the *token,* or the *running word*; each different word is the *type,* and a word family consists of a base word and its derived and inflected forms. For instance, the five word types *advertise, advertises, advertised, advertising* and *advertisement* belong to one family with *advertise* as the base word or headword. GSL is considered as the most basic vocabulary knowledge to be taught (Nation, 1990; Schmitt, 1997). Though the list was generated over half a century ago, it still covers around 80% of most discourse of different genres (Billuroğlu & Neufeld, 2005). Another important wordlist is Coxhead's (2000)

Academic Word List (AWL) containing 570 high-frequency word families appearing in a broad range of academic texts.

Various strategies of *word list repetition* -- visual, written and vocal -- were then empirically researched and compared. Strategies of *repetition* are supposed to be the easiest strategies for most learners, especially Asian students, to retain words (O'Malley et al., 1985; Schmitt, 1997). Some empirical findings show that learners have to repeat words at least six to seven times before retention (e.g. Crothers & Suppes, 1967); and some studies suggest "space review", which means reviewing newly learned words immediately after the first encounter, and then repetitions could be at gradually longer intervals (e.g. Seibert, 1927, 1930). Although many studies discredit strategies of repetition as mechanical learning which does not typically require any complex cognitive processing, some hold that repetition is still an effective strategy (e.g. Carter, 1987; Fan, 2003), especially for learners of the elementary level (Carter, 1987). Huang and Van-Naerssen (1987) also uphold the view that the possibility of *repetition* involving both understanding and memorization cannot be ruled out.

3.2.1.2 Deeper processing strategies

Many studies demonstrate that deeper processing strategies help achieve better retention of words (e.g. Hulstijn, 1997; Levin et al., 1992, cited in Fan, 2003). The memory type of form-meaning-linking strategies is the type receiving most attention in the research field and Atkinson and Raugh's (1975) "keyword method" is one of the most studied mnemonics (Gu, 2003). It embeds two steps -- to link the English new word with a sound-alike word, which acts as a keyword; and then to work on an imagery link between the meaning of the new word and the keyword. Here is an example. The word TRANSIENT means "short-lived". One can encode the sounds of the target word as "train sees ant" (the sound only needs to come close to the pronunciation of the target word). Then the learner might form a mental image that represents "train sees ant", such as a train runs quickly towards an ant who is crossing the rail. From the train's perspective, the ant is short-lived and it is a *transient* obstacle.

Studies on vocabulary learning strategies blossomed in the 1980s and 1990s. While some researchers examined the effectiveness of certain strategies (e.g. Raugh & Atkinson, 1975), others identified those that good learners use (e.g.

O'Malley et al., 1985; Stern, 1975), while yet others compared strategies to see which ones help achieve better retention (e.g. Brown, 1991; Gu, 2005). Findings also show that learners' English language proficiency highly correlates with their vocabulary learning strategies (e.g. Ahmed, 1989; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999), and learners use more strategies for learning vocabulary than other integrated activities (Schmitt, 1997, 2001).

3.2.1.3 Taxonomies of vocabulary learning strategies

While more strategies of different types have been developed, some researchers (e.g. Gu & Hu, 2003; Schmitt, 1997) categorize different types of strategies into varying frameworks in different contexts. As studies have shown that good learners usually employ multiple strategies (e.g. Nation, 1982) and that strategic learning should involve several strategies used in a complementary way (e.g. Gu & Johnson, 1996), some major taxonomies find their implications in language classrooms in supporting strategic learning in a multifaceted way. It is noted that most major taxonomies emphasize the importance of both deeper processing strategies and strategies of *repetition*. For instance, Schmitt's (1997)

consolidation strategies consist of both deep processing strategies such as "imaging word form and meaning" and various strategies of "repetition". Besides Schmitt's taxonomy, the classifications of Gu and Hu (2003), Hatch and Brown (2000) and Nation (2001) are among the major taxonomies most commonly cited.

Gu and Hu's taxonomy:

Gu and Hu's (2003) 90 strategies for their college Chinese participants are divided into three dimensions – *beliefs*, *metacognitive strategies* and *cognitive strategies*. Metacognitive strategies consist of selective attention and self-initiation strategies. Cognitive strategies involve the initial handling step, (including "guessing strategies", "use of dictionaries" and "note-taking strategies"), the reinforcement step (including rehearsal and encoding strategies) and the activation step.

Hatch and Brown's taxonomy

Hatch and Brown (2000) categorize strategies by learning steps. Their five integral steps encompass (a) sources for encountering new words, (b) creating an image for the word form, (c) learning the word's meaning, (d) creating a

strong linkage between the word form and the meaning in memory, and (e) using the word.

Nation's taxonomy

Nation's (2001) taxonomy encompasses three general classes of "planning", "source" and "processes". Planning involves deciding on where, how and how often to focus attention on the vocabulary item. The strategies in this category are choosing words, choosing aspects of word information and choosing strategies and deciding how to rehearse the word. The second category refers to the sources of the word information while "process" means establishing word knowledge through noticing (e.g. "note-taking strategies"), retrieving and generating strategies (e.g. "collocations" and "putting the new word in sentences").

Schmitt's taxonomy

Schmitt's taxonomy has been regarded as extensive and comprehensive (Ghazal, 2007). Categorized into two learning stages involving five types of strategies, the 58-strategy taxonomy is generated with reference to taxonomies from previous researchers such as Oxford and Stoffer (Schmitt, 1977). It also has a

large sample of Japanese participants of different age levels including junior high school students, high school students, university students and adult learners, and different proficiency levels which are lower, medium and higher. Instruments such as participant self-report, vocabulary reference books, textbooks and Japanese teachers' suggestions are taken into account.

In Schmitt's taxonomy, the first stage "meaning discovery" encompasses two types of strategies -- *determination* and *social*, referring to discovering a new word's meaning by oneself and with others' assistance respectively. There are four types of strategies in the second stage "word consolidation", including *social, memory, cognitive* and *metacognitive.* Social strategies are used to retain a word with the assistance of others. Metacognitive refers to a conscious overview of the learning process and making decisions about planning, monitoring or evaluating the best way of study (Schmitt, 1997: 205). Schmitt classifies *memory* and *cognitive* types of strategies following Purpura's (1994, cited in Schmitt, 1997) criteria, placing strategies using memory techniques which are obviously linked to mental manipulation under the memory type, such as "associating" and "imagery", and regarding word storing strategies such as strategies of word review and of word organization as the cognitive type.

3.2.2 Strategy training

The major taxonomies worked as good references when *strategy training* was proposed in the 1990s. “Teaching an inventory of learning strategies” is termed *strategy training*, *learner training* or *learning strategy instruction*, incorporating the concept of student choice in the learning process (Oxford et al., 1990). Strategy training takes care of learner differences in vocabulary strategy use and thus facilitates vocabulary building by exposing students to a variety of strategies that can help them develop their personal use of strategies (Carrell, 1998; Chamot & O’Malley, 1994; Nunan, 1991; Oxford et al., 1990). Strategy training helps raise learners’ metacognitive awareness of personalized strategy development (Ellis,1995; Hatch & Brown, 2000; Ghazal, 2007). Students would become much more independent, confident and motivated as they understand the relationship between personal use of strategies and success in learning (Chamot & Kupper, 1989; Chamot & O'Malley, 1994). Besides, personalized strategies are effective strategies as they fit into the student’s learning needs (Cohen, 1998).

There are not many specific programmes or models of vocabulary learning strategy training. It is probably because most often vocabulary learning strategy instruction is a component of some programmes for training general learning strategies (Pavicic, 2008). Generally speaking, teachers need to decide what framework and which strategies they should choose to focus on based on their students' learning needs (ibid). As for what strategies to focus on, the teacher can teach strategies of different steps or types to support different aspects of word retention (Oxford, 2004). Laufer et al. (2004) emphasize teaching memory strategies which link the word form and meaning in the first place as the initial stage in fixing a word in the short-term memory. Also, Stahl (1999) and Wallace (1988) suggest focusing on word organization and word review strategies like "recording semantic information and contextual information" and "offering multiple exposures of the meaningful information", which are termed a type of cognitive strategy in Schmitt's (1997) classification, because they help long-term word retention. Apart from form-meaning-linking strategies and strategies of organization and word review, in the EFL context where language use is emphasized in task-based learning, strategies of word use are also one of the foci in strategy training.

Concerning how to carry out strategy training, Oxford (1994) stresses that it must be based on students' different needs and that plenty of practice is necessary. Chamot and O'Malley's (1994) project CALLA (Cognitive Academic Language Learning Approach) proposes the sequence of instruction as introducing, teaching, practising, evaluating, and applying. Duke and Pearson (2002, cited in Baumann et al., 2005) suggest verbal explanation, modelling, guided practice and independent practice. Generally speaking, introducing, demonstration, teacher-directed practising and independent practice are among the most common means of strategy training. Also, different strategies are better taught differently. Some vocabulary learning strategies are easy to teach by just giving straightforward advice or introduction. For instance, the teacher may simply tell the class to "read the word aloud". Some strategies may better be demonstrated and practiced again and again (e.g. "keyword method", "association"), and some require basic knowledge like phonetics and affixes to be taught in the first place (e.g. "study the pronunciation of the word", "parts and roots"). It is noted that far more memory strategies than other types are incorporated in the major taxonomies (Gu, 2003), proving that English vocabulary is mnemonically rich (Erten, 1997). Therefore, it is advisable to

introduce and demonstrate more diverse memory strategies for learners to deal with thousands of word forms with a huge variety of characteristics.

On the other hand, word organization strategies are complex in nature, involving cognitive and metacognitive awareness of encoding words in memory and achieving several encounters (Dunkel, 1988). Thus teacher-guided practice is preferred. Nation (2001) explains how to instruct "word card strategy", summarized as follows:

(a) Ask students to keep noting down some useful or frequently-used items by writing the English item on one side of the word card, about 5x4 cm, and the L1 equivalent on the other.

(b) Some other information such as collocations, grammar features, etc. can be included.

(c) Students review items by reading the words aloud.

(d) Advise students to place the more difficult items at the top of the pile of cards for more reviewing and put aside the items which are retained.

(e) It is advisable to change the order of word cards when reviewing again to avoid the effect of 'serial learning' whereby one word stimulates the recall of the next one.

(f) Encourage students to record newly known word information of a previously recorded word on the corresponding card.

Furthermore, devising meaningful tasks of word use is as important as demonstrating memory strategies and guided-practising of strategies of word organization and word review, especially for the EFL students who have little opportunities to practise English. There are usually only a few strategies of vocabulary use in the major taxonomies. Wallace (1988) suggests meaningful presentation as the output in his general principle of personalized vocabulary teaching. In brief, strategy training is a long-term mission as it involves teaching diverse strategies of different types or steps and the teacher has to enlarge students' repertoire of strategies at times.

3.2.3 Opening up the curriculum

Opening up the curriculum means that *choice* is offered for students to decide what words to learn. It is a breakthrough from the traditional vocabulary instruction when Haggard (1986) proposed "Vocabulary Self-collection Strategy (VSS)", "Limited Choice Vocabulary Self-collection Strategy" and

"Modified VSS" to open up the curriculum. In the traditional classroom, it is always some pre-selected lists of words chosen by teachers or recommended in the textbook or curriculum, and students simply play a passive role in respect of what to learn.

VSS is based on an interactive model of the reading process which combines the insights of bottom-up and top-down approaches (Haggard, 1986). The strategy consists of two main parts -- students collecting new words that interest them from their preferred sources and the teacher facilitating word retention with the word meaning negotiation activity. When implementing VSS, each of the students selects one new word they have encountered somewhere and brings it to the weekly vocabulary lesson. During the lesson, individual students take turns to give word definitions in context and tell the class why the word has been chosen to learn. The audience could add information for the word definition. The dictionary is referred to when the definition is still unclear after negotiation. After all the words have been defined, the class narrows the list of words to around 5-8 items as the final class-list, which would be tested later.

"Limited Choice Vocabulary Self-collection Strategy" refers to students choosing a word from the teacher-selected wordlist and discussing the word meaning, while "Modified VSS" requires the college students to autonomously record and review their selected words from various sources of their areas of interest. Fisher, Blachowicz and Smith's (1991) study shows that the fourth grade students also benefit from VSS as the participants retain receptive vocabulary knowledge of the words which are at and also above their grade level. Haggard and Shearer (Ruddell & Shearer, 2002) found that VSS also works on some limited proficiency teenagers. It seems that for students ranging from primary to tertiary, VSS is conducive to vocabulary building.

However, it may not be applicable to most Hong Kong teenagers. Negotiating word definition in VSS seems to be too challenging for most of the Hong Kong secondary school students studying in the CMI schools. Little exposure to language use greatly hinders them from defining new words in English. Also, the limited proficiency students tend to be over-anxious about speaking up (Wu, 2004). Nor do big groups of 35-40 ensure effective discussion.

While personalized vocabulary instruction has the potential to address the difficulties of EFL vocabulary building, constructing an approach which attends to EFL teenage students' different needs is urgently needed. A higher degree of personalization of instruction is believed to be more conducive to EFL vocabulary building.

Chapter 4

PVL -- the Constructed Approach in the Current Study

While a multifaceted personalized instructional approach attending to EFL students' learning differences is urgently needed to facilitate vocabulary building in the Hong Kong context, a new personalized approach, *PVL*, which stands for *Personalized Vocabulary Learning*, is constructed and its effect is evaluated with 57 limited proficiency teenagers studying in a Band three school. This chapter elaborates the theoretical grounding, the components and the theoretical rationale of PVL. The approach is based on William Glasser's Control Theory (1986) which argues that learning motivation is driven from inside by some common intrinsic or genetic needs being satisfied, such as *belongingness/love, freedom*, *power* and *fun*. PVL is also consistent with the core concept of personalized instruction *student choice*, as "fulfilling students' intrinsic need of freedom" in the Control Theory-based approach and *student choice* refers to the same thing. The three-part PVL incorporates *freedom* and *power* in all of the three domains of instruction -- the input, the process and the output -- through three strategies "student-selected vocabulary", "vocabulary

learning strategy training" and "oral tasks of word use", attempting to achieve the effect of a higher degree of personalized instruction.

PVL:	Input:	student-selected vocabulary
	Process:	vocabulary learning strategy training
	Output:	oral tasks of word use

The new approach holds that even the limited proficiency students select words to learn in a responsible way for vocabulary growth; develop personalized strategies for strategic learning; and build learning confidence in the tasks.

4.1 The theoretical grounding of PVL

William Glasser's Control Theory (1986, 1998) is the philosophical grounding of PVL. It is a behavioural cognitive concept explaining how the brain makes responsible behavior when humans' internal needs of belongingness/love, power, freedom and fun are fulfilled. While *student choice* is a core strategy in personalized instruction to cater for learners' differences and motivate learning, the Control Theory-based PVL motivates students and attends to their different needs through fulfilling their intrinsic need for freedom (in the form of offering *student choice*) and power. Like learner autonomy theories, Control Theory is also rooted in humanism and the concept of student centredness. It also shares

some commonalities of learner autonomy theories like "self controlling one's own learning" (Benson, 2001). The reasons why Control Theory is selected as the theoretical framework of the constructed approach are:

First, it provides an easily applicable means of building teenagers' learning motivation, i.e. through fulfilment of students' common intrinsic needs for belongingness/love, power, freedom and fun, which is more feasible to the limited proficiency participants. Secondly, it interprets the correlation between offering student choice and students making responsible choice. While the core concept of personalized learning *student choice* is able to cater for individual differences, it only works when students take student choice seriously and keep taking it seriously. Some experts have claimed that too much choice may result in negative effect. Control Theory provides the explanation which ensures that there is hope that the low achieving teenagers can be motivated if a learning environment full of love, power, freedom and fun is created. Thirdly, Control Theory fits in personalized learning. Fulfilling students' intrinsic need for freedom is most likely equivalent to the concept student choice in personalized learning. In addition, fulfilling students' need for power is crucial for the Band three students as most of them are unhappy or even angry as they are

considered as losers in the highly competitive education system. One more motivation element integrated in the constructed programme better facilitates EFL vocabulary learning. Learner autonomy is definitely the ultimate goal of learning (Benson, 2001, 2009) with learners self-controlling their learning by means of planning, monitoring and evaluating (Holec,1981). For the secondary grades which are usually the weak link of education, the time when academics lose focus and standards decline (Bradley & Manzo, 2000), teenagers need more facilitation and motivators as the first step to begin the journey from dependent learning to learner autonomy.

4.1.1 Control Theory and internal control

Control Theory emphasizes internal control. Glasser' theory moves away from the paradigm of stimulus-response, identifying fulfilment of basic human needs rather than external force to be the motivator (Glasser, 2009). Control Theory has long been used in counselling and psychological therapy, in running quality schools, in dealing with discipline management in the classroom and in motivating learning in general. It is a model explaining how human brain

behaves or makes choices. Glasser (1986) contends that our brain always has some capacity to exercise self-control in our lives. In other words, self-control is a way our brain functions to fulfil our intrinsic needs of belongingness/love, power, freedom and fun; and human lives are a continual effort to gain control of the external world to satisfy our intrinsic needs. Concerning learning and teaching, Control Theory argues that the teacher cannot force students to learn, and the students choose to learn only in a caring environment where internal needs are satisfied (Glasser, 1986). The Control Theory-based PVL holds that fulfilling students' intrinsic needs of freedom and power in learning input, learning process and learning output leads to responsible vocabulary building.

4.1.2 Basic concepts of Control Theory

William Glasser developed Reality Therapy to challenge the traditional approach to psychiatry in the 1960s and he went on to develop Control Theory from it, applicable in many fields such as education, management and personal well-being. It states that when a person is unable to meet his intrinsic needs for safety, love, power, fun, and freedom, he will be unhappy. From psychiatry to

psychology, Glasser concentrates much of his work on connected relationships and children and schools have remained one of Glasser's primary targets for intervention. He declares our present use of external control psychology and pedagogy in schools as leading to severe consequences. Control Theory helps students learn how to meet their needs responsibly. The good news is that there is hope. School children can have connected relationships with their classmates and teachers so that quality learning can occur without any external control.

Control Theory can be summarized into five basic concepts -- *the intrinsic needs*, *the Quality World*, *the perceptual reality*, *the Comparing Place* and *the total behaviour* (Bruce Devenport's website: www.brucedavenport.com). They show the function of the self-control system in the human brain and the correlation between student choice and responsible behavioural choice. The internal control function in our brain starts from *the intrinsic needs*.

4.1.2.1 Intrinsic needs

According to Glasser, all human beings control their behaviour to maximize satisfaction of their intrinsic needs which are interwoven in the genes. Glasser

holds that all people are motivated from inside -- driven by one physiological need *Surviving* and four psychological needs *belongingness/love, power, freedom* and *fun*. All people find similarities in their quests to fulfil those needs and there are individual differences only in the weight of each basic need.

Surviving:	Human behaves in ways to ensure food, shelter, and safety.
Belongingness/ love:	We behave to be connected to the community/the world, to be with people and to be accepted.
Power:	*It represents the desire to feel significant, competent and successful through acquiring knowledge, mastering strategies and skills and accomplishing tasks which raise self-esteem.*
Freedom:	This need mandates that we want to act according to our own will, including setting our goals, making plans and deciding what to do.
Fun:	We behave in ways to bring joy, recreation and entertainment.

Control Theory contends that we constantly behave to control the external world to fulfil the basic intrinsic needs. The physiological need like food and shelter is fairly straightforward and it is the four psychological needs that are more emphasized in the modern world. When learning takes place, fulfilling students' basic needs leads to their responsible behaviour in learning. If some students have little motivation to do their school work, it implies they view school work as irrelevant to their basic needs. Those students may seek their need fulfilment from alternative ways such as fighting and taking drugs.

4.1.2.2 Quality World

Each of us has been developing in our brain a unique *Quality World* of good values since we were born. As we live our lives and interact with others, we each keep building this unique *Quality World* for storing the people, activities, values, and beliefs in the form of pictures of good notions. They are pleasant memories related to some need-satisfying life experience, such as mother's hugging and reading interesting books. As we grow, we learn more ways to satisfy our basic needs and store more pleasant experiences like being complimented on a project and going for a trip. According to Glasser (1986), almost all students start the elementary school with the picture "learning is good and I *want* to learn" because someone they love (e.g. *mother*) says so.

However, the pictures in the *Quality World* can be changed if some students in the process of learning feel frustrated again and again because they cannot learn as rapidly as the curriculum requires them to and they are discouraged by the poor grades. Then they would remove the good learning picture in their *Quality World* and figure out an alternative way such as bullying to fulfil the intrinsic need for power. There is a possibility for them to put back the positive notions

in the *Quality World* if some persons and/or experience repeatedly fulfils their genetic needs. The *Quality World* is the source of motivation, urging "behaviour" to fulfil the intrinsic needs. Control Theory suggests that parents, educators, and the community should promote caring environments that assist students to keep developing more *Quality World* pictures. When a teacher creates an environment with certain degrees of love, fun, freedom and power, the students admit the teacher into their *Quality World* and share the same picture regarding learning with the teacher.

4.1.2.3 Perceptual reality

According to Glasser, we behave to control our "perceptual reality" to match the *Quality World*. Control Theory holds that information in the reality world passes through three distinct filters -- sensory filter, the knowledge filter and the valuing filter -- into our *Perceptual World* as "perceptual reality". That is, different people receive information in the real world differently. First, real world information comes through our sensory filter -- our eyes, ears, nose, mouth and skin. Different people have different sensory filters, some block

more visual information, some block more audio one. Next, the sensations pass through the second filter -- the knowledge filter, where the information of which we have completely no knowledge is blocked. And then the valuing filter only lets go the useful and important information, which becomes the perceptual reality stored in the form of pictures in the *Perceptual World*. Because of these filters, two people may confront the same reality but develop different perceptual realities. Concerning learning, the three filters are not so blocking or disturbing if individual differences were taken into account in the curriculum and instruction.

4.1.2.4 Comparing Place

Comparing Place in our brain is to compare the "perceptual reality" in the *Perceptual World* to the good notions in the *Quality World*. Need fulfilment is realized when the picture in the *Perceptual World* matches the picture in the *Quality World*. The *Comparing Place* continually compares pictures of what we have at that moment in the *Perceptual World* and what we want to do urged by the notions in the *Quality World*. The comparison result then goes to the

behavioural system which has two parts -- organization system containing the familiar, organized behaviours that we do habitually, and the reorganization system in charge of behaviour change.

All behaviour is produced to create a match or to narrow the gap between what we perceive and what we want in the two worlds. When the Comparing Place scales the perceptual reality and the notions in the Quality World in balance, that is, what we have is matching what we want, a great drive occurs in our mind to choose to maintain our familiar, organized behaviour. In fact, most of the time our mind chooses “organized behaviours”. The strength of drive is positively correlated with the level of fun, belongingness/love, freedom and power of the perceptual reality (Glasser, 1986). On the other hand, when the scales discover the two notions are off-balance, the brain sends out a frustration signal and an urge to behave in a new way. Then our mind goes through the reorganizing process in the reorganization system to find new behaviours to narrow the gap in an alternative way. The reorganization system could produce useful ideas and destructive ideas.

4.1.2.5 Total behavior

Behavior is produced by the brain to create a match or narrow the gap between the pictures in the Quality World and the Perceptive World, and it is termed “the total behaviour” in Control Theory. Unlike the behaviourists, Glasser does not simply look at behaviour as observable action. He reframes behaviour as “the total behaviour” consisting of acting, feelings, thinking and physiological responding. The four are instantiated and co-occurring together. For example, when we think, we also act, feel and physiologically respond. Concerning learning, the thinking, engagement/action and emotions link together while physiologically response makes more reference to psychological therapy (Jensen, 1998). Thus our learning choice is our total behaviour including action, thinking and feeling.

The intrinsic needs, *the Quality World*, *the perceptual reality*, *the Comparing Place* and *the total behavior* are key concepts of Control Theory showing the human brain functions as a self-control system and how motivation occurs from inside. When Choice Theory is applied to classrooms, according to Glasser (1986), the internal control should replace the external control in curriculum

and instruction. Glasser (1986) maintains that teachers should negotiate both content and method with the students and students' basic needs would help shape how and what to learn. Concerning PVL, when the approach frees and empowers students in learning input, learning process and learning output, students' intrinsic needs of freedom and power are supposed to be fulfiled to a higher degree and eventually elicit students to learn with their fullest potential. The correlation between PVL and motivation is elaborated in Ch. 4.3.

4.2 The components of PVL

The three components of PVL are devised to fulfil the students' internal needs of freedom and power in all of the three domains of learning and teaching, aiming to cater for students' differences in more variables and motivate vocabulary building. In the input, freedom is offered and teachers' power of curriculum decision is shared in "student-selected vocabulary". The students can choose words to learn from their preferred sources and thus their own learning needs in terms of vocabulary growth can be focused. In "vocabulary learning strategy training", students can freely develop, according to their

learning differences, their personalized strategies for independent learning, and mastering strategies is empowering. In the output, options are offered for students to decide upon the task content, the difficulty level of the task and the pace of task completion, and in the meantime elements of *power* are integrated into the task, such as *FL use*, *oral presentation, high order thinking*, etc. The EFL teacher needs to expose students to diverse resources, devise the strategy training and design specific tasks for word use according to the learners' differences.

4.2.1 Input – student-selected vocabulary

Input basically refers to the information, the source of information and the amount of information to be taught (Wallace, 1988). "Student-selected vocabulary" in PVL is the teacher sharing the authority of curriculum decision with students, offering them choices to freely select unfamiliar words to learn from the sources of their interest. The number of student-selected words is set according to the group's proficiency levels. Gairns and Redman (1989) advocate an average of eight to twelve items as a reasonable input at one time.

PVL suggests that the Hong Kong teenage students should build around five words per school day. If students keep steadily achieving a retention rate comfortably beyond the 50% threshold, the usual assessment passing line in Hong Kong schools, they might accumulate around five hundred words in the 200 school days in a year, a very remarkable achievement for the EFL teenagers. It is essential to invite students to note down and review their daily selections for effective vocabulary building. Some other versions of "student-selected vocabulary" involve student-selected words from a teacher-assigned text or from a teacher-compiled list".

PVL expects that students' responsible behaviour occurs in selecting words to learn as their intrinsic needs of freedom and power are met in "student-selected vocabulary". Responsible behaviour in the learning input refers to students choosing words which they think useful to help foster vocabulary growth. Useful words for vocabulary growth are regarded as unattained items students meet frequently in class reading or daily communication (Oxford & Scarcella, 1994). As there are so many English words to learn (Goodman, 1976; Herber, 1978), focusing on frequently-used words including the General Service List (West, 1953) and the Academic Word List (Coxhead, 2000) in the first place, is

an effective strategy to relieve the EFL vocabulary learning burden.

4.2.2 Process -- vocabulary learning strategy training

"Vocabulary learning strategy training" is a strategy responding to the personalization in the learning approach. It refers to teaching students an inventory of different strategies of different learning steps or types, in order to facilitate their development of personalized strategies for effective word retention. PVL holds that the effective strategies are personalized strategies since, as Cohen (1998) says, they fit into the students' learning needs. The teacher is obliged to devise what strategies are taught and how they are taught according to the group's learning differences. For the teenage students in Hong Kong CMI schools, most of whom have limited proficiency level and have not received any strategy training before, PVL suggests that form-meaning linking strategies and word organization and review strategies are most immediately needed to retain vocabulary in short-term and long-term memory respectively. PVL also strongly agrees that *word use* is an essential step in word retention especially for EFL students who lack adequate exposure to the English

language. PVL places it as one of the key components of the approach – the output: oral tasks of word use, to be elaborated in Section 4.2.3.

Schmitt's consolidation strategies represent a good reference for strategy training. It is quite easy to single out from them the form-meaning-linking strategies for word retention in short-term memory, and strategies of word organization and review are helpful for extending exposure to the unfamiliar words and thus for long-term word retention. Referring to Schmitt's taxonomy (1997), the form-meaning linking strategies involve four types of strategies – CONS-MEM, CONS-MET, CONS-COG and CONS-SOC, and the memory type CONS-MEM, including both imagery and analytic strategies, dominates. The strategies of word organization and word review mainly belong to the cognitive type CONS-COG. Teaching can focus on introducing and demonstrating a diversity of imagery and analytic strategies in the first place for linking word forms of a huge variety of characteristics and their arbitrary meanings, and then guided-practising of some strategies of word organization and review. Schmitt's 25 memory strategies of form-meaning linking and the dozen strategies of organization and review in the consolidation part of his taxonomy are shown in Table 4.1 for reference. Furthermore, Nation's (2001)

detailed instruction of word card strategy is also suitable for guided practice. Apart from encouraging self-review, the teacher is strongly advised to set aside some time each week for word by word revision (Nation, 2004) and to practise reviewing strategies with games and other activities (Cross, 1991).

Table 4.1 Schmitt's word consolidation strategies

Step	Strategies (Type)
Linking word forms and meanings	study word with a pictorial representation of its meaning (CONS-MEM)
	image word's meaning (CONS-MEM)
	connect word to a personal experience (CONS-MEM)
	associate the word with its coordinates (CONS-MEM)
	connect the word to its synonyms and antonyms (CONS-MEM)
	use semantic maps (CONS-MEM)
	use 'scales' for gradable adjectives (CONS-MEM)
	pegword method (CONS-MEM)
	loci method, CONS-MEM)
	group words together to study them (CONS-MEM)
	group words together spatially on a page (CONS-MEM)
	study word spelling (CONS-MEM)
	study sound of word (CONS-MEM)
	say word aloud (CONS-MEM)
	image word form (CONS-MEM)
	underline initial letter (CONS-MEM)
	configuration (CONS-MEM)
	use keyword method (CONS-MEM)
	affixes and roots (CONS-MEM)
	parts of speech (CONS-MEM)
	paraphrase word meaning (CONS-MEM)
	use cognates in study (CONS-MEM)
	learn words of an idiom together (CONS-MEM)
	use physical action (CONS-MEM)
	use semantic feature grids (CONS-MEM)

	put L2 labels on physical objects (CONS-COG)
	use L2 media (CONS-MET)
	teacher checks students' flashcards or word lists for accuracy (CONS-SOC)
Word organization	word lists (CONS-COG)
	flash cards (CONS-COG)
	note-taking (CONS-COG)
	use vocabulary section in textbooks (CONS-COG)
	keep vocabulary notebook (CONS-COG)
Word review	study and practice meaning in a group (CONS-SOC)
	verbal repetition (CONS-COG)
	written repetition (CONS-COG)
	listen to tape of word lists (CONS-COG)
	testing oneself with word tests (CONS-MET)
	use spaced word practice (CONS-MET)
	continue to study word over time (CONS-MET)

Students' intrinsic needs of freedom and power are believed to be fulfilled in "vocabulary learning strategy training" as they can freely develop their personalized strategies and independent learning is empowering. The students' responsible behaviour in the learning process is expected to develop different personalized strategies of different types/steps for complementary use.

4.2.3 Output—oral tasks of word use

PVL argues that output is absolutely crucial for EFL language learning including reading vocabulary retention. From the lexical perspective,

vocabulary learning must occur in authentic contexts where students learn how words interact with each other and garner meaning from and support meanings of other words (Nagy & Townsend, 2012). From the perspective of personalized learning, active learning experience makes the input rich in meaning (Kovalik & Olsen, 1998) and being actively involved in the production is better than passively absorbing information (Keefe & Jenkins, 2008). From the perspective of Control Theory, power is gained through competence, achievement, skill mastery, etc. (Glasser, 1986). Producing learning output is a key component in PVL in response to Control Theory, personalized learning and the communicative curriculum. PVL holds that though the oral task of word use, which involves a series of learning steps including speaking and high order thinking, is very challenging, it empowers and motivates. Elements of power such as creativity, foreign language use and oral presentation embedded in the design of the oral task are empowering. Task accomplishment is supposed to fulfil the presenters' internal need for power, while output options offered for the students to decide upon the content and the difficulty level of the task, and the pace of task completion facilitate attainability of the task. The responsible behaviour expected in the learning output is the students' deep engagement in

the series of learning steps of the challenging task. Specific oral tasks of word use should be devised according to the group's proficiency level. "Storytelling with five student-selected words integrated into the storyline" is the specific task employed in this study for the Secondary 3 and 4 (Grade 9 and 10) participants.

4.2.3.1 Output options

In "oral tasks of word use", students are free to control content topics of the presentation as they can choose to present something that interests them. They can also decide on the length of the presentation which relates to the difficulty level of the task as the longer the presentation, generally speaking, the more challenging the task is. Besides, learners can manage their own time in task preparation. Preparation work such as script writing and rehearsal is strongly encouraged since the oral task is particularly challenging for the EFL students.

4.2.3.2 Task design

Devising oral tasks of word use needs to take care of the students' learning differences. There are not many strategies specified for word use for reference in major taxonomies (Gu, 2003). For instance, out of the 44 vocabulary consolidation strategies in Schmitt's taxonomy, only three are exclusively concerned with word use -- "using the new word in sentences", "group words together within a context", and "talking to the foreigner". "Talking to the foreigner" may not be very feasible in an EFL context. Also "negotiating word definitions" suggested in Haggard's (1986) *Vocabulary self collection strategy* most likely goes beyond the Hong Kong teenager's proficiency level. PVL recommends tasks such as "theme-word talk" -- individual students talking continuously for thirty seconds or one minute around a student-chosen theme word (such as APPEARANCE, CIVILIZATION or DESTINY); "storytelling with some student-selected words integrated into the storyline", "singing a song with three or four student-selected proverbs embedded in a classic melody", "integrating a(n) newly learned noun, verb, adjective and adverb in a speaking discourse", "telling a story with three selected words each appearing at least

two times in the context", etc. For a class of more proficient students, the teacher may consider "the group debating around a student-selected item (e.g. MINIMAL WAGE, COUCH POTATO)".

The format of the oral task is flexible. It can be conducted in pairs, in small groups or in the whole group. If big group presentation is conducted, one to two presentations can be arranged in each period and *student-presentation* becomes a routine in the English lesson. "Small group presentation" is a time-efficient pattern. Groups of five to six students can work simultaneously in different parts of the classroom. Each group might have four to five students listening to and assessing a group-mate presenter. If time is adequate, each presenter can have two opportunities to perform the same content in two different groups. Positive feedback from the teacher is appreciated. Pair-work can also be considered if the group is more proficient or the students have already had some experience of oral performance.

4.2.3.3 Empowerment

PVL places importance on the learning output and fulfilling students' intrinsic need for power is especially realized in the elements of power in the oral task. There is general consensus among studies on the effect of power in learning (e.g. Crick, 2006; Heath, 1994; Glasser, 1986; Ginsberg & Wlodkowski, 2000). Glasser (1986) claims that power represents the desire to feel significant, competent and successful through acquiring knowledge, mastering strategies and skills and accomplishing tasks. Ginsberg and Wlodkowski (2000) refer to power as the potential to make a contribution. Heath (1994) says recognition among peers is power. Power can turn a person into a human more fully (Freire, 1970). The elements of power in the oral task consist of FL use in context, creativity, personal experience and oral presentation.

FL use in context

Accomplishing an authentic communicative task in a foreign language is empowering especially to limited proficiency students. Task completion gives students a sense of competence or a sense of being recognized and respected in the authentic environment. Being recognized is meaningful and important for

the teenager (Glasser, 1986) and the affective benefit helps linguistic improvement. The brain is inefficient at mechanical memorization of information and always seeks to make sense of it by using it in the authentic environments (Sousa, 2001). If students make sense of what they study in the task, they are likely to be able to remember and retrieve it (ibid).

Creativity

Creativity is a higher order or complex form of thinking (Maslow, 1943), involving the skills of flexibility, originality, elaboration, brainstorming, modification, imagination, association, etc. Creative thinking is ranked high in problem-solving and is also one of the ways in which human intelligence is at its best. Creative use of language is powerful. Thus an oral task involving creativity is challenging and empowering. To include five selected words into a story or incorporate three proverbs into a classic melody is creative art. Performers not only have to remember the word forms and meanings, but also integrate several words or items with imagination and pack them into a sensible context. Since output options are offered in various ways, the students are further motivated and able to give free reign to their imagination. Besides, where an element of creativity is involved, most people would feel pride in their

work and want it to be shared (Ur, 1996). The feeling of pride can promote confidence.

Personal experience

The originality in the story, the presentation or the composed songs are the heart of human experience. The personal experience is more readily and more naturally reflected in such a meaningful, interactive communication context. American philosopher Eric Hoffer claims that humans have an innate need to tell their stories with their own personal experiences (Wright, 1995). Cooper (1993) highlights some educational advantages of students sharing their personal idea and story, which are both affective and linguistic. Affective benefit refers to the generating of intra-group trust, which in turn fosters greater power to learn. Linguistic benefit refers to students who regularly talk and listen becoming more intimate with the language skills (ibid).

Oral presentation

Presentation is powerful as it is usually an informative talk a more knowledgeable person makes to some less knowledgeable persons in some specific environment (Cruickshank et al., 2006). Glasser (1998) believes we

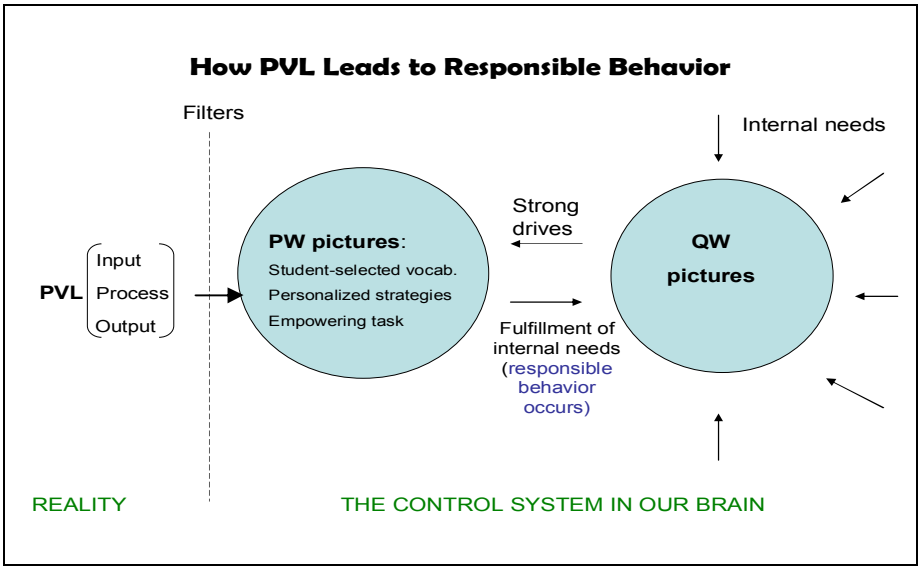
usually want someone to listen to what we say; otherwise we would feel powerless. Presentation is an independent study allowing students to pursue topics and some other aspects of their own choice according to their learning needs. Stevenson (1992) states that independent studies can promote students' awareness of their own thinking and can make learning and teaching in the classroom more student-centred. In addition, speaking is powerful. Speaking is the origin of language, the primitive way of communication, the priority of language use, and it is productive and voiced. In the long run, students might become more confident in speaking and in English language learning.

4.3 Correlation between PVL and responsible behaviour

PVL, based on Control Theory and aiming at personalized learning, contends that freeing and empowering students to self-control their path of learning -- input, process and output -- motivate learning. PVL holds that freedom and power, or student choice and empowerment, elicit students' responsible behavior to learn. Fig. 4.1 demonstrates how the Control Theory-based approach leads to responsible behavior learning. It is adapted from the Control

Theory's control system of the brain, retrieved from Education website *Funderstanding:* www.funderstanding.com/educators/choice-theory.

Figure 4.1 The correlation between PVL and responsible behavior



Note: Adapted from the illustration of Control Theory from Education website *Funderstanding:* www.funderstanding.com/educators/choice-theory

Figure 4.1 shows that there is a constant flux in our brain to fulfil some of the internal needs. The pleasant experience of need fulfilment obtained since our birth is stored as pictures in the Quality World (QW). In schooling, the caring teacher who attends to students' basic needs is admitted into the students' Quality World and the teacher's positive learning notions are shared by the students. The good notions stored in students' Quality World serve as a learning motivator if activated.

When PVL is conducted, the reality of instruction in the classroom -- the three components of PVL -- is going through individual students' three filters into the students' Perceptual World (PW) as perceptual reality without much blocking. It is because the instruction is related to students' own choices and learning needs. This perceptual reality stored as pictures in the PW tends to satisfy students' intrinsic needs for freedom and power. When the Comparing Place finds there is a close match between the pictures in the PW and the QW, the motivator (QW) is activated, strong drive is generated and responsible behavioural choice (the total behaviour) occurs. This positive learning experience with PVL is then admitted as the new positive notions in the Quality World.

In brief, the three-component PVL is an instruction package constructed to realize personalization in EFL vocabulary learning. It attempts to attain a higher degree of personalization by attending to all three domains of instruction – input, process and output, and motivating vocabulary building through fulfilment of students' intrinsic needs of *freedom* and *power*. Control Theory has explained the correlation between *offering student choice* and *student making a responsible choice* from a cognitive behavioural perspective. The Control Theory-based PVL contends that learning motivation comes from

inside when intrinsic needs are fulfilled. PVL creates a need fulfilling environment by freeing and empowering students with “student-selected vocabulary”, “vocabulary learning strategy training” and “oral tasks of word use”.

Chapter 5

Methodology

Teacher-as-researcher approach and case study method are employed in this teacher research which constructed, implemented and evaluated a new personalized instruction programme. Fifty-seven Hong Kong students studying in a Band three CMI secondary school participated in the study. Their engagement in the three components of PVL -- "student-selected vocabulary", "vocabulary learning strategy training" and "oral tasks of word use", and the effect of PVL as a whole in facilitating vocabulary building were examined with the directing of four research questions. An array of instruments including story scripts, video clips, questionnaires, word cards, tests and delayed tests, and semi-structured interviews are employed. The study spanned more than eight months and the strategy training covered the whole process. During the first four months, as a first step memory strategy training was integrated into the formal curriculum. After that, teacher-guided "word card strategy" and word review strategy instruction were carried out. The other two components of PVL,

"student-selected vocabulary" and "the oral task of word use", were also implemented in the second half of the study. Corresponding data were collected. Around 10 memory strategies to link word forms and meanings were taught, a questionnaire and a strategy demonstrating activity were used to examine what personalized memory strategies the participants reported and actually employed. After some organization and review strategies were taught, the word information recorded on the word cards was used to investigate what personalized organization strategies the participants employed. Two participants' individual paths of personalized strategy development were also examined with data collected in the semi-structured interviews. "Student-selected vocabulary" and "the oral task of word use" were carried out after the ten memory strategies had been taught and when some organization and review strategies were practicing. The students were asked to select five to six words to learn every school day from any sources in which they were interested, and record and retain them with 2-3 pieces of word information. After around two months when each of the participants had selected 100 personalized words, the lexical frequency profile of the student selections was examined. On the other hand, what and how the students produced in the oral task were investigated

through students' story scripts and three teachers' assessment of two items, "effective communication" and "confidence", of the performances via video review. Personalized assessment was arranged to look at how the participants review their personalized lists and how they committed the selections in their long-term memory through tests and delayed tests respectively. Two 50-word personalized assessments were conducted and the scores of the 50-word delayed tests would likely shed light on the effectiveness of PVL as a whole in facilitating vocabulary building.

5.1 Research design

This teacher research constructed, implemented and evaluated a new personalized instruction programme and the teacher-as-researcher approach and a case study method were employed. The teacher-as-researcher approach benefits both learning and also teacher autonomy. It is a situated, practical and effective method involving a close integration of practice and research on second language acquisition (Johnson, 2002), which is means-, ends- and theory-oriented (Edge, 2001, cited in Burns, 2010). The instructional

improvement that results from conducting a teacher-as-researcher study is essential for sustained pedagogical development (Gibbs, 1995) and also for teacher autonomy. In addition, when personalization is the core of the evaluative inquiry, the teacher acting as researcher in the study might be better able to understanding the participants' needs and create a free and empowering environment that an outsider researcher could not do. From an ethical standpoint, the teacher-researcher can better integrate the study into the mandated curriculum with more flexibility, making the investigation benefit students' learning rather than increase their workload or affect students' academic performance.

The case study method is also employed to evaluate the participants' engagement in PVL and the effect of PVL in facilitating vocabulary building. *Case study* is a common contemporary approach for evaluating established and innovative programmes or models (Elliot & Ludes, 2008). It has played "an important role in applied linguistics studies" (Duff, 2008:157). Furthermore, it is an ideal method when a holistic, in-depth investigation is needed (Feagin et al., 1991). The case study method is also flexible in allowing different research approaches to be combined (Nunan & Bailey, 2009).

Unlike experimental research, the case study method may not be able to draw conclusions about the cause-effect relation between a strategy or programme and academic success. However, unlike case study, experimental research is not appropriate for situations in which the intervention being evaluated has no clear set of outcomes (Yin, 1994, cited in Tellis, 1997). In fact, causality is hard to validate when the cognitive learning process which is multifaceted and complex is concerned. Using case study is justified in this intervention research to evaluate the correlation between the free and empowering learning environment and the students' engagement in learning input, learning process and learning output. Moreover, while the Control Theory-based approach celebrates student-control, it is rather inappropriate to tightly control various learning factors (except the treatment) in both the control and experimental environments.

Multiple sources of information collected from the questionnaire, word cards, story scripts and video clips are analyzed quantitatively and qualitatively to produce a comprehensive portrait of how the limited proficiency participants control their own learning input, learning process and learning output in the three components of PVL – "student-selected vocabulary", "vocabulary

learning strategy training" and "oral tasks of word use". The portrait is painted by studying the following four research questions:

1. How do the participants select new words to learn?
    a. What are the sources of the student-selected words?
    b. What is the lexical frequency profile of the student-selected words?
    c. What is the participants' attitude towards "student-selected vocabulary"?
2. What personalized strategies of word retention do the participants develop?
    a. What are their memory strategies for form-meaning linking?
    b. What are their word organization strategies?
3. How are the participants engaged in the oral task of word use?
    a. What do they produce?
    b. How do they perform in the presentation?
4. How effectively does PVL facilitate vocabulary building?
    a. What do the participants score in the 50-word tests?
    b. What do they score in the delayed 50-word tests?

The first three research questions look at how the participants engage in each of the three components of PVL. Examining the participants' engagement in the

input component is by looking at what and how they select words to learn in three ways. They include the lexical frequency profile (LFP) of the student selections, the sources of the selections and the students' attitude towards "student-selected vocabulary". Investigating the LFP of around 5,500 student selections, collected in around two months, with the assistance of the PC-based LFP software *Range 32* enables us to see whether the distribution of the selections among different frequency levels such as 1K, 2K, AWL and OFF-list (low frequency words, not containing 1K, 2K and AWL) is conducive to vocabulary growth. For the participants who possess a vocabulary size of around 1,400 families, selecting too many basic words (1K+ 2K) or sophisticated words (AWL+OFF-list) is inadvisable for vocabulary growth. It is expected that the participants select a balanced proportion to fill the knowledge gap of their basic word families and meanwhile meet part of the curriculum requirement of sophisticated word retention. On the other hand, examining the sources of student selections and the students' attitude towards "student-selected vocabulary" can reveal the participants' motivation and the degree of freedom of curriculum decision they need.

It is not easy to examine the participants', especially the teenagers', cognitive process of personalized strategy development. Therefore several instruments which include a questionnaire, an activity, 5,000 word cards and two semi-structured interviews are utilized for the students to self report and show their personalized strategy development. As the participants have not been taught any strategies before the study, "vocabulary learning strategy training" focuses on memory strategies for form-meaning linking and organization and review strategies for long-term word retention. After around 10 memory strategies are taught in the first half of the study, a questionnaire and a strategy demonstration activity are used to investigate the personalized memory strategies the students reported and actually employed respectively. At the end of the study, the 11,000 pieces of word information recorded on around 5,000 word cards are examined so that it can be seen what organization strategies the students employed. After that, two individual students' development paths of memory, organization and review strategies are investigated through two semi-structured interviews.

To answer the third research question, the participants' engagement in "the oral task of word use" through looking at what and how they produce is examined.

The theme, the length and the creativity of the story, and also the correct rate of word use are disclosed by examining 57 story scripts. Three English teachers' assessment on two items, "effective communication" and "confidence" of the storytelling performances, with the marking scheme similar to that of the university entrance exam, may shed light on how the participants build confidence in performing the challenging task. The task of word use facilitates word retention and empowers students as well, yet examining the effect of the output component of PVL in this study mainly focuses on empowering as, restricted by the limited lesson time, only one performance is arranged in each school day for big groups.

The last research question evaluates the effect of PVL as a whole in facilitating vocabulary building with some 50-word personalized assessments including tests and delayed tests. Advance notice of the assessment is available for the tests, but not for the delayed tests each of which is conducted around three weeks after the corresponding test. While the test results may reflect how hard the participants work on the cumulative review or how effective the participants' review strategy employment, the delayed test results may represent the long-term word retention rate or the effect of PVL on vocabulary building.

Altogether two tests and two delayed tests were administered to assess students' receptive vocabulary knowledge. Having collected the results of the first test and delayed test, the results of the second pair of test and delayed test serve as data for triangulation.

5.2 Setting

The study spanned over eight months from November, 2009 to July, 2010 in a Hong Kong Band three CMI school where the researcher worked as an English teacher in her fourth year. The school is situated in Kwai Chung, a district inhabited typically by low socioeconomic status families. Usually five to seven classes of forty students in one grade study the same mandated syllabus in the school. As a regulation for better facilitation, the class size is reduced for English lessons -- two classes split into three groups of 25 to 30 students, because English language is usually one of the most difficult subjects for the students. The curriculum, as for every secondary school in Hong Kong, is extremely tight. In addition to six to seven textbooks, different kinds of supplementary material, including reading comprehension supplement,

grammar worksheets and news excerpts, have to be covered. The eight 40-minute English periods in a week are spent on reading, listening, speaking, writing, grammar, news, graded readers/stories and various types of formative assessment such as vocabulary quiz, dictation, grammar quiz and comprehension test. For the senior grades (Secondary 4-6 or Grades 10-12), altogether three elective English courses -- “social issues”, “short stories” and “workplace communication” -- are added in three years.

The teacher-centred, textbook-centred and grammar-oriented approach is commonly implemented in most of the classrooms to cover the over-tight syllabus with a great number of students refusing to do class work, failing to submit homework and/or sleeping during the lesson. Interactive activities or tasks are seldom conducted though the group size is reduced. Vocabulary teaching usually occurs in *reading* periods. The conventional pedagogical approach inherited from the previous grammar-translation syllabus is often used – selecting new words with particular reference to the vocabulary list in the textbook, explaining in Chinese or asking students to look up the Chinese meanings of the words in the dictionary, modelling the pronunciation of the words a few times with students echoing in chorus and asking them to jot down

vocabulary notes which only involve the word form and the L1 equivalents. Some simple homework involving written repetition is usually assigned. A revision word list of around 25-30 items is distributed before any graded assessment, acting as a "hot tip" of manageable scope to help students score higher in the assessment. Students are expected to memorize the newly learned words mechanically. Strategy teaching or vocabulary-focused tasks are hardly on the teaching agenda.

Many students in this school share the difficulties of English learning with limited vocabulary knowledge. "Using L1 to represent the sound of the unfamiliar word" and "repetition" are the common strategies they developed by themselves. In order to cope with the recitation assignment and dictation assessment which involve speaking and listening, some students write Chinese characters or English letters above some unfamiliar words to approximately represent their pronunciation (e.g. Chinese character "刀" representing the sound of THOUGH). Before summative assessment, most students put aside their vocabulary notebook and review the teacher-distributed wordlists mostly with the strategies "written repetition" and "silent repetition".

5.3 Participants

Fifty-seven students participated in this case study, thirty-one Secondary 4 students (17 female, 14 male) in Group 4B and twenty-six Secondary 3 students (10 female, 16 male) in Group 3C. Most of the participants had studied in the school since Secondary 1 (Grade 7) and in each group there were a few students who were immigrants from mainland China. The researcher was their English teacher during the academic year 2009-2010. Bradley and Manzo (2000) claim that the secondary grades (Grade 7-12) have been called the weak link of education, the time when academics lose focus and standards decline. This holds true for most students in this Band three CMI school, referring to students except the comparatively top students in Class A.

Generally speaking both groups were limited proficiency students among Hong Kong teenagers but Group 4B, comparatively speaking, was more academically able than Group 3C in terms of the grade levels and the class allocation. Concerning learning objectives, some of the participants in Group 4B aimed to be promoted to 5A and then 6A in one to two years to grab the slim chance of going to university. On the other hand, few students in Group 3C would think

about academic success as there was hardly any possibility for them to be promoted to Class 4A.

Vocabulary size and reading examination scores also showed group differences in language proficiency before the study fully started. With the assistance of the Vocabulary Levels Test (Laufer & Nation, 1995), a commonly used test of receptive vocabulary knowledge available on Cobb's website (www.lextutor.ca), the participants' prior vocabulary knowledge was assessed through their scores in the multiple exercises involving words in 1K, 2K, 3K and 5K. It was found that the less able group possessed around 1,200 and the more able group 1,600 word families, indicating that the participants had a word power far less than 2,000 word families, which is the standard of the Grade six pupil (McNeill & Lai, 2007). Table 5.1 shows the details of the vocabulary sizes of the two groups.

Table 5.1 Participants' vocabulary sizes according to Vocabulary Levels Test

	No. of Ss	Minimum	Maximum	Mean	SD
Vocab. size of 3C	26	680	2,260	1,183.46	308.272
Vocab. size of 4B	31	1,110	2,470	1,603.55	376.152

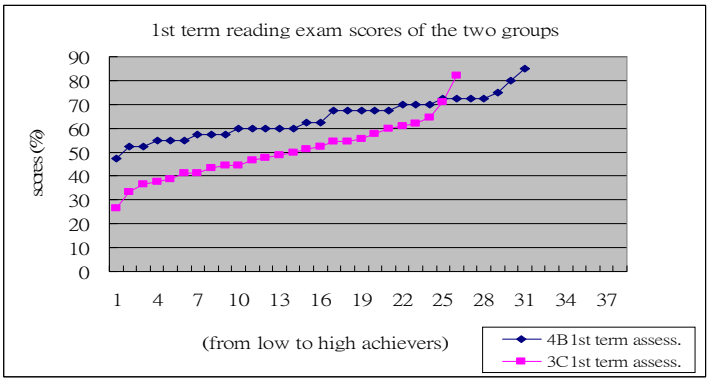
As for reading comprehension, Group 3C and Group 4B scored around 50% and 64% respectively, 50% being the passing threshold in the first term exam.

The reading exam scores were 66% from the reading exam paper, 23% from the mid-term reading test and 11% from another reading test. Table 5.2 and Figure 5.1 show the group differences in reading exam scores.

Table 5.2 The first term reading exam scores

	No. of Ss	Minimum	Maximum	Mean	SD	No. of Ss failed
Exam scores of 3C	26	26.7	82.2	50.292	12.247	13
Exam scores of 4B	31	47.5	85	64.274	8.689	1

Figure 5.1 The first term reading exam scores



5.4 Instruments

Various instruments including word cards, questionnaires, video clips, story scripts, personalized assessment and semi-structured interviews were used to examine the four research questions quantitatively and qualitatively.

5.4.1 Word cards

The word card strategy was practised directed by the teacher in this study, as part of strategy training emphasizing the importance of word organization and review in retaining words in long-term memory. Each of the students recorded 150 words on the word cards with some word information they thought useful from March to June, 2010. They were encouraged to record some form-related and usage-related information like the part of speech and sentential contexts, along with the L1 equivalent. The reason that word card rather than notebook was chosen for guided practice was because cards could provide more space for information recording and more flexibility for word reviewing (Nation, 2001). The student-selected new words and word information on the cards shed light on what words and what information the participants needed and also what their personalized organization strategies were. With the assistance of the Vocabprofile program *Range 32*, the distribution of student-selected words among different frequency lists -- the first thousand basic word families (1K), the second thousand basic word families (2K), the Academic Word List (AWL) and words except 1K, 2K and AWL (OFF-list) could be learned. It might tell

whether the selections were balanced for vocabulary growth or otherwise.

5.4.2 Questionnaires

A questionnaire was distributed in March, 2010 for the participants to report their personalized strategies of form-meaning linking (Appendix 1) after around 10 memory strategies, including both imagery and analytic strategies, were taught in the strategy training. Nine statements of seven taught memory strategies were provided in the first part of the questionnaire and the participants responded according to the frequency of use: *never (1), sometimes (2) and always (3)*. The questionnaire also provided six blanks for the participants to put down some other strategies they always used, if any. Another questionnaire was administered in May the same year in which two questions looked at the participants' attitudes to "student-selected vocabulary" and the sources of their selections.

5.4.3 Video clips

Strategy demonstration video

The strategy demonstration activity was conducted in one lesson in April, 2010 and was video-recorded with the consent of the students. The video clips could help analyze the students' actual employment of their personalized memory strategies.

Storytelling video

"Storytelling with five selected words integrated in the storyline" was employed as the oral task of word use in the current study. It was conducted from March to May, 2010, with one performance per school day. Twenty-four presentations were video-recorded with the presenters' consent. The storytelling video was used to assess the participants' linguistic and affective achievement, if any, by three English teachers who had not taught the participants. The assessment description and the marking scheme were similar to those of the Speaking Paper in the university entrance examination. The item "effective communication" was represented by three factors, namely, "comprehensibility", "pronunciation" and "fluency" while another item "confidence" was examined through evidence

such as eye contact, voice and gestures. The five grades from (5) to (1) represent *Very good*, *Good*, *Adequate*, *Inadequate but acceptable*, and *Unacceptable*, in which Grade 3 is the university admitting benchmark for English, Grade 2 the pass threshold and Grade 1 represents failure.

5.4.4 Story scripts

Writing the story script with some self-selected words integrated into the context was part of the task preparation work. Examining the length of the scripts, the themes of the stories, the creativity elements and the correctness of word use in the 57 scripts might reveal how the participants engaged in the learning output.

5.4.5 Personalized assessment

Whenever the participants recorded 50 words (in about 10 school days), the receptive vocabulary knowledge of their selected words was tested with 2-3 days advance notice. It was a personalized test in which each student was tested

differently, based on the 50 words chosen by them. To the best of the researcher's knowledge, this is unique as few vocabulary studies have employed personalized vocabulary assessment. The participants usually had 20 minutes to complete the pen-and-paper assessment in which the L1 meanings were tested with the prompt of the English words provided. Without advance notice, delayed tests came three weeks after each of the tests. Delayed recall after 2 weeks under experimental conditions is normally referred to as long-term retention (Gu, 2003). Altogether Test 1 and Delayed Test 1, and Test 2 and Delayed Test 2 were conducted from late March to early June. The second test and delayed test could serve as data for triangulation. The participants were clearly informed that those scores had nothing to do with their formal academic results. This was to assure that students' motivation was from inside rather than the result of external stimuli. The test results might tell how the participants engaged in word review, and the delayed test results might shed light on the long-term word retention rate or the effectiveness of PVL in vocabulary building.

Setting the personalized assessment was time-consuming since 57 test-papers contained 57 different sets of 50-personalized words. *E-class*, an online

learning platform available in every primary and secondary school in Hong Kong, was utilized for collecting the e-version of the student-selected vocabulary and it saved part of the work involved in setting the test paper. A couple of days before the test, the participants were asked to type their 50 to-be-tested words in the e-class. Typing might work as part of students' cumulative review.

5.4.6 Semi-structured Interviews

Two participants of distant learning differences in Group 4B were invited to the semi-structured interview at the end of the study in mid-July, talking generally about their experience of vocabulary building, especially their personalized strategies developing. In order to assist the two students to reflect on their learning approaches, their word cards, questionnaires and test-papers were shown during the individual interview which lasted around twenty minutes. The interviews were conducted in their L1 for better communication. It was hoped that the informality of the semi-structured interview would make the participants feel at ease in "a relaxed and trusting atmosphere" (Moustakas,

1994). The interviews were not wholly transcribed and only the information pertaining to strategy development was used for analysis.

The interview guidelines were set as follows:

(a) When you find a new word, how do you memorize its form and meaning?

(b) How do you record it?

(c) How do you review the newly learned words?

5.5 Procedure

The study spanned more than eight months. After around ten imagery and analytic strategies for linking word form and meaning had been taught in the first half of the study, the teacher research fully started in February, 2010, right after the mid-term test of the first term, and ended in mid-July the same year. The participants were informed of the nature and the purpose of the research when they came back to school in February after the Chinese New Year holiday. The three components of PVL were incorporated into the daily instruction of the formal curriculum. During the second half of the research, "student-selected vocabulary" was conducted from March to June along with the guided practice

of the “word card strategy” for students to organize and review their selections. Meanwhile several strategies of word review were also practiced in the form of games and activities. The oral task, “storytelling with five selected words integrated in the storyline”, was performed individually from March to May, basically one presentation in a school day, due to the over-tight curriculum. April was the month in which little intervention was processed as the four-day mid-term test and the two-week Easter holiday were scheduled for that month. The timeline and the procedure of the study are shown in Table 5.3.

In “student-selected vocabulary”, the participants were asked to select five to six words-to-learn (flexibility is encouraged in PVL) every school day from their daily lesson or outside the curriculum (and to record and retain with 2-3 pieces of word information). When around 150 personalized words were selected by each of the participants, a questionnaire was administered in May to examine the sources of student-selected words and the participants’ view on “student-selected vocabulary”. Also, the Lexical Frequency Profile (LFP) of student selections was examined to see whether the selections were conducive to vocabulary growth.

Table 5.3 The timeline and the major events in the procedure

	Second half of the first term			The second term					
Time: mm/yy (school days) / Procedure	11/09 (21)	12/09 (15)	01/10 (11)	02/10 (20)	03/10 (20)	04/10 (7)	05/10 (21)	06/10 (24)	07/10 (0)
Student-selected vocabulary					■		■	■	
Strategy training: *memory strategies*	■	■	■	■					
review strategies				■	■		■		
word card strategy					■		■	■	
Strategy independent practice						■			
Storytelling task of word use					■		■		
Questionnaires					■		■		
Personalized assessment: *tests*					■		■		
delayed tests						■		■	
Semi-structured interviews									■

The "vocabulary learning strategy training" involved introducing and repeatedly demonstrating diverse memory strategies, including both imagery and analytic strategies, for form-meaning linking, and guided-practice of several strategies of organization and review. Schmitt's (1997) consolidation strategies among others' are taken as reference. Different strategies are taught differently. Some are easy to teach by just giving introduction. Some may better be practiced again and again and some require basic knowledge like phonetics and affixes. Basically, introducing, demonstration, teacher-directed practising and independent practice were used in the study.

More memory strategies were taught in the study than organization and review strategies for learners to deal with thousands of word forms with a huge variety of characteristics. The taught memory strategies include common prefixes, basic pronunciation rules, phoneme chanting, "parts and roots", "the keyword method", "study sound and the spelling of word", "study the part of speech", "putting the word in a topic group", "visualizing the word in isolation", "linking the word to a situation", "creating a mental image of the word" and "associating a physical sensation with the word". On the other hand, word organization and review strategies involve cognitive and metacognitive awareness and directed practice is preferred. Nation's (2001) instruction of "word card strategy" guides was taken as reference (see pp. 81) and the students were advised, instead of focusing only on Chinese meaning as they used to do, to jot down 2-3 pieces of meaning-related, form-related and usage-related information which they thought useful. Several strategies of word review like "oral and written repetition", "spaced review", "review word meanings in-pairs", "repeat and add" and "continue to study word over time" were also practiced in the form of games and activities, apart from encouraging daily review of the word cards. "Review word meanings in-pairs" was carried out in Friday lessons in March

and May. During the Friday lesson, each of the students read aloud the weekly personalized selections from their cards and tried to retrieve the meanings from their memory before the partners. They could turn the card over to have a look whenever they got stuck. The students repeated this process with the new weekly selections on the following Fridays. "Repeat and add" is a word review game in which students stand in a circle and each repeats the previous classmates' words and then adds one more item of the same topic. In addition, the participants were asked to type their 50 to-be-tested English words as part of the cumulative review in the e-class before tests. Table 5.4 shows the learning strategy teaching agenda.

Table 5.4 Vocabulary learning strategy training schedule

Time	Memory strategies	Organization & review strategies
11/09	phonemes, basic pronunciation rules, *study sound of word,* *study word spelling*	
12/09	*image word's meaning,* *image word form* *physical actions,* *link the word to a situation,* *associate physical sensations with the word*	
01/10	*keyword method,* *study the part of speech*	
02/10	common prefixes, *affixes and roots*	*oral and written repetition* *spaced review*
03/10		*word card strategy* practice *review word meanings in-pairs* *repeat and add**
04/10		
05/10		*word card strategy* practice *continue to study word over time*
06/10		*word card strategy practice*

Examining personalized memory strategy development is through questionnaire and an activity. A questionnaire was administered in late March for the participants to self-report what memory strategies they always used after ten memory strategies had been taught. The strategy demonstration activity, in which each participant demonstrated their strategies to retain a word which they had selected from an assigned wordlist earlier, was conducted to see how the students actually employed their personalized memory strategies. *Word card strategy* was practised for examining the participants' word organization strategies to see what word information they recorded for their selected words. As for word review, apart from encouraging daily review, "weekly review in pairs" was carried out in Friday lessons in March and May. During the Friday lesson, each of the students read aloud the weekly personalized selections from their cards and tried to retrieve the meanings from their memory before the partners. They could turn the card over to have a look whenever they got stuck. The students repeated this process with the new weekly selections on the following Fridays. To examine development of memory, organization and review strategies as a whole, two participants who had distinctive learning differences were invited to talk about their paths of strategy development in the

semi-structured interview in July. The L1 interviews were tape-recorded and lasted around 15 to 20 minutes each.

The storytelling task of word use was conducted during March and May and the participants' preparation work -- story script writing -- was compulsory. Poems and jokes were also welcome as long as the newly selected words were incorporated. A few minutes at the beginning of the daily English lesson was allocated for one individual presentation, in which the selected words were written on the board for better notice. Since only one performance was arranged daily due to the over-tight curriculum, the focus of inquiry in the current study was on confidence building or empowering rather than word retention. The participants were clearly informed that the presentation had nothing to do with their academic results. Altogether around 40 story presentations were conducted in each of the groups and each participant performed at least once. If the presenter of the day was absent, a make-up presentation of the absentee was arranged in the following lesson.

Whenever 50 words were selected around every two weeks, a non-graded personalized test was held with a three day-advance notice, and a delayed test

was conducted anytime after three weeks with no advance reminder. The participants were supposed to do the cumulative review before the 50-word personalized tests. Altogether Test 1 and Delayed Test 1, and Test 2 and Delayed Test 2 were conducted to assess students' receptive vocabulary knowledge in late March, mid-April, mid-May and early June respectively. While the results of the second test and delayed test were used as data for triangulation, the third batch of 50 words were not assessed because the final exam was approaching. The students usually had 15-20 minutes to write down the L1 equivalent with the prompt of their 50 personalized words in the pen-and-paper assessment. Personalized test papers were set with the assistance of the e-class, where the participants typed their 50 to-be-tested English words a couple of days before each of the tests. The teacher checked the spelling and informed the participants if there were any misspellings on the eve of the tests.

5.6 Data collection

Each participant's first 100 selected words typed in March and May in two batches in the e-class were collected and categorized into single-word and

mutliword selections. The 700 plus multiword selections were grouped as Multiword Word Pool. The single-word selections from each group were assembled as Word Pool 3C and Word Pool 4B, and the two were put together as Combined Word Pool which consisted of 4,700 plus selections. The three pools' Lexical Frequency Profiles (LFPs) were analyzed. The students' responses to the May Questionnaire were collected to examine their word sources and their attitude towards "student-selected vocabulary". Investigating the participants' personalized memory strategies was through self-reporting in response to the March Questionnaire and their independent practice in the strategy demonstration activity which was video-recorded. The 150 cards each of the students made till June, 2010 were used to examine their personalized features in word information organization. Two individuals' reflections on their personalized strategy development were examined through the semi-structured interviews, which were tape-recorded. For the learning output, storytelling presentations were video-recorded for assessing the comprehensibility of the story and the confidence of the presenters by three English teachers. The story scripts collected were used to look at the participants' engagement in the task

preparation through story content, creativity elements and the correct rate of word use.

Chapter 6

Results

Four sets of analysis are presented in this chapter to examine, both quantitatively and qualitatively, how the participants were engaged in the three components of PVL -- student-selected vocabulary, vocabulary learning strategy training, and the oral task of word use; and how PVL as a whole facilitated the students' retention of their personalized selections in long-term memory. The following four research questions are each addressed in turn.

1. How do the participants select new words to learn?
    a. What are the sources of the student-selected words?
    b. What is the lexical frequency profile of the student-selected words?
    c. What is the participants' attitude to "student-selected vocabulary"?
2. What personalized strategies of word retention do the participants develop?
    a. What are their memory strategies for form-meaning linking?
    b. What are their word organization strategies?

3. How are the participants engaged in the oral task of word use?

   a. What do they produce?

   b. How do they perform?

4. How effective is PVL in facilitating vocabulary building?

   a. What do the participants score in the 50-word tests?

   b. What do they score in the delayed 50-word tests?

The first research question looks at the sources and the Lexical Frequency Profile of the participants' selected items, to see what and how they make choice of the learning content for vocabulary growth. The second research question examines the effect of strategy training through the personalized memory strategies reported in the questionnaire and employed in an activity, and also the word information recorded on the word cards. Two semi-structured interviews were conducted to see individual paths of personalized strategies development. The third research question investigates how the participants are engaged in oral performance through examining what and how they presented through story scripts and three teachers' assessment of their performance. The last research question is through the scores of the 50-word tests and delayed tests to examine the participants' achievement in vocabulary building.

Fulfilling learners' common internal needs to attend to individual differences and motivate learning is the key feature of PVL. Freedom and power are particularly interwoven in the three components of the constructed approach to cater for learners' different needs in learning input, process and output and to motivate vocabulary building. It is presumed that the participants' potential is unleashed when they select words to learn for their own vocabulary growth in "student-selected vocabulary", develop from "vocabulary learning strategy training" their personalized memory, organization and review strategies for both short and long term word retention, and build confidence and power in "the oral task of word use". In the light of this, it is presumed that the participants score above the 50% passing threshold in the 50-word personalized assessment.

6.1 Vocabulary student selection

The first research question looks at how the participants select unfamiliar words to learn. This section is to examine the participants' engagement in the input component of PVL "vocabulary student-selection" from three aspects: their sources of the selections, the Lexical Frequency Profile (LFP) of their

selections, and their attitude towards "student-selected vocabulary". The first and the third aspects are investigated through the participants' responses to two questions in a questionnaire administered in May when they worked on "student-selected vocabulary" for around two months and 100 words were selected from each of the participants' personalized list. The LFP software *Range 32,* freely downloaded from Paul Nation's website (http://www.victoria.ac.nz/lals/about/staff/paul-nation), and another software *Text Lex Compare* provided in Tom Cobb's website (www.lextutor.ca) are utilized to investigate the distribution of the student selections at different frequency levels, to see whether the participants select words to learn for vocabulary growth.

6.1.1 The source of student selections

Examining the sources of each student's selections helps understand the participants' motivation, interest and their other learning needs. The participants were encouraged to learn words from various contexts including the formal curriculum of English and any English discourses out of the syllabus, such as commercial leaflets and pop song lyrics. A questionnaire was administered in

late May when each of the participants had selected two batches of 50 words before and after the Easter holiday. The participants responded in Chinese L1 or English while the teacher was interpreting the questions in Chinese during the administration.

According to the response to the question asking about the sources of the selections, 12 items were raised and mentioned 79 times in total by 55 respondents. One student put down “things I like” which is too general and is thus ignored. The four items “storybooks”, “textbooks”, “worksheets” and “news excerpts” are grouped as the source “the formal curriculum” scource. Four other items, “movies”, “songs”, “the internet” and “TV”, are regarded as “multimedia”. Also, “streets”, “daily life” and “display boards in school” are grouped together as the “social environment” source, while the item “dictionary” stands independently.

Table 6.1 shows the source “social environment” is the least mentioned. The 3.8% mention rate of “social environment” reflects that although there are a variety of English discourses available in the community, the students pay little attention to them. The insensitivity to the English discourse in the community is

probably attributable to the availability of the L1 version of most of the English discourses, a typical phenomenon in Hong Kong.

Table 6.1 The sources of the student-selected vocabulary items

Sources	No. of mentions from both groups	No. of mentions from 3C (26 Ss)	No. of mentions from 4B (29 Ss)
Formal curriculum:	44 (55.7%)	12 (42.9%)	32 (62.8%)
Storybooks	*18 (22.8%)*	*5 (17.9%)*	*13 (25.5%)*
Textbooks	*12 (15.2%)*	*1*	*11 (21.6%)*
Worksheets	*3*	*/*	*3*
News excerpts	*11*	*6 (21.4%)*	*5*
Multimedia:	27(34.2%)	12 (42.9%)	15 (29.5%)
Movies	*2*	*1*	*1*
Songs	*5*	*2*	*3*
The Internet	*19 (24.1%)*	*9 (32.1%)*	*10 (19.6%)*
TV	*1*	*/*	*1*
Dictionary	5 (9.8%)	3 (10.7%)	2 (3.9%)
Social environment	3 (3.8%)	1 (3.6%)	2 (3.9%)

The "formal curriculum" and the "multimedia" attaining the mention rates of 55.7% and 34.2% respectively indicates that the Band three participants primarily selected words to learn from the curriculum which is most relevant to their learning goal, and secondarily from the multimedia, an indispensable resource in the digital era attracting most teenagers' interest. For the individual items of the word sources, it is noted that "the Internet", a component of the "multimedia", is most mentioned. It attains a mention rate of 24.1%, marginally higher than the second-placed item "storybooks" (22.8%) and the third-placed

"textbooks" (15.2%), both belonging to the source of the formal curriculum. It would seem that computers and the internet technologies are playing an increasingly important role in providing language learning resources for secondary school students.

Differences are noted in the word sources between groups. The more able group obviously focused more on the formal curriculum while the less able group weighted the two main sources the same. Group 4B, confronting more urgency and immediacy in preparing for the university entrance exam than the junior secondary group, paid twice as much attention to the "formal curriculum" than "the multimedia" (62.8% vs. 29.5%), while the less able group gave them both the same weight (42.9%). The most mentioned sources in Group 3C are "the Internet" (32.1%) "news excerpts" (21.4%) and "storybooks" (17.9%) while in Group 4B they are "storybooks" (25.5%), "textbook" (21.6%) and "the Internet" (19.6%).

6.1.2 Lexical Frequency Profile of single-word selections

The aim of vocabulary building is to bring learners' vocabulary knowledge into language use as, for example, in reading comprehension. Thus for the secondary students who process an average vocabulary size of 1,400 word families, theoretically speaking, it is necessary to attain a solid base of the 2,000 frequently-used words in West's General Service List. These words represent a coverage of more than 80% of every genre of text, and the aim is to progress from them towards the reading comprehension threshold of authentic texts. In other words, the limited proficiency participants' responsible behaviour in "student-selected vocabulary" is supposed to establish a balanced proportion between the basic words 1K and 2K, and the sophisticated words. The latter consist of Coxhead's AWL, the 570 most frequent academic words, and part of the low-frequency OFF-list made up of thousands of words not contained in the 1K, 2K and AWL. Regarding reading comprehension, simply attaining the basic words is not sufficient to comprehend texts as the 2,000 frequently-used words cover around 87% of most fiction or 80% of most news articles (Nation, 2001) while the minimum comprehension threshold is 95% (Laufer, 2010). On

the other hand, neither is comprehension achieved if the low ranking participants mainly choose sophisticated words and fail to learn the basic words.

Examining the Lexical Frequency Profile (LFP) of the students' selections sheds light on whether the Band three students chose balanced selections for vocabulary growth. *Range 32*, a PC based LFP software available at Paul Nation's website, is utilized to calculate the LFP statistics of the students' selections in 1K, 2K, AWL and OFF-list. *Range 32* is designed to list the words in types and families according to the list the running words/tokens occur in. It can also provide frequency and distribution proportion of word token, type and family. However, *Range 32* only deals with single-word items. Some manual work is needed to sort out the multi-word items in the student selections for separate analysis. Thus the student selections retrieved from the e-class are split into two categories -- single-word selections and multiword item selections. As a result, 727 selections of multiword items are sorted out from the over five thousand selections as the Multiword Pool. The single-word selections of Group 3C are compiled in "Word Pool 3C" and those from Group 4B are grouped as "Word Pool 4B". The two pools are then put together as the "Combined Word

Pool". The Lexical Frequency Profiles of the Combined Word Pool, Word Pool 3C and Word Pool 4B are examined respectively with *Range 32*.

6.1.2.1 LFP of the Combined Word Pool

The statistical results calculated with *Range 32* show that the single-word selections are basically favourable for vocabulary growth as the proportion among the four frequency lists is sensibly balanced. There are in total 4,716 single-word token selections in the Combined Word Pool chosen by the 57 participants from March till May, 2010, around 83 single-word selections per participant. The LFP among 1K, 2K, AWL and OFF-list is 20.7%-20.1%-15.8% -43.4% (see Table 6.2). The biggest proportion falls in the OFF-list whereas the smallest proportion is in the AWL, which might be attributed to the sizes of the two. The OFF-list encompasses thousands of word families while the 570-family AWL is around 43% smaller than 1K or 2K, and considerably smaller than the OFF-list. Concerning the two main categories of vocabulary -- the basic words (1K+2K) and the sophisticated words (AWL+ OFF-list), the proportion is around 4:6. This indicates that the participants who had an average

vocabulary size of 1,400 word families put more sophisticated words in their learning lists and, in the meantime, attempted to fill the knowledge gap of the basic 2,000 words.

Table 6.2 The LFP of students' single-word token selections

	1K	2K	AWL	OFF-list	**Total**
Combined WordPool	978 tokens (20.74%)	948 tokens (20.10%)	744 tokens (15.78%)	2,046 tokens (43.38%)	4,716 tokens (100%)

Regarding the basic word category, 1K selections are slightly higher than their selections in 2K (20.74% vs. 20.10%), which is a little surprising. Since the chance of a student encountering words in 1K when reading is 80% while that in 2K is 5% (Nation, 2001), it is justified to suppose the participants with a vocabulary size of 1,400 word families had already attained more words in 1K than in 2K, and thus they might choose fewer words in 1K than in 2K as new words. It might be worth looking at what these words in the 1K selections are (to be elaborated in Section 6.1.2.3). As for the sophisticated word category, the study will further examine the distribution of the OFF-list selections, which account for the largest proportion (43.4%) in the Combined Word Pool, among the BNC-20 lists in Section 6.1.2.4.

6.1.2.2 Group differences in LFP

Comparing the lexical frequency profiles of the two groups helps us to understand the different needs in vocabulary growth of students of different proficiency levels. The statistical results calculated with *Range 32* show that while both groups placed balanced weight on different frequency lists for vocabulary growth, the group differences in LFP are to the expected. Table 6.3 shows the LFP results of the Word Pool 3C 25.8%-23%-12.5%-38.7% and that of the Word Pool 4B 16.5%-17.7%-18.6%-47.3%. Regarding the two main categories, i.e. the basic words and the sophisticated words, it is noted that the less able group put nearly the same weight on both (49%-51%), while the more able group pay twice as much attention to the sophisticated words (34%-66%).

Table 6.3 The LFP of two groups' single-word selections/tokens

	1K	2K	AWL	OFF-list	**Total**
Word Pool 3C	557 (25.82%)	496 (22.99%)	269 (12.47%)	835 (38.72%)	2,157 (100%)
Word Pool 4B	421 (16.45%)	452 (17.66%)	475 (18.56%)	1,211 (47.31%)	2,559 (100%)

Apart from the group difference that the more able group selected more sophisticated words, it is also noted that the smallest proportion in Word Pool

3C goes to AWL whereas that in Word Pool 4B is 1K (see Figure 6.1). SPSS was used to examine the correlation of the groups' vocabulary sizes and the frequency levels of the words they selected to learn.

Figure 6.1 Group differences in LFP

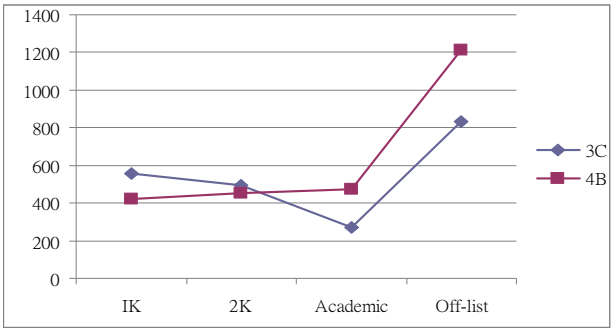


Table 6.4 The correlation between the groups' vocabulary sizes and LFP

Correlation	r =	Sig.	Conclusion
Vocab. size and 1K selections	**-0.476**	**0.000****	Moderate negative correlation
Vocab. size and 2K selections	**-0.257**	**0.063**	No significant correlation
Vocab. size and AWL selections	**0.461**	**0.001****	Moderate positive correlation
Vocab. size and OFF-list selections	**0.163**	**0.243**	No significant correlation

Note: ** *Sig.* is less than 0.001

Supported by the quantitative evidence, there are statistically significant differences that the senior group with bigger vocabulary size selected fewer 1K words and more AWL words while the junior group chose more 1K words and fewer AWL words. The figures in Table 6.4 show that there is:

(1) A moderate negative correlation between the participants' vocabulary sizes and the number of 1K words they selected (r = -0.476, sig. = 0.000);

(2) A moderate positive correlation between the participants' vocabulary sizes and the number of AWL words they selected (r = 0.461, sig. = 0.001);

(3) No significant correlation between participants' vocabulary sizes and the 2K words; or their vocabulary sizes and the OFF-list words they selected.

The findings are to some extent consistent with Laufer and Nation's (1995) study which concludes that tertiary students attaining higher language proficiency levels or higher scores in the vocabulary levels test use fewer 1K words but more words in the "University Wordlist" (UWL) in essay writing. The 836-family UWL, developed by Nation in 1990, is the predecessor of AWL. The SPSS results show that the differences are statistically significant that the junior group needed more 1K words and the senior group more AWL words.

6.1.2.3 The 1K selections

Compared to the proportion of the 2K selections, the 1K proportion is to a certain extent higher than expected in the Combined Word Pool though the

figures are almost the same (20.7% vs. 20.1%). Even for the senior group who significantly selected fewer 1K words, their 1K proportion is only 1% less than the 2K selections (16.45% vs. 17.66%). It is worth looking at what these words in the 1K selections are, or what the most selected 1K words are, in the Combined Word Pool. Table 6.5 shows the 27 most-selected 1K word types, involving 242 tokens and accounting for 25% of the total 1K selections or over 5% of the total single-word selections, chosen by 7 to 14 students.

Table 6.5 Most-Selected 1K word types in Combined Word Pool

Freq.	14	13	12	11	10	9	8	7
Word type	AMOUNT	ENTRY	WAGE	EMPLOYEE VARIETY	APPLY FREEDOM MEMORY PLEASED QUANTITY ROUGH	COMMON STRIKE	LOCAL QUALITY REASONABLE SHAPE SPOT	ACCENT CONTAIN CURRENT DISTRICT EXPERIENCE FURNITURE HOMELESS PROFIT STRENGTHEN

*Note: "*Freq.*" represents the selections.*

It is noted that while the word AMOUNT is selected by 14 participants and is the most selected 1K word, some words such as VARIETY, QUANTITY, QUALITY and ACCENT, to the best of the teacher-researcher's knowledge, seldom appear in the textbooks and the students did not have many chances to encounter. This indicates that some words frequently used by the native English speaker might not be necessarily very often met by the EFL participants. Also, some words such as ENTRY, FREEDOM, REASONABLE, HOMELESS,

being most selected, reveal that a number of the participants might lack adequate knowledge of the 1K families though the students might be familiar with the 1K base words/headwords “enter”, “free”, “reason” and “home”. It is understandable that the limited proficiency participants put those semi-unfamiliar 1K word family members in their learning list to fill the knowledge gap and deepen the knowledge of the most basic word list. Schmitt and Zimmerman (2002) claim that even advanced learners do not necessarily know all family members of the headwords they have already acquired.

6.1.2.4 The OFF-List selections

It is worth further examining how low is the frequency profile of the OFF-List selections which account for the biggest share by token and also by type. Since the curriculum requirement is 5,000 word families for secondary school leavers (McNeill & Lai, 2007), it is better if the OFF-List selections mostly fall in the first five to six thousand word families. Examining the distribution of the OFF-List type selections among the BNC-20 lists might provide a clearer picture of the scenario. The British National Corpus (BNC) is one of the most

comprehensive and most utilized corpora for vocabulary research, containing 100 million words of samples of both written and spoken discourse. The BNC-20 frequency lists are extracted from the BNC master list.

The statistics calculated by *Range 32* show the 4,716 single-word token selections involved 2,180 word types, of which 1,052 types (48.26%) fall in the OFF-list (Table 6.6). The distribution of these 1,052 OFF-list word types among the BNC-20 frequency lists is calculated with the assistance of the software *Text Lex Compare* provided in Cobb's website.

Table 6.6 The LFP of students' single-word type selections

	1K	2K	AWL	**OFF-list**	Total
Combined WordPool	428 types (19.63%)	416 types (19.08%)	284 types (13.03%)	**1,052 types (48.26 %)**	2,180 (100 %)

Table 6.7 Distribution of the OFF-list type selections in BNC-20 frequency lists

	OFF-list type selections												
	1st K	2nd K	**3rd K**	**4th K**	**5th K**	**6th K**	7th K	8th K	9th K	10th K	…	20th K	**Total**
Type	35	72	**173**	**169**	**132**	**101**	68	49	28	37	…	2	**1,052**
%	1.6 %	3.3 %	**7.9 %**	**7.8 %**	**6.1 %**	**4.6 %**	3.1 %	2.2 %	1.3 %	1.7 %	…	0.1 %	**48.26 %**
	31.3%						16.96%						

As shown in Table 6.7, the 1,052 OFF-list word types mostly fall in the 3rdK, 4thK, 5thK and 6thK of the BNC-20 frequency lists and around two-thirds of the

OFF-list word types fall within the first six thousand word families (it is natural that one to three percent of the OFF-list type selections go to the 1stK and 2ndK as 1K and 2K in the General Service List, which *Range 32* is partially based on, are different from 1stK and 2ndK in the BNC-20). The data indicate that around 17% (370 word types) of the participants' word type selections in the Combined Word Pool fall beyond the 6th K. It might be interesting to look at what those lower frequency words are.

The lower frequency selections beyond 6th K

A sight-examination of the words in the OFF-list selections and examination of the exact words in a certain lower frequency list selection such as the 10th K might shed some light on the participants' selections beyond 6th K. The sight-examination of the 1,052 OFF-list word type selections finds that they involve compound nouns, words with common prefixes, content-subject words, proper nouns of place, words related to e-games and some really rarely-used words (see Table 6.8). Calculated with the BNC-20 frequency profiler *Text Lex Compare* available in Tom Cobb's website, 80% of the 108 word types shown in Table 6.8 are outside 6th K families. This means that part of the lower frequency selections are 1K related words such as compound nouns and

"prefix+ root" words, and words related to the students' personal experience like content-subject words and e-game-words.

Table 6.8 Some types of OFF-list words in Combined Word Pool

Compound nouns	ARMCHAIR, STREETLIGHT, SUNSTROKE, ROUBLE-FREE, WILLPOWER, WINDOWSILL, WELL-INTENTIONED, TOOTHACHE, TOOTHPICK, STEPMOTHER, SKIN-DEEP, SITUP, SKATEBOARD, SINGLE-MINDED, SHOELACE, SANDSTORM, LIFEGUARD, LIFESTYLE, KNOWLEDGE-BASED, HANDBAG, HAIRDRESSER, HALLWAY, HARDCOVER, HANGMAN, GRASSROOT, GRAVESTONE, GET-TOGETHER
Words with prefix un-, dis-, non-, mis-, in- or im-	(Un-) UNBEARABLE, UNBELIEVABLE, UNDIE, UNDISTINGUISHED, UNFIT, UNFOLD, UNNATURAL, UNREAL, UNREASONABLE, UNREST, UNYIELDING (Dis-) DISREPUTABLE, DISCOURAGE, DISHEARTENED (Non-) NONSTOP (Mis-) MISBEHAVIOUR, MISCONDUCT, MISFORTUNE, MISUNDERSTOOD, MISUSE (In-/Im-) INSANE, INORGANIC, INFERTILE, INDESCRIBABLE, IMPATIENCE
Words of content subjects	(Biology) AMOEBA, BICEPS, GENESIS, LYMPH, PROTEIN (Chemistry) DIOXIDE, BEAKER, FLASK, LITMUS
Proper nouns of place	CAMBODIA, COLUMBIA, HAITI, IRAQ, NORWAY, OHIO, TIBET, URUMQI, WASHINGTON
Words in e-games	BLITZ, FANG, HOWITZER, PEGASUS, ROGER, ROULETTE, SABER, YAGER
Rarely-used words	ACAPPELLA, ALTAIR, VEGA, ANTISEMITE, ATHEISM, BADASS, GABY, JACKASS, BALONEY, BENTER, BILLIARD, BOBCAT, CASSEROLE, CASTANET, CORONA, DEICIDE, DUDE, F-HOLE, HOWITZER, LASSO, LIBRETTIST, LOO, MACE, MANNEQUIN, NOTARIZE, ORC, PARSNIP, SALLY, STAG, XANTHIC

Looking at the exact words in the 10th K selections might give some more information regarding the participants' lower-frequency selections. The 37 word types in 10thK selections shown in Table 6.9 reveal that a good number of the words, such as AFTERLIFE, AVENGE, GRAVESTONE, HEROINE, JUDO,

LEOPARD, LIFEGUARD, SCORPION, STEPMOTHER and TYPHOON, are words in the formal curriculum or related to the students' personal experience.

Table 6.9 The word type selections in 10thK

AFTERLIFE	AVENGE	BABOON	BARRICADE	BLINDFOLD	CANYON
CLANK	CONGEAL	DILATE	DOTE	GRAVESTONE	HAITI
HEROINE	INSULIN	JUDO	LAVA	LEOPARD	LEXICON
LIFEGUARD	MEDIAN	MOUTHPIECE	NIMBLENESS	ORPHANAGE	PACT
PROCURE	RELAPSE	REPARATION	RESOLUTE	SCORPION	SEASONING
SEDAN	SLUR	SORCERY	STEPMOTHER	TRUFFLE	TYPHOON
WOODPECKER					

Though words beyond 6thK are not supposed to be the learning input of the EFL secondary students, it seems that a good number of the beyond-6thK selections are vocabulary within the participants' life experience, vocabulary in the formal curriculum and words of the students' interests, and on the whole the selections in the Combined Word Pool including the 17% type selections beyond 6th K are to a great extent favourable for vocabulary growth.

6.1.3 The multiword selections

There are 727 multiword selections sorted out manually from the overall student-selections, which gives the proportion of single-word selections and

multiword selections is 87%-13% (4,716 vs. 727 selections). It is encouraging that the participants raised their awareness of including multiword items, which facilitate word use, in their personalized lists. The overwhelming majority of multiword selections are from the curriculum. For instance, the selected items RED MEAT and COUCH POTATOES are from the textbook, COMPENSATED DATING and EDUCATION BUREAU from the news excerpts, and HANG ON and HANG UP from the supplementary work sheet of phrasal verbs. To the best of the teacher-researcher's knowledge, there are only two multiword items -- FUEL GAUGE and STAG BEETLE -- which are found nowhere in the syllabus.

The analysis of the students' multiword selections focuses on their distribution among different types of multiword items. The multiword selections involve 360 multiword types (Appendix 3) with 2.4 tokens on average. As for individual groups, the data are given in Table 6.10.

Table 6.10 The multiword selections

	Multiword selections	Types involved	Tokens per selection	Selections per student	Proportion in total selections
All Ss	727	360	2.4	12.8	13.4%
3C (26 Ss)	315	173	2.18	12.1	12.7%
4B (31 Ss)	412	212	2.54	13.3	13.9%

A categorization framework is needed before examining the types of the participants' multiword selections. While Moon (1997) defines "multiword item" as a vocabulary item which consists of a sequence of two or more words which semantically and/or syntactically forms a meaningful unit, McKeown and Radev (2000) classify multiword items into idioms, collocations and free combinations. Gates' (1972) four specific types of idioms and Benson et al.'s (1997) categorization of collocations are also used as criteria to classify the selections in the Multiword Pool.

According to McKeown and Radev (2000), there is a continuum from the free combination to the idiom where the structure of the item becomes more restricted and the meaning more opaque. Benson et al. (1997) further categorize collocations into grammatical collocations and lexical/semantic collocations. The grammatical collocation is a paired syntactic category that often contains prepositions, mainly referring to "verb+preposition" (encompassing prepositional verbs, phrasal verbs and phrasal-prepositional verbs, e.g. *call on, put on, look forward to*), "adjective+preposition" (e.g. *afraid of*) and "noun+preposition" (e.g. *by accident*) combinations. On the other hand, the lexical collocation is the lexically restricted word pairs where only a subset of

the synonyms of the collocate can be used in the same lexical context. Lexical collocations are divided structurally into verb+noun (e.g. *wind a watch*), adjective+noun (e.g. *torrential rain*), noun+verb (e.g. *volcanoes erupt*), noun+noun (e.g. *a school of whales, degree holder*), adverb+adjective (e.g. *closely acquainted*) and verb+adverb (e.g. *apologize humbly*) combinations. As for idioms, Gates' (1972) four types are figurative idioms (e.g. *kick the bucket*), grammatical idioms (e.g. *many a man*), lexical idioms (e.g. *to and fro, by and by*) and the phonological idioms (e.g. African word *tsetse*).

Table 6.11 Three main types of the multiword selections

	All selections	3C selections	4B selections
Idiom	16 (2.2%)	14	2
Collocation	**685 (94.2%)**	**294 (93.3%)**	**391(94.9%)**
Gram. Collocation:			
verb+prep.	184 (25.3%)	107(34%)	77 (18.7%)
noun+prep.	62 (8.5%)	30	32
adj.+prep.	16 (2.2%)	5	11
Lex. Collocation:			
noun+noun	178 (24.5%)	90 (28.6%)	88 (21.4%)
adj.+noun	160 (22%)	47 (15%)	113 (27.4%)
verb+noun	57 (7.8%)	9	48
verb+adv.	17 (2.3%)	1	16
adv.+adj.	7 (1%)	5	2
noun+verb	4 (0.6%)	0	4
Free combination	26 (3.6%)	7	19
(Total)	727 (100%)	315	412

The 727 multiword selections, put into the above categories and sub-categories manually, are found to spread among idioms, collocations and free combinations in a proportion of 2.2%-94.2%-3.6% (Table 6.11), indicating that collocations attain the lion's share in the Multiword Pool. The free combination selections are mainly "finite verb+infinitive" (e.g. FAIL TO RECOGNISE) and "passive forms" (e.g. BE HOSPITALIZED) while the 16 selections of idioms go to three idioms COUCH POTATOES, FEET ON THE GROUND and SHOW ONE'S HAND.

The collocation selections

The collocation selections account for the overwhelming share in the Multiword Pool (94.2%). The three most selected individual types are verb+preposition (25.3%), noun+noun (24.5%) and adjective+noun (22%).

The most-selected types of collocations

The participants paid around a quarter of their attention to verb+preposition, noun+noun and adjective+noun collocations respectively. Since the verb+preposition collocation is a teaching item standing out in the formal curriculum, and three teacher-provided supplementary lists of the

verb+preposition combination were explicitly taught during the study, the supplementary lists might contribute to the high selection rate of the verb+preposition collocation. Also, this type of collocation is usually made up of a basic word and a function word (e.g. BLOW UP, LOOK INTO, PUT DOWN and SEE OFF), and the simplistic structure might be another factor attracting the participants' attention. As the compound noun consists of the noun+noun and the adjective+noun combinations, the compound noun selections account for as high as 47% in the Multiword Pool. It might be attributed to the compound noun's straightforward structure, same-as-Chinese word order and transparent meaning. It might even imply that the participants tended to choose some 1K-related or semi-unfamiliar items to learn as the compound noun selections are mostly related to the most basic words. Besides, the semantic richness of the noun in any language including English is extremely basic and primary to representing everything surrounding us such as people, places, things, activities, emotions and ideas. Experts (e.g. Atkinson, 1975; Ellis & Beaton, 1993; Phillips, 1981) have already found, concerning content word learning, the easiest to learn is nouns, and then verbs and finally adjectives and adverbs. Their findings may also find some support in the

participants' multiword selections.

It is noted that some of the participants' compound noun selections are consistent with what Lewis (1997) observes -- learners tending to select those items of which the meanings are appropriate in common situations and which can be adapted or used to refer to their life experience and needs. For instance, the selection AIR POLLUTANT represents the long-term problem in Hong Kong; EMOTIONAL PROBLEM is what the teenagers are facing so often; EYE IRRITATION can be related to some physical condition; and BOSOM FRIEND is someone the teenagers sought and cherished with their heart.

The verb+noun selections

While the participants had a clear preference for compound nouns and verb+preposition collocations, regarded as multiword nouns and multiword verbs, they started raising their linguistic awareness of the verb+noun collocation, though the selection rate is only around 8%. This type of combination is ranked as the most important (Lewis, 2000) and most common type of collocations in English language use (Benson et al., 1986) but is often neglected by the English learner (Liu, 2002; Nesselhauf, 2003). Lewis (2000)

explains that the verb+noun collocation is important as it is the basis of communicative expression. However, most English learners do not notice its restricted structure and presuppose there is no difference between a set of synonyms of the verb collocate or there are word-to-word L1 equivalents. Thus the verb+noun collocation is the EFL learners' dominant weakness (Liu, 2002; Nesselhauf, 2003). Liu's study (1999) indicates that 87% of the lexical mis-collocations made by Chinese tertiary learners are related to verb+noun collocations, and 93% of the errors are caused by the misuse of verb collocates. It is encouraging that the participants started paying attention to the verb+noun combination (8%). The data from the more able group are more impressive as around 12% of their multiword selections belong to this type, such as LAY THE BLAME, MAKE A REQUEST, SHAKE HANDS and NARROW THE GAP.

6.1.4 Students' attitude towards "student-selected vocabulary"

The students' attitude towards the input component of PVL is mainly examined through their responses to a question in the May Questionnaire to see the degree of freedom they needed in deciding learning input.

6.1.4.1 Students' responses to the questionnaire

Most of the students reported that they preferred "student-selected vocabulary" when they responded to the question in the May Questionnaire: *Which do you prefer, learning words selected by the teacher or words selected by yourself? Why?* It is found that 69% of the participants had a clear preference for the student-selection mode, 16.4% on teacher-selection, and 12.7% *proposed* "teacher+student selection". Also, the two groups' attitude towards the degree of freedom in deciding learning input is quite different. In Group 3C, apart from one student giving no response and one preferring teacher-selection, all participants were in favour of the student-selection mode. On the other hand, half of the 4B participants preferred student-selection, a quarter preferred teacher-selection and the other quarter favoured "teacher+student selection".

Table 6.12 Students' preferences regarding the modes of vocabulary selection

	Student-selection	Teacher-selection	S+T selection	N/A	Total
All Ss	38 (69.1%)	9 (16.4%)	7(12.7%)	1	55
Gp. 3C	24 (92.3%)	1	/	1	26
Gp. 4B	14 (48.3%)	8 (27.6%)	7 (24.1%)	/	29

As for the reasons behind their preferences, 11 participants, all from Group 4B, each gave a reason in L1 for their preferences. Among the eleven reasons, six support the teacher-selection mode, three the student-selection and two "teacher+student selection". The six reasons favouring the teacher-selection are translated as follows:

- *The teacher tends to select useful words;*
- *I might be lazy and choose the easy words;*
- *It forces me not to be lazy;*
- *It matches our levels;*
- *The teacher is professional;* and
- *The teacher knows our levels.*

The reasons reveal that the students were afraid of selecting fewer sophisticated words than the curriculum requirement. They might think that the teacher knows their levels as well as the syllabus requirement, so the teacher would choose new words according to their needs and professionally take care of the vocabulary curriculum.

The three reasons supporting the student-selection are:

- *Better retention is achieved when the words are chosen by us;*
- *I know my level; and*
- *I might feel free and the words are more easily retained.*

The reasons show that the students found that self-selecting words to learn can cater for their own learning needs and better help word retention.

As for the two reasons supporting the critical idea of both the teacher and students selecting words to learn, they are:

- *The simple and interesting words we choose are complementary to the useful words chosen by the teacher; and*
- *Self-selection meets students' need while teacher-selection is curriculum-related.*

The two responses are thoughtful and critical. In fact, sharing the power of curriculum decision is what "student choice" in personalized learning means.

Generally, the attitudes of the two groups towards "student-selected vocabulary" reported in the questionnaire are sensibly different according to their learning needs. It appears that the less able group who had more needs to fill in the knowledge gap of the unattained high frequency words overwhelmingly enjoyed the freedom to choose words to learn themselves. The data in Section 6.1.2.2 have already shown Group 3C chose more basic words which are not the focus of the curriculum. On the other hand, the more able group who had a bigger vocabulary and was more eager to achieve their learning goal asked for a different degree of teacher intervention in learning input.

6.1.4.2 Problems observed

Word misspelling and the neglect of the root form are observed in a number of student selections. Misspelling makes the whole process of vocabulary retention in vain from the very beginning, and the neglect of the meaningful word form and the base form can cause ineffective retention and confusion in word use. Concerning misspelling, around 90 cases are found during the word pool compilation. Most of the misspelling cases involve one to two letters, such as NEIGNBOURHOOD (neighbourhood), MONSQITO (mosquito). Around two-thirds of the misspellings are from 3C and one-third from 4B.

It is also found that some participants seemed not to care much about the root form or the meaningful form of their selections. A good number of the selected words were with morphemic inflections "-s" (plural or 3rd-person singular), "*-ed"* (past tense), "*-ing"* (present participle) and *"-er"* (comparative) attached, such as DIPLOMAS and DRESSED UP. Obviously the students copied the exact word forms from the sources with or without the awareness of the base form. On the other hand, a few participants attempted to record the base forms of their selected words but neglected the meaningful form of the words such as

SLIPPER and THE UNDERPRIVILEGE. The problems might be attributed to the participants' inadequate morphological knowledge.

6.1.5 Summary

The first research question examined what and how the 57 participants who had possessed a vocabulary size of 1,400 families selected words to learn in "student-selected vocabulary". The data show among the participants different degrees of freedom are needed in learning input, the formal curriculum was the main source of the participants' selections and the participants selected a balanced proportion of words in terms of lexical frequency for vocabulary growth. Through questionnaire administration and actual selection, it is found that most of the students (69%) preferred self-selecting words and they selected words primarily from the curriculum (especially *storybooks*) and secondly from the multimedia (particularly *the Internet*) with a proportion 56%-34%. It reveals that the limited proficiency students focused on their learning goal and their learning interest. In actual vocabulary selecting, evidence shows that the Band three students did not avoid choosing sophisticated words and multiword items,

which are more curriculum-related, and also attempted to fill the knowledge gap of the most basic words.

Among over five thousand selections collected from the e-class over two months, 13% are multiword selections. Concerning the majority – the single-word selections, it is evident that the lexical frequency profile is balanced and facilitative in vocabulary growth (the most selected word families shown in Appendix 2):

- The LFP of the 4,716 single-word selections in the Combined Word Pool among1K, 2K, AWL and OFF-list is 21%-20%-16%-43%;
- The proportion of the two main categories -- the basic 2,000 words and the sophisticated words -- is 41%-59%, indicating that the students attempted to fill their knowledge gap of the basic words and complied with the curriculum requirement;
- 83% of the single-word selections fall in the first six thousand word families;
- Selections of the two extremes in terms of lexical frequency profile -- the 1K selections and the selections beyond 6K -- are selected in a sensible way. Though 1K word families are supposed to have been solidly attained

in the primary education, the qualitative evidence shows that the 1K selections consist of, among others, words seldom appearing in the curriculum and words semi-unfamiliar to the participants. On the other hand, although words beyond 6K are considered as least involved in the secondary phase, a good number of those lower-frequency selections involve words within the participants' learning needs such as 1K-related words like compound nouns and "word+prefix" words, and words of content subjects, proper nouns of places, and words commonly used in e-game.

As for the 727 multiword selections, 94% of them belong to various types of collocations, mainly compound nouns and phrasal verbs. The noun+noun and adjective+noun collocations, the two components of the compound noun, account for around 50% of the collocation selections, and the verb+preposition selections around 25%. The participants also started paying some attention to the verb+noun collocation type, which is ranked as the basic expression and supposed to require a higher level of word consciousness when learning.

The componential scenarios of the student selections (including the Combined Word Pool and the Multiword Pool) show that there is a tendency for the limited proficiency students to choose 1K words and 1K related or semi-unfamiliar items to learn according to their readiness level. In the Combined Word Pool, a good number of the 1K selections are 1K family members and words with prefixes involve a frequently-used basic word. In the Multiword Pool, around half of the selections are compound nouns directly made up of two frequently-used words, and a quarter of them are verb+preposition collocations which are combined with a basic content word and a function word in 1K.

While both groups selected more sophisticated words and their selections are balanced for vocabulary growth, evidence of group differences shows that the less able group attached the same weight to the two main sources -- the curriculum and the multimedia, selected more basic words especially 1K words than the more able group, and enjoyed a higher degree of freedom in self-selecting what to learn. On the other hand, the more able group focused more on the source of the formal curriculum, chose more sophisticated words especially more AWL words, and asked for a different degree of teacher

professional intervention in learning input, aiming to meet the requirement of the formal syllabus.

6.2 Personalized strategies of word retention

The second research question looks at what memory, organization and review strategies the participants developed from "vocabulary learning strategy training". It examines quantitatively and qualitatively through three ways. First, the students self report their personalized memory strategies in the questionnaire and their actual strategy employment is examined in an activity. Secondly, personalized organization strategies are examined through the vocabulary notes the students organized when practising *word card strategy*. Thirdly, two interviews looking at two individuals' development paths of personalized memory, organization and review strategies. PVL suggests that the teacher should free and empower students in the learning process, allowing them to decide how to learn with their personalized strategies, which are most effective and powerful at their current level of readiness. The process component of PVL "vocabulary learning strategy training" aims at providing an

inventory of strategies for the students to develop their personalized strategies. The strategy training devised in this study is teaching a diversity of memory strategies, including imagery and analytic strategies, to link word forms and meanings, and guided practising of *word card strategy* and several strategies of word review for short and long term retention. A questionnaire and an activity are used to look at what form-meaning-linking memory strategies the participants reported and actually employed after around 10 memory strategies were taught. The participants' word organization strategies, focusing on what to organize rather than what and how to record, are studied through the word information the students actively noted down during the teacher-directed practice of *word card strategy*. Schmitt's (1997) classification of different types of strategies is used as reference. That is, the memory type refers to the memory techniques with obvious mental manipulation to link the word form and the meaning; the cognitive type chiefly incorporates strategies of word organization and word review, while metacognitive type refers to a conscious overview of the learning process and making decisions about planning, monitoring or evaluating the best way of study (Schmitt, 1997: 205).

6.2.1 Form-meaning-linking strategies

Form-meaning-linking is the initial step of vocabulary learning and diversity is emphasized in teaching form-meaning-linking strategies for dealing with thousands of word forms with a huge variety of characteristics. According to the consolidation stage of Schmitt's (1997) taxonomy, strategies of the memory type account for the overwhelming majority when the step "form-meaning-linking" is concerned. After around ten memory strategies were taught, a questionnaire was administered in March, 2010 to look at what personalized form-meaning-linking strategies the students developed. Also, a strategy demonstration activity was held in April examining the students' independent practice of their personalized memory strategies.

6.2.1.1 Personalized strategies reported

Self reporting is a common way to investigate the learning process. The March Questionnaire was administered for the students to report what strategies they always used. Fifty-one students responded to the questionnaire while six

students were absent on that day at the peak of the flu season. The participants were answering the questionnaire in L1 or English while the teacher was doing the L1 interpretation of the questionnaire which consists of nine statements and six blanks. The nine statements involve seven form-meaning-linking memory strategies taught in the strategy training, including imagery strategies such as the "keyword method" (the first pair of statements) and analytic strategies such as "roots and parts" (the second pair of statements).

1. "Linking L2 sounds to sounds of the L1 word" or
   "Associating the word with a keyword",
2. "Looking at the meaning of different parts of the word" or
   "Noting the structure of the part",
3. "Putting the word in a topic group",
4. "Visualizing the word in isolation",
5. "Linking the word to a situation",
6. "Creating a mental image of the word" and
7. "Associating a physical sensation with the word".

The students were asked to circle one of the three options (1—never), (2—sometimes) and (3—always) to show how frequently they used those strategies. Only the strategy with a "③" in the response is counted as the students' personalized strategy since it is more representative than a "②". The

six blanks in the questionnaire were for the participants to fill in some other personalized strategies if any.

In all 134 mentions of 19 strategies are reported as frequently-used strategies -- 68 mentions related to the seven given strategies and 66 mentions of 12 self-filled strategies. The 12 self-filled strategies consist of eight form-meaning-linking strategies, one word organization strategy and three word review strategies. Only the form-meaning-linking strategies are analyzed in this sub-section. The eight student-filled strategies involve two types. The five strategies of the memory type are “say word aloud”, “study word spelling”, “study sound of word”, “say and write” and “study multiple meanings of a word”. The three strategies of the metacognitive type, which focus more on incidental learning, are “English multimedia” (including listening to English songs, watching TV programmes, surfing the Internet and seeing movies), “extensive reading” and “study words appearing in the street”. Table 6.13 lists the 19 strategies reported in the questionnaire. There were eight mentions of “rote learning” (4 mentions from each group) in the responses which were neglected as the eight participants also wrote down or circled a “③” for 1 to 4 strategies in the questionnaire, implying they were strategic learners.

Table 6.13 Word retention strategies reported as frequently-used

Step	Strategies	Total mentions	Mentions from 3C	Mentions from 4B
Linking word forms and meanings	English multimedia	23(17.2%)	16(30.8%)	7(8.5%)
	Looking at the meaning of different parts of the word / Noting the structure of the part	22(16.4%)	5(9.6%)	17(20.7%)
	Linking L2 sounds to sounds of the L1 word / Associating the word with a keyword	21(15.7%)	7(13.5%)	14(17.1%)
	Say word aloud	20(14.9%)	4(7.7%)	16(19.5%)
	Creating a mental image of the word	8	3	5
	Visualizing the word in isolation	7	4	3
	Extensive reading	7	5	2
	Linking the word to a situation	5	1	4
	Associating a physical sensation with the word	3	0	3
	Study word spelling	3	1	2
	Putting the word in a topic group	2	0	2
	Study sound of word	1	1	0
	Say and write	1	1	0
	Study multiple meanings of a word	1	1	0
	Study words in street	1	0	1
Organiza-tion	Notebook	1	0	1
Review	Study and practice meaning in pairs	4	2	2
	Repetition	3	1	2
	Self-test	1	0	1
(TOTAL)		***134***	***52***	***82***

Note: Strategies in *italic* are the provided strategies in the questionnaire.
Strategies underlined belong to the metacognitive type of form-meaning-linking strategies.

Most of the participants were aware of developing diverse strategies to link word forms and meanings. The data shows that of the 134 mentions, 93% go to 15 strategies linking forms and meanings -- 70% to the twelve memory strategies and 23% to the three metacognitive strategies. The popular

personalized memory strategies the participants reported are “English multimedia”, “affixes and roots”, “keyword method” and “say word aloud”, with mention rates from 17% to 15%.

Group differences are noted in form-meaning-linking strategy development. While both groups reported using more memory than metacognitive strategies, the more able group developed more diverse personalized memory strategies from the strategy training for intentional vocabulary learning. The proportion between these two types in the less able group is 57%-43% (28 mentions vs. 21 mentions), against 87%-13% (66 vs. 10) in Group 4B. It is also noted that “English multimedia” is not only the less able group’s favourite word selection source but also their favourite strategy, with a mention rate 30.8%, leaving the second-placed “keyword method” in the dust. As for the more able group, their favourite strategies are “affixes and roots”, “say word aloud” and “keyword method”.

6.2.1.2 Personalized strategies employed

Apart from the personalized memory strategies the participants reported in the March Questionnaire, the participants' independent practice of their memory strategies is examined through a strategy demonstration activity conducted in April, 2010. The students were asked to pick up one different item from a teacher-provided wordlist in the formal curriculum, to figure out what strategies they would like to use for word retention, and to demonstrate their personalized way of strategic learning. Due to some practical constraints, only Group 4B participated in the activity.

One day before the strategy demonstration activity, Group 4B was informed of the details of the task and a 31-item word list of news, part of the formal curriculum, was distributed. Each of the participants selected one different item to get prepared. The students could choose to present individually or in pairs if they thought any two items could better be retained when associated together. Both L1 and English as medium of presentation were allowed. On the day the activity was conducted, 30 participants were involved in 22 demonstrations -- 16 individual, 5 in-pairs and 1 trio. Five individual demonstrations used English

as the medium of presentation and the rest their L1. Each presentation lasted around half a minute on average. The longest was a little over three minutes and the shortest 10 seconds, both being individual presentations. 15 strategies are used in the 22 performances (see Table 6.14).

Table 6.14 Strategies employed in the activity

Strategies for	***No. of uses***
form-meaning-linking:	
Say word aloud	13
Study sound of word	6
Parts of speech	5
Paraphrase meaning	4
Image word's meaning	4
Image word form	3
Use physical action	3
Keyword method	3
Pictorial representation of meaning	2
Study word spelling	2
Affixes and roots	1
Use synonyms/antonyms	3
Study words with same topics	1
review:	
Repetition	2
word use:	
Use the new words in sentences	6
(Total)	58

Table 6.14 shows that the participants developed multiple memory strategies, both analytic and imagery. Among the 58 uses of 15 strategies, 50 uses belong

to 13 memory strategies and on average each presentation makes use of two strategies for linking word forms and meanings. The proportion of uses of analytic and imagery strategies is around 70%-30% (35 uses vs. 15 uses). The analytic strategy "say word aloud" is the most employed in the independent practice, which is also one of the most mentioned strategies in the questionnaire. Yet another analytic strategy, "roots and parts", which is most mentioned in the responses to the questionnaire is used only once among the 50 uses of memory strategies in the activity. It may imply that some participants had limited morphological knowledge and they employed imagery strategies and/or made use of L1 as compensation strategies. The following examples show the employment of analytic strategies, imagery and compensation strategies.

A typical case of multi-strategy employment

In the activity, some students employed four to five strategies to master an item. Presentation No. 3 is a typical case of multiple strategy use, mainly analytic strategies. It is the richest in terms of strategy use and the longest in terms of presentation time. The presenter Austin (the names used in all the cases were pseudonyms) employed five strategies of different types to help retain the item INADEQUATE in the three-minute presentation conducted in English. Along

with “oral repetition” and “use the new word in sentences”, the three memory strategies he employed are “say words aloud”, “study the spelling” and “study parts of speech”. The first two are the typical and frequently-used strategies employed by the Japanese EFL learners (Schmitt, 1997).

Presentation No. 3

Target item: INADEQUATE
Medium of presentation: English
Brief description: The presenter wrote the target item “INADEQUATE” and its two family members “inadequately” and “inadequacy”. He also jotted down the parts of speech of the three word types on the board and told the class the L1 equivalents of the three word types. Then he modelled the pronunciation of the three and invited the class to echo in chorus. He demonstrated the way to study spelling with lines marking the syllables of the three words. A sentence “*The food was inadequate for 14 people*” was then written on the board and interpreted in L1. At the end the class was asked to read in chorus the three items once more.

Austin focused on word family members when he utilized three memory strategies to link the word form and meaning. He not only introduced the part of speech of the target word but also of the two family members “inadequately” and “inadequacy” when “study parts of speech” was used. Also, when employing “say words aloud” and “study the spelling”, he uttered and separated the syllables of the three word types.

Imagery strategy use

Imagination-oriented or imagery strategy employment accounts for one-third of total strategy uses in the independent practice. Some participants even used imagery strategies to retain "root+affix" items. The imagery strategies used in the activity include "image word's meaning", "image word form", "use physical action", "keyword method" and "pictorial representation of meaning".

Cherry's presentation is an example of strategy "image word form" employment. She wrote her target item "DIET" on the board. She told the class in Cantonese L1, "If we go on a diet too seriously, we die." She then highlighted the first three letters of the word on the board. She continued in L1, "in fact we don't refuse to eat when we go on a diet, so 'DIET' is different from 'die' with a 't' at the end". Kerry's presentation is an example of imaging both the form and the meaning of the target item "AFFLUENT". Kerry focused on the two "ff"s in the word form of the item. She told the class in Cantonese that the letter "f" was like the money sign "$", and "ff" represented more money.

Compensation strategy use

Compensation strategy employment noted in the activity includes using imagery to replace strategy "roots and parts" and making use of L1 to paraphrase meaning or memorize the sound or spelling of the word/part of the word. Two examples are shown below. The students used "image word's meaning" as compensation strategy to attain the "root+affix" items.

Example 1: Presentation No. 5

> *Target item*: MISLED
> *Medium of presentation*: Cantonese L1
> *Translated version:* "The English form "MIS" is like "*miss*" which means "lady" and some ladies tend to spoil some emperors' careers in ancient China… Thus, "MISLED" means to cause someone to develop a wrong idea or impression."

In Presentation No.5 involving the item MISLED, the presenter Suki underlined "MIS" and "LED" separately after writing the item on the board. Instead of using "affixes and roots" to break down the word, Suki employed "image word's meaning" to associate the item in a historical context. It suggests that Suki might be interested in Chinese history or the historical story, or she might not be capable of identifying the root word "lead" from its past tense form "LED", or even not very conscious of the common prefix "MIS". But she used her personalized strategy to retain the word according to her learning needs.

Example 2: Presentation No. 14

> *Target item*: PRESSURE
> *Medium of presentation*: English
> *Brief description*: The presenter drew a circle to represent *the world* on the board with the target word 'PRESSURE' written in the middle and another word '*environment*' above it. The presenter stretched out his hands and acted as if a ball was repeatedly pressed and rebounded between his hands when he uttered in English: "If we don't care for our environment, we will have pressure… pressure."

In Presentation No. 14, Presenter Ray used association to retain "PRESSURE" which is composed of the root "PRESS" and the noun suffix "-URE". He associated the item with global environment in the contextual sentence with pictorial imagination. Ray obviously knew the meaning of the root word "PRESS" but perhaps had no idea of the noun suffix. Again, the presenter used the imagery strategy as compensation strategy.

Making use of L1 as compensation strategies is also a feature noted in the activity. Some students used L1 to help paraphrase meaning and some used L1 to retain items with affixes. Two examples are shown below.

Example 1: Presentation No.6

> *Target items*: FREAK ACCIDENT and UNIQUE
> *Medium of presentation*: Cantonese L1
> "响日常生活中, 一件 FREAK ACCIDENT 系一件 UNIQUE 啲事。"
> (In our daily life, a freak accident is a unique thing.)

One of the strategies the two students John and Christine used in their presentation was a bilingual version of the strategy "meaning paraphrase". They integrated the two English items FREAK ACCIDENT and UNIQUE in a L1 context for meaning paraphrase. Using the mixed code in spoken or written discourses is quite common in Hong Kong. There are lots of code-mixed commercials in the community and mixed-code MOI is also very common in the EFL classroom. The mental processing of meaning paraphrase in mixed code might not be as deep as in English. However, if the learners are uncomfortable or unready to paraphrase in English at their stage of proficiency development, it seems the code-mixed context is a working alternative for word retention.

Example 2: Presentation No.10

> *Target item*: SAFETY REASONS
> *Medium of presentation*: predominantly in English with some Putonghua L1
> "If someone want(s) to remember this word (item), he will (may) forget the '–ty'. So you (if you) want to remember it, you can think… if a robber want(s) to rob you, uh… a hero in front of you, and um…'**踢**走 (*pinyin:* ***ti*** *zou*) 壞人'(*meaning: kick out the bad gay*)……'**踢**走'… '**踢**走'…"

Presenter Bob, whose L1 is Putonghua, told the class that "SAFE" and "REASON" were not new to him and his focus was on the part "-TY". He used a Putonghua L1 term '踢走" (pinyin: /ti zou/; meaning: kick out) to help

memorize the sound and spelling of the noun suffix “-TY”, and to imply the meaning of the item “SAFETY REASONS”. The audience did not understand the Putonghua L1 term until Bob repeated it twice with some body language.

6.2.2 Word organization strategies

Guided practice of word organization strategies is another focus in the strategy training in this study. Word organization strategies involve *how to* and *what to* record. The current study which targets the limited proficiency students only concentrates on what types of word information they record. EFL students who lack exposure to English need to achieve several exposures of a word by employing strategies of word organization and review. While form-meaning-linking strategies are useful for word retention in short-term memory, word organization and review strategies facilitate long-term word consolidation. Around 150 word cards each student made before the final exam were used to see what word information the participants recorded.

When practising the word card strategy, the participants were encouraged to record five words a day, and put down at least two pieces of word information

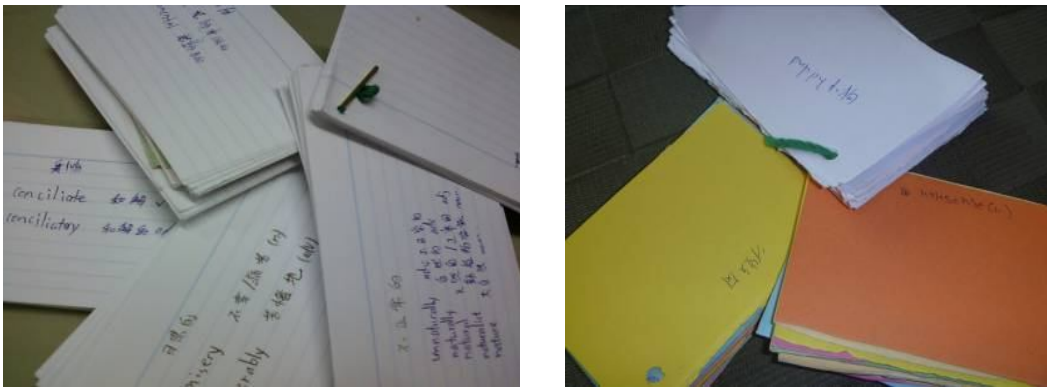
for the self-selected items, as opposed to focusing only on the L1 equivalent beforehand. The "word card strategy" instead of "notebook strategy" was used simply because the card can hold more word information and is better for "self-testing", a strategy of word review. The participants were asked to jot down on one side of a card one of their daily selected words, and on the other side some word information, including the L1 equivalent, they thought interesting or helpful for word retention. They were also asked to spontaneously review the word cards daily at home, to review in pairs their weekly collection in every Friday lesson, and to do the cumulative review before the 50-word tests.

At the beginning of the guided practice of the word card strategy, most of the participants felt excited at the new experience – recording five to six self-selected new words with some word information on word cards at their free will. A few students enthusiastically kept recording six to seven words a day on their cards in the first few weeks. But after that, the teacher needed to remind the participants to make up the learning gap every Friday since only half of the students reported that they managed to keep selecting, recording and retaining words every school day. At the end of the study, 46 students (24 in Group 3C

and 22 in Group 4B) contributed their sets of cards for research. Figure 6.2 and Figure 6.3 demonstrate part of the participants' personalized glossaries.

Figure 6.2 Part of the participants' personalized glossaries

Figure 6.3 Word information in two sets of cards



6.2.2.1 Word information analysis

Among these 46 sets of cards, the majority (85%) contain 150 cards or more and the remaining (15 % or seven sets) consist of 80-100 cards. Various types of information on the cards are put into three categories: the meaning-, form- and usage-oriented information. The meaning-oriented information encompasses L1 equivalents, English definitions or paraphrases, synonyms and antonyms, words with the same topic and pictorial images. The form-oriented information consists of parts of speech, word family members and phonetic symbols. The usage-oriented information contains contextual sentences and collocations.

Evidence shows that the L1 equivalent and the part of speech draw most of the participants' attention, and the students, especially those in the more able group, also started raising their awareness of recording more diverse word information. Table 6.15 shows that the L1 equivalent is recorded in every card, accounting for 58% of the total pieces of information. The figures of the pieces of information shown in Table 6.15 are approximations.

Table 6.15 The word information recorded in the cards

	Word information	Both gps	3C (24Ss)		4B(22Ss)	
		No.of Ss recording	No. of Ss recording	*Pcs of info.*	No. of Ss recording	*Pcs of info.*
M	L1 equivalent (in all cards)	46	24	*3,384*	22	*3,102*
e	English definitions / Paraphrases in English (in less than 25 cards)	6	0	*0*	6	*67*
a	Synonyms and antonyms (in a few cards)	5	1	*1*	5	*23*
n	Words with same topic (in a few cards)	1	0	*0*	1	*2*
i	Pictorial images (in a few cards)	1	0	*0*	1	*2*
n						
g						
	Parts of speech:					
	in every card	23	8	*1,200*	15	*2,250*
F	in 50-90 cards	6	4	*280*	2	*140*
o	in 20-40 cards	7	6	*180*	1	*30*
r	in 15 cards or less	3	2	*20*	1	*10*
m	Word family members (in less than 50 cards)	6	1	*2*	5	*88*
	phonetic symbols (in a few cards)	2	2	*3*	2	*14*
U	Contextual sentences:					
s	Example sentences (in 8-150 cards)	10	1	*8*	8	*250*
a	Self-made sentences (in less than 25 cards)	5	2	*50*	4	*20*
g	Collocations (in less than 25 cards)	4	1	*2*	14	*144*
e						
			(Total)	*5,130*		*6,142*

Note: The figures in the two columns of "pcs of information" are approximations.

The second most recorded information is the part of speech with 39 students (85%) noting it down to different degrees, accounting for 36% of the total information. It is encouraging that 85% of the 46 students no longer limited their note-taking to the L1 equivalent. Concerning the three major categories of word information, the meaning-oriented information outweighs the other two

types as the L1 equivalent, the most basic information, and is recorded on every card. The usage-oriented information which consists of contextual sentences and collocations is least recorded but it is still encouraging as there are around seven hundred collocations (12.6% of the overall selections) selected as words-to-learn in the Multiword Pool.

There have been studies that have found potential variations for word organizing correlating with learners' differences. Schmitt (1997) observes that Japanese EFL college students are likely to write down L1 equivalents of English items more frequently than any other information. Gu and Johnson (1996) note that Chinese college learners tend to record meaning-oriented and usage-oriented information. In the current study which targets the Hong Kong secondary students, it seems that the instructional facilitation of strategy training has raised the teenage learners' awareness of recording word information more than the L1 equivalent.

Group differences in word information organization are noted in the amount and the diversity of word information, with the more able group noting down more information of more diverse types. Specifically, Group 3C jotted down

1.52 pieces while Group 4B 1.98 pieces. Also, while both groups paid attention to parts of speech, family members and contextual sentences along with L1 equivalents, Group 4B jotted down six more types of information including English definitions/paraphrases, synonyms/antonyms, words with the same topic, pictorial images, phonetic symbols and collocations.

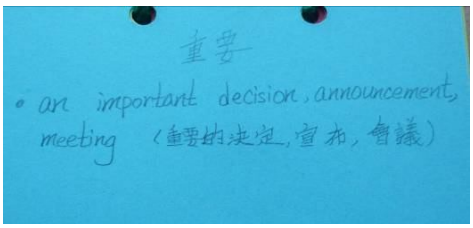
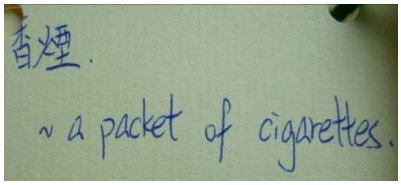
6.2.2.2 Some more personalized features

A closer look at the 42% of the word information recorded in the cards other than the L1 equivalent reveals a richer picture of the participants' organization strategies. First, the compound noun is the most recorded type among the 150 pieces of collocation information. Secondly, the less able students liked to make contextual sentences expressing their personal experience while the more able group used the dictionary to record sample sentences. Thirdly, the participants used different versions of personalized symbols to represent the sound of the item. Lastly, English definition is the type the participants, even the more able group, recorded least.

The usage-oriented information

The collocation information, one of the two types in the category of usage-oriented information recorded in the cards, mostly involves compound nouns such as 10 KM STROLL, ACADEMY AWARD, ACID RAIN and AIR POLLUTANTS. It is consistent with the scenario in the Multiword Pool in which the noun+noun and adjective+noun combinations account for nearly half of the multiword selections. Figure 6.4 shows (from Picture 1 to 2) the adjective+noun collocation "*the important decision/announcement"* in the card "IMPORTANT", and the noun+noun collocation "*a packet of cigarettes"* in the card "CIGARETTE".

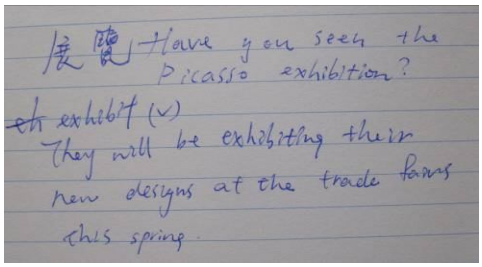
Figure 6.4 The collocations -- compound nouns

1 	2 

Contextual sentences, the other type in the category of usage-oriented information, are recorded in two modes -- sample sentences from the dictionary with/without L1 versions and students' own sentences embedding the new words. It is not difficult to tell which the sample sentences and which the

student-made sentences are as the student-made sentences usually feature some grammatical errors. Quite obviously, the less able group preferred recording self-made sentences talking about their personal experience while the more able group mostly recorded sample sentences. A case is noted that one boy in Group 4B recorded one sample sentence for each of his 150 cards. Figure 6.5 shows (from Picture 1 to 2) the student-made sentence *"My new clothes is longer, so my mother help me to clip it for me."* in the card "CLIP", and the sample sentence *"Have you seen the Picasso exhibition?"* in the card "EXHIBITION".

Figure 6.5 Two modes of contextual sentences

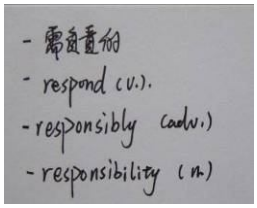
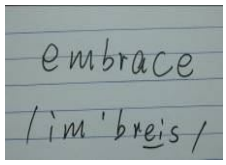
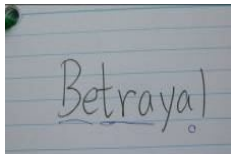
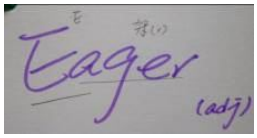
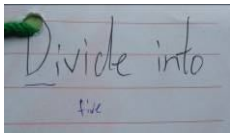
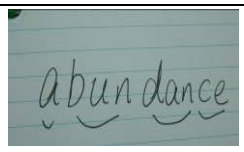
1 	2 

The form-oriented information

While the part of speech is the most recorded form-oriented information by the two groups, the more able group also recorded some word family members and phonetic symbols. The word family member information, involving two to five members, is mostly copied from the dictionary while the phonetic symbols are to a great extent personalized. Different versions of the phonetic information

include using lines to separate the syllables, making use of simple English words or L1 characters to represent the sound of some syllables, and international phonetic symbols used by a few immigrant students from mainland China where international phonetic symbols are believed to be part of the curriculum. Figure 6.6 shows the family member information in the card "RESPONSIBLE" (Picture 1), and five versions of personalized phonetic symbols (Pictures 2 to 6).

Figure 6.6 The form-oriented information

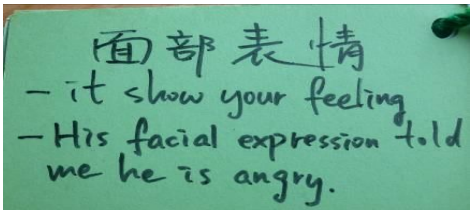
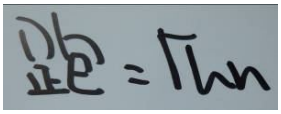
1 	2 	3 
4 	5 	6 

The meaning-oriented information

The meaning-oriented information other than the L1 equivalent such as English definitions/paraphrases and synonyms/antonyms are recorded mainly by the more able group. It is noted that the more able group who noted down word family members and sample sentences from the dictionary had little interest in

recording the English definition. On the other hand, they preferred paraphrasing meaning or noting down synonyms/antonyms with their own words. Figure 6.7 shows (from Pictures 1 to 2) the meaning paraphrase "*it show(s) your feeling*" along with a contextual sentence in the card "FACIAL EXPRESSION", and the synonym *"run"* in the card "DART".

Figure 6.7 The meaning-oriented information

1 	2 

Data analyses in Section 6.2.1 and Section 6.2.2 show how the participants developed their personalized strategies of form-meaning linking and word organization. Due to the tight curriculum, the less able group did not conduct any strategy demonstration activity. Thus it is impossible to work on any group comparison of independent strategy practices in Section 6.2.1.2. Also, analyzing word information in Section 6.2.2 has little to tell about the participants' word review strategy development. In view of this, two 4B students who had completely different learning needs were invited to talk about their personalized strategy development paths in the semi-structured interview.

6.2.3 Two mini cases

In this section, two students' personalized strategy development paths are elaborated from the perspective of individual learners. Christine and Austin from Group 4B received the invitation to the semi-structured interview in mid-July after the final exam, talking about their PVL learning paths, especially their strategy development. Christine is a hard-working girl but weak in reading comprehension and very weak in pronunciation, with a vocabulary size of around 1,300 and scoring a marginal pass (50%) in the first term reading exam held in January, 2010. Austin is an active boy with a vocabulary size of 2,500, the largest in the group, and achieved 80% in that reading exam. The two individual interviews were conducted in L1 after school, with a view to creating a free and informal atmosphere. The wording of the students' reflections on strategy development was translated into English to facilitate reporting.

6.2.3.1 Christine's personalized strategies

Christine was born in mainland China and started learning English in Grade six. She moved to Hong Kong with her parents and a younger brother in mid-2008 and was enrolled in the school in September the same year. One year later, she was allocated to Class 4B from 3B and was first taught by the researcher. It was noted immediately that she was proactive in learning but really weak in pronunciation. She volunteered to take part in a readers' theatre show in November, 2009 and had great difficulty in pronouncing even the frequently-used words in her lines during the one-week practice. But she worked intensely hard and finally in the show her pronunciation was more than satisfactory. However, her hard work did not seem to contribute much to her exam scores. She obtained a marginal pass in the reading exam paper at the end of the first term, the lowest in the group. She attained a vocabulary size of around 1,280 word families assessed with the Vocabulary Levels Test in early 2010. In the current study, Christine totally focused on the curriculum as the source of "student-selected vocabulary" and 25% of her selections are multiword items which involve seven types of collocations. The LFP of her

single-word selections is 19%-17%-15%-49%.

Christine's form-meaning-linking strategies

Christine was apparently aware of using memory strategies of form-meaning linking but was not able to employ them effectively. In her response to the questionnaire, she mentioned a memory strategy "roots and parts". In the strategy demonstration activity in which she worked with a classmate, she used a memory strategy "say word aloud". In the interview she once again mentioned "roots and parts". When the teacher asked her to give an example of using strategy "roots and parts" from her selected items in the interview, she picked up the word OUTLYING after some searching, broke it into OUT and LYING, but failed to pronounce the latter part. She admitted that she always had difficulties in *pronunciation* and also in *listening*, and she lacked confidence in speaking up in English. When she was asked whether she thought she was introverted and that introversion made her diffident in speaking up, she said she usually preferred using words in expressing herself. She also revealed that she felt pressure from peers as she could not perform as well as her classmates even when she worked doubly hard.

Christine's organization and review strategies

Christine seemed to be focusing more on the strategies of word organization and review. She once told the teacher-researcher during a break right after an English lesson that "word card strategy" was helpful as she could review words in the cards anywhere anytime. In the interview she mentioned "noting down the part of speech and sentential context". She also said that she liked to jot down words with similar forms.

> *I always jot down words with similar forms to notice their orthographic and semantic differences which can help me retain the word better.*

She recorded diverse word information for her selected items. There are 1.67 pieces of information on average in each of her cards, involving eight types of information.

- The L1 equivalent in every card,
- The part of speech in around half of her cards,
- Word family members in 10 cards,
- International phonetic symbols in 4 cards,

  other phonetic symbols in 12 cards (e.g. CON SER VA TION IST),
- Collocations in 4 cards,
- Self-made sentence in a card,
- Meaning paraphrase "without delay" for the card IMMEDIATELY,
- A similar form word "potion" recorded in the card POISON.

As for strategies of word review, in her response to the questionnaire she mentioned that she was used to writing the new words repeatedly. In the interview she talked about "word wall strategy":

> *I learn from my friend YY (pseudonym) to paste the new words on the refrigerator or write them on the whiteboard at home.*

Christine's personalized strategy development might be concluded as follows. Though she once learned the international phonetic symbols, it probably provided inadequate support for her to effectively employ the strategy "say the word aloud" which she would like to use. Also, due to her obvious weakness in English language in general and morphological knowledge in particular, she might encounter great difficulties in employing "parts and roots" though she was aware of the effectiveness of doing so. Failing to master some memory strategies at her level of readiness, she turned to concentrate on strategies of word organization and word review. She recorded diverse information and persistently reviewed the word entries.

6.2.3.2. Austin's personalized strategies

Austin was born in Hong Kong. He had 13 years of experience of learning English. He had studied in the school since Secondary one. He was first taught by the researcher when he studied in Class 4B. He is active and smart. He helped organize a class trip and an outdoor activity for his class teacher. He was ranked the fifth in his group in the first term reading examination, scoring around 80%. He acquired a vocabulary size of around 2,470 words in the Vocabulary Levels Test in January, 2010, the largest vocabulary size in his group. He said in the interview that he had enjoyed learning English since he was very young. He thought it was amazing that grouping some letters gave birth to English words. He had attended a phonetics course in Grade 8, and had taken part in two English summer camps in the summer holidays in 2008 and 2009. He claimed in the questionnaire and in the interview that he liked selecting words to learn from daily life. In the actual selection, 20% of Austin's selections are multiword items including five types of collocation, and the LFP of his single word selections among the four lists of frequency is 16%-5%-17%-63%, much weight being put on the sophisticated words.

Austin's form-meaning-linking strategies

Austin developed a diversity of memory strategies to link word forms and meanings. In his response to the questionnaire, he mentioned "roots and parts", "study the sound of words", "creating a mental image of the word" and "associating the word with a keyword". During the vocabulary strategy sharing activity, he used three memory strategies -- "study parts of speech", "studying the spelling with syllables" and "say the word aloud". In the interview he mentioned "using the e-dictionary", "studying the words of similar forms", "paraphrase with one's own words" and "studying a word with a pictorial representation of its meaning" as his personalized strategies.

Austin's strategies of organization and review

Austin also focused on the strategies of word organization and word review. He mentioned recording word family members, parts of speech and example sentences in the interview. In his word cards, he on average noted down 2.11 pieces of word information for his 150 selected words, higher than the average figure which was 1.94 pieces in his group. The details of word information in his cards are:

- The L1 equivalent in each card,
- The part of speech in each card,
- Word family members in 5 cards,
- Paraphrase in English in 4 cards,
- Contextual sentences with L1 versions in 5 cards
- Collocations in 2 cards.

He also developed some word review strategies. He used the strategy "oral repetition" in the strategy sharing activity. He mentioned in the interview "repetition in saying, writing and typing", "daily review" and "self-testing weekly".

> *I always use various review strategies such as writing once, saying once and typing once. I also review daily and I do the self-test weekly.*

In fact, he put the English word on one side and the corresponding word information including the L1 equivalent on the other side of his cards, which is handier for self-testing.

Austin generally showed intrinsic motivation in English language learning. His interest in English vocabulary building was not restricted to the curriculum. He probably used an e-dictionary actively to find out word information of those beyond-syllabus words to build his incidental vocabulary. He was also aware of

using a range of memory strategies to link the word form and meaning. His personalized memory strategies are diverse, including “study the part of speech”, “study the spelling with syllables”, “say the word aloud”, “roots and parts”, “studying the words of similar forms”, “meaning paraphrase”, “creating a mental image of the word”, “associating the word with a keyword”, and “studying word with a pictorial representation of its meaning”. He also recorded diverse information and developed several word review strategies for longer term word retention

The two cases reveal two different paths of strategy development of two students who are obviously very different in respect of their learning interests, readiness levels and learning profiles. Christine is less extroverted, less keen on auditory learning and less linguistically intelligent with inadequate phonological and morphological knowledge. Different from most of her peers, she did not seem to master any analytic strategies to link word forms and meanings. Different from some of her peers, she did not seem to have considered using imagery as compensation strategies. She turned to develop really *diverse* strategies of word organization and review which tended to help long-term word retention. From the perspective of personalized learning, her

personalized strategies are effective for strategic learning since they suited her learning differences. From the developmental perspective, the teacher should facilitate her memory strategy development to link word forms and meanings strategically in the first place. Otherwise, she would keep working doubly hard but reaped less than her classmates.

On the other hand, Austin is more able, extroverted and intelligent. He had a passion in English language learning. He developed really diverse memory strategies of form-meaning linking and various strategies of organization and review. Furthermore, he was aware of the importance of incidental vocabulary building. He paid attention to language use in the daily life and used the dictionary to learn vocabulary autonomously.

The investigation of the participants' strategy development in Sections 6.2.1, 6.2.2 and 6.2.3 shows that the limited proficiency students benefited from the strategy training to different degrees according to their learning differences, and at least four different paths of strategy development are observed among the participants (Table 6.16). Supported by the strategy training, the participants' strategies were no longer limited to various strategies of "repetition" (e.g.

written-, verbal- and visual-repetition). For some students like Christine, mastering organization and review strategies might be easier than memory strategies. Suki and some other participants further developed imagery strategies to link the word form and the meaning, and even used imagery as compensation strategies. Most students in Group 4B developed both analytic and imagery strategies along with some organization and review strategies. Some, as in the cases of Austin, even developed dictionary strategies for incidental vocabulary learning.

Table 6.16 Different paths of strategy development

Review with various repetition strategies
using strategies of word organization and word review
Using imagery & strategies of word organization and word review
Using analytic + imagery & strategies of word organization and word review
Using dictionary strategies & analytic + imagery & strategies of organization and review

It is clear that the effect of strategic learning goes from less effective to more effective among the four deployments. But personalized learning argues that all are regarded as effective for the corresponding students at their levels of readiness. From the developmental perspective, the student-centered teacher should expand the students' repertoire of learning strategies and strengthen the

effectiveness of strategy deployment by addressing their limitations or problems.

6.2.4 Some cases of ineffective strategy use

Some cases of ineffective strategy employment are spotted in the strategy demonstrating activity and from the content of the word card. Regarding memory strategies, some instances of ineffective application of the strategies have been noted involving the overuse of L1, incorrectness of the part of speech and the underuse of "roots and parts". The problems in word organization strategy development are mostly related to the form-oriented information such as wrong parts of speech and confusing base forms.

6.2.4.1 Form-meaning-linking strategies

In the strategy demonstrating activity, there are some instances of ineffective use involving the overuse of L1 and incorrect parts of speech. For example, two presentations in the independent strategy practice used L1 contexts to

paraphrase *the L1 equivalent of the target words*.

Presentation No. 20

> *Target item*: EXTRA
> *Medium of presentation*: Cantonese L1
> "你阿媽每日比二十蚊你食飯, 今日佢比二十五蚊, 咁就系**額外**。"
> (Your mum gives you 20 dollars for lunch everyday but she is giving you 25 dollars today. That's EXTRA.)

Presenter Sam intended to use the strategy "paraphrase meaning". Different from his classmates who used a bilingual context, Sam in this case paraphrased the L1 meaning of the target item instead of the target item in an L1 context. Sam might have difficulty in meaning paraphrase in English and/or in pronouncing the item EXTRA when he chose to paraphrase entirely in L1. It is obviously ineffective in terms of English word retention. Presentation No. 19 has the same problem when the girl paraphrased the L1 equivalent of the target word HARMONY in a L1 context: "**和諧**系跟你屋企人相處好開心。" (HARMONY means living with your family happily.).

Also, some of the participants did not pay adequate attention to the part of speech in strategic vocabulary learning. A girl cited "popular" as the synonym for the target item REPUTATION; another girl wrote down "try" on the board

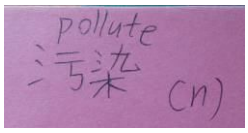
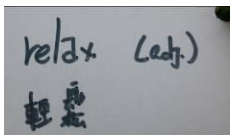
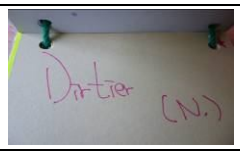
to represent the near synonym for EFFORT. The mismatch hindered the association between the word forms and the meanings, and probably led to incorrect word use. This perhaps suggests that the learners were used to remembering only the word meaning vaguely in L1 translation without paying attention to the word class. The cases might also reflect the negative effect of the participants habitually restricting their focus of word organization to L1 meanings during their previous journeys of vocabulary learning.

Another problem is the constricted use of the strategy "roots and parts", a strategy at the top of the participants' awareness when responding to the questionnaire but seldom used in the strategy demonstrating activity. It is probably due to the students' limited morphological knowledge. Some of the students seemed to be lacking adequate knowledge to identify some roots (e.g. LEAD in the target item MISLED) and affixes (e.g. "*mis*-", "-*ty*" and "-*sure*"). It seemed that even Austin did not identify the prefix "in-" in the target word INADEQUATE.

6.2.4.2 Strategies of word organization

While the part of speech is the second common word information beside the L1 equivalent recorded in the word cards, a number of incorrect parts of speech are spotted mostly in the cards from the less able group (shown in Figure 6.8). This shows that the group seldom referred to the dictionary for the part of speech information and they probably used their common sense to mediate the part of speech of the English words to the word class of the corresponding Chinese equivalent (Picture 1 & 2). Also, limited knowledge of word forms or morphology causes confusion. Picture 3 shows that the student mixed up the adjective inflection "-er" with the noun suffix "-er" and this resulted in recording the wrong part of speech.

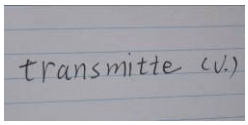
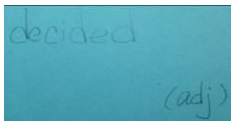
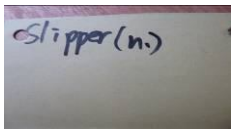
Figure 6.8 Incorrectness of the part of speech

1		2		3	

Another problem of word organization is the students' neglect of the basic form or the meaningful form of words, tending to create confusion in word attainment. The three examples in Figure 6.9 show the wrong word form of

TRANSMIT, the wrong word class of DECIDE, and the meaningless base word of SLIPPER.

Figure 6.9 Incorrectness of basic/meaningful word forms

1 	2 	3 

6.2.5 Summary

The second research question investigated what personalized vocabulary retention strategies the participants developed with the instructional facilitation of "vocabulary learning strategy training", the process component of PVL. Through the questionnaire, the strategy demonstration activity, the content of the 150 word cards each of the students made, and the two mini cases, it is evident that most of the participants developed their awareness and mastery of several memory strategies of form-meaning linking and actively recorded various word information along with the L1 equivalent, which benefit word retention in both short and long term memory.

Regarding the memory strategies of the form-meaning linking, responses to the questionnaire show that a mention rate of 70% goes to 12 memory strategies. The three top-mentioned memory strategies are “roots and parts”, “keyword method” and “say the word aloud”. Group differences are reflected in the more able group on average reporting 2.93 strategies against the less able group 2.26 strategies; and the more able group focusing more on diverse memory strategies while the less able group’s favourite strategy being “use English multimedia”, a metacognitive strategy.

The more able group was aware of using memory strategies in the actual strategy use. In the strategy demonstration activity, 86% of the strategy uses go to 13 analytic and imagery strategies with “say word aloud” being most employed. It is noted that the Band three students did not avoid using imagery strategies or deep processing strategies, and some students who probably had limited morphological knowledge used imagery as compensation strategies. Moreover, L1 is also used in strategic learning to help paraphrase meaning and memorize the sound and the form of some affixes. It is evident the students managed to develop strategies according to their learning needs and four different paths of strategy development are noted among the participants: (i)

using strategies of word organization and word review, (ii) using imagery, strategies of word organization and word review, (iii) using both analytic and imagery strategies, and strategies of word organization and word review, and (iv) using dictionary strategies, analytic strategies, imagery and strategies of organization and review.

There are a few cases of overuse of L1 and the part-of-speech mismatch between target words and their synonyms. Some participants used L1 contexts to paraphrase the L1 equivalents of the English items. Incorrect parts of speech are also spotted in using strategy "use synonyms/antonyms" when the synonyms and the target words were of different parts of speech.

As for strategies of word organization, in the teacher-directed practice of "word card strategy", the students actively recorded over 1.7 pieces of word information in each of their 150 cards, compared to jotting down only the L1 equivalent beforehand, and 85% of the students' notes are no longer restricted to the L1 equivalent. Among the total 11,270 pieces of information, 46 participants recorded on their 6,500 cards, 42% giving information other than the L1 equivalent. Like the Japanese EFL tertiary students in Schmitt's study,

the L1 equivalent is the most recorded by the secondary students in the current study. Unlike Schmitt's (1997) study, over 80% of the participants from both groups paid attention to recording the part of speech to different degrees.

Group differences are mainly seen on the more able participants recording more information which is more diverse. Group 3C recorded 1.51 pieces on average against 1.94 pieces in Group 4B. Apart from the L1 equivalent and the part of speech, a few students in the less able group noted down some contextual sentences, mostly self-made. As for the senior group, some students apparently made more use of the dictionary to jot down word information like word family members, collocations and contextual sentences, but not English definitions; some paraphrased meaning in their own words and some jotted down personalized phonetic symbols to represent pronunciation.

6.3 Student engagement in storytelling task

PVL emphasizes active learning experience and it frees and empowers students to produce learning output. The third research question examines what and how the participants produced in the vocabulary task and their linguistic and

affective achievement from the task. Analysis focuses on the participants' engagement in task preparation and task performance. The preparation work mainly refers to story script writing, and the analysis focuses on examining the themes of the story, the creativity elements in the story content and correctness of word use. For the task performance, three EFL teachers' assessment through video clip review is to investigate what the participants achieve linguistically and affectively. After the participants began to record five words daily for around a week, the storytelling presentation activity started with one individual presentation arranged at the beginning of each of the daily lessons in March and May, 2010. The participants took turns to present their stories which incorporated their five newly selected items after some preparation work like writing story scripts was completed.

6.3.1 The preparation work

The story scripts were collected right before each presentation and used for examining the theme of the story, the creativity elements in the content and the correctness of word use. Script writing is essential for any presentation,

especially for the EFL students who have little chance of speaking in English. Around 40 scripts from each group were collected in March and May (samples shown in Appendix 4). The first 26 scripts from Group 3C and the first 31 from Group 4B are used for analysis in this section. Fifty-four participants (over 90%) prepared a complete story script as required. Apart from story script writing, some participants sought help from the teacher-researcher with the pronunciation of words in their stories one to two days before their turn came to perform, some did the rehearsal before the teacher-researcher in the morning of their presentation days; and there were also some smart students who prepared their stories during the recess right before their presentations and/or clarified some spellings with the help of the teacher-researcher.

6.3.1.1 Themes of the stories

Among the 57 original stories, over 80% convey positive themes or messages. Stories with positive themes are regarded as stories conveying a meaningful message such as *gambling is bad*, *keeping fit is healthy*. Other stories involve some jokes making fun of some easy-going classmates, and the sequence of

incidents mostly related to the teenagers' personal experience such as *planning to study abroad* and *sharing housework with parents*. Generally speaking, the themes are rather diverse; and friendship, personal experience and fitness are among the common ones (see Table 6.17).

Table 6.17 Themes of the stories

Themes	Total	3C stories	4B stories
Friendship	9	3	6
Human nature	7	2	5
Money	7	3	4
Fitness	7	5	2
Personal experience	7	6	1
Growth	5	1	4
Drug and smoking	4	0	4
Justice	3	2	1
Environment	2	0	2
Study	2	1	1
Alternative being	2	2	0
Love	2	1	1

Group 3C preferred writing stories about fitness and personal experience. They also liked making fun of some classmates. It is noted that half of the girls preferred telling stories about their personal experience, while around three-quarters of the boys liked naming their heroes in the stories after some easy-going classmates and making fun of them. Among the nine stories with heroes bearing some peers' names, five end miserably with the heroes being put

to death or in prison.

On the other hand, the stories from Group 4B cared more about social issues including minimum wages, smoking, taking drugs, environment, corruption and justice. In fact, “social issues” was their elective English course in 2010. Some of the stories also have their heroes bear the names of some classmates but the plots are less crazy as none of those heroes meet a miserable end.

6.3.1.2 Creativity

Creativity goes with power. Creativity is a higher-order thinking which makes a story stand out brilliantly and results in the audience’s positive responses. Basically, writing an original story needs creativity, and incorporating five words probably from different contexts into a storyline calls for more creativity. The limited proficiency students do not lack creativity as all the stories are original and they incorporate the newly learned words into story contexts. Some extra creative elements like rich story structure, unpredictability, imagination and interesting names are also spotted in the scripts.

Rich story structure:

- In the tragic love story "A butterfly and a shell", there are detailed descriptions of the characters' traits, a setting full of imagination, a well-grounded conflict (the butterfly's lifespan far shorter than the shell's) and an unpredictable plot.

Unpredictability:

- Presenter Chan Fong (pseudonym) is an easy-going student in Group 3C. Some of his classmates named the heroes in their stories after him, and made those heroes end tragically. When it was Chan Fong's turn to present, it was expected that he would take "revenge". He started his story from a third person point of view with the hero, who bore his own name, complaining of being put to death so many times by the friends in different stories. He said that made Chan Fong angry and stay away from them. However, the story ended in such a way that Chan Fong felt bored without the friends and died in the end.

Imagination:

i/ *Fantasy*

- The master made her pet dog family become dog singer, dog dancer and dog cook.
- An E.T. was killed on the Earth since he ate all the crops there.
- A legend involved the god advising people to avoid a deer monster.
- Superman helped the government deal with a crisis.
- Miracle potion saved a boy from going astray.

- Superwoman killed a dinosaur.
- A ghost became friends with a group of teenagers.

ii/ *Adaptation*

- An adapted version of "Dr. Jekyll and Mr. Hyde"
- An adaptation of "The rabbit and the butcher"
- An adaptation of "The three little pigs"

iii/ *Simile*

- "The tear like a waterfall"

<u>Interesting names:</u>

- An E.T. was named Fong Chan, the name of an easy-going student but in reverse order. Before that, so many storytellers had made fun of Chan Fong and the teacher complained that it was more than enough.

<u>Rhyming</u>

- The names of the four characters Pan, Ben, Yan and Ken in the story were named after 4 classmates and the four names are two pairs of rhyming words.

Creativity is even more powerful when it is shared in the storytelling presentation and the dynamics between the presenter and the audience are achieved. More than half of the oral performances elicited the audience's

friendly responses. In some cases the audience showed appreciation of the smart way some presenters integrated the five words in a comparatively short context. In some other cases the crazy jokes triggered laughter. The creative elements in the levels of discourse, imagery language, vocabulary and phonetics drew the audience's strong attention.

6.3.1.3 Correct word use

The correctness of word use, referring to the correct use of the student-selected words in the story context instead of the grammatical correctness throughout the story script, is as high as 94%. The participants wrote around 95 tokens on average in their story scripts (73 in Group 3C vs. 114 tokens in Group 4B), with the more able group writing 56% more. Generally speaking, the longer the story script, the more time is supposedly required for the writing and the more engaged the participant is. There are 271 student-selected items integrated in the 57 scripts, and 75% of the stories link up five to six selected words. It is found that 255 out of the 271 student-selected items are used correctly in the story context, indicating the correct rate of word use is 94%. The sixteen cases

of incorrect use of student-selected words will be examined in Section 6.3.3.

6.3.2 The performance

This section focuses on how the participants achieved their task linguistically and affectively through three teachers' assessment. Linguistic benefit and affective benefit usually go hand in hand in EFL learning and the benefits in the oral presentation result in the presenters' good feeling of self-confidence, self-worth and self-esteem, and power and control. Around 40 individual presentations were done in each group and each participant had at least one opportunity to present. 24 video clips were taken with the presenters' consent -- 12 from each group. Three EFL teachers were invited to independently assess, through video clip review in July to August, 2010, two items on "effective communication" and "confidence", representing the linguistic and the affective domains respectively. The teachers were teaching F.3 and/or F.4 English in one or both of the academic years 2008-2009 and 2009-2010, and they had 1 year, 5 years and over 10 years experience of EFL teaching in the school respectively. The participants had not been taught by them and thus little bias was presumed

to be involved.

The assessment description and marking scheme are set out in a similar way to that of the speaking paper (individual presentation section) in the university entrance examination. The item "effective communication" is represented by three factors, "comprehensibility", "pronunciation" and "fluency", while another item "confidence" is examined through evidence such as eye contact, voice and gestures. The five grades from (5) to (1) represent *Very good*, *Good*, *Adequate*, *Inadequate but acceptable*, and *Unacceptable*, in which Grade 3 is the university admitting benchmark of the English language subject, Grade 2 the passing threshold and Grade 1 is failure. In PVL, *word use* not only benefits word retention but also empowers, helping the Band three students to build confidence in learning.

Table 6.18 shows the three teachers' average grades on the item "effective communication", represented by factors "comprehensibility", "pronunciation" and "fluency", and another item "confidence". One of the teachers assessed in a finer way with ".5" to indicate an additional level between two grades, while one other teacher with "+" and "-" to split a grade into three levels (e.g. Grade

"1+", Grade "1" and Grade "1-"). For the sake of calculation, the "+" is quantified as "+0.3" and "-" as "-0.3" (e.g. Grade "2+" is quantified as "Grade 2.3", and "2-" as "Grade 1.7").

Table 6.18 The teachers' assessment on the 24 presentations

Ss pseudonym	Effective communication			Confidence
	Comprehensibility average grade	Fluency average grade	Pronunciation average grade	average grade
FZ(3C)	3.3	3.3	3.3	3.4
CS(3C)	2.8	2.8	3.2	2.8
DN(3C)	2.2	2.8	2.7	2.4
WT(3C)	2.9	2.0	2.2	2.3
JK(3C)	2.9	2.3	2.3	2.9
RB(3C)	2.2	2.3	2.8	2.3
BN(3C)	2.4	2.3	2.4	2.8
RK(3C)	2.7	2.0	2.5	2.7
WS(3C)	2.3	2.0	2.0	2.6
CH(3C)	2.3	1.8	1.9	2.1
MS(3C)	3.7	3.2	3.3	3.2
HY(3C)	2.5	2.2	2.7	2.3
Average(3C)	**2.7**	***2.4***	***2.6***	***2.7***
LL(4B)	1.8	2.0	2.7	2.3
SM(4B)	3.8	3.3	3.4	3.8
AK(4B)	3.0	3.0	3.2	2.8
LU(4B)	3.2	3.2	3.3	3.3
SK(4B)	3.3	3.1	3.2	2.0
AN(4B)	3.5	2.7	3.2	3.4
TY(4B)	2.7	2.7	2.8	3.0
SH(4B)	2.5	2.6	3.0	2.2
AT(4B)	3.7	3.7	3.5	3.7
CT(4B)	2.3	2.0	2.0	2.0
AG(4B)	3.2	2.7	3.0	2.9
KR(4B)	4.2	3.3	3.6	3.7
Average(4B)	**3.1**	***2.9***	***3.1***	***2.9***

Note: The five grades represent *Very good (5), Good (4), Adequate (3), Inadequate but acceptable (2)* and *Unacceptable (1)*

6.3.2.1 Linguistic benefit

Linguistic benefit achieved from the oral task is represented by the item "effective communication", entailing three factors, namely, "comprehensibility", "pronunciation" and "fluency". The average grades the three teachers gave for these three factors are 2.9, 2.6 and 2.8 (Table 6.17), meaning that the 24 participants achieved Grade 2.8 on the item "effective communication", the mean score of the three factors. The grade is comfortably beyond the passing line and close to the university entrance threshold. It is also noted that over 95% of the 24 presenters passed on all three factors and 100% attained an average pass. Concerning individual groups, the less able group attained an average Grade 2.6 on the item "effective communication", with the highest score Grade 3.4 (MS3C). The more able group scored Grade 3.0 on average with the highest Grade 3.7 (KR4B). One 3C student (CH3C) failed two items and one 4B participant (LL4B) failed one, yet they managed to attain Grade 2 and Grade 2.2 respectively in the item "effective communication". The Band three participants' achievement on the linguistic domain was satisfactory.

The fact that the 24 presentations on average lasted 1.5 minutes further demonstrated that the presenters were deeply engaged in the task and they benefited linguistically. Generally speaking, the longer the presentation, the more challenging the oral task is under the precondition of "fluency" (in this case the factor "fluency" is Grade 2.4 in Group 3C and Grade 2.9 in Group 4B, both satisfactory). Moreover, the average presentation time is 50% longer than the 1-min time requirement of the individual presentation section in the speaking paper in the university entrance exam. Regarding individual groups, the less able group devoted less time. The 12 presentations from Group 3C on average lasted 1 minute 21 seconds and the two extremes were 45 seconds and 2 minutes 39 seconds. In Group 4B, the average presentation time was 1 minute 42 seconds, with the shortest being 39 seconds and the longest 3 minutes 50 seconds.

6.3.2.2 Affective benefit

The affective benefit is represented by the confidence index of the presenters. Self-confidence in SL/FL learning is an affective achievement representing the

least anxiety and discomfort (MacIntyre et al., 1998). The average score of the item "confidence" is Grade 2.8 according to the three teachers' average assessment; the same is the case with the score of the item "effective communication" which represents the participants' linguistic achievement. Specifically, one-third of the 24 presenters attained Grade 3 and two-thirds of them Grade 2, with no one failing on this item. For the individual groups, Group 3C attained Grade 2.7, with the highest Grade 3.4 (FZ3C) and the lowest Grade 2.1 (CH3C). Group 4B attained Grade 2.9, with the highest Grade 3.8 (SM4B) and Grade 2.0 the lowest (SK4B and CT4B).

The data reveal that task achievement is satisfactory in both linguistic and affective aspects as represented by the items "effective communication" and "confidence" respectively. It is a solid pass going toward the university entrance threshold Grade 3. The average presentation time of 1.5 minutes is further evidence of the engagement of the participants in the challenging task though there are some cases of incorrect use of selected words in the stories.

6.3.3 Cases of incorrect word use

The incorrectness rate of word use among the 271 student-selected items integrated in the stories is 6% or 16 cases -- five cases related to errors in semantics and eleven to form/structure, involving the part of speech and the collocation.

Errors in Semantics:

- Mary and Tom went to (a) CORONER'S COURT for money problem.
- Long time ago I listen (heard) one FAME.
- A WORKFORCE called Ken work(ed) for a company for a long time but his pay was not high.
- You can STALE a timetable.
- They STAY AWAY FROM the museum.

The five cases of semantic errors are apparently caused by the students' neglect of the unfamiliar word or wrong guess, suggesting that the dictionary is seldom used. In the first case, CORONER'S COURT is treated as a general court with the student ignoring the low-frequency item CORONER. FAME is interpreted wrongly as "legend". During the presentation the teacher did ask the student

whether she would like to think twice about the meaning of FAME. The student stressed in L1 that it means "神話" (legend). WORKFORCE is taken as "a worker" in the third case. It is hard to imagine how STALE and TIMETABLE go together in the next case. The last semantic error is caused by mistaking the item STAY AWAY FROM as the synonym of "leave".

The errors in structure basically refer to incorrect parts of speech and erroneous collocations. They are probably caused by the students' focus on L1 meanings of new words, and their lack of sufficient exposure to English.

Errors in Form—parts of speech:

- The COMMIT CRIME let (made) him very SHAME.
- One day, Lily SUSPENSIONED of her work and I want to pinpoint the cause why it (she) not to do (did not do) the work.
- May's response is very COLD-SHOULDER.
- Chan Fong is a INDULGE IN to play computer game people.

In the first case of incorrect parts of speech, the verb COMMIT in the verb+noun combination COMMIT CRIME is wrongly regarded as an attributive adjective modifying the noun CRIME, and the noun SHAME is mistaken as an adjective. The noun "SUSPENSION" is treated as a verb in the second case. COLD SHOULDER is regarded as an adjective in the third

instance. The last error is obviously caused by word-to-word translation from Chinese “H.Y.是一個沈迷玩電腦遊戲的人” (H.Y. is a person who indulges in computer games). INDULGE is not treated as a verb in the last case and “INDULGE IN to play computer game” is used as a modifier before the noun “people” which should be replaced by “person”.

Errors in Form—collocations:

- He was FEVER.
- Two policemen are CHECKING a street.
- A police (policeman) HEAR FROM his problem.
- Suddenly, Mary’s CONSCIENCE was found.
- Mary AGREEED her mother if she broke this promise, she will be punished.
- I got an injury. It was ARISING FROM another football player.

Regarding the six cases of incorrect collocations, the noun FEVER should be preceded by the verb collocate “to have” instead of “to be”. CHECK cannot replace “patrol” to go with “the street”. HEAR FROM should be followed by someone instead of something. The verb “to find” cannot go with CONSCIENCE and the error is apparently influenced by the Chinese term “良心發現”. “The CONSCIENCE was/is clear” or “clear CONSCIENCE” is naturally used. Also, intransitive verb AGREE cannot take any direct object. In the last case, “injury” is “caused by” but not “ARISEN FROM” someone.

6.3.4 Summary

The third research question looked at how the participants were engaged in the oral task of word use, and evidence from task preparation and task performance shows that the students put in considerable effort to go through a series of steps and complete the challenging task. The series of steps for task completion involve attaining the five self-selected items, working independently in associating the five items, creating the story context, writing the script, doing rehearsal and conducting the presentation. Intrinsic motivation is strongly required to work on all these steps as the participants were clearly informed that the task had nothing to do with their academic results. Task accomplishment is satisfactorily achieved as the stories incorporate four to six student-selected words as required; a high correctness rate of word use is attained; and the presentation time is beyond the one-minute requirement of the individual presentation section of the speaking paper in the university entrance exam. Besides, the stories are original, meaningful and creative. The participants apparently shared their creativity and personal experience in an environment full of trust and respect.

It is believed the presenters benefited in both linguistic and affective domains when completing the task. Linguistic benefit is reflected in the 94% correct rate of word use, the 1.5 minute presentation time and the Grade 2.8 on the item "effective communication" in the presentation assessed by the three teachers. The affective benefit involves creativity and personal experience sharing, and the Grade 2.8 achieved on the item "confidence" in the storytelling performance. The participants' creativity is reflected in their original story writing, four to six words being integrated in context, and elements like rhyming, unpredictability, etc. in the stories. Since the assessment criteria of the presentation is set similar to the speaking paper in the university entrance exam, the grades the presenters achieved in both "effective communication" and "confidence" are very satisfactory as they are close to Level 3, the threshold of university entrance.

Group differences in task engagement reveal that the output options provided in PVL attend to different learning needs. In terms of the output content, the less able group preferred talking about "personal experience" and making fun of each other while the more able group cared more about the social issues, which make up part of their formal curriculum. In terms of the difficult levels of the task which could be represented by the length of the story and the presentation,

the less able group on average wrote a 73-token story and presented for 1 minute 21 seconds, against 114 tokens and 1 minute 42 seconds in Group 4B. As for the pace of task completion, it is found that some participants did the preparation one to two days before the performance while some only needed around 25 minutes, the duration of a recess. Concerning the three teachers' assessment, the less able group scored Grade 2.6 for the item "effective communication" and Grade 2.9 for "confidence", versus Grade 3.0 and Grade 2.9 in the more able group.

Sixteen cases of incorrect word use reveal that some participants seldom used the dictionary to clarify word meanings, parts of speech and collocations. In the five cases of errors in semantics, some participants when encountering a low-frequency word simply neglected it or made a random guess. Lack of sufficient exposure to English language, little use of the dictionary and L1 influences are all causes of the mistakes related to parts of speech and collocations.

6.4 Personalized assessment

The fourth research question investigates through personalized assessment how effectively PVL as a whole facilitates retention of student-selected words. When PVL frees and empowers them in the three domains of instruction, the approach is expected to motivate students in vocabulary building. Since personalized assessment with advance notice may elicit a cumulative review, the vocabulary tests are conducted to examine how effective the participants' review strategies were in the daily, weekly and cumulative review. On the other hand, the delayed tests without advance notice may reveal the long-term retention rate, or the effectiveness of PVL in vocabulary building. Test 1 was held in late March assessing the first batch of 50 selected items. Delayed Test 1 was conducted around three weeks later. The scores achieved in Test 2 and Delayed Test 2, assessing the second batch of 50 personalized words collected in May, can serve as triangulation data to validate the students' efforts in vocabulary building.

Attaining satisfactory scores in 50 word assessment is challenging. Retaining five items a day might not be difficult but keeping up the retention of five words a day or doing cumulative review of a large number of items such as 50

words requires students to make a great effort rather than depend on intelligence or luck. It also needs integrative motivation since the students were clearly informed that the personalized assessment was not related to their academic results. Satisfactory scores achieved in the assessment to some extent suggest that (a) "student-selected vocabulary" leads to students' better retention of the words selected by themselves, (b) some personalized strategies developed from strategy training help to effectively retain words, and (c) the affective benefit achieved from the oral task motivates word review. Over 50 students' data are analyzed in this section quantitatively.

6.4.1. The scores of the two tests

The test scores shed some light on how the participants were motivated in word review. Test 1 involved 50 students while Test 2 was taken by 54 students.

Table 6.19 The scores of the two tests

	No. of Ss sitting		Mean scores %		SD		No. of Ss failing	
	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2	Test 1	Test 2
Gp.3C	22	24	64.2	68.2	23.40	17.76	8	2
Gp.4B	28	30	81.9	82.1	17.67	16.67	2	2

Table 6.19 shows the details of the two tests. The mean scores of the two groups in Test 1 are close to those of Test 2 -- 64.2% and 68.2% in Group 3C as opposed to 81.9% and 82.1% in Group 4B. Judging from the SD and the number of students failing the two tests, some progress was seen in Group 3C in Test 2 while Group 4B kept scoring steadily high, attaining over 80%.

6.4.2 The scores of the two delayed tests

The scores of the three-week delayed tests with no advance notice can reflect the effect of PVL on word retention in the longer term. The summary of the scores from both groups is shown in Table 6.20. The differences between the two delayed tests of both groups are small, 61.4% and 63% in Group 3C and 78.3% and 75.3% in Group 4B. Again some progress was seen in Group 3C on the Delayed Test 2 while in Group 4B slight regression was noted.

Table 6.20 The scores of the two delayed tests

	No. of Ss sitting		Mean scores %		SD		No. of Ss failing	
	D.Test1	D.Test2	D.Test1	D.Test2	D.Test1	D.Test2	D.Test1	D.Test2
Gp.3C	25	22	61.4	63	25.65	18.61	9	5
Gp.4B	30	30	78.3	75.3	18.33	20.43	3	5

Some fading rates in the delayed tests compared to the tests are natural since the scores of the delayed tests represent long-term word retention. The fading rates in the assessment of two batches of 50 words are around 4% and 8%, which is acceptable. In Group 3C, the participants scored 2.8% and 5.4% less in the two delayed tests, meaning the fading rates of 4.4% and 7.9%, while Group 4B scored 3.6% and 6.8% less, equivalent to the regression rates of 4.4% and 8.3%. It is noted that the fading rates of Delayed Test 2 in both groups are bigger than those of Delayed Test 1. This might contribute to the assessment time of the Delayed Test 2, which was close to the final examination.

Overall the assessment results show that the participants achieved satisfactorily in vocabulary building; and the scores of the second batch of 50-word assessment, which are quite close to those of the first batch, help to validate the satisfactory results. With the regression rates of 4% and 8%, the two groups scored no less than 61% and 75% respectively in the delayed tests, far beyond the pass scores of 50%. In other words, the two groups succeeded in retaining 3 items and 3.8 items a day in their long-term memory, representing 600 and 750 items a year respectively -- very encouraging figures for Band three students.

6.5 Summary of Chapter 6

Chapter six evaluates the effect of the constructed approach PVL in facilitating vocabulary building through the responses to the four research questions. The quantitative and qualitative data reveal the participants' engagement in the three components of PVL, which involve learning input, learning process and learning output, and the students' achievement in vocabulary building which is quantified in the personalized assessment.

Specifically, regarding "student-selected vocabulary", over 80% of the participants adopted a positive attitude towards this strategy. They reported that they selected items from the curriculum and the multimedia (56% and 34% respectively), closely related to the EFL learning goal and teenagers' interest. In actual selection, the Band three students chose multiword items and single-word items with a proportion of 13%-87%. In the Multiword Word Pool, compound nouns and phrasal verbs dominate (47% and 25% respectively). As for the single-word pool, the lexical frequency profile (LFP) among 1K, 2K, AWL and OFF-list is 21%-20%-16%-43%. This indicates that the limited proficiency participants did not avoid selecting multiword items, general

academic words and low-frequency words to learn, which are more related to the requirement of the curriculum. Simultaneously, the students with a vocabulary size of around 1,400 word families chose the basic words to fill the gap of their inadequate knowledge of 1K and 2K. The LFP data reflect that their selections are basically balanced for vocabulary growth: the weight between the basic two thousand words (1K+2K) and the sophisticated words (AWL+OFF-list) is around 41%-59%; and the two extremes of the frequency profile -- the 1K selections (21%) and the selections beyond 6K (17%) – are related to their learning experience. Some of the 1K selections are unfamiliar items; some are semi-unfamiliar items such as 1K word family members. There are also a good number of the lower-frequency words which are compound nouns, words with prefix, words from content subjects and words commonly used in e-games. The proportion between the 1K and 2K selections (21%-20%) also reveals that the limited proficiency students do not have a solid knowledge of the most basic word list 1K.

In “vocabulary learning strategy training”, as this study targets the EFL learners at the beginner level, the training focuses on memory type of form-meaning-linking strategies and strategies of word organization and review. The

participants developed their awareness and mastery of multiple memory strategies and recorded diverse word information along with the L1 equivalent. Among the 15 form-meaning-linking strategies mentioned in the questionnaire, there are 12 memory strategies with a mention rate of 70%. The popular memory strategies are “roots and parts”, “keyword method” and “say the word aloud”. In the independent strategy practice, 50 uses of 13 memory strategies are involved in the 22 strategy demonstrations with “say word aloud” used most frequently. The Band three students did not seem to have difficulties in using imagery strategies. Some even made use of imagery as compensation strategies. Regarding word organization, 85% of the participants no longer limited their vocabulary notes to the L1 equivalent; 42% of the word information the students recorded involved English definitions/paraphrases, synonyms/ antonyms, words with same topic, pictorial images, parts of speech, word family members, phonetic symbols, collocations and contextual sentences.

In “the oral task of word use”, the evidence is that all participants were well engaged in the task preparation work and task performance; they benefited in both linguistic and affective domains. The participants accomplished the challenging performance with a correct rate of word use of 94%. Their

presentations, which lasted 1.5 minutes on average, are beyond the corresponding requirement in the university entrance exam. They also showed their creativity when making up original stories of a diversity of themes, integrating four to six new words into context and working on some interesting elements like rhyming names, unpredictable endings and fantastic plots. The three teachers who assessed the participants' performances appreciated their achievement and rated both items "effective communication" and "confidence" as Level 2.8. As the marking criteria are set according to the university entrance exam, this means the participants' grades in the two items are fairly close to the university entrance threshold Level 3. It is also encouraging that no one failed in the two items.

The results of the personalized assessment might demonstrate the participants' effort in word review and their achievement in vocabulary building. The scores in the two tests show that the participants worked hard in reviewing their 100 self-selected items; and the scores of the delayed tests indicate that the students achieved high retention rates in vocabulary building, validating the positive effect of PVL as a whole. Driven by intrinsic motivation, the Band three students succeeded in retaining around 3.5 items a day in their long-term

memory, representing around 700 items a year. The group differences in the results of the four research questions, shown in Table 6.21, reflect that PVL attends to learning differences.

While both of the groups were engaged in the three components of PVL, group differences are noted in the more able students attaching more importance to the formal curriculum and performing better as their proficiency and potential are higher at the very beginning. In "student-selected vocabulary", the senior group focused more on the curriculum. They selected more multiword items, more AWL words and more low-frequency items which are related to the secondary curriculum. Regarding their attitude towards "student-selected vocabulary", they asked for different degrees of the teacher's intervention in learning input which is supposed to be more curriculum-related. In the storytelling task they focused more on the social issues, part of the curriculum, as the themes of their creative stories.

Table 6.21 Group differences catered in PVL

	Group 3C	Group 4B
Word sources	curriculum 43%	curriculum 63%
	multimedia 43%	multimedia 30%
Student selections:		
multiword vs. single-word	13% - 87%	14% - 86%
common multiword types	compound nouns (44%)	compound nouns (49%)
	verb+prep. (34%)	verb+prep. (19%)
	noun+prep. (10%)	verb+noun (12%)
Single-word selections:		
LFP (1K-2K-AWL-OFFlist)	26%-23%-12%-39%	16%-18%-19%-47%
Sig. difference in LFP	more 1K words	more AWL words
Attitude towards	student-selected 92%	student-selected 48%
student-selected vocabulary	teacher-selected 4%	teacher-selected 28%
		T+S-selected 24%
Memory strategies	keyword method (14%)	roots and parts (21%)
(mentioned most)	roots and parts (10%)	say words aloud (20%)
	extensive reading (10%)	keyword method (17%)
cons-mem vs. cons-met	57%-43%	87%-13%
Memory strategies		
(employed most)	N/A	"say word aloud" (26%)
Organization strategies		
pcs. of word info. recorded	1.51 per cad	1.94 per card
dictionary used	seldom	quite often
Oral task:	joking	social issues
common themes	personal experience	friendship
	fitness	human nature
length of story scripts	73 tokens	114 tokens
length of performances	1 minute 21 seconds	1 minute 42 seconds
Scores:		
"effective communication"	Grade 2.6	Grade 3.0
"confidence"	Grade 2.7	Grade 2.9
Personalized assessment:		
mean scores of 2 tests	64.2%, 68.2%	81.9%, 82.1%
mean sores of 2 delayed tests	61.4%, 63%	78.3%, 75.3%

Besides, the more able group developed more diverse memory strategies and recorded more word information with more diverse types. The students in Group 4B also wrote longer scripts and performed longer in storytelling performances and they scored higher in the items “effective communication” and “confidence”. The group also attained a higher retaining rate in vocabulary building.

Some problems are also noted – lack of adequate phonological and morphological knowledge and knowledge of 1K word families, some misspellings in student selections, L1 overuse and mismatch of the part of speech between synonyms and target words in strategic learning, recording wrong parts of speech and ignoring the base form and the meaningful form of the items in word organization and incorrect word uses in the task due to rare use of dictionary to check meanings, parts of speech and collocations.

Chapter 7

Discussion and Conclusion

This chapter interprets the key findings of the study with some implications for supporting a close integration of research and practice. It then draws conclusions from the main findings and briefly points to the significance of the findings in realizing personalization in EFL vocabulary learning.

7.1 Discussion

Individual differences in SL/FL vocabulary learning and teaching have received attention since the 1970s to inform teaching and promote learner autonomy, but most of the studies examine one variable such as motivation or predispositions independently of other variables (Ellis, 2004). When personalized learning proposes offering *student choice* in the high school classroom to cater for more variables of individual differences (Tomlinson, 2003; U.S. Department of Education, 2010; Webster, 2008), the focus of research in personalized

vocabulary learning and teaching has been placed on either the learning input or learning approach. Experts (e.g. Oxford et al., 1990; Schmitt, 1997) suggest conducting *strategy training* for students to develop their learning approaches according to their learning needs. Also, Haggard's (1986) *Vocabulary Self-collection Strategy* advocates opening up the curriculum for students to decide what words to learn. As most of Hong Kong teenage students have long been confronted with linguistic and contextual difficulties of EFL vocabulary building with little instructional facilitation, a personalized instruction approach which involves learning input, learning process as well as learning output is urgently needed.

Inspired by William Glasser's Control Theory and "strategy training" and "Vocabulary Self-collection Strategy", an instruction approach, PVL, standing for *Personalized Vocabulary Learning*, is constructed in the current study to attend to the EFL teenagers' learning needs in vocabulary building. While personalized learning contends that "student choice" is an effective strategy to cater for individual differences (Bishop, 2008), PVL employs Control theory as theoretical grounding to explain the relation between offering *student choice* and *student making responsible choice*. In fact, Glasser argues that not only

"freedom", which functions as "student choice" in personalized learning, but also other intrinsic needs such as power, when being fulfilled, can motivate responsible behaviour. Thus the three-component approach PVL is devised to free as well as to empower students in all the three instruction domains of *learning input*, *learning process* and *learning output*.

PVL is constructed as a higher degree of personalized instruction taking care of more learner differences in more instruction domains. It is through fulfilling teenagers' common intrinsic needs to cater for learner differences in learning goal, learning content, learning approach, learning output and learning pace, and also motivate learning. PVL consists of three components, "student-selected vocabulary", "vocabulary learning strategy training" and "oral tasks of word use" in which freedom and power are interwoven. In the input component "student-selected vocabulary", freedom is offered and the teacher's power of curriculum decision is shared for students to build vocabulary in their own way. In the process component "vocabulary learning strategy training", students develop, according to their learning differences, personalized strategies for independent learning. As in the output component "oral tasks of word use", options are offered for students to control the topic/content and the difficulty

levels of tasks and also the pace of task completion. Meanwhile, the elements of *power* integrated in the tasks such as oral performance and creativity sharing are affectively beneficial.

PVL is evaluated in this teacher research which spans eight months, with a view to seeing whether and how the personalized intervention attends to learner differences and motivates vocabulary building. In the current study, the participants of beginner level were asked to select five to six unfamiliar words to learn from their preferred sources daily in "student-selected vocabulary". In "vocabulary learning strategy training", since the participants had not been taught any strategies before, the focus of training was on introducing and demonstrating several memory strategies for linking word forms and meanings and practising some strategies of word organization and word review, taking care of both short and long term word retention. In "the oral task of word use", "storytelling with five newly-selected words integrated in the storyline" was devised for the Secondary 3 and Secondary 4 participants. With support from an array of different quantitative and qualitative data, it is evident that the Band three students were engaged in all the three components of PVL and they achieved high retention rates of their 100 personalized items.

7.1.1 The effect of PVL

Freedom in PVL was explicitly utilized by the participants when they chose different items to learn from their preferred sources, determined on the lexical frequency profile of their learning lists, developed personalized strategies according to their learning differences, and worked on the task with the topics/content, the difficulty level and the task completion pace under their control. On the other hand, power in the approach might not explicitly and tangibly reflect in each of the three domains or how many words retained, but in the *motivation* resulting in the participants' selecting words for vocabulary growth, developing strategies with their fullest potential, performing confidently in the oral task, and achieving significantly high vocabulary retention rates. The positive effect of PVL will be summarized from three aspects – attending to learner differences, motivating responsible behaviour and facilitating learning success.

7.1.1.1 Motivating responsible behaviour

Basically there are negative and positive responses from students when learning options are offered – *ignoring*/*choosing randomly* and *making responsible choice*. Control Theory holds that a caring environment with love, freedom, fun and power motivates students to learn in a responsible way. The findings in this study show that the Control Theory-based PVL motivates responsible behaviour, which is termed "effective control" in the theory. The findings show the Band three participants' effective control in:

- selecting words to learn primarily from formal curriculum (56%), which is more related to their learning goal,
- selecting multiword items and low-frequency words which are more related to the curriculum,
- selecting a balanced LFP for vocabulary growth,
- developing multiple memory strategies and most of the participants (85%) recording various form- and/or usage-oriented information along with the L1 equivalent in word organization,
- reviewing thoroughly and repeatedly, and

- engaging in task preparation and accomplishing the task.

It might seem difficult to associate the Band three students who are regarded as losers in the education system with responsible behaviour in vocabulary building in the environment of freedom and power. As the theoretical grounding of PVL, Control Theory interprets the correlation between *offering student choice* and *student making responsible behavioural choice* from the cognitive behavioural perspective. It strongly holds that fulfilling students' basic needs leads to their responsible behaviour because all humans produce their behaviour to maximize satisfaction of their intrinsic needs which are interwoven in the genes. PVL agrees that when the teacher creates an environment where students feel they have choices and they are empowered, they will feel a sense of responsibility which will go a long way in maintaining learning motivation.

7.1.1.2 Facilitating learning success

Facilitating learning success is the aim of motivating responsible learning. The findings in the case study display the participants' learning success in:

- developing multiple strategies for independent learning,

- using authentic English to share personal experience and creativity,
- their storytelling performance lasting 1.5 minutes on average, longer than the 1-minute requirement in the open exam,
- attaining a correct rate of word use of 94% among the 271 selected items,
- communicating effectively in the foreign language (Grade 2.8),
- building confidence in the task (Grade 2.8); and
- succeeding in retaining around 3.5 items a day in their long-term memory, representing around 700 items a year.

7.1.1.3 Attending to learner differences

Learner differences include learning interest, levels of readiness referring to the current stage of proficiency development, and learning profile which is the learning preference influenced by intelligence, learning style, culture, etc. The findings in this case study show that freedom in PVL attends to (a) the Band three EFL teenagers' learning differences, (b) the individual groups' learning needs and (c) the individual students' different needs.

Catering for limited proficiency students' learning differences

The 57 limited proficiency students, like every teenager nowadays, are obviously interested in the multimedia especially the Internet, and, like every Band three EFL student, lack adequate vocabulary, basic knowledge of high frequency words, and morphological and phonological knowledge. The findings show that:

- they could select words to learn from the Internet, their preferred source;
- they could choose unknown high-frequency words to learn to fill the knowledge gap of basic words like 1K family members;
- their sophisticated selections could be *semi-unfamiliar* or 1K-related items such as:
  - *compound nouns* which consist of two high-frequency words,
  - *verb+preposition collocations* of which each embeds two 1K words -- one content and one function word, and
  - *"root+prefix" items* of which the root usually is a 1K word,
- they could use imagery and L1-related strategies as compensation strategies.

Catering for individual groups' different needs

The two groups of participants are different in language proficiency in terms of grade levels and class allocation and they are also different in vocabulary sizes. The findings show that PVL caters for group differences.

- The senior group with a more immediate learning goal of entering university preferred choosing words to learn primarily from the formal curriculum, while the junior group weighed equally the two main sources -- the curriculum and the multimedia.
- While the less able group overwhelmingly enjoyed the freedom of self-selecting words to learn, the more able group asked for different degrees of teacher decision in learning input as they thought the teacher's selections represented the curriculum requirement.
- In "student-selected vocabulary", the more able group chose more sophisticated words, especially AWL words, whereas the less able group chose more basic words, especially 1K words.
- In personalized strategy development, compared to the junior group, the senior group developed more memory strategies and recorded more word information with more diverse types. The group also used the dictionary

more often when recording word information.

- In the oral task, the senior group wrote and told longer stories with the themes more curriculum-related. The junior group shared light hearted stories with the boys making fun of each other and the girls sharing personal experience in shorter stories.

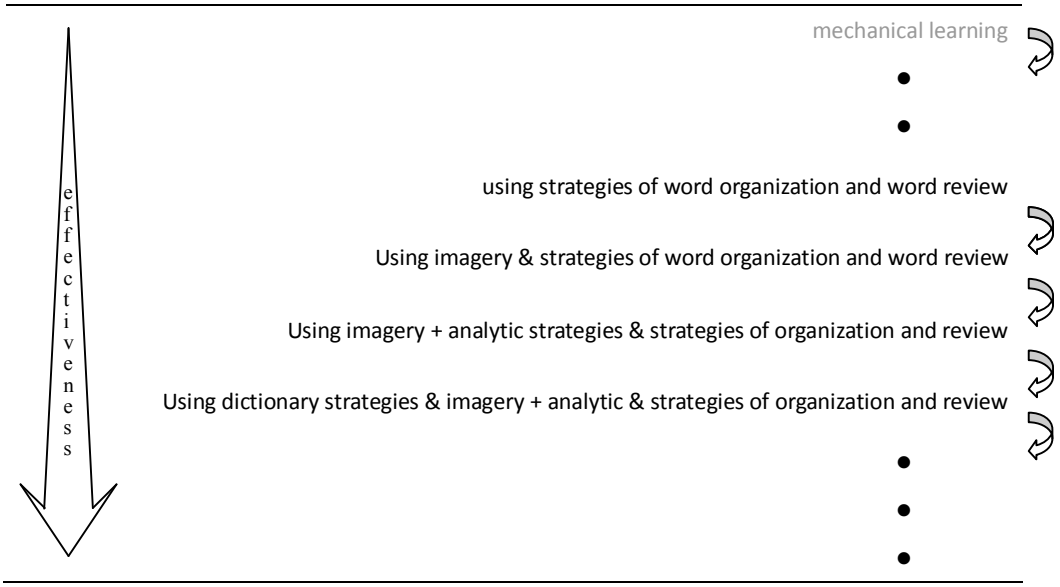
Catering for individual students' different needs

The evidence of PVL catering for individual students' different needs is especially reflected in the learning process. At least four paths of strategy development are observed in the study. Findings in the two mini cases and the independent strategy practice activity show PVL has catered for individual students' differences in personalized strategy development. The two mini cases reveal that the two students with significantly learning differences developed their personalized strategies differently. The less able girl who apparently lacked adequate morphological and phonological knowledge for memory strategy development turned to master multiple strategies of organization and review. On the other hand, the more able boy mastered a range of memory strategies and several strategies of word organization and word review, and he also employed dictionary strategies for incidental vocabulary learning. Two

more patterns of strategy employment and deployment are noted in the independent strategy practice. Apart from employing some organization and review strategies for long-term word retention, some students like Suki developed some imagery strategies and even used them as compensation strategies, while most 4B students developed both analytic and imagery strategies to link the word form and the meaning.

Different degrees of strategic learning

If mechanical learning means retaining words without making use of any strategies and is thus least effective, and more effective strategic learning refers to employing multiple strategies of different types and of different steps in a complementary way, it is most likely that there are some various patterns of strategy employment and deployment falling in between. The four different paths of strategic learning noted in the study tend to represent different degrees of effectiveness, though it is worth emphasizing that from the perspective of personalized learning, they are all effective for the corresponding students at their current levels of readiness. The mission of further strategy training is to enhance the effectiveness of students' personalized strategy employment.



The role of "repetition" strategies

Regarding EFL vocabulary learning, "repetition" strategies usually refers to memorizing pair associates in word lists with written-, verbal- or silent-repetition strategies, and is quite often associated with Asian learners (O'Malley et al, 1985; Schmitt, 1997). Little explicit vocabulary instruction conducted in the traditional EFL classroom and word lists usually provided to prepare students for assessment are the main reasons why Asian students including Hong Kong teenagers prefer using "repetition" (Cortazzi & Jin, 1994).

"Repetition" has received many very different appraisals. Some researchers regard it as an undesirable way of learning as it involves low level mental processing (Read, 2000, cited in Fan, 2003). O'Malley and Chamot (1990)

contend that “written repetition” and “verbal repetitions” do not necessarily have to be meaningless. Schmitt (1997) considers “repetition” as a cognitive type of strategy to consolidate word knowledge. Wallace (1988) holds “repetition” to be an important strategy of word review to achieve several exposures of newly learned words. It is fairer to say in the EFL context “repetition” is an important means to achieve several encounters of a word for long term retention. The ease of its application makes it a common word review strategy for students who have or have not been given strategy training. Students who have not been taught any strategies might mainly employ “repetition” strategies for word retention, while strategy training helps learners to develop more personalized strategies to go with “repetition” strategies. Effective strategic learning requires strategies to be used in a complementary way.

7.1.2 PVL -- a higher degree of personalized instruction

The personalized approach PVL constructed in the study is a multi-component approach to deal with the complex process of vocabulary learning. The

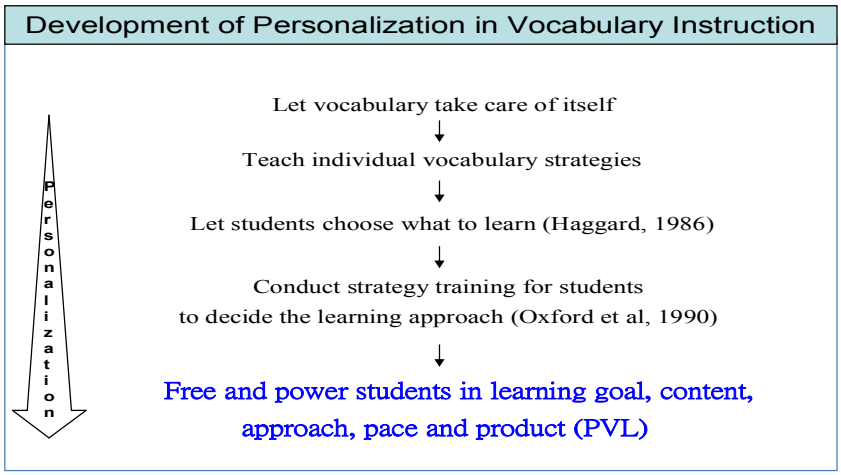
empirically supported evidence shows that PVL could address the EFL teenagers' difficulties in vocabulary learning. It attends to different learning needs, motivates responsible behavior and facilitates students' achievement in vocabulary building. PVL maintains that a caring environment with freedom and power can motivate students' responsible learning and facilitate learning success, including self-selecting words to learn for vocabulary growth, developing personalized strategies at their stage of proficiency, and completing the challenging task. Meanwhile PVL can also cater for learning differences, allowing students to select words for their needs including the 1K words and 1K-related sophisticated items, appreciating personalized strategies of different degrees of strategic learning as they fit into the student's learning needs, and encouraging imagination and creativity which the EFL students do not lack. Therefore, it is believed PVL can achieve a higher degree of personalization because:

1. it involves all three domains of instruction — input, process and output;
2. it attends to different learning goal, learning content, learning approach, learning output and learning pace (U.S. Education Department, 2010);
3. it frees as well as empowers EFL students in vocabulary growth; and

4. it is empirically effective in taking into account learning differences, motivating responsible behavior and facilitating learning success.

In this way, the development of personalized vocabulary learning can thus move a step forward from instructing individual vocabulary strategies in the 1970s and 1980s, and conducting strategy training and opening up the curriculum in the 1990s.

Figure 7.1 PVL – a higher degree of personalized vocabulary instruction



7.2 Implications

While a picture of the limited proficiency EFL students building vocabulary in a self-controlled manner is displayed in this study, it is found that their

vocabulary growth is to a greater extent hindered by their inadequate knowledge of the most basic 1K words and their lack of adequate morphological and phonological knowledge. Some suggestions are briefly given in this section for learning input, learning process and learning output.

7.2.1 Collaborative decision in learning input

It is suggested that the teacher and students share the power of curriculum decision. While a degree of freedom is offered for students to decide what to learn, explicit instruction in the learning input might focus on the 1K words, common affixes and basic phonetics.

7.2.1.1 Student-selected vocabulary

Freedom can be offered for students to select words to learn from any sources, or from a designated text/wordlist. It is better to implement "student-selected vocabulary" with a word organization strategy for the students to jot down their selections for follow-up activities such as revision games, oral tasks and

personalized assessment. Preparing personalized assessment could be tedious as different sets are involved. Computer technology can be a productive means to address the problem. Also, exposing students to diverse English sources is facilitative. Information or stories in the multimedia are recommended as they draw the student's attention to sound, pictures and creativity, making things easier to retain and retrieve. However, there is too much information and the teacher has to search for those which suit the students' learning needs.

7.2.1.2 Explicit vocabulary instruction:

The teacher should, through explicit instruction, equip EFL students with solid knowledge of 1K, common affixes and basic phonetics as they are extremely conducive to vocabulary building, reading comprehension and language production. 1K words, which even the senior students in the study have not yet acquired, cover around 80% of texts of any genres. And mastering solid knowledge of 1K which includes lots of root words also helps students retain sophisticated words and multiword items like compound nouns, verb+ preposition combinations. It even helps in the retention of verb+noun

collocations, the most important (Lewis, 2000) and most common type of collocation in English language use (Benson et al., 1986), such as *take action, make an application* and *ask a question*. Besides, with basic morphological and phonological knowledge, students can expand their vocabulary with many "*root+affix"* items which represent semantically new ideas or concepts, and also their repertoires of personalized strategies.

7.2.2 Vocabulary learning strategy training

The limited proficiency teenagers do not lack imagination. Imagination used in strategic learning should be encouraged especially with those who have inadequate morphological and phonological knowledge. From a developmental perspective, equipping students with solid 1K knowledge, common affixes and basic phonetics helps them develop multiple analytic strategies to go with imagery strategies for dealing with thousands of words with different characteristics.

Guided-practice in word organization and word review strategies should also be put on the training agenda. Apart form the L1 equivalent, the teacher should

encourage students to record some word information from the dictionary that they think would be helpful. In addition, lesson time should be spent on word review strategy instruction in the form of games or activities such as “running dictation” and “pair review”. Review strategies should never be restricted to “repetition”.

7.2.3 Oral tasks of word use

The low banding teenagers do not lack creativity and creativity should be encouraged in students’ active learning experience because it is empowering. Learning output is especially critical in EFL English learning including vocabulary building, be it receptive or productive vocabulary learning, language production and learning motivation. It is suggested that oral tasks be devised according to the students’ learning differences. Various tasks of oral performances for reference are:

- “one minute talk around a chosen theme-word”,
- “integrating 5 words in a speaking discourse”,
- “telling a story with 3 selected words each appearing at least two times”,

- "story performance with a noun, a verb, an adjective and an adverb chosen by a partner",
- "singing a song with 3-4 newly-learned proverbs put in a classical melody",
- "a theme-word debate", etc.

The format of the oral presentation can vary -- in pairs, in small groups or in big groups. The teacher's positive feedback is a must and peer assessment can be considered.

7.3 Limitations

Since the implementation of PVL in this study was integrated into the formal curriculum for over eight months, part of the planned procedure could not help giving way to the tight curriculum. For instance, the less able group's strategy demonstration activity was affected by the TSA (Territory-wide System Assessment at Grade 3, Grade 6 and Grade 9, held yearly by the education authorities to assess Hong Kong schools' standard on Chinese, English and mathematics with around nine papers in total). Thus no data were available to

investigate 3C students' strategy employment or to compare group differences in independent strategy practice. Also, as video-recording of the oral task was based on the students' free will, only 24 video clips (42%) of the storytelling performances were collected and then assessed by three teachers. As compensation, two mini cases were conducted to compare individual differences in personalized strategy development. Besides, examining all the 57 story scripts helps validate the participants' engagement in the learning output. The value of the findings and contributions of this study to the field of EFL personalized vocabulary learning are ascertained with a range of quantitative and qualitative data supporting the effects of PVL.

7.4 Conclusion

Most of the teenage students in Hong Kong are aware of the pragmatic need for English language learning but the difficulties of EFL vocabulary building from linguistic and contextual aspects as well as teacher-centred instruction result in their limited proficiency in language use such as reading comprehension. In order to facilitate vocabulary building, a personalized approach *Personalized*

Vocabulary Learning (PVL) was constructed in this teacher research to address the problem from the instructional perspective. PVL is a multi-component approach based on William Glasser's Control Theory which contends that learners can effectively control their learning when their intrinsic needs such as freedom and power are fulfilled. PVL incorporates *freedom* and *power* in all of the three domains of instruction – input, process and output -- through three components of PVL. In "student-selected vocabulary", freedom is offered and the teacher's power of curriculum decision is shared; in "vocabulary learning strategy training", students can freely develop their personalized strategies and mastering strategies and skills is powerful; in "oral tasks of word use", students can decide the topic and the difficulty levels of the task and the pace of task completion, meanwhile the *power* elements in the task such as authentic use of foreign language and presentation are motivating.

The teacher-as-researcher approach and a case study method are employed in the teacher research to construct, implement and evaluate a new personalized vocabulary instruction *PVL*. Fifty-seven limited proficiency teenagers studying in a low banding school were involved in the study which investigates what and how the students selected words to learn, what personalized strategies they

developed, what and how they produced in the oral task, and how they retained their selected items. The study spanned eight months and strategy training covered the whole process. Since the students had not been taught any strategies before, the training only focused on memory strategies linking forms and meanings, and organization and review strategies, taking care of both short-term and long-term word retention. In the first half of the study, around ten memory strategies were introduced, demonstrated and taught. After that a questionnaire was administered for the students to self report what strategies they always used and a strategy demonstration activity was conducted to see how they actually employed their personalized strategies. Word card strategy and several review strategies were taught and practised in the form of activities and games in the second half of the study. The vocabulary notes on the cards were used to examine students' organization strategies. Two semi-structured interviews were conducted to see two different paths of strategy development. "Student-selected vocabulary" and "the storytelling task of word use" were also proceeding in the second half of the study. Whenever 50 words were selected, recorded and retained, personalized assessment including tests and delayed tests was arranged to assess receptive vocabulary knowledge.

The participants were required to select from any sources five to six items per school day, record them in word cards with some word information they thought would be helpful, retain them with their personalized strategies, and take turns to present stories with five newly-selected words integrated into the storyline. An array of data were collected with various instruments including word cards, story scripts, video clips, questionnaires, tests and delayed tests, and semi-structured interviews. Two questionnaires were administered to look at the participants' word sources, their attitudes toward "student-selected vocabulary" and their personalized strategy development. The independent strategy practice activity and the storytelling tasks were video recorded with the students' consent. Whenever fifty words were selected around every two weeks, a test and a delayed test were conducted, and together the receptive vocabulary knowledge of two batches of 50 words was assessed. The second test and delayed test serve as triangulation data.

With the support of the array of quantitative and qualitative data, it is evident that PVL correlates with responsible learning behaviour and learning success. That is, the Band three students selected words to learn mostly from the curriculum and the lexical frequency profile of the student-selections is

balanced for vocabulary growth, developed personalized strategies for strategic learning, completed the challenging task with intrinsic motivation and achieved a high word retention rate of their selected items.

Data also support the fact that learner differences were catered for. The junior group paid equal attention to the new words in the curriculum and the multimedia, chose more 1K words, and their stories were shorter and light-hearted whereas the senior group emphasized more the curriculum. 4B students preferred selecting words to learn mostly from the curriculum, asked for different degrees of teacher intervention in learning input in order to meet the curriculum requirement. They developed some dictionary strategies, diverse memory strategies and recorded more word information. They also wrote and told longer stories with the themes more curriculum-related.

The study also shows that PVL not only works as a personalized vocabulary learning framework but also as a higher degree of personalized instruction. The empirically supported positive effects of PVL shown in this study include attending to different learning goals, learning input, learning approaches, learning output and learning pace, allowing students to decide what to learn,

how to learn, when to learn and what and how to produce. Furthermore, not only the concept of *student choice* but also another element of motivation "*power*" is incorporated in the approach. PVL helps to inform EFL teachers how to help Hong Kong secondary students to enlarge their vocabulary in order to attain a threshold level of competence in reading comprehension.

- PVL is associated with positive instructional effects including catering for learning differences, motivating responsible learning and facilitating learning success in EFL vocabulary building. Therefore, it is a personalized pedagogical approach that EFL teachers can use to shift their focus to personalized vocabulary instruction, and help Hong Kong secondary students to enlarge their vocabulary to attain a threshold level for reading comprehension.
- Through freeing and empowering teenagers in learning input, learning process and learning output, PVL attends to different learning interests, levels of readiness and learning profile, allows students to adjust their learning goals, learning content, learning approaches, learning output and learning pace in vocabulary building, and facilitates students' achievement in learning success. PVL moves a step towards a higher degree of

personalized instruction, a fuller personalization of vocabulary instruction.

Furthermore, while it is evident that the participants effectively controlled their own learning, a robust picture of the limited proficiency students' needs in vocabulary building, of which teachers may be unaware, is portrayed: they needed, apart from words from the formal curriculum, a solid knowledge of basic words especially the 1K words, 1K-related sophisticated words and multiword items such as "*root+affix*" words, compound nouns, phrasal verbs. Limited 1K knowledge probably causes a big hindrance to their vocabulary growth and reading comprehension. They also needed strategy training and basic morphological and phonological knowledge for developing personalized strategies and expanding their repertoire of strategies with more analytic strategies. In addition, they needed encouraging imagination and creativity and needed oral tasks to build learning confidence. It is suggested to create a caring environment with freedom and power in every classroom where students can learn in a responsible way and each can grow into a creative and unique person.

It is advisable to incorporate personalized instruction in the Hong Kong curriculum for secondary school students and thus the caring environment can

be set up in more classrooms. To compile a wordlist of three thousand word families for the vocabulary curriculum for secondary education, which has been on the education authority's schedule, is to some extent unrealistic and unnecessary. Firstly, it is believed a good number of primary graduates in the Hong Kong context cannot meet the curriculum requirement – attaining 2,000 word families in the *Vocabulary list 2007* (HKCDU, 2007), and thus they need to fill the basic vocabulary knowledge gap in the junior secondary stage. Secondly, since *Vocabulary list 2007* in the primary education curriculum includes lots of items from 1K, 2K and even AWL, sorting out 3,000 more "frequently-used" words from the enormous low-frequency OFF-list is probably impossible. Thirdly, learning differences are much more salient among secondary students, and a prescribed three thousand families only emphasizes controlling instruction rather than respecting diversity. The findings in this study have already shown that the limited proficiency participants' personalized selections spread over a huge range from 1st K to 20th K, of which most are within their learning experience.

In the light of this, it may be more practical and facilitative for the secondary language curriculum to provide specific guidance for personalized instruction,

including strategy training guidelines and some recommended vocabulary tasks, as well as suggestions on teaching solid 1K knowledge along with basic morphemes and phonetics. Teaching such basic knowledge in secondary education sounds odd to most educators but it is precisely what most of the teenagers' need. The three-component PVL which consists of "student-selected vocabulary", "vocabulary learning strategy training" and "oral tasks of word use" can be a reference in the curriculum. The vocabulary requirement in the task-based communicative curriculum which has been raised from 3,000 to 5,000 word families (McNeill & Lai, 2007) can be more efficiently achieved with a higher degree of personalized instruction. The case study might also provide some insights into a wider territory, i.e. mainland China, as the difficulties the Hong Kong students experience in vocabulary learning are most likely shared by most Chinese learners in mainland China (Ma, 2009; Schnell, 1990; Wong, 1988).

7.5 Further study

Apart from duplicate research to be conducted in other EFL high school contexts, further study into personalized vocabulary instruction is suggested focusing on how to incorporate ICT into the learning process. Advanced technology nowadays contributes greatly to the realization of personalized learning as computer science facilitates personalized learning experiences in term of learning goals, content/topics, approaches and pace more readily.

It is already known that the Internet which is the teenagers' favourite medium of vocabulary learning provides access to enormous learning resources which entertain different needs of learning input. Apart from that, integrating information technology in personalized strategy development enhances the effectiveness of word retention, as technology provides personalized learning environments and tools for the students engaging in effectively retaining vocabulary (Murphey et al., 2009). For instance, user-friendly programmes or apps can be developed to combine the following functions:

- Concordancer: based on a corpus of fiction and non-fiction written for teenagers, providing collocation information for EFL students of beginner

level;

- E-dictionary: providing basic morphological and phonological information to strengthen analytic strategy development;
- Organizer: for recording personalized glossaries and word retrieval;
- Interactive review games: with versions of different levels;
- Setting self-tests; and
- A platform for students exchanging learning experience.

References

ACTFL (2006). General Principles of Language Learning. The American Council on the Teaching of Foreign Languages.

Adams, D. C. (2008). Gaga for Google in the Twenty-First Century advanced placement language classroom. *Clearing House*, *82(2),* 96-100.

Ahmed, M. O. (1989). Vocabulary learning strategies. In P. Meara (Ed.), *Beyond words* (pp. 3–14). London: CILT.

Alderson, J. C. (1984). Reading in a foreign language: A reading problem or a language problem? In J. C. Alderson and A. H. Urquhart (Eds.), *Reading in a foreign language* (pp. 1-25). Harlow: Longman.

Alfassi, M. (2004). Effects of a learner-centered environment on academic competence and motivation of students at risk. *Learning Environments Research*, *7,* 1-22.

Atay, D. and Kurt, G. (2006). Elementary school EFL learners' vocabulary learning: The effects of post-reading activities. *Canadian Modern Language Review*, *63(2)*, 255-273.

Atkinson, R.C. (1975). Mnemotechnics in second-language learning. *American Psychologist, 30*, 821-28.

Atkinson, R. C., and Raugh, M. R. (1975). An application of the mnemonic keyword method to the acquisition of a Russian vocabulary. *Journal of Experimental Psychology*, *104*, 126-133.

Atkinson, R.C. and Schiffrin, R. M. (1968). Human memory: A proposed system and its control process. In K. W. Spence and I. T. Spence (Eds.), *The psychology of learning and motivation: Advances in research and theory*. New York, NY: Academic Press.

Axler, M., Yang, A. and Stevens, T. (1998). Current language attitudes of Hong Kong Chinese adolescents and young adults. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end.* Hong Kong: The Chinese University Press.

Bahns, J. and Eldaw, M. (1993). Should we teach EFL students collocations? *System*, *21(1),* 101–14.

Baumnann, J. F., Font, G., Edwards, E. D. and Boland, E. (2005). Strategies for teaching middle grade students to use word parts and context clues to expand reading vocabulary. In E. H. Hiebert and M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bring research to practice*. NJ: Lawarence Erlbaum Associates.

Beck, I. L. and McKeown, M. G. (1991). Conditions of vocabulary acquisition. In R. Barr, M.L. Kamil, P.B. Mosenthal, and P.D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 789–814). New York, NY: Longman.

Beck, I. L., McKeown, M.G., and Kucan, L. (2002). *Bringing words to life: robust vocabulary instruction*. New York, NY: Guilford.

Benson, P. (2001). *Teaching and researching autonomy in language learning.* London: Longman.

Benson, P. (2009). Making sense of autonomy in language learning. In R. Pemberton, S. Toogood and A. Barfield (Eds.), Maintaining control: Autonomy and language learning (pp.13-26). Hong Kong: Hong Kong University Press.

Benson, M., Benson, E., and Ilson, R. (1997). *The BBI combinatory dictionary of English: A guide to word combinations.* Philadelphia: John Benjamin Publishing Company.

Berryman, S. E. (1993). Learning for the workplace. *Review of Research in Education, 19*, 343-401.

Biggs, J. (1998). The assessment scene in Hong Kong. In P. Stimpson and P. Morris (Eds.), *Curriculum and assessment for Hong Kong: Two components, one system* (pp.315-324). Hong Kong: The Open University of Hong Kong.

Billuroğlu, A. and Neufeld, S. (2005). *The bare necessities in lexis: A new perspective on vocabulary profiling*. Retrieved from http://lextutor.ca/vp/BNL_Rationale.doc

Bishop, G. (2008). Innovative practice personalizing learning: Content, assessment and language enrichment. *Innovation in Language Learning and Teaching*, *2(1)*.

Blachowicz, C. L. Z., and Fisher, P. J. L. (2000). Vocabulary instruction. In R. Barr, M. L. Kamil, P. B. Mosenthal and P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 3, pp. 503–523). Mahwah, NJ: Erlbaum.

Bolton, K. (2002). Introduction. In K. Bolton (Ed.), *Hong Kong English: Autonomy and creativity* (pp. 1–25). Hong Kong: Hong Kong University Press.

Bond, M., and Hewson, M. (1988). Social identity theory and the perception of intergroup relations in Hong Kong. *International Journal of Intercultural Relations*, *12,* 153-170.

Braddock, J. H., and McPartland, J. M. (1993). The education of early adolescents. In L. Darling-Hammond (Ed.), *Review of research in education* (Vol. 19, pp. 135-170). Washington, DC: American Educational Research Association.

Bradley, A. and Manzo, K. K. (2000).The weak link. *Education Week Supplement. 3.*

Braine, G., and McNaught, C. (2007). Adaptation of the 'Writing Across Curriculum' model to the Hong Kong context. In J. Liu (Ed.), *English language teaching in China: New approaches, perspectives and standards* (pp. 311–328). London: Continuum International Publishing Ltd. Retrieved from http://www.cuhk.edu.hk/clear/download/paper/BMcN_Lui.pdf

Brendtro, L., Brokenleg, M. and Van Brockern, S. (1990). *Reclaiming youth at risk: Our hope for the future*. Bloomington. In: National educational service.

Brown, D. (1974). Advanced vocabulary teaching: The problem of collocation. *RELC Journal, 5(2)*, 1-11.

Brown, T. S. (1991). A comparison of three learning strategies for ESL vocabulary acquisition. *TESOL Quarterly*, *25 (4)*, 655-670.

Burns, A. (2010). *Doing action research in English language teaching: A guide for practitioners.* NY: Routledge.

Carless, D. (2002). Implementing task-based learning with young learners. *ELT Journal, 56 (4)*.

Carrell, P. L. (1998). Can reading strategies be successfully taught? *The Language Teacher, 22(3)*. Retrieved from http://jalt-publications.org/old_tlt/files/98/mar/carrell.html

Carroll, A. W. (1975). *Personalized education in the classroom.* Denver: Love Publishing.

Carter, R. (1987). *Vocabulary: Applied linguistic perspectives*. London: Allen and Unwin.

Chamot, A. U. (1999). Learning strategy instruction in the English classroom. *The Language Teacher, 23(6)*. Retrieved from http://www.Jalt-publications.org/tlt/article/1999/

Chamot, A. U. and Kupper, L. (1989). Learning strategies in foreign language instruction. *Foreign Language Annals*, *22*, 13-24.

Chamot, A. U. and O'Malley, J. M. (1994). *The CALLA handbook: Implementing the cognitive academic language learning approach*. Reading, MA: Addison-Wesley.

Chan, S. (1992). Families with Asian roots. In E. W. Lynch, and M. J. Hanson (Eds.), *Developing cross-cultural competence: A guide for working with young children and their families* (pp. 181-257). Baltimore, MD: Paul H. Brookes.

Chiswick, B. and Miller, P. (2004). Linguistic distance: A quantitative measure of the distance between English and other languages. Discussion Paper No. 1246, Institute for the Study of Labor.

Chui, S.Y. (2005). An investigation of the English vocabulary knowledge of university students in Hong Kong. Unpublished M.Phil. Thesis. Hong Kong: The Chinese University of Hong Kong.

Clark, D. (2004). *Personalization and e-learning*. Brighton: Epic Group Plc.

Clarke, J. (2003). Changing systems to personalize learning: Introduction to the personalization workshops. Providence, RI: The Education Alliance at Brown University.

Clyde, J. and Condon, M. (2000). *Get real: Bringing kids' learning lives into the classroom*. York, ME: Stenhouse.

Clyne, M. and Sharifian, F. (2008). English as an international language: Challenges and possibilities. *Australian Review of Applied Linguistics, 31 (3)*, 28.1-28.16.

Cobb, T. (n.d.). Compleat Lexical Tutor v.4. Retrieved from http://www.lextutor.ca

Cohen, A. D. (1991). Strategies in target-language learning: Insights from research. *Journal of Applied Linguistics, 7*, 43-64.

Cohen, A. D. (1998). *Strategies in learning and using a second language.* London: Longman.

Cook, V. and Bassetti, B. (2005). *Second language writing systems*. Clevedon, UK: Multilingual Matters. Retrieved from: http://eprints.bbk.ac.uk

Cooper, P. (1993). *When stories come to school: Telling, writing, and performing stories*. New York: Teachers and Writers Collaborative.

Coopersmith, S. (1967). *The antecedents of self esteem*. San Francisco: W. H. Freeman.

Cordova, D. I. and Lepper, M. R. (1996). Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization and choice. *Journal of Educational Psychology, 88*, 715-730.

Corno, L. and Snow, R. E. (1986). Adapting teaching to individual differences among learners. In M. E. Wittrock (Ed.), *Handbook of research on teaching* (3rd Ed., pp. 605-629). Upper Saddle River, NJ: Prentice Hall.

Cortazzi, M., and Jin, L.X. (1994). Changes in learning English vocabulary in China. In H. Coleman, and L. Cameron (Eds.), *Changes and language*. Clevedon: British Association for Applied Linguistics in association with Multilingual Matters (pp. 153-165).

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

Crick, R. D. (2006). *Learning power in practice: A guide for teachers*. London: Sage.

Cronbach, L. J. and Snow, R. E. (Eds.). (1977). *Aptitudes and instructional methods.* New York: Irvington/Naiburg.

Cross, D. (1991). *A practical handbook of language teaching.* London: Longman.

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

Cruickshank, D. B., Jenkins, D. B. and Metcalf, K. K. (2006). *The act of teaching*. (4th Ed). McGraw Hill.

Crystal, D. (1987). *The Cambridge encyclopedia of language.* Cambridge: Cambridge University Press.

Curriculum Development Council (2001). Learning to learn: The way forward in curriculum. Hong Kong: The Printing Department.

Curriculum Development Council (1999). English Language for Secondary Schools (Secondary 1–5). Hong Kong: Education Department.

DeFrancis, J. (1989). Syllabic systems: In visible speech -- The diverse oneness of writing systems (pp. 89-96). Honolulu: The University of Hawaii Press.

De Saussure, F. (1974). *Course in general linguistics*. London: Fontana, Collins.

Devenport, B's website: http://www.brucedavenport.com

Dörnyei, Z. (1990). Conceptualizing motivation in foreign language learning. *Language Learning, 40,* 45-78.

Duff, P. A. (2008). *Case study research in applied linguistics*. New York: Lawrence Erlbaum Associates/Taylor and Francis.

Dunkel, P. (1988). The content of L1 and L2 students' lecture notes and its relation to test performance. *TESOL Quarterly*, *22(2)*, 259-81.

EDB (2009). Fine-tuning the medium of instruction for secondary schools. Retrieved from: http://www.edb.gov.hk/FileManager/EN/Content_7372/edbc09006e.pdf

Education Commission (1995). Report no. 6: Enhancing language proficiency: A comprehensive strategy. Hong Kong: Government Printer.

Education Commission (2005). Report on review of medium of instruction for secondary schools and secondary school places allocation. Hong Kong: Government Printer.

Education Department (1997). Medium of instruction: Guidance for secondary schools. Hong Kong: Printing Department.

Elliott, J. and Lukes, D. (2008). Epistemology as ethics in research and policy: The use of case studies. *Journal of Philosophy of Education*, *42(S1)*, 87-119.

Ellis, N. C. (1994). Vocabulary acquisition: The implicit ins and outs of explicit cognitive mediation. In N. C. Ellis (Ed.), *Implicit and explicit learning of languages*. London: Academic Press, pp. 211-282.

Ellis, N. C. and Beaton, A. (1993). Factors affecting the learning of foreign language vocabulary: Imagery keyword mediators and phonological short-term memory. *The Quarterly Journal of Experimental Psychology*, *46A(3)*, 533-558.

Ellis, R. (2004). Individual differences in second language learning. In A. Davies and C. Elder (Eds.), *The handbook of applied linguistics* (pp. 525-547). Malden, Mass.: Blackwell.

Ellis, R. (1995). Modified oral input and the acquisition of word meaning. *Applied Linguistics, 16*, 409-441.

Erten, I. H. (1997). Vocabulary learning strategies: Do our learning styles affect the way we use them? Paper presented at 31st IATEFL Conference, 2-5 April 1997, Brighton, UK.

Evans, S. and Green, C. (2007). Why EAP is necessary: A survey of Hong Kong tertiary students. *Journal of English for Academic Purposes*, *6*, 3-17.

Falvey, P. (1998). ESL, EFL, and language acquisition in the context of Hong Kong. In B. Asker (Ed.), Teaching language and culture: Building Hong Kong education (pp. 73–78). Hong Kong: Addison Wesley Longman.

Fan, M. (2000). How big is the gap and how to narrow it? An investigation into the active and passive vocabulary knowledge of L2 learners. *RELC Journal*, *31*, 105-119.

Fan, Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. *The Modern Language Journal, 87(2)*, 222-241.

Feagin, J., Orum, A. and Sjoberg, G. (1991). *A case for case study*. Chapel Hill, NC: University of North Carolina Press.

Fisher, P. J., Blachowicz, C. L. Z. and Smith, J. C. (1991). Vocabulary learning in literature discussion groups. In J. Zutell and S. McCormick (Eds.), *Learner factors/teacher factors: Issues in literacy research and instruction* (40th yearbook of the National Reading Conference, pp. 201-209). Chicago: National Reading Conference.

Freire, P. (1970). *Pedagogy of the oppressed*. Harmondsworth: Penguin.

Fullan, M., Hill, P. and Crevola, C. (2006). *Breakthrough*. Thousand Oaks, CA: Corwin Press.

Funderstanding website: http://www.funderstanding.com/educators/choice-theory

Gairns, R. and Redman, S. (1989). *Working with words: A guide to teaching and learning vocabulary.* Cambridge: Cambridge University Press.

Gambrell, L. B. and Marinak, B. (1997). Incentive and intrinsic motivation to read. In J. T. Guthrie and A. Wigfield (Eds.), *Reading engagement: Motivating readers through integrated instruction.* pp. 205-217. Newark, Del.: International Reading Association.

Gardner, H. (1993). Intelligence and intelligences: Universal principles and individual differences. *Archives de Psychologie, 61 (238)*, 169-172.

Gardner, H. and Hatch, T. (1989). Multiple intelligences go to school: Educational implications of the theory of multiple intelligences. *Educational Researcher*, *18(8)*, 4-9.

Gates, E. (1972). Idioms: The wild creatures of our talk: Genus and species, *Indiana English Journal*, *1*, 70-76.

Ghazal, L. (2007). Learning vocabulary in EFL contexts through vocabulary learning strategies. *Novitas-ROYAL*, *1 (2)*, 84-91. Retrieved from http://novitasroyal.org/Ghazal.pdf.

Gibbs, G. (1995). *The society for research into higher education and Open University press.* Celtic Court: Buckingham.

Ginsberg, M. and Wlodkowski, R. (2000). *Creating highly motivation classrooms for all students*. San Franzisco: Jossey-Bass.

Glasser, W. (1986). *Control Theory in the classroom.* New York: Harper Perennial.

Glasser, W. (1998). *Choice theory: A new psychology of personal freedom.* New York: HarperCollins.

Glasser, W. (2009). What Is Choice Theory? Retrieved from http://www.advemp.org.au/index.php?option=com_content&view=article&id=95&Itemid=83

Goodman, K. (1976). Manifesto for a reading revolution. In F.V. Gollasch (Ed.), *Language and literacy: The selected writings of Kenneth S. Goodman* (1986, pp. 231-241). London: Routledge and Kegan Paul.

Graddol, D. (2006). English next. London: British Council.

Graves, M. F. (1987). The role of instruction in vocabulary development. In M. G. McKeown and M. E. Curtis (Eds.), *The nature of vocabulary acquisition.* pp.165-184. Hillsdale, NJ: Erlbaum.

Gu, Y. (2003). Vocabulary learning in a second language: Person, task, context and strategies. *TESL-EJ, 7 (2)*, A-4. Retrieved from: http://www-writing.berkeley.edu/ TESL-EJ/ej26/a4.html.

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

Gu, Y. and Hu, G. W. (2003). 詞匯學習策略, 詞匯量與英語成績的變化 [Vocabulary learning strategy, vocabulary size, and English proficiency: Focusing on change]. In Q. F. Wen and L. F. Wang (Eds.), 英語學習策略實證研究 [Empirical studies on English learning strategies] (pp. 388-409). Xi'an: Shaanxi Normal University Press.

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

Guskey, T. R. and Anderman, E. M. (2008). Students at Bat. *Educational Leadership*. November, 8-14.

Haggard, M. R. (1986). The vocabulary self-collection strategy: Using student interest and world knowledge to enhance vocabulary growth. *Journal of Reading*, *29 (7)*.

Harmon, J., Hedrick, W., Wood, K., and Gress, M. (2005).Vocabulary self-selection: A study of middle-school students' word selections from expository texts. *Reading Psychology, 26,* 313–333.

Hatch, E. and Brown, C. (2000). *Vocabulary, semantics and language education* (3rd Ed.). Cambridge: Cambridge University Press.

Heath, D. H. (1994). *Schools of hope*. San Francisco: Fossey-Bass.

Herber, H. L. (1978). *Teaching reading in content areas* (2nd Ed.). Englewood Cliffs, NJ: Prentice-Hall.

Ho, M. C. (1998). Culture studies and motivation in foreign and second language learning in Taiwan. *Language, Culture and Curriculum. 11 (2)*, 165-182.

Ho, W. K. (2004). English language teaching in East Asia today: An overview. In W. K. Ho and Y. L. Wong (Eds.), *English language teaching in East Asia today: Changing policies and practices.* Singapore: Eastern Universities Press 1–32.

Holec, H. (1981). *Autonomy and Foreign Language Learning*. Oxford: Pergamum.

Hong Kong Curriculum Development Unit (1996). Vocabulary list. Hong Kong: Education Department.

Hong Kong Curriculum Development Unit (2007). Vocabulary lists for Hong Kong elementary education. Hong Kong: Education and Manpower Bureau (Chapters 2 and 3).

Hong Kong Government Secretariat (1981). Overall review of the Hong Kong education system: The Hong Kong education system. Hong Kong: The Government Printer.

Hopkins, D. (2004). Press for action: Personalised learning -- Tailoring learning solutions for every pupil. Retrieved from http://www.ncsl.org.uk/media-579-43-personalised-learning-ldr-supplement.pdf

Huckin, T. and Coady, J. (1999). Incidental vocabulary acquisition in a second language. *Studies in Second Languae Acquisition*, *21/2,* 181-193.

Huckin, T., and Bloch, J. (1993). Strategies for inferring word-meanings in context: A cognitive model. In T. Huckin, M. Haynes, and J. Coady (Eds.), *Second language reading and vocabulary learning* (pp.153-180). Norwood, N.J.: Ablex Publishing Co.

Hulstijn, J. H. (1997). Mnemonic methods in foreign language vocabulary learning. In J. Coady and T. Huckin (Eds.), *Second language vocabulary acquisition* (pp. 203–224). Cambridge: Cambridge University Press.

Jenkins, J. (2007). *English as a lingua franca: Attitude and identity*. Oxford: Oxford University Press.

Jiang, N. (2000). Lexical representation and development in a second language. *Applied Linguistics, 21*, 47–77.

Johnson, A. P. (2002). *A short guide to action research.* Boston: Allyn and Bacon.

Johnson, R. K. and Lee, R. L. M. (1987). Modes of instruction: Teaching strategies and student responses. In R. Lord and H. N. L Cheng (Eds.), *Language education in Hong Kong*. Hong Kong: the Chinese University Press.

Keefe, J. W. and Jenkins, J. M. (2008). *Personalized instruction.* (2nd Ed.) Rowman and Littlefield Education.

Kirkpatrick, A. (2007). *World Englishes: Implications for international communication and English language teaching.* Cambridge: Cambridge University Press.

Kohn, A. (1993). Choices for children: Why and how to let students decide. *The Phi Delta Kappan,* 75 (1), 8-16.

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

Kovalik, S. and Olsen, K. D. (1998). How emotions run us, our students, and our classrooms. *NASSP Bulletin*, *82(598)*, 29-37.

Lai, K. C. (2011). Report on the Workload of Teachers in Hong Kong Primary and Secondary Schools. Strategic Planning Office, HKIEd.

Laufer, B. (1990). Why are some words more difficult than others? Some intralexical factors that affect the learning of words. *International Review of Applied Linguistics, 28*, 293-307.

Laufer, B.(1997). What's in a word that makes it hard or easy: Some intralexiacal factors that affect the learning of words. In N. Schmitt and M. McCarthey (Eds.), *Vocabulary: Description, acquisition and pedagogy.* Cambridge: Cambridge University Press, pp.140-55.

Laufer, B. (2010). Lexical threshold revisited: Lexical text coverage, learners' vocabulary size and reading comprehension. *Reading in a Foreign Language, 22 (1)*, 15–30. Retrieved from: http://nflrc.hawaii.edu/rfl

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

Laufer, B. and Nation, I. S. P. (1995). Vocabulary size and use: Lexical richness in L2 written productions. *Applied Linguistics*, *16(3)*, 307-322.

Lee, I. (2005). The implementation of project-based learning: A study in two Hong Kong secondary classrooms. *Asia TEFL Journal*, *2(1)*, 21-54.

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

Lewis, M. (1997). *Implementing the lexical approach*. Hove: Language Teaching Publications.

Lewis, M. (2000). Language in the lexical approach. In M. Lewis (Ed.), *Teaching collocation: Further developments in the lexical approach*. pp.133-134. London: Language Teaching Publications.

Li, David C.S. (1999). The functions and status of English in Hong Kong: A post-1997 update. *English World-Wide 20(1)*, 67-110. Reprinted in K. Bolton and Y. Han (Eds.), (2008) *Language and society in Hong Kong*. HK: Open University of Hong Kong Press.

Li, David C.S. and Tse, E. C. Y. (2002). One day in the life of a 'purist'. *International Journal of Bilingualism*, *6(2)*, 147-202.

Li, David C.S. (2009a). Towards 'biliteracy and trilingualism' in Hong Kong (SAR): Problems, dilemmas and stakeholders' views. *AILA Review 22,* 72-84.

Li, David C.S. (2009b). Learning English for academic purposes: Why Chinese EFL learners find EAP so difficult to master. In P. Martin and I. K. León Pérez (Eds.), *Communicating science: ESP studies at the outset of the 21st century.* Special issue of *Revista Canaria de Estudios Ingleses 59*, 33-46.

Li, David C.S. (2010). Improving the standards and promoting the use of English in Hong Kong: Issues, problems and prospects. In Anwei Feng (Ed.), *English language use and education across Greater China*. Clevedon: Multilingual Matters. pp. 95-113.

Lightbown, P. and Spada, N. M. (2006). *How languages are learned* (3rd Ed.). New York: Oxford University Press.

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

Liu, C. P. (1999). A study of Chinese culture university freshmen's collocational competence: "Knowledge" as an example. *Hwa Kang Journal of English Language and Literature, 5,* 81-99.

Liu, J. (2002). Negotiating silence in American classrooms: Three Chinese cases. *Language and Intercultural Communication*, *2(1)*, 37–54.

Liu, N. F. and Littlewood, W. (1997). Why do many students appear reluctant to participate in classroom learning discourse? *System, 25(3)*, 371-384.

Lytle, S.L. and Cochran-Smith, M. (1992). Teacher research as a way of knowing. *Harvard Education Review*, *62 (4)*, 447-475.

Ma, Q. (2013). Matching vocabulary learning process with learning outcome in L2 academic writing: An exploratory case study. *Linguistics and Education*, *24*, 237– 246.

Ma, Q. (2009). *Second language vocabulary acquisition.* Peter Lang.

MacIntyre, P. D., Clément, R., Dörnyei, Z., and Noels, K. A. (1998). Conceptualizing willingness to communicate in an L2: A situated model of confidence and affiliation. *Modern Language Journal, 82*, 545-562.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50,* 370.

Maslow, A. H. (1962). *Toward a psychology of being.* Princeton, NJ: D. Van. Nostrand Co.

McArthur, T. (2001). World English and world Englishes: Trends, tensions, varieties and standards. *Language Teaching 34*,1-20.

McCombs, B. L. (2001). What do we know about learners and learning? The learner-centered framework: Bringing the educational system into balance. *Educational Horizons, 17*, 124-136.

McKeown, K. R. and Radev, D. R. (2000). Collocations. In R. Dale, H. Moisl and H. Somers (Eds.), *A Handbook of natural language processing*. Marcel Dekker.

McNeill, A. (2009). Theoretical underpinnings of vocabulary learning and teaching. In Curriculum Development Institute, Enhancing vocabulary learning and teaching at primary level. Hong Kong: Education Bureau (pp 1–15).

McNeill, A. and Lai, T. (2007). Enhancing the effectiveness of English vocabulary learning and teaching at primary level. English language education section, CDI.

Miller, G. A. (1996). *The science of words*. New York: Scientific American Library.

Moon, R. (1997). Vocabulary connections: Multi-word items in English. In N. Schmitt and M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy.* Cambridge: Cambridge University Press.

Moon, R. (1998). *Fixed expressions and idioms in English: A corpus-based approach -- Oxford studies in lexicography and lexicology.* Oxford: Oxford University Press.

Morin, R. & Goebel, Jr. J. (2001). Basic vocabulary: Teaching strategies or teaching Words? *Foreign Language Annals, 34 (1),* 8-17.

Morris, L. and Cobb, T. (2004). Vocabulary profiles as predictors of the academic performance of Teaching English as a Second Language trainees. *System*, *32*, 75–87.

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Murphey, T. and Arao, H. (2001). Changing reported beliefs through Near Peer Role Modeling. *TESL-EJ*, *5(3)*, 1-15.

Murphey, T. and Sasaki, T. (1998). Japanese English teachers' increasing use of English. *The Language Teacher, 22 (10)*. Retrieved from http://www.jalt-publications.org/tlt/files/98/oct/murphey.html

Murphey, T., Falout, J., Elwood, J. and Hood, M. (2009). Inviting student voice. *Asian EFL Journal,* 36, May, 1-35. Retrieved from http://www.asian-efl-journal.com/PTA-May-2009.pdf

Nagy, W. E., Herman, P.A. and Anderson, R. C. (1985). Learning words from context. *Reading Research Quarterly, 20*, 233–253.

Nagy, W. and Townsend, D. (2012). Words as tools: Learning academic vocabulary as language acquisition. *Reading Research Quarterly*, *47(1)*, 91–108. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/RRQ.011/full

Nation, I. S. P. (1982). Beginning to learn foreign vocabulary: A review of the research. *RELC Journal, 13*, 14-36.

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

Nation, I. S. P. (2004). Vocabulary learning and intensive reading. *EA Journal*, *21 (2),* 20-29.

Nation I. S. P.'s website http://www.vuw.ac.nz/lals/staff/paul_nation/index.html

Nation, I. S. P. and Waring, R. (1997). Vocabulary size, text coverage and word lists. Retrieved from: http://www.fltr.ucl.ac.be/fltr/germ/etan/bibs/vocab/cup.html

National Reading Panel (2000). Report: Teaching children to read. Retrieved from: http://www.nichd.nih.gov/publications/nrp/smallbook.cfm

Nesselhauf, N. (2003). The use of collocations by advanced learners of English and some implications for teaching. *Applied Linguistics*, *24 (2)*, 223-42.

Nisbet, D. L., Tindall, E. R. and Arroyo, A. A. (2005). Language learning strategies and English proficiency of Chinese university students. *Foreign Language Annals*, *38(1)*.

Nunan, A. and Bailey, K. M. (2009). *Exploring second languae classroom research: A comprehensive guide.* Boston: Heinle.

Nunan, D. (1991). *Language learning methodology.* London: Prentice Hall International.

O‟Malley, J. M. and Chamot, A. (1990). *Learning strategies in second language acquisition.* Cambridge: Cambridge University Press.

O'Malley, J. M., Chamot, A. U., Stewner-Manzares, G., Kupper, L. and Russo, R. P. (1985). Learning strategies used by beginning and intermediate ESL students. *Language Learning, 35 (1)*, 21-46.

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

Oxford, R. L. (2001). Language learning styles and strategies. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (2nd Ed.). Boston: Heinle and Heinle/International Thomson.

Oxford, R. L. (2003). Language learning styles and strategies: Concepts and relationships. *IRAL*, *41*, 271-278.

Oxford, R. L., Crookall, D., Cohen, A., Lavine, R., Nyikos, M. and Sutter, W. (1990). Strategy training for language learners: Six situational case studies and a training model. *Foreign Language Annals*, *22(3)*, 197-216.

Oxford, R. L. and Scarcella, R. C. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System*, 22 (2), 231-243.

Pavicic, V. (2008). *Vocabulary learning strategies and foreign language acquisitions.* Britain: Cromwell Press Ltd.

Pawley, A. and Syder, F. H. (1983). Two puzzles for linguistic theory: Native-like selection and native-like fluency. In J. Richards and R. Schmitt (Eds.), *Language and communication*. London: Longman.

Personalized Learning Foundation website: http://personalizedlearningfoundation.org

Phillips, T. A. (1981). Difficulties in foreign language vocabulary learning and a study of some of the factors thought to be influential. Birkbeck College, Univeristy of London: MA Project.

Pintrich, P. R., Marx, R.W. and Boyle, R. A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of educational research*, *63(2)*, 167-199.

Poon, Y. K. (2009). Reforming medium of instruction in Hong Kong: its impact on learning. In C. H. Ng and P. Renshaw (Eds.), *Reforming learning: Concepts, issues and practice in the Asia-Pacific region.* Springer Science + Business Media B. V.

Qian, D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: an assessment perspective. *Language learning*, *52(3)*, 513-536.

Qian, D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension. *The Canadian Modern Language Review*, *56(2)*, 282-307.

Raugh, M.R. and Atkinson, R. C. (1975). A mnemonic method for learning a second language vocabulary. *Journal of Educational Psychology*, *67*,1-16.

Reid, J. M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, *21 (1)*, 87-111.

Renzulli, J. S. (1994). *Schools for talent development: A practical plan for total school improvement*. Mansfield Centre, CT: Creative Learning Press, 121.

Reynolds, P. and Symons, S. (2001). Motivational variables and children's text search. *Journal of Educational Psychology, 93*, 14-22.

Richards, S. (1998). Learning English in Hong Kong: Making connections between motivation, language use and strategy choice. In M. C. Pennington (Ed.), *Language in Hong Kong at century's end.* Hong Kong: the Chinese University Press.

Ritchie, R. and Crick, R. D. (2007). *Distributing leadership for personalizing learning.* NY: Continuum.

Rivers, W. (1976). *Speaking in many tongues: Essays in foreign language teaching.* Rowley, MA: Newbury House.

Robinson, H. A. (1994). *The ethnography of empowerment: The transformative power of classroom*. London and New York: Routledge.

Rossi-Le, L. (1989). Perceptual learning style preferences and their relationship to language learning strategies in adult students of English as a second language. Unpublished doctoral dissertation, Drake University, Des Moines, IA.

Rudd, T. (2008). Rethinking the principles of personalization and the role of digital technologies. In M. Webster (Ed.), *Personalized learning: Taking choice seriously.* Nottingham: Educational Heretics Press.

Ruddell, M. R. and Shearer, B.A. (2002). "Extraordinary," "Tremendous," "Exhilarating" "Magnificent": Middle school at-risk students become avid word learners with the Vocabulary Self-collection Strategy (VSS). *Journal of Adolescent and Adult Literacy*, *45(5)*, 352-363.

Scarcella, R. and Oxford, L. R. (1992). *The tapestry of language learning: The individual in the communicative classroom*. Boston: Heinle and Heinle.

Schlechty, P. (1977). *Inventing better schools: An action plan for educational reform.* San Francisco: Jossey-Bass.

Schlemmer, P. and Schlemmer, D. (2008). *Teaching beyond the test: Differentiated project-based learning in a standards based age*. MN: Free Spirit.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt and M. McCarthy (Eds.),*Vocabulary: Description, acquisition and pedagogy.* Cambridge: Cambridge University Press, 199-228.

Schmitt, N. (1998). Tracking the incremental acquisition of second language vocabulary: A longitudinal study. *Language Learning, 48*, 281-317.

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

Schmitt, N. (2003) Current perspectives on vocabulary teaching and learning. Retrieved from: http://www.cng.edu/TTI/BIlingual_Education/Schmtt%20Vocabulary.pdf

Schmitt, N. and Zimmerman, C. (2002). Derivative word forms: What do learners know? *TESOL Quarterly*, *36(2)*, 145-171.

Schnell, J. (1990). *Intercultural communication education in the People's Republic of China.* Lanham, MD: Lexington Books.

SCOLAR (2003). Action plan to raise language standards in Hong Kong – Final report of language education review. Retrieved from http://www.language-education.com/eng/publications_actionplan.asp

Sedita, J. (2005). Effective Vocabulary Instruction. *Insights on Learning Disabilities, 2(1),* 33-45.

Seliger, H. and Long, M. (Eds.). (1983). *Classroom-oriented research in second language acquisition*. Rowley, Mass: Newbury House.

Sherman, J. G. (1982). PSI today. In F. S. Keller and J. G. Sherman (Eds.), *The PSI handbook: Essays on personalized instruction.* Lawrence, KS: TRI Publications, pp.72-78.

Shin, D. K. and Nation, P. (2008). Beyond single words: The most frequent collocations in spoken English. *English Learning and Teaching Journal, 62 (4)*, 339-348.

Singer, H. (1981). Instruction in reading acquisition. In O. Tzeng and H. Singer (Eds.), *Perception of print* (pp. 291-311). Hillsdale, NJ: Lawrence Erlbaum.

Sinclair, B. (2009). The teacher as learner: Developing autonomy in an interactive learning environment. In R. Pemberton, S. Toogood and A. Barfield (Eds.), *Maintaining control: Autonomy and language learning* (pp.175-198). Hong Kong: Hong Kong University Press.

Sizer, T. R. (1996). *Horace's hope*. New York: Houghton Mifflin.

Smith, G. E. and Throne, S. (2009). *Differentiating instruction with technology in middle school classrooms*. Washington: International Society for Technology in Education.

Snow, R. E. [In collaboration with E. Yalow](1982). Education and intelligence. In R. J. Sternberg (Ed.), *Handbook of human intelligence* (pp.493-586). London: Cambridge University Press.

Sousa, D. A. (2001). *How the brain learns* (2nd Ed.). Thousand Oaks, CA: Corwin Press.

Stahl, S. A. (1999). *Vocabulary development*. Newton Upper Falls, MA: Brookline Books.

Stahl, S. A. (2005). Four problems with teaching word meanings (and what to do to make vocabulary an integral part of instruction). In E. H. Hiebert and M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice.* Mahwah, NJ: Erlbaum.

Stahl, S. and Fairbanks, M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. *Review of Educational Research*, *56*, 72–110.

Stern, H. H. (1975). What can we learn from the good language learner? *Canadian Modern Language Review*, *31*, 304,-318.

Stevenson, C. (1992). *Teaching ten to fourteen year olds*. New York: Longman.

Stockdale III, J. (2004). Definition plus collocation in vocabulary teaching and learning. *The Internet TESL Journal*, *10(5)*. Retrieved from http://iteslj.org/Articles/Stockdale-Vocabulary.html

Stoffer, I. (1995). University foreign language students' choice of vocabulary learning strategies as related to individual difference variables. Unpublished doctoral dissertation, University of Alabama, USA.

Suen, M. (2008). LCQ5: Student enrolment of secondary schools (Press release on 26 Nov.). Retrieved from http://www.info.gov.hk/gia/general/200811/26/P200811260203.htm

Tellis, W. (1997). Application of a case Study methodology. *The Qualitative Report*, 3(3). Retrieved from http://www.nova.edu/ssss/QR/QR3-3/tellis2.html

Texas Center for Reading and Language Arts (2002). *Teacher reading academy.* Austin, TX: University of Texas at Austin and the Texas Education Agency.

Tomlinson, C. A. (2003). Fulfilling the promise of the differentiated classroom: Strategies and tools for responsive teaching. VA: Association for Supervision and Curriculum Development.

Tomlinson, C., Brighton, C., Hertberg, H., Callahan, C., Moon, T., Brimijoin, K., Conover, L. and Reynolds, T. (2004). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted, 27(2/3)*, 119-145.

Tomlinson, C. A. and Cooper, J. M. (2006). *An educator's guide to differentiating instruction*. Boston, Mass: Houghton Mifflin.

U.S. Department of Education (2010). U.S. Department of Education's archive: National Technology Plan. Retrieved from http://www.ed.gov/technology/draft-netp-2010/individualized-personalized-differentiated-instruction

Ur, P. (1996). *A course in language teaching.* Cambridge: Cambridge University Press.

Wallace, M. (1988). Practical language teaching: Teaching vocabulary. Oxford: Heinemann.

Wang, D. K. (2006). Learning strategies and implications for second language teaching. *Indonesian JELT*, *2 (1)*, 72-82.

Webster, M. (Ed.). (2008). Personalized learning: Taking choice seriously. Nottingham: Educational Heretics Press.

Wenden, A. (2002). Learner development in language learning. *Applied Linguistics*, *23:* 32–55.

West, M. (1953). A General Service list of English words. London: Longman.

West, M. and Muijs, D. (2009). Personalized learning. In C. Chapman and H. M. Gunter (Eds.), *Radical reforms: Perspectives on an era of educational change.* London: Routledge.

Wong, S. C. (1988). What we do and don't know about Chinese learners of English: A critical review of selected research. *RELC Journal*, *19(1),* 1-19.

Wray, A. (2002). *Formulaic language and the lexicon*. Cambridge: Cambridge University Press.

Wright, A. (1995). *Storytelling with children*. Oxford: Oxford University Press.

Wu, M. F. (2004). Problems faced by Chinese learners in L2 English learning and pedagogic recommendations from an Inter-Cultural Communication Perspective. Retrieved from Karen's Linguistic Issues website http://www3.telus.net/linguisticsissues/problemschinese.html

Wubbolding, R. E. (2000). *Reality therapy for the 21st century*. Philadelphia: Taylor and Francis.

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

Appendices

Appendix 1
Match Questionnaire

Name: _____ Class: ____ Date: _____

Vocabulary Learning Strategies Questionnaire

Circle the response that best describes how you learn. There are no right or wrong answers to these statements. For each statement you can choose one of the following responses:

1—never 2—sometimes 3—always

1 linking L2 sounds to sounds of the L1 word	1	2	3
2 looking at the meaning of different parts of the word	1	2	3
3 noting the structure of the part	1	2	3
4 putting the word in a topic group	1	2	3
5 visualizing the word in isolation	1	2	3
6 linking the word to a situation	1	2	3
7 creating a mental image of the word	1	2	3
8 associating a physical sensation with the word	1	2	3
9 associating the word with a keyword	1	2	3
Other strategies I often use:			
10			
11			
12			
13			
14			
15			

Appendix 2

The frequently-selected single-words (by family)

The 4716 single-word selections involve 1,894 families. The following 273 families are selected by 7 participants or above.

72 frequently-selected families in 1K

look	strike	deal	low
hang	local	gain	strength
amount	pay	public	fortune
effect	pressure	rather	light
wage	quality	attack	neighbour
apply	shape	bring	new
variety	accept	care	product
company	account	count	recent
cross	contain	enemy	accord
finish	current	shadow	build
lead	district	effort	child
memory	experiment	expect	employ
quantity	keep	particular	enter
rough	profit	refuse	free
spot	stand	serve	furnish
common	way	home	please
gold	admit	view	real
line	attempt	wave	reason

56 frequently-selected families in 2K

deliver	advice	thick	delay
encourage	shell	anxiety	fat
suspicion	rent	courage	meat
bow	blame	flame	responsible
dull	extra	push	staff
guilty	luck	sick	attend
host	miserable	track	eager
reputation	sugar	cruel	instant

ornament	pack	tour	entertain
row	perform	trick	pray
sore	storm	convenience	relieve
swear	urge	cough	excess
accident	remind	amuse	inquire
neglect	throat	complicate	self

51 frequently-selected AWL families

assist	method	interact	label
minimum	principal	maintain	abandon
crucial	professional	participate	stable
decade	attitude	release	automate
recover	benefit	estimate	consequent
retain	community	concentrate	construct
accumulate	agree consume	contract	depress
allocate	despite	predict	eventual
guarantee	impose	achieve	ignorant
culture	reveal	adjust	major
factor	unique	fund	structur
sustain	version	instruct	
vehicle	aware	investigate	

58 frequently-selected OFF-list families

beware	unfit	astray	affluent
boost	demolition	bosom	cash
celebrate	distract	boycott	chatting
coffin	irritation	canoeing	corridor
swap	panic	contest	creditable
diet	unyielding	diabetes	documentary
sodium	con	farewell	hostage
stroll	diner	harmony	indulge
bid	donate	infect	misconduct
fetus	freak	jogging	noodles
hometown	junk	optimistic	saturated
impress	lifestyle	plead	toothache
pollute	misfortune	probation	workforce
pregnant	nod	urban	
slippery	outsource	abortion	

Appendix 3

The 360 multiword type selections

at the scene
10 km stroll
a bucket of
a heap of
a little while
a number of
a series of
academy award
according to
account for
achieve their goals
acid rain
Air pollutants
all in all
American football
apply for
approve of
Are you nuts?
as a result
as soon as possible
Automatic Sprinkler System
average relative humidity
aware of
back up
balanced diet
baseball cap
bass drum
be hospitalized
be released
be sick of
be underway
beat somebody in
beauty centre
beware of
bid somebody farewell
blame somebody for something
blank face
blank look
blink of an eye
blow up
boast of
body movement
bosom friend
bow to public pressure
brand new
break out
breast stroke
bring up
broaden my horizons
bundled-up feet
burst into tears
burst open
Call in on
calm down
cast off
Causeway Bay
cheer up
Chinese-style buildings
civil servants
clip the nails
coffee table
come around
come to
commit suicide
communication skill
compensated dating
con man
concentrate on
convenience stores
convicted of

cook's knife
corrosive liquid
couch potato
cross the finish line
dairy product
damage the reputation
darts away
deal with
degree holders
dim sum
divide into
doing puzzle
door mirror
double decker
drainage renovation
dress casual day
drop out
drug abuser
earn money
easy access
education bureau
egg beater
emotional problem
emotional release
end up
entry pay
exceptionally gloomy
exhaust fumes
extra funding
extracurricular activities
eye irritation
facial expression
fail to recognize
fake goods
fall behind
fall sick
feed back
feel at ease
feet on the ground
fight back
filing tray
fill the stomach
filling cabinet
financial assistance
financial tsunami
flying kites
follow suit
food pyramid
food substance
for example
for good
for his own sake
freak accident
freedom of speech
frying pan
fuel gauge
fundraising event
Fung shui master
funk food
global warming
go astray
go on a diet
go over
go travelling
go with
gold ornaments
gross domestic produce
ground beef
hang on
hang up
has a long face
hear from
heart attack
heart beat
herb tea
high blood pressure

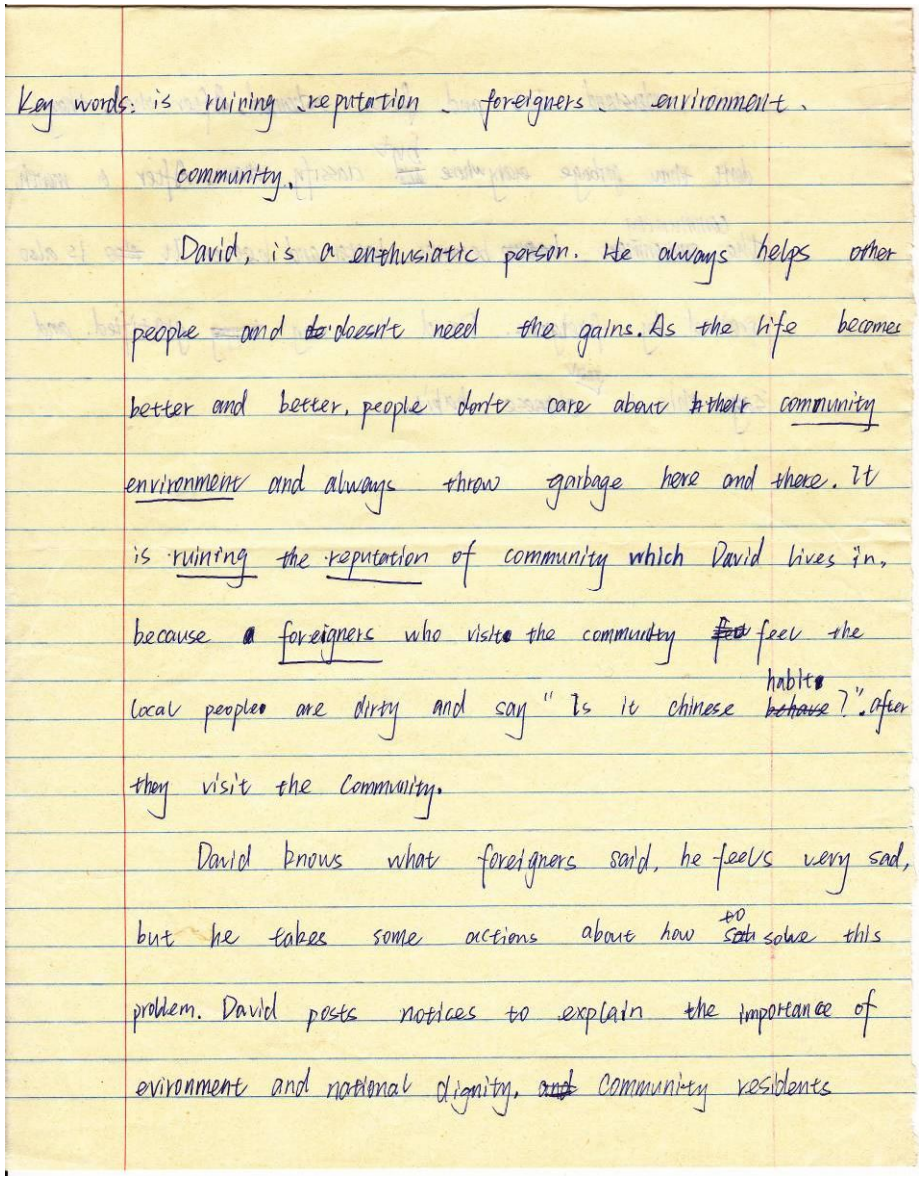
human error
I dare say
if need
immigration staff
in a bid to
in a row
in accordance with
in addition
in conclusion
in fact
in favour of
in hospital
in luck
in order to
in particular
in principle
in response to
in the distance
in the way
indulge in
inquiry about
instant noodles
Intensive care
It's worth it
joss stick
jot down
juvenile delinquency
keen on
keep away from
keep off
keep on
keep up
keep up with
key factor
kidney failure
lay the blame
lead to
lean meat
leave the mind great scope
leave you in panic
left pedal
leisure time
lend to
let down
life style
littered with
little old hat
live up to
long haul visitor
look down on
look forward to
look into
look out for
look out of
Magnifying glass
make a request
make an exact copy
make way for somebody
making models
medium of instruction
minimum wages
mix up
monetary authority
move upward in society
moving picture
narrow the gap
national flag
night drifter
no longer
note book
off load
off side
on average
on her way home
on the spot
operation hours

opposite effect
outlying island
outraging public decency
Pacific Ocean
pack into
paint thinner
pander to something
parking garage
particularly hard
pass away
passion fruit
pay attention
peanut butter
pedestrian area
personal trainer
phone box
picking the splinter
pine tree
plastic container
pleaded guilty
plenty of
plum blossom
point of view
police sergeant
pollution index
pomelo leaves
press ups
private tutor
production contracts
professional misconduct
public pressure
push up
put down
put up
quick sands
reality show
realize his dream
rebellious age
receding hair
red meat
red sweet pepper
relief measures
remarkable leap
renewed calls
Repulse Bay
respiratory problems
responsible for
right pedal
Ripple effect
risk of
rival for
row house
rubbish dump
run away
safety net
saturated fat
school profiles
sci-fi picture
seasonal flu
seat belt
secretary for environment
see off
seek help
serve as
serve with
set up
sewage pipes
shake hands
shell company
shoe lace
shopping centre
shopping mall
show one's hand
side effects
side walk
skin and bone

slimming business
smash up
sneak up
so far
soap opera
sore throat
sponsored walk
staff members
Stag Beetle
stand for
stand out
stay idle
step down
subtle love
suffer from
sum beam
suspicion of
swine flu
table tennis
take action
take care
take off
take part in
taken aback
talent show
talk show
tax rebates
tend to
thanks to
the disparity between the rich and poor
the flowers bloom
the recovering economy
the sky lights up
the urban renewal authority
the vast majority
time flies
Tobacco Control Office
toe nails
too far
tourist attraction
trade insult
training course
transportation system
travel programme
true failure
unaccompanied children
unemployment rate
unreal image
visual aids
visual effects
vulnerable to
waiting, waiting and expecting
warning mechanism
was blackmailed
water bus
water polo
were to die
whatever you say
wide range
wider perspective
win over
work out

Appendix 4 Three samples of story scripts

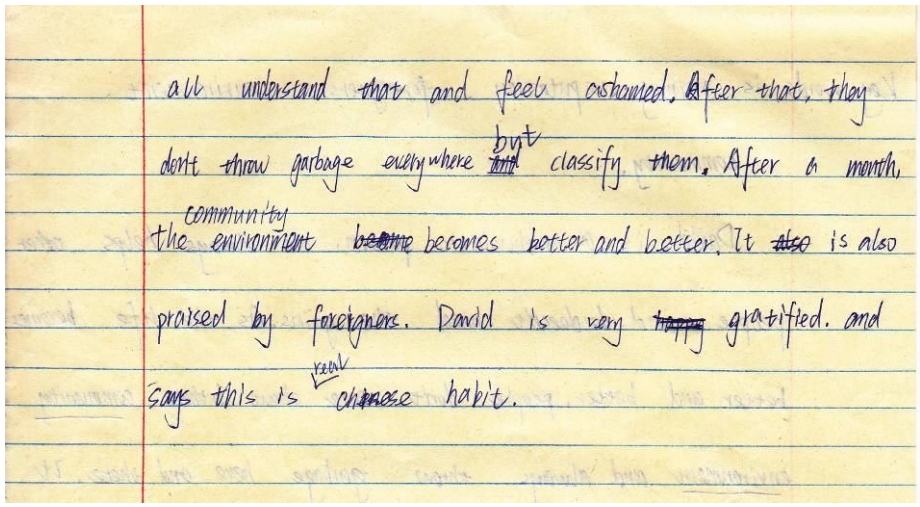
a/ a long story of 146 tokens from Group 4B



Key words: is ruining, reputation, foreigners, environment, community.

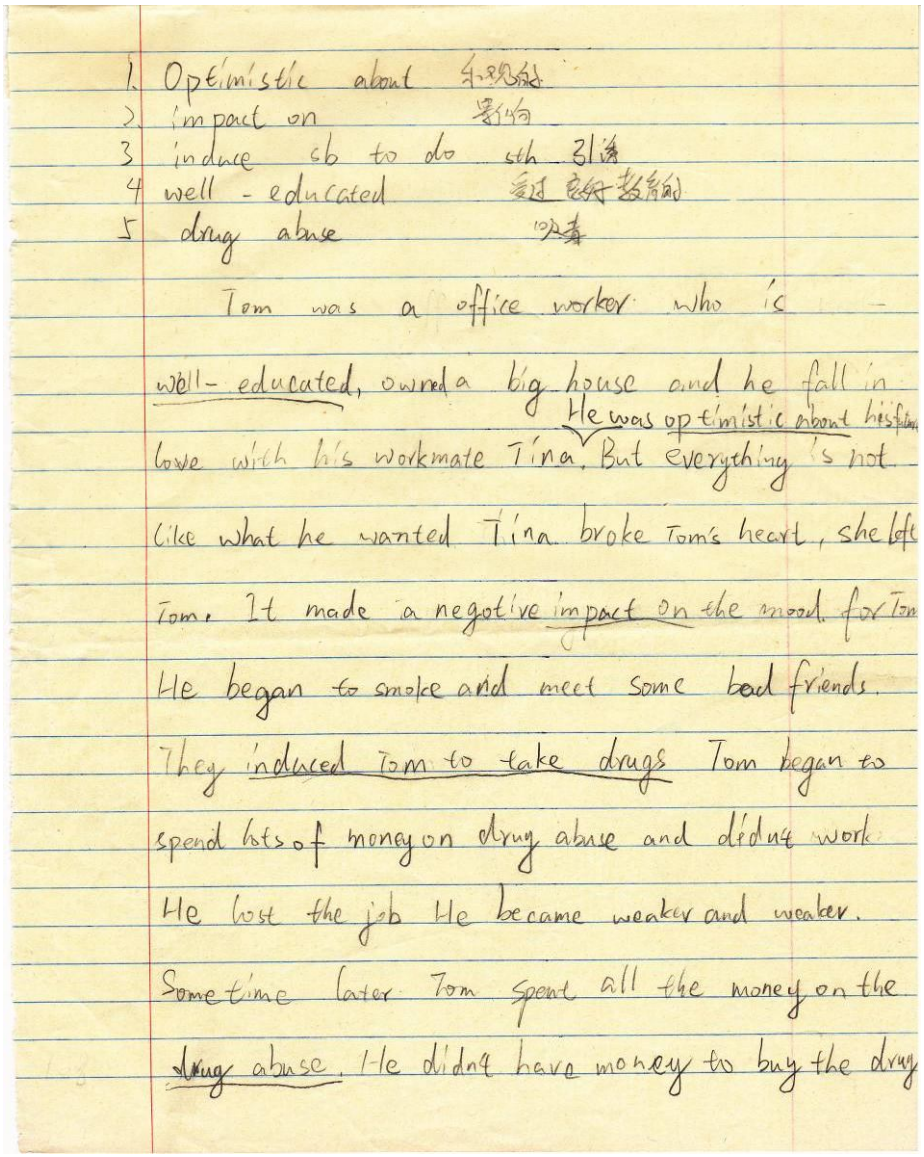
David, is a enthusiatic person. He always helps other people and ~~de~~ doesn't need the gains. As the life becomes better and better, people don't care about ~~their~~ community environment and always throw garbage here and there. It is ruining the reputation of community which David lives in, because ~~a~~ foreigners who visit the community ~~fee~~ feel the local peoples are dirty and say "Is it chinese habits ~~behave~~?". After they visit the Community.

David knows what foreigners said, he feels very sad, but he takes some actions about how ~~to~~ ~~sol~~ solve this problem. David posts notices to explain the importance of evironment and national dignity, ~~and~~ Community residents



all understand ~~that~~ and feel ashamed. ~~A~~fter that, they don't throw garbage everywhere ~~and~~ but classify them. After a month, the community environment ~~became~~ becomes better and better. It ~~also~~ is also praised by foreigners. David is very ~~happy~~ gratified. and says this is really chinese habit.

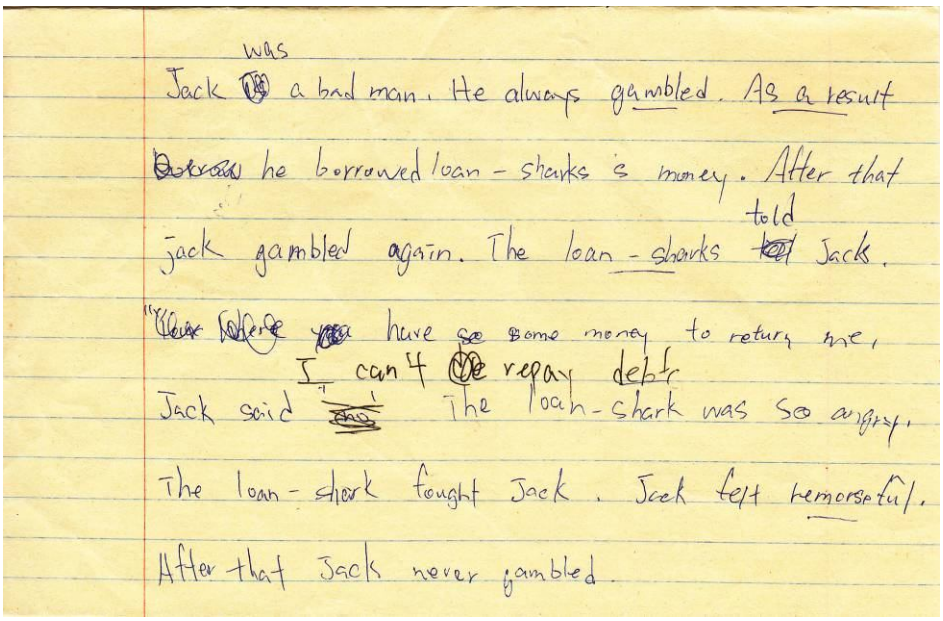
b/ a script of 108 tokens from Group 4B



1. Optimistic about 樂觀的
2. impact on 影響
3. induce sb to do sth 引誘
4. well - educated 受過良好教育的
5. drug abuse 吸毒

Tom was a office worker who is well-educated, owned a big house and he fall in love with his workmate Tina. He was optimistic about his future But everything is not like what he wanted Tina broke Tom's heart, she left Tom. It made a negotive impact on the mood for Tom He began to smoke and meet some bad friends. They induced Tom to take drugs Tom began to spend lots of money on drug abuse and didn't work He lost the job He became weaker and weaker. Some time later Tom spent all the money on the drug abuse. He didn't have money to buy the drug

c/ a script of 57 tokens from Group 3C



Jack was a bad man. He always gambled. As a result he borrowed loan-sharks's money. After that jack gambled again. The loan-sharks told Jacks. "have some money to return me, I can't repay debt" Jack said. The loan-shark was so angry. The loan-shark fought Jack. Jack felt remorseful. After that Jack never gambled.