VOCABULARY LEARNING STRATEGIES EMPLOYED BY KENYAN LEARNERS OF CHINESE AS A FOREIGN LANGUAGE IN KENYAN UNIVERSITIES

SUSAN WANJIRU WACHIRA

C182/26343/2013

A THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN APPLIED LINGUISTICS IN THE SCHOOL OF HUMANITIES AND SOCIAL SCIENCES OF KENYATTA UNIVERSITY

FEBRUARY, 2020

DECLARATION

Declaration by the candidate

This thesis is my original work and has not been presented for a degree in any other University.

Signature ………………………… Date …………………………

Susan Wanjiru Wachira

Department of Literature, Linguistics and foreign languages

SUPERVISORS

This thesis has been submitted with our approval as University supervisors.

Signature 1. ………………………… Date …………………………

Dr. Joyce Wangia

Department of Literature, Linguistics and foreign languages

2. ………………………… Date …………………………

Dr. Purity Nthiga

Department of Literature, Linguistics and foreign languages

3. ………………………… Date …………………………

Dr. Milcah Chockah

Department of Literature, Linguistics and foreign languages

DEDICATION

Special dedication of this work goes to:

FEM family church and Evangelist Teresia Wairimu for guidance, spiritual nourishment and encouragement all through this work.

My husband Moses Mureria Kagumba, three daughters Lynn and Victoria and Joanna who were very patient and understanding through my entire study period; may these little beautiful angels who are a great source of strength and inspiration to me, grow to become great God-fearing scholars.

ACKNOWLEDGEMENTS

It has been a long, involving task to the fulfilment of this work. Therefore, I would like to honestly acknowledge the fact that this is not the effort of one person only but the fruit of many institutions, organizations and persons.

First, I would like to thank God, who has been my guide through the entire journey. Through His counsel and guidance, He so gracious granted me patience, perseverance, strength, good health, knowledge and understanding, despite the great strain and extensive readings that I had to go through in order to have this work in the shape it is today.

Second, I thank my family members who constantly encouraged me and rendered their unwavering support throughout this work. Specifically, I would like to thank my husband, Moses, for standing by me when it mattered most.

My most sincere gratitude goes to my academic supervisors, Dr. Joyce Wangia, Dr. Purity Nthiga and Dr. Milcah Chokah who so selflessly dedicated themselves to reading through my work. They generously and honestly offered valuable guidance and ideas which saw this develop into the piece of work it is.

I would also like to express my sincere gratitude to Kenyatta University for giving me the opportunity to teach and for offering me financial support. Confucius Institute headquarters HANBAN offered me the opportunity to do my coursework on vocabulary learning at Beijing normal University and for this I am grateful.

My gratitude also goes to Professor Luo Sheila of Beijing normal University for her guidance and advice through the writing process.

Finally, my sincere gratitude goes to all the study respondents, the 103 learners from the two Confucius institutes selected from Kenyan Universities. They did answer the questionnaires and allowed me to record their responses for the HSKK oral tests. They provided valuable information which formed the backbone upon which the study findings, conclusions and recommendations were made.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

OPERATIONAL DEFINITION OF TERMS

Chinese Characters: The written form of Chinese language.

Confucius institutes: Centres for Chinese language learning in Universities.

Confucius institute classrooms: Centres for Chinese language learning established by Confucius institutes in High schools and other institutions.

Foreign language: Refers to a language that is originally from another country and is learnt in an environment where it is not used as the main medium of communication.

Mandarin Chinese: The variety of Chinese language learnt in the Kenyan context.

Pinyin: The Romanized form of Chinese characters.

Vocabulary: The sum of all words in a language.

Vocabulary learning: Learning the total number of words in a language.

Vocabulary learning strategy/s: The tools or means utilized in the task of discovering or acquiring new words in the target language.

LIST OF ABBREVIATIONS AND ACRONYMS

CBC	Competence Based Curriculum
CFL	Chinese as a Foreign Language
CI	Confucius Institute (Centres for Chinese language teaching)
CL	Chinese Language
CLL	Chinese Language Learning
ESL	English as a Second Language
FL	Foreign Language
FLL	Foreign Language Learning
HANBAN	International Headquarters for Confucius Institute
HSK	Hanyu Shuiping Kaoshi (Chinese language proficiency test)
HSKK	Hanyu Shuiping Kaoshi Kouyu (Chinese language proficiency oral test)
KU	Kenyatta University
L2	Second Language
LL	Language Learning
LLS	Language Learning Strategies
SCW	Strategies for consolidating words once they have been learnt
SDM	Strategies for Discovering Meanings of new words
SPSS	Statistical Package for Social Sciences
UON	University of Nairobi
VLSQ	Vocabulary Learning Strategies Questionnaire
VLSs	Vocabulary Learning Strategy/Strategies

ABSTRACT

This study is a description and analysis of vocabulary learning strategies employed by Kenyan learners of Chinese as a foreign language. Vocabulary learning strategies are contextualized within the larger area of language learning strategies which are accounted for within the cognitive theory of learning that the study was based on. The objectives of the study were: to describe the type of vocabulary learning strategies employed by Kenyan CFL learners; to describe the frequency of VLS use by Kenyan CFL learners; to establish the relationship between duration of Chinese language study, sex, previous language learning experience, field of study, level of CFL learning and VLS; and to investigate how VLS relate to performance in the speaking skill of Kenyan CFL learners. Purposive sampling was used to select two Confucius Institutes from Kenyatta and Egerton universities while stratified sampling was applied in selecting respondents at different levels of learning, namely beginner and intermediate levels. Data once collected using the vocabulary learning strategies questionnaire by Schmitt (1997) and HSKK oral tests was coded and entered into SPSS templates for cleaning and analysis and presented in tables and figures. Descriptive statistics (means and standard deviations), test of independence (Chi-square) and analysis of variance (ANOVA) were used for data analysis. The study mainly found out that Kenyan CFL learners were medium strategy users. It also revealed that cognitive strategies were the most commonly used followed by memory and metacognitive strategies. In addition, it was established that there is a significant relationship between sex, level of learning, field of study and VLS use. Learners also used other strategies that mainly involved the use of technology which were not in the questionnaire. Learners whose field of study was Chinese performed better in speaking skill than Science and Art majors. The study recommends that learners be made aware of strategies during Chinese language lessons so that they can fully utilize them. Furthermore, there should be more emphasis on strategies that involve the use of technology due to the nature of the language. The research findings provide useful insight for the development of curriculum for teaching Chinese in Kenya.

CHAPTER ONE

INTRODUCTION

This chapter gives information on the background of the study, the significance of vocabulary in language learning and strategies employed in learning vocabulary. It also sheds light on issues related to Chinese language learning in Kenya. The statement of the problem, the research objectives and questions, the assumptions of the study, the justification and significance of the study, and the scope and limitations of the study are also discussed in this chapter.

1.1 Background to the Study

Most language researchers in first, second and foreign languages generally acknowledge that vocabulary is an essential factor in language competence. Alqahtani (2015) states that vocabulary is an essential part in foreign language learning. This is because words are often emphasized both in books and in classrooms. In addition, Tomasello Tomasello (2003) argues that learning words and learning grammatical constructions are both part of the same overall process. It is also acknowledged that a large vocabulary is needed for one to get the ability to function in a language (Schmitt, 2010). Larger vocabularies also enable readers to access richer semantic resources to activate relevant background knowledge and incorporate new information with existing knowledge, which leads to better comprehension (Ford, Connors and Paratore, 2015). Thus, inadequate vocabulary hinders effective communication making it challenging for learners to express themselves particularly in carrying out academic tasks that involve the spoken word. Vocabulary learning is generally accepted as core to learning a foreign language, but to acquire a large number of words may be one of the most problematic aspects in learning a foreign language. Scholars such as Chiu (2013), Nation (2014) and Moody, Hu, Kuo, Jouhar, Xu and Lee (2018) have emphasized the significance of vocabulary in the learning of a language and in communication. Thus, although grammar and pronunciation are equally important, for one to speak, words are needed and the more words that one knows, the more one is able to express oneself in a foreign language. Vocabulary knowledge is therefore a crucial aspect in language knowledge and use (Nation.1990; 2001).

Many scholars in the area of applied linguistics had not paid much attention to vocabulary in language learning until the early 1980s (Meara, 1980). This has however changed in the last three decades as more scholars focus on this aspect in different contexts (Bogaards and Laufer, 2004; Nation, 2001; Laufer and Nation, 2012). Other scholars such as Hedge (2001) accentuate that one of the notable reasons why vocabulary seems to be neglected is because learners do not view vocabulary as important as other language aspects. Language teachers have also heard a lot on other aspects of language teaching, but often not much is heard about how to assist students in the acquisition and learning of new words. Furthermore, some experts in the area of teaching methodology give the impression that not only do words have a powerful effect, but their absence can also have a very powerful effect (Graves, 2016). In addition, Ford et al (2015) state that a lot of suggestions on vocabulary instructions found in books and journals and a lot of vocabulary instruction that takes place in schools is misguided and ineffective.

However, scholars such as Gass (2013), Alqahtami (2015), Lin, Wang and Du (2013) and Nation (2015) clearly highlight the significance of vocabulary in language learning. They emphasize that many people have come to the realization that the learning of vocabulary is not as simple; that recently there have been renewed concerns in the role played by vocabulary in foreign and second language learning; and that more consideration has also been given to the learning of vocabulary. In addition to this, Ellis (2008) states that there has been notable growth of interest in the field of L2 vocabulary in the recent years, evidenced by the number of publications such as Višnja (2008) and Oxford (2011) and more recent publications such as Oxford (2016), Boers and Webb (2018) and Moody et al (2018).

1.1.1 Vocabulary learning strategies

Recently, there has been growing interest among researchers such as Oxford (2011), Schmidt and Watanabe (2001), Cohen, Oxford and Chi (2003), Cohen (2014), Yang (1999) and Griffiths (2013) to come up with strategies and proposals of vocabulary learning strategy taxonomies for foreign language learning. These researchers have also emphasized on vocabulary as important tools in developing communicative competence, since a large vocabulary enables the learner to communicate successfully.

The term *learning strategy* has been defined as “the learner’s plan of action for finding or following the described track through experience, study or by being taught” (Oxford, (2016). Vocabulary learning is incremental; therefore, learners need strategies to cope with the increasing number of words as they advance in language studies. Research in foreign language learning (FLL) has established that foreign language learners employ certain vocabulary learning strategies (VLS) in the classroom and other contexts to enable mastery of content. Research has shown that these strategies can be utilized by language instructors and learners to enhance language learning (Gregersen and MacIntyre, 2014；Gu and Johnson， 1996；Graham, McKeown, Kiuhara and Harris, 2012; Oxford，2016; and Višnja，2008). In the present study, vocabulary is viewed as core in the learning of Chinese as a foreign language. This is because proficiency is measured by the number of words that the learner knows. In addition, VLS are of great importance in Chinese as a Foreign Language (CFL) learning since teachers need to ensure that learners are able to master the requisite words at each of the six Hanyu Shuiping Kaoshi (HSK) levels. According to China education Centre website, HSK or Chinese proficiency test is a standardized international examination which tests and rates proficiency in Chinese language. It tests non-native Chinese speakers' abilities in using Chinese language in their academic, professional lives and daily activities. The examination consists of six levels subdivided into basic, intermediate and advanced categories. The oral proficiency examination is referred to as Hanyu Shuiping Kouyu Kaoshi (HSKK). The mastery of the HSK and HSKK vocabulary will be made possible by the use of VLS and specifically, VLS that aid in improvement of language skills such as speaking. Thus, with sufficient vocabulary, knowledge and use of VLS, Chinese learning will be made faster and more efficient.

The main centres for Chinese language learning are referred to as Confucius Institutes (CI). According to the CI headquarters' website, the Confucius Institute is a non- profit public institution under the People's Republic of China's education ministry whose aim is to promote Chinese language and culture in foreign countries. The CIs in Kenya are hosted by public Universities.

1.1.2 Chinese language learning

Since the establishment of the first CI in 2004, CFL teaching continues to gain momentum worldwide. According to the CI headquarters (HANBAN) annual conference 2018 report, there are 548 Confucius Institutes, 1,193 Confucius classrooms centres for CL learning in primary and secondary schools in different countries and regions around the world, with the total number of students reaching 11 million. There are 54 CIs and 27 Confucius classrooms in Africa, with four institutes and two CL classrooms in Kenya. Thus, the number of Chinese language learners continues to grow with the establishment of new CIs and CL's. In countries like Thailand, Chinese is learnt from kindergarten to the University level and is as important as the English language. However, in the Kenyan context, Chinese language is only learnt at the universities, colleges and a few secondary schools. This is however set to change with the introduction of the Competence Based Curriculum (CBC) whereby, Chinese language will be offered as one of the foreign languages learnt from grade 4. The variety learnt in the Kenyan context is Mandarin Chinese which is a tonal language that uses characters (logographic representation of words) in its writing system and employs tone variation to distinguish words. Therefore, meanings of words vary depending on their tone. Chinese is comprised of four basic tones and variations in pitches. Hence, change in tones increases the difficulty of learning characters in terms of correct pronunciation and building connection between the sound and meaning of characters and words (Zhan and Cheng, 2014). This is because most Chinese characters are Phono-semantic whereby, meanings and pronunciations are derived from the characters. CFL learners need to understand the written form since the vocabulary that needs to be learnt is presented in form of characters in textbooks and other reading materials.

Although there is a lot of interest in CFL learning in Kenya, many learners encounter difficulties in the process of acquiring the language. This is because the Chinese writing system uses a logographic representation of words also known as Chinese characters. The alphabetic script also referred to as pinyin (Romanized Chinese) is only used at the beginner levels and thereafter, only Chinese characters are used. Moreover, there are thousands of Chinese characters that learners need to memorize for them to master the language. According to Bisong (2012), there are approximately 7000 frequently used characters in modern Chinese. Mastering the characters and being able to use them for daily communication and other academic tasks, therefore, becomes one of the most challenging aspects in learning Chinese language. This is because Chinese is an isolating language with limited morphology hence, there is need to master many individual words. Consequently, learners require unique strategies such as use of google pinyin and computer applications to do so. The learner's proficiency level is also determined by the number of words that one knows. This is done through the HSK and HSKK examinations which cover the four language skills. The examinations consist of vocabulary ranging from 150-5000 words. Thus, with the increasing number of words as one advances in CL learning, students require strategies to help them learn and master the language faster and efficiently. In the CFL context, VLS are of great importance so as to learn as many words as possible. Some learners in this context perform better in the HSK and HSKK proficiency examinations than others according to test results at the CIs. This is correlates to findings by Li (2010) who observed that successful learners used more strategies than the less successful ones. Therefore, they could be using VLS in the learning of Chinese. This study therefore, sought to establish the VLS used by CFL learners and which ones contributed to better performance in the speaking skill. Previous studies have indicated that various factors could affect vocabulary learning and strategy use (Ping, 2013; Arellano, Gonzaga, Reyes & Simón 2018; and Cheng & Chen, 2019). In the CFL context, factors such as age, sex, learner's first language, previous language learning experience, and duration of study and field of study could have some relationship with VLS use.

It is clear that vocabulary plays a primary role in language learning and daily communication. Vocabulary learning strategies also enhance the language learning and content mastery. Through the use of vocabulary learning strategies learners are able to master the four language skills (listening, speaking, reading and writing). From the explanations and discussions, it is important to note that vocabulary and vocabulary learning strategies are equally important in the learning of Chinese as a foreign language. Furthermore, China's global position has contributed immensely towards the spread of Chinese language in different parts of the world and specifically in Africa. This has resulted in the increase of CFL learners outside China and more so in Kenya, creating the need for more research in this context due to the complexity of Chinese language in comparison to other foreign languages learnt in Kenya.

1.2 Statement of the Problem

Chinese language is becoming popular in Kenya. The language uses characters different from the Roman alphabet which is familiar to many learners (Hu, 2010). The language also has limited morphology and learners need to master individual words. Chinese is also a tonal language. Thus, tone changes represent the different meanings of a word (Zhan &Cheng, 2014). These unique linguistic aspects of the Chinese language make CFL learning even more challenging for Kenyan learners since it is different from other foreign languages learnt by Kenyans, such as French and German. Indeed, CFL learners are required to sit for the written (HSK) and oral (HSKK) examinations to determine their language proficiency levels. In order to sit for these examinations, CFL learners need to master up to 5000 words. For learners who have had exposure to a variety of VLS, the mastering of the required vocabulary would be easy to achieve.

However, although some learners may be aware of VLS, they might not be able to choose the required strategies for a given task (Bristi, 2015) and may take too long to acquire the vocabulary. Such students may lack the requisite strategies required for vocabulary learning. With insufficient vocabulary, they are likely to encounter problems in their daily communication. They are also likely to perform poorly in HSK and HSKK tests. It is important to identify and describe the various VLS used by CFL learners with a view of describing them and suggesting suitable ones for the learning of Chinese as a foreign language in Kenya. CFL learning is also a relatively new phenomenon in Kenya with minimal empirical evidence on how CFL learners apply VLS. Most empirical studies on Chinese language focus on strategies for learning Chinese characters (Liu, 2013; Lam, 2011; and Lu, Hallman & Black, 2013), hence the need for more studies on speaking skill in CFL learning. Despite the availability of other studies delving on VLS use in FL learning, information from literature is inadequate on how exactly VLS relate to the spoken-skill performance of Chinese, particularly among developing countries like Kenya. This manifest gap in knowledge, calls for inquiry on the impact of VLS on successful learning (speaking skill) of Chinese language.

1.3 Research Objectives

The objectives for the study were to:

a) Identify and describe the type of vocabulary learning strategies employed by Kenyan learners of Chinese as a foreign language (CFL).
b) Describe the frequency of VLS use by Kenyan CFL learners.
c) Establish the relationship between the duration of Chinese language study, sex, previous language learning experience, field of study, level of CFL learning and VLS.
d) Investigate how VLS relate to performance in the speaking skill of Kenyan CFL learners.

1.4 Research Questions

The research questions were:

a) What type of vocabulary learning strategies are used by Kenyan CFL learners?
b) What is the frequency of VLS use by Kenyan CFL learners?

c) What is the relationship between the duration of Chinese language study, sex, previous language learning experience, field of study, level of CFL learning and the use of VLS?

d) What is the relationship between the use of VLS and performance in the speaking skill of Kenyan CFL learners?

1.5 Assumptions of the Study

The study was based on the following assumptions:

a) Kenyan Chinese learners use VLS in learning Chinese as a foreign language.
b) There is a frequency of VLS use by Kenyan CFL learners.
c) There is an important relationship between the field of study, sex, previous language learning experience, duration of Chinese language learning, level of CFL learning and the use of VLS in the learning of Chinese as a foreign language.
d) VLS use and performance in the speaking skill of Kenyan CFL learners have an important correlation.

1.6 Justification and Significance of the Study

Chinese language is moderately new in the Kenyan context and it is now being taught in universities, colleges and some private schools. It is also set to be introduced in public primary and secondary schools in Kenya through the new Competence Based Curriculum (CBC). Bearing in mind the importance of vocabulary in FL learning, a study is required to investigate the VLS employed by CFL learners in an effort to improve their vocabulary learning. According to Brown (2000), studies that provide training on strategy use will formulate specific information about when, where and how strategies ought to be used. This could therefore enhance the CFL learner's learning when they become cognizant of the various strategies and how they can be used.

Foreign language acquisition relies on the development of vocabulary and VLS might be useful in this. In the FL/SL context in Kenya, only a few studies of empirical nature have been carried out to explore VLS used by students at various levels of education (Njoroge, Ndung'u and Gathigia, 2013; Jaswinder and Wanjiru, 2013) and even fewer that focus on CFL learning (King, 2010 and Wheeler, 2014). Findings and recommendations from this research might therefore, be useful for future research in this context.

With the commencement of Chinese language teaching in universities, this study will be important in preparation of the curriculum and teaching materials for Chinese language teachers. This is because the findings will provide information on the most suitable strategies for the learning of CFL by Kenyan learners. Oxford (2016) states that context is of great importance in strategy use. Since this study identifies the best strategies to recommend to CFL learners, sex, field of study, duration of Chinese language study, level of CFL learning and previous language learning experience, which were relevant to the CFL context, were considered. The five factors also made it easier for data collection since all the CFL learners in the two institutes shared these characteristics.

The study adds on to the current body of knowledge about the learning of Chinese as a foreign language. Teachers, curriculum developers and CFL learners, especially HSK and HSKK candidates, might find this useful in both teaching and learning of Chinese vocabulary. Currently most of the Chinese language teachers at the Confucius Institutes in Kenya are Chinese. This is because there are not enough trained local teachers to teach the language. There is also no standardized syllabus and each institute or school formulates its own independently. This causes a lot of variations. In addition, several schools and colleges are also offering Chinese without sufficient skill and prudently planned study outlines because they just want to tap on the current trend. This therefore creates the need for studies to be conducted in this area and context for the harmonization of Chinese language teaching and learning in Kenya.

1.7 Scope and Limitations of the study

The study was carried out at the Confucius Institute at Kenyatta University (KU) and the Confucius Institute at Egerton University. Pilot testing of research instruments was done at the Confucius Institute at the University of Nairobi (UoN). Moi University Confucius Institute was not included because it was established recently. The first two institutes are in public universities and run by the Confucius Institute Headquarters. The study focused on these CIs because they are mandated to teach the CL and culture.

The institutes were also selected on the basis that they had both beginner and intermediate level students. These two levels provided respondents for this study. The targeted students are also the ones that formed the student's population at the institutes. The study focused on vocabulary because of the central role that it plays in CFL learning as opposed to grammar and pronunciation. It mainly focused on VLS that learners use in learning Chinese as a foreign language and also sought to establish the strategies used by CFL learners in mastering the speaking skill. To achieve this, it employed the cognitive theory of learning because it recognizes learning strategies as one of the most significant aspects in foreign language learning.

The data findings and conclusions were limited to vocabulary learning strategies obtained from the learner questionnaires. The quality of the study outcome fully depended on, and was based on the information from respondents in the questionnaires and HSKK recordings. The study was limited in the nature of the reviewed literature because few studies have been carried out in Kenya with regard to focusing on VLS used by the learner in the process of learning Chinese. Therefore, availability of localized literature was limited. This therefore implied that further studies might be required in future since CLL continues to grow. This study only focused on two CIs at the university level. Therefore, the generalizations of the results of this study might not be suitable for CFL learners at other levels of education, but will be suitable to all similar institutes.

1.8 Chapter Summary

This chapter offered the introduction and background to the present study. This was achieved through outlining the statement of the problem, research objectives, the study justification and significance, and scope and limitations of the study. The next chapter deals with literature related to the present study and the theoretical framework.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter presents the literature review and the theoretical framework. Literature review covers previous research on concepts related to vocabulary learning strategies (VLS), language learning strategies (LLS), characters and words. The theoretical framework is concerned with the phenomenon of learning strategies. To understand vocabulary learning strategies, it is imperative to have a clear impression of what the term language learning strategies implies. Thus, a discussion of the role of general language learning strategies in language learning so as to provide better understanding on vocabulary and vocabulary learning strategies is presented.

2.2 Language Learning Strategies

The study of language learning strategies (LLS) was taken up by scholars in the mid-1970s and 1980s. Since then, the concept of 'language learning strategy' has become widely recognized by numerous researches in the field of second and foreign language acquisition such as O'Malley and Chamot (1990) and Oxford (1990). Although the term is generally accepted by scholars in the area of linguistics, different scholars have defined language learning strategies differently. According to Višnja (2008), there is still no generally accepted definition of the concept of LLS because most researchers tend to define LLS in the context of their own research. Thus, it is imperative to look into these definitions to better understand the concept of LLS within the research context of this study. In order to understand LLS and VLS terms in the context of this study it is important to understand the construct 'strategy' which is defined within the context of language learning.

Oxford (2016) states that historically there have been dozens of conflicting definitions of learning strategies leading to chaos. In addition to this, Ellis (1994, p.529) affirms that, the concept of language learning strategies itself remains “fuzzy”, Griffiths (2004) also states that the definition of LLS remains unclear. Despite the fuzziness and lack of agreement on the idea of LLS, all researchers acknowledge that regardless of what LLS’s are named, they can make learning efficient, more effective and that can lead to higher competence, proficiency and capability in a foreign or second language (Oxford, 2003; Višnja, 2008).

Macaro (2003 p.327) defines learning strategies as “actions that learners take in order to decode, process store and retrieve information”. Griffith’s uses the term activities in defining LLS and describes strategies as ‘activities consciously chosen by learners for the purpose of regulating their own language learning” Griffith’s (2013 p.36). Other scholars such as Purpura (2014) and Dornyei and Ryan (2015) use learning behaviours synonymously with learning strategies.

Rubin (1975), one of the first prominent scholars in the area of language learning strategies, used the term strategy and defined LLS as “techniques or devices which a learner may use to acquire knowledge” (p. 43). Wenden and Rubin (1987 p. 19) further defined learning strategies as “as any sets of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval and use of information”. O’Malley and Chamot (1990 p. 43) use the term strategy which they define as “special thoughts and behaviours that individuals use to help them comprehend, learn or retain new information”. This study has adopted Rubin’s (1975) definition. The term ‘strategy’ is found to be the most convenient because it is broad and inclusive. It is also the most widely used term in studies of language learning (Griffiths, 2004).

Learning strategies are seen as distinct techniques of information dispensation that develop comprehension learning and preservation of information. From these explanations of LLS, more attention was paid to the learning outcomes and actions reflecting cognitive processes that are unobservable (Cohen, 2003). The definitions provide an understanding of what happens in the learner's mind and what they do during the learning process.

The term strategy is also used by Oxford (1990). She defines LLS as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations" (p. 8). In a more recent definition, she refers to LLS "as the learner's plan of action for finding or following the desired track through experience, study or by being taught" (Oxford, 2016 p. 17). Her definition is seen as the most comprehensive since it takes into account and analyses 33 definitions of language learning strategies. The definition also includes strategies for language subsystems such as grammar and vocabulary, and language skill areas such as speaking and related aspects. This is the definition which was used for purposes of the present study since it takes into account the learners' actions and is applicable in the Kenyan context where CFL learners learn through being taught in class, self-study and through experience.

2.2.1 Classification of Language Learning Strategies

Language learning strategies have been described and categorized by many researchers. In most of these classifications only the terms differ. All researchers use different criteria for developing the various classifications. Most of the early classifications such as

(Oxford, 1990) were founded on the difference between strategies employed by successful and unsuccessful language learners. Yang (1999) divides language learning strategies into six categories: memory, metacognitive functional, compensation, cognitive, formal oral, social and practice. Schmidt and Watanabe (2001) further divide them into four categories: cognitive, social, study and compensation. Cohen, Oxford and Chi (2003) organize the strategies according to the different skills. However, recently most classifications are based on the criterion of whether LLS effect on learning is direct or indirect (Višnja, 2008).

Despite the differences in the various classifications, the strategies have basic categories into which they fall into. Rubin (1987) distinguished between those strategies that are directly involved and those that are indirectly involved in learning. O'Malley's (1985) classification comprises of three main categories: a metacognitive strategy, cognitive strategies and socio-affective strategies.

Three categories of strategies were suggested by Pintrich and Garcia (1991) and Purpura (1999): cognitive, metacognitive and resource management. Oxford (1990) sees the existing classifications as falling into the following categories: those denoting conducts of learners who are successful in language learning; those centred on psychological purposes such as effective, metacognitive and cognitive; those centred on linguistic features, for example cognition; those centred on language knowledge or skills for example, learning of vocabulary and oral production; and those based on diverse learner types (or styles). Oxford's (1990) classification which is perhaps the most inclusive and the most referenced in literature is divided into two main types' direct and indirect strategies which are then divided into six classes. Under direct strategies, which are ones that encompass direct involvement of the target language, there are memory, cognitive and compensation strategies. On the other hand, indirect strategies include metacognitive, social and affective strategies which support language learning indirectly. She further refined the categories and divided them into four which include cognitive, effective, socio-cultural interactive, and the master category of “metastrategies” which include metacognitive strategies (Oxford, 2011). However, it is important to note that the categorizations are not absolute. Oxford (1990a, p. 17) recognizes that:

> *There is no complete agreement as to what strategies are, how many strategies exist; how they should be defined, demarcated, and categorized and- whether it is or will ever be-possible to create a real, scientifically validated hierarchy of strategies …classification conflicts are inevitable.*

Oxford 1990 Classification

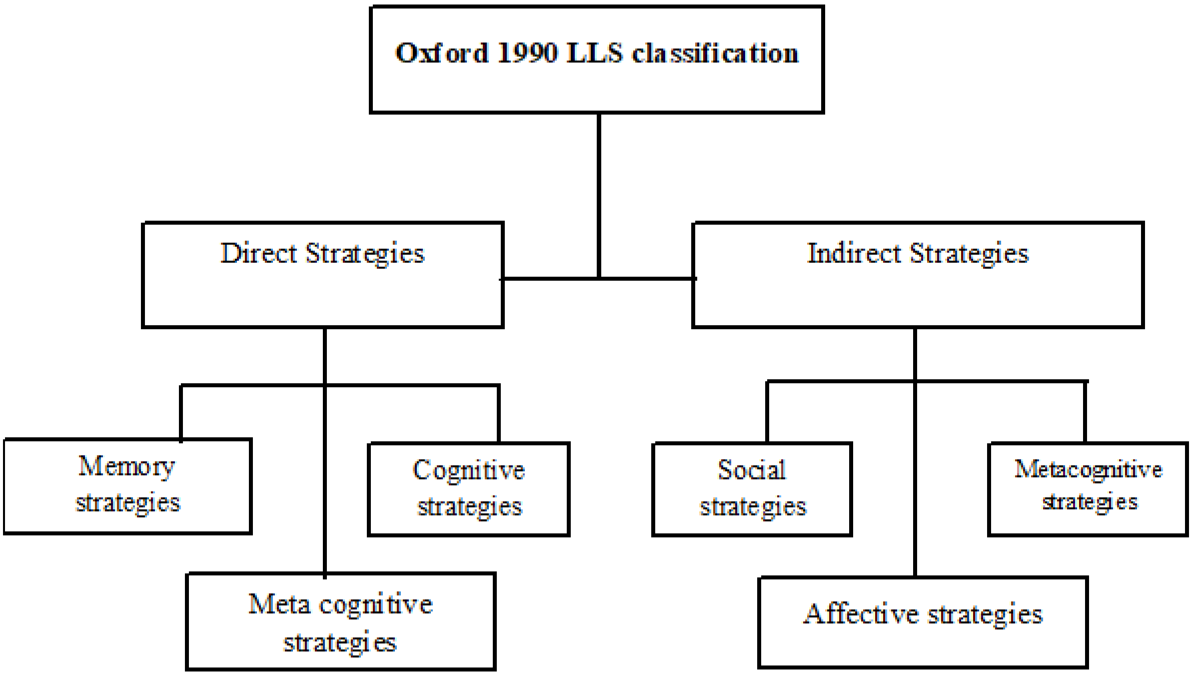


Figure 2.1: LLS classification by Oxford (1990)

Nevertheless, there are certain basic guidelines used by scholars in determining the various taxonomies. The classifications are mainly determined by the nature of the language item being learnt or the abilities of the language learner. Thus, most of these attempts by researchers to categorize them reflect more or less a similar categorization without any radical changes and/ or differences. This study is cognizant of these classifications but uses Schmitt (1997) taxonomy which is centred on Oxford's (1990) classification. The taxonomy is reviewed in Subsection 2.3.1 below.

2.3 Classification of Vocabulary Learning Strategies

In this section, we review literature on the various classifications from different scholars and how they have differed with time. Nation (2001) states that vocabulary learning strategies are a subcategory of the general learning strategies. There are various classifications by different scholars (Schmitt, 1997; Nation, 2001; 2005; Hedge, 2001; Cohen, 1990; Kudo, 1999; Stoffer, 1995). In the classifications, some scholars focus on small groups of VLS while others are seen as more inclusive, such as the classification by Schmitt (1997). These classifications will be discussed in the following subsections.

2.3.1 Stoffer's 1995 Classification of Vocabulary Learning Strategies

Stoffer (1995) carried out a large-scale study involving 707 learners of different foreign languages at the University of Alabama. In the study, he designed a questionnaire referred to as the vocabulary strategy inventory (VOLSI) and the strategy inventory for language learning (SILL). He also used the Likert scale for individual strategies. His classification comprised of 53 strategies subdivided into 9 categories as shown below:

a) Strategies involving creative activities
b) Strategies for word organization
c) Strategies that involve physical action
d) Visual/auditory strategies
e) Memory strategies
f) Strategies that involve authentic language use
g) Self-motivation strategies
h) Strategies that create mental linkages
i) Strategies for overcoming anxiety

The study noted that vocabulary learning strategies were used more frequently in learning languages whose lexical difference was more distant from English, for example Japanese and Russian. Strategies for creating mental linkages were the most frequently used, the main one being relating L2 and L1 strategy. This classification is amongst the first attempts in the classification of VLS (Kudo, 1999) and one of the most in-depth studies on VLS. However, the classification was not supported by any statistical data for justification, and for this reason, this study did not adopt the classification.

2.3.2 Gu and Johnson's (1996) classification of Vocabulary Learning Strategies

Gu and Johnson's study involved the use of a questionnaire to investigate EFL Chinese learners. The vocabulary learning questionnaire (VLQ version 3) was made up of 91 statements which were further divided into the following groups of strategies: -

a) Selective attention
b) Self-initiating
c) Guessing strategies (by using existing knowledge, linguistic cues and immediate or wider context)
d) Dictionary use strategies
e) Strategies of recording vocabulary
f) Strategies for memorization by repetition (using a list of words, visual or oral repetition)
g) Strategies for memorization by coding (creating mental linkages, elaboration, visual and auditory coding, semantic coding and contextual coding)
h) Activation strategies

The study was mainly concerned with comparing the frequency of vocabulary learning strategy use with the learner's beliefs on vocabulary learning, learning success and the level of the learner's development. The study found out that the participants mainly used variety of VLS which included cognitive, socio-effective strategies and metacognitive strategies. The study also found out that VLS had a positive contribution to article comprehension and vocabulary. Though the learning questionnaire was used to come up with the strategy categories, this study did not adopt it fully because most of the strategies were not covered and the ones that were covered were only broadly tackled.

2.3.3 Vocabulary Learning Strategies Classification by Schmitt (1997)

This classification is largely based on the one by Oxford (1990) described in Figure 2.1. Schmitt (1997) introduced a new class of strategies to address the inadequacy in Oxford's (1990) classification. These are referred to as the determination strategies. They are used by learners in discovering the meanings of new words without referring to another person's expertise. In his initial classification, Schmitt (1997) categorized the strategies into two categories. These are the discovery strategies for learning meanings of new words, and consolidation strategies for studying and remembering the meaning of word once they are known. These two categories were further subdivided into determination, memory, cognitive, metacognitive and social strategies. Determination strategies involve guessing the meaning of unknown words based on the structural knowledge of the language, for example, guessing from context. Memory strategies are whereby a word to be retained is related to some previous knowledge. Cognitive strategies are similar to memory strategies since they both focus on manipulative mental processing like repetition. Metacognitive strategies involve the learner's control and evaluation of their own learning, by having an overview of the learning process in general. Finally, the social strategies involve the use of group work to learn practice vocabulary (Schmitt, 1997). A summary of the strategies is presented in Figure 2.2 below.

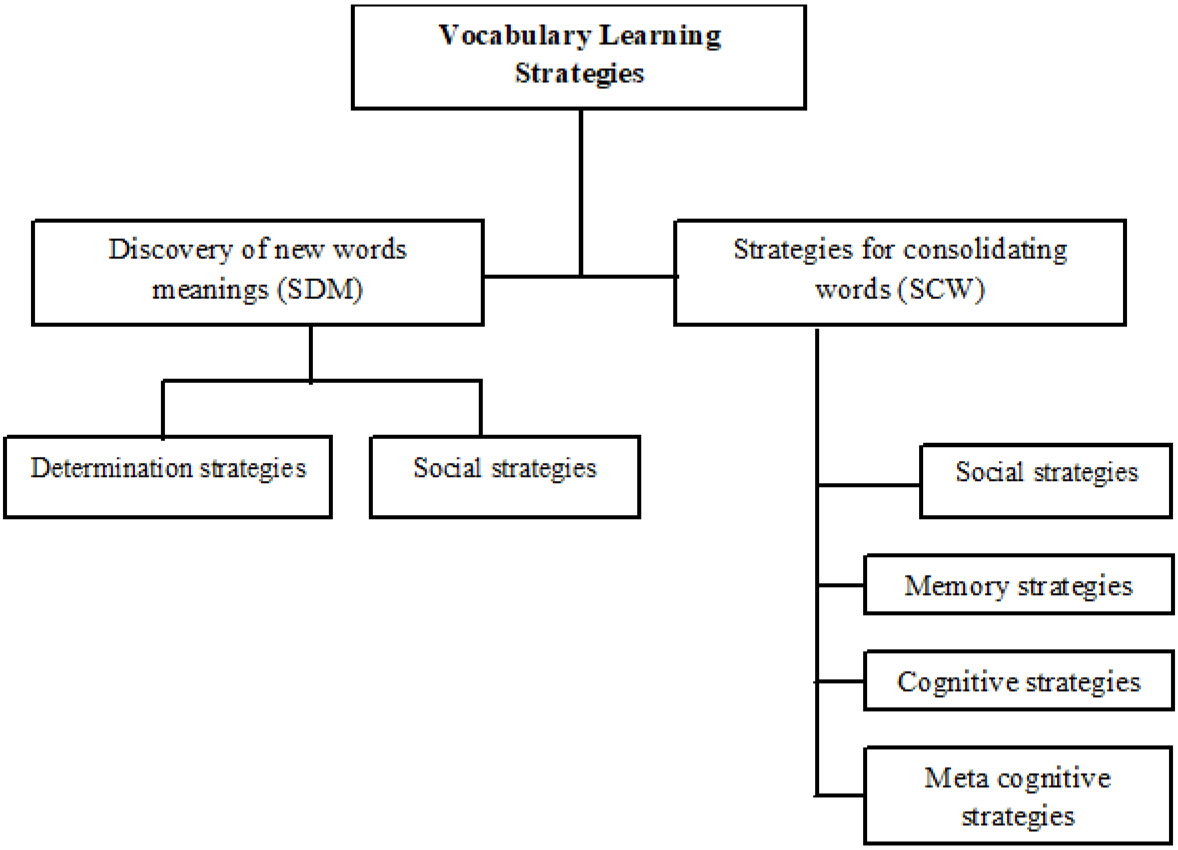


Figure 2.2: Vocabulary Learning Strategies

Source: Schmitt (1997) VLS taxonomy (adapted from Schmitt 1997)

In this classification, some strategies which are for discovering the meanings of new words are also in the consolidation of news words category. Social strategies appear in both discovery and consolidation categories since they can be used for the two purposes. This classification is considered as the most comprehensive compared to other classifications and is the one that this study embraces. However, some strategies are repeated and so, they are omitted in this study. The present research also focuses on VLS and consequently, only relevant strategies are considered in each category. Thus, while the original classification comprises 58 strategies, the strategies identified for use here are 38.

The classification also makes a distinction between discovery and consolidation. This is useful in the current study since in the CFL learning, learners have to master individual vocabulary as opposed to mastering alphabets. The classification was used to develop the questionnaire for data collection. The VLS categories identified in the study formed the basis for the questionnaire items.

2.3.4 Kudo's 1999 Classification of Vocabulary Learning Strategies

Kudo (1999) used the taxonomy by Schmitt (1997) to design a questionnaire for his study conducted in Japan. The aim of the study was to come up with a classification of vocabulary learning strategies and also determine the frequency of individual strategy use. The researcher uses the classification by Oxford (1990) and has the same categories. The strategies were classified into two groups: direct strategies which include cognitive and memory strategies; and indirect categories which include meta-cognitive and social strategies.

2.3.5 Vocabulary learning strategies classification by Nation (2001, 2005)

The taxonomy of vocabulary learning strategies by Nation (2001; 2005) comprised of strategies that referred to different aspects of vocabulary learning. The taxonomy makes a distinction between elements of vocabulary sources, learning and knowledge of vocabulary. The taxonomy classified the strategies into three broad classes. The first class was on planning strategies (choosing what to focus on and when to focus on it). This covered choosing words, choosing the aspects of word knowledge, choosing strategies, and planning repetition. The second class was on sources (finding information about words). This meant analysing the word, using context, consulting reference sources in L1 or L2, and using parallels in L1 and L2. The last class was on processes (establishing knowledge). This involves noticing, retrieving and generating.

In this classification, it can be noted that though the various categories cover different strategies and are referred to differently, they are similar in one way or another.

To summarize the classifications of vocabulary learning strategies, it is worth looking at the categorization by Hatch and Brown (2000). The researchers did not classify the strategies but identified the major steps into which vocabulary learning processes fall into. In this categorization the steps are seen as interconnected sieves. They divided vocabulary learning strategies into five steps comprised of various strategies as follows:

a) Encountering new words – the sources of new words include watching TV, listening to radio, conversations with native speakers, textbooks, wordlists, dictionaries etc.
b) Creating a mental picture (visual, auditory or both) of word form, for example, relating a word with L1 words or other FLs with similar sounds, using phonetic script, relating to already acquired English words with similar sounds.
c) Learning the word's meaning – this includes strategies such as asking a native speaker for the meaning, creating a mental image of the meaning, or guessing from context.
d) Creating a strong linkage between word form and meaning in the memory (regardless of the memory strategy used as long as it is used).
e) Using words for example, in example sentences, collocations, various contexts, conversations etc.

These steps aid in understanding what takes place in the learning and acquisition of vocabulary in a second or foreign language. Despite the various attempts by scholars to classify the vocabulary learning strategies, Seglar (2001) notes that there are still no classifications that focus on strategies used by learners in computer assisted learning (CALL). Such a classification if developed would help improve on earlier ones such as the classification by Schmitt (1997).

Many researchers have attempted to group the vocabulary learning strategies together in an attempt to develop a classification. Most of the classifications of vocabulary learning strategies are based on those of language learning strategies. For instance, Decarrico (2001), Hedge (2001) and Schmitt (1997), based their VLS classification on that of Oxford (1990), Cohen (1990), and Stoffer (1995). The classifications are crucial and contribute to the understanding of vocabulary learning strategies.

2.4 Vocabulary, Word and Chinese Characters

Foley and Thompson (2003, p. 10) assert that "all languages comprise of either words, lexicon or vocabulary". Therefore, vocabulary plays a key part in language learning. However, before discussing vocabulary and its importance, it is important to distinguish the terms 'vocabulary' and 'word'.

What exactly is a word? "Everybody thinks they know what a word is, but a matter which seems so simple is enormously problematic" (Aitchison, 1987 p. 63). Read (2002) observes that the concept 'word' is a difficult to describe either in abstract terms or for numerous applied. Trask (1995 p. 46) indicates that "there are difficulties in the description of a word because words do not have meanings in segregation but are associated with meaning of other words, in "simple" or "complex" ways". It is difficult to define a word without relating it to other fields. Jackson and Amvella (2000 p. 48) also point out that "a word somewhat relates to the field of etymology, lexicology, morphology or semantics". These scholars point out that although a 'word' maybe easily perceived, it is not easily defined.

Since the emphasis of this study was on VLS employed by learners in learning and acquisition of Chinese vocabulary, the investigator did not delve into morphology or any other features associated with the term word. Instead, the researcher differentiated the terms "vocabulary" and "word" as best suited for the present inquiry with the aim of bringing into light, a clear insight of the term 'vocabulary learning'.

Jackson and Amvella (2000) view the terms vocabulary and word in a relative way. They consider the word as a unit of structure which is not interruptible and consists of a morpheme or morphemes typically occurring in phrases. The morphemes are the definitive grammatical units, the smallest units of language with meaning. Vocabulary is further seen as the total stock of words in a language. Richards and Platt (1992, p. 406) define a word as "the smallest unit in a language which can occur in speech or writing or on its own". On the other hand, they define vocabulary as "single words, compound words and idioms combined together to form a set of lexemes" (p. 400).
Read (2000) states that words are necessary and defines them as "the basic components in a language, the meaningful units which form bigger language structures such as sentences, paragraphs and whole texts (p. 20)".

A word is also defined as "sounds combined to form a grammatical unit or vocabulary in a language" (Sheeler and Markley, 2000 p. 2). Vocabulary on the other hand is "the sum total of words in a language; and variety of words recognized or used by an individual" (Sesnan, 2001 p. 123). Based on the above definitions, it can be said that a word is the smallest meaningful unit in a language used in sentence construction and formation of phrases that usually represent a thing, idea or an act (Siriwan, 2007) while vocabulary is in turn seen as “a combination of compound words, single words and idioms which is referred to a set of lexemes” (p. 19).

The implication from the above definitions is that a word is a concept that can appear in segregation or on its own and have a sound or meaning or a mixture of sounds making a part of vocabulary or grammar of a language and so act as ‘segment of vocabulary’ in a language. In addition, words cannot be used in isolation or in isolated sentences in normal language use, but as combined elements of an entire course and discourse. They fit into particular conversations, stories, storybooks, jokes textbooks, legal proceedings, letters and so on. Therefore, vocabulary is more than just single words (Read, 2000). Vocabulary does not only concern all aspects of simple words but it also involves complex and compound words and the meaningful units of a language (Jackson and Amvella, 2000). Vocabulary learning can therefore be defined as learning the total sum of words in a language as used in certain contexts. Precisely, it is learning a collection of words and learning how strategies are used to deal with unknown and unfamiliar words.

In Chinese learning, vocabulary is described as the total stock of words and the sum of fixed phrases in the language (Yiling, 2000). Word on the other hand, is described as the smallest linguistic unit with sound and meaning and can occur individually, in speech and in writing (Borong and Xudong, 2009). Borong and Xudong (2009) further describe vocabulary as the building blocks in language. Therefore, vocabulary in Chinese is the total stock of words and fixed phrases. For one to be proficient in Chinese language, they need a rich vocabulary. Since vocabulary is a collection of words, one needs to master as many words as possible to be able to communicate effectively.

An understanding of the terms *vocabulary* and *word* aids in getting a clearer distinction between *characters* and *words*. Students of Chinese as a foreign language generally find it difficult to differentiate the terms ‘word’ and ‘character’. Word and character are two different concepts. Characters are used to represent the writing system of a language while a word is said to be the smallest of the linguistic unit which can occur on its own. Yiling (2000) notes that one character does not necessarily represent one word. One word can be represented by two or more characters, for example the word ‘like’喜欢 in Chinese consists of two characters but it is one word. One character can also represent different words with different meanings, for instance the character ‘花’ has two meanings: to spend, for example money, a flower, and also represents a Chinese surname. There are two types of Chinese characters, the traditional and the simplified or modern Chinese characters. The ones used in Mandarin Chinese are the simplified characters. The characters are pictographic and have evolved over time. Figure 2.3 and 2.4 below shows the evolution of the character Mǎ, (horse) and the traditional and modern characters respectively.

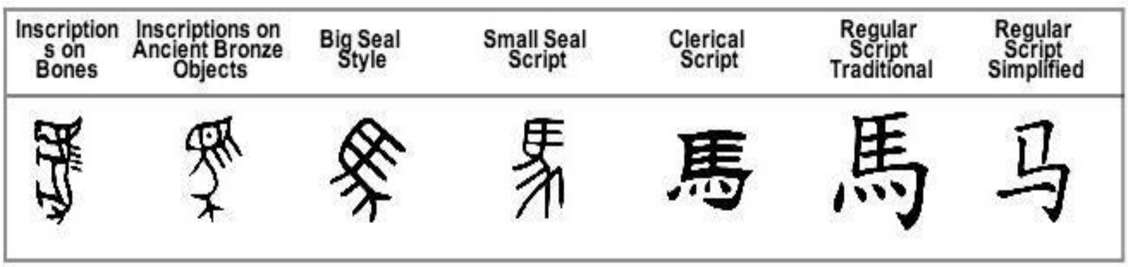


Figure 2.3: Evolution of the Character “马” (Mǎ, horse)

Source: Adapted from new practical Chinese reader

There are also instances where two different characters represent one word, for example ‘飞 (Fēi) and ‘飛’ (Fēi) represent the same word (fly). The difference is that the first character represents the simplified form while the second one represents the traditional form of Chinese characters. The simplified form is the one that is used in the Kenyan context. In the figure below, we present an example of traditional and modern Chinese characters.

Traditional character	Simplified character
Mǎ **馬 horse**	**Mǎ** **马 horse**

Figure 2.4: Picture of Traditional and Modern Chinese Characters

Source: Adapted from new practical Chinese reader

Most researchers in the field of teaching Chinese as a foreign language use the term ‘word’ to mean the basic structural unit in Chinese language learning. Bisong (2012) argues that when we use ‘word ‘as the basic structural unit in Chinese language teaching, then characters are just symbols that represent vocabulary. Some characters do not have meaning on their own and have to be combined with other characters to be meaningful. Most studies have shown that for one to be functionally literate in written Chinese, they require a vocabulary of around 3000 to 4000 characters. On the other hand, for one to be able to engage in meaningful conversations in Chinese language, they require knowledge of around 2500 words. This, therefore, implies that one requires strategies to be able to learn the requisite words for the four language skills (listening, speaking, reading and writing).

In conclusion, word and character are different though similar in certain ways. For example, one character can represent one word and vice versa. From the definitions, it is clear that using a character as the basic structural unit would not be advisable because not all characters have meanings on their own. However, if words are used as the basic structural units in Chinese language learning, characters have to be given equal attention since without them, it would be difficult to figure out the meanings of certain words because most Chinese characters have either a semantic or a phonetic component. Thus, for purposes of this study, vocabulary is defined as the total stock of words and fixed phrases, while a word is described as the smallest linguistic unit with sound and meaning and can occur individually, in speech or in writing (Borong and Xudong, 2009). Characters, on the other hand, are symbols that represent these words and vocabulary in written form. They also represent the meaning and pronunciation of the words and vocabulary being learnt. Since learning Chinese characters is a challenging task, vocabulary learning strategies are vital in the mastery of words and characters as they advance in CFL learning.

2.5 Vocabulary Learning

The learning of vocabulary is generally recognized as vital in second and foreign language learning. Without vocabulary one is not able to communicate meaningfully. As stated by Nation (1990), learners view vocabulary as one of the most significant aspects in language learning. To emphasize this, McCarthy (1990) notes that vocabulary is the single largest constituent of any language course. Most learners acknowledge that many of the problems encountered in both receptive and productive use of language may be as a result of lack of vocabulary knowledge. Without words, people will not be able to express their views and feelings. Kitajima (2001) affirms that words are needed to brand objects, concepts and actions, and that intended meanings cannot be expressed without words. "… one will be able to express themselves better if they are able to use words appropriately, more easily and with self-confidence and to understand the world that one lives in" (Nandy, 1994 p. 1).

Although grammar and vocabulary are both important in a language classroom, vocabulary is seen as more important because, without words, there would be no grammar to be learned. Therefore, vocabulary is of more importance and should be given more consideration than grammar. As stated by (Graves, 2016 p. 1-2), "the students' vocabulary size is of great importance for entry and progress through school because it helps students in learning to read, succeeding in all subjects and achieving the world beyond school". Likewise, Conzett and Lewis (2000) see the significance of vocabulary as being the focus of language teaching and learning since language consists of 'grammaticalized lexis and not lexicalized grammar' and 'grammar as a structure is secondary to lexis'. Therefore, according to these researchers grammar is seen as being preceded by words. Communication would be rather impossible without the mediation of words; we would not be able to tell when people make grammatical mistakes or even pronounce words incorrectly. Precisely, vocabulary appears as crucial to language learning, and therefore, considered as vital in mastering of both second and foreign languages. This a similar case with CFL learning where vocabulary is central in mastery of the language, especially in the HSK and HSKK tests.

Nation (2001) further terms the connection between the use of language and knowledge of vocabulary as complementary: knowledge of vocabulary helps in using a language while, language use in turn increases the vocabulary. He further indicates that in SL and FL learning contexts, vocabulary learning plays a major role in all language skills

(Nation, 2011). Asserting this, McCarthy (1990 p. iix), states that “no matter how well a student masters the SL/FL sounds, no matter how well a student learns grammar, there would be no meaningful communication in a second or foreign language devoid of words to convey an array of meanings”. Words are seen as tools that learners use to think, analyse the world around them, as well as express ideas and feelings. Their use of incorrect vocabulary interferes with communication and breaks it down due to wrong choice of words (Smith, 1998). Read (2000) also states that, proficiency in a second language is not just about knowledge of many words or grammatical rules but it is the ability to exploit the knowledge effectively for different communication purposes.

Therefore, despite knowledge of vocabulary, one needs to know how to use the various words for different situations. On the other hand, researchers such as Read (2000), Gu (2003), Marion (2008), Maximo (2000), and Nation (2011) have come to the realization that vocabulary acquisition is important for the successful use of a FL or SL and plays a significant role in complete written and spoken texts.

The strategies for vocabulary learning are a subcategory of language learning strategies which in turn are a part of the general learning strategies (Nation 2001). Hence, the definition of VLS is derived from that of LLS’s (Catalan, 2003). The definition of VLS by Schmitt (1997) mirrors Rubin’s (1987) view on the understanding of learning. Rubin (1987) views learning as a process by which information is obtained, retrieved and used (Schmitt, 1997). Similarly, Cameron (2001 p. 92) defines VLS as “actions taken by learners in remembering and understanding vocabulary items”.

The present study sought to identify VLS that lead to better performance in the speaking skill. These would ensure that CFL learners are able to communicate fluently and use the language in their daily activities and future careers. This can be achieved if students are able to learn the requisite number of words at each level. With the use of VLS by learners, acquisition of vocabulary will be faster and more efficient making learning faster. Thus, with large and rich vocabulary, CFL learners can know which words to use, where and when, ensuring there is no communication breakdown.

Learners learn new words, either through reading or listening. However, learners might not have the ability to use the new words in speech and in writing. This is because it is not easy, but rather, a long and time-consuming process to get to a point where the learnt vocabulary becomes “active vocabulary”. Language learners ought to know how to use different types of VLS to practice, record and store new words (Nation, 1990; Miller and Gildea, 1987). This could be for the reason that a strategy that might apply to one situation might not be suitable in another. This could be due to various factors such as context, individual differences, among others. Each strategy might be suitable for a particular purpose (Schmitt, 2000 and Oxford, 1990).

2.5.1 Vocabulary Learning Strategies and the Speaking Skill

Speaking or oral production is regarded as one of the most important skills in learning a foreign language since the ultimate goal is to be able to use the language in communication. Speaking cannot take place without vocabulary and the use of vocabulary involves the use of VLS. Chinese is taught as a foreign language in Kenya. As such, it is not the main language used for communication. This poses challenges to many learners since they are not able to practice what they learn in class.

Speaking skill is also seen as a skill by which a language learner is judged (Bygate, 1987). This, therefore, makes speaking skill one of the most significant aspects in foreign language learning. For Kenyan learners of Chinese as a foreign language, one of the most difficult aspects to master is speaking. This is because of the various linguistic differences between Chinese, other foreign languages and local languages spoken by the learners. One of the difficulties in learning spoken Chinese is the correct placement of tones. This frustrates many learners making them shy away from speaking the language.

Speaking can be tested in two ways either as a whole or it can be divided into different constituents such as speaking, pronunciation and grammar. Several scholars have looked at the various methods for scoring of speaking tests. Ounis (2017) states that the holistic scoring is far more useful, reliable and consistent as far as speaking assessment is concerned. Luoma (2004) also asserts that there is a cycle of assessing speaking. In holistic testing the skill is tested as a whole and no aspect is tested independently. Additionally, Xi (2006) indicates that holistic scoring raters consider the combined impact of delivery, language use and topic development and make a judgment about a person’s performance on a particular task. The main role is to weigh the impact of different dimensions on the overall effectiveness of the whole communication and come up with a holistic score. All components are assessed under speaking as a whole.

In this study, the holistic method of scoring was used in rating the HSKK oral tests. This is because the learners were only at the beginner and intermediate levels of learning and the aim of the study was to see whether the learners were able to use the acquired vocabulary in communication. The study also looked at speaking in general and not the different aspects involved in speaking, such as pronunciation. The scoring rubric used in this study was the one by Brown (2004). He looks at the various types of Language assessment in the four language skills and presents various rubrics. Figure 2.5 presents rubric for speaking test.

2	Comprehensible; acceptable target form	Excellent
1	Comprehensible; partially correct target form	Good
0	Silence; seriously incorrect target form	Poor

Figure 2.5 Rubric for Speaking Test

Adapted from Brown, 2004 p. 157

2.5.2 Studies Related to Vocabulary Learning Strategies

Vocabulary is of great importance in the learning of a second or a foreign language , yet not much attention has been given to this area in the past years. The situation has, however, changed with some researchers such as Allen (1983), Hedge (2001), Nation (2011), Graves (2016), and Oxford (2016) giving it more attention and emphasising its importance in second and foreign language learning and teaching. To develop the four language skills, vocabulary is essential since one cannot listen, speak, read or write without vocabulary.

Studies on VLS are related in certain ways. It was worth looking at previous researches to understand how they were conducted, how the research instruments were devised and the similarities and differences with the current study. Results from these studies shed light on how learners employ different strategies in the learning of vocabulary in different languages and contexts. Most of the studies reviewed were designed to assess VLS used by second or foreign language learners. They were viewed in terms of language of study, participants and the factors affecting the choice of strategy use and the types of strategies investigated. The data collection techniques and results of each are also described.

Fan (2003) observes that vocabulary learning strategies are connected. He identifies the following steps of vocabulary learning in FL proposed by Brown and Payne (1994):

a) Having sources of encountering words
b) Getting a clear image (either visual or auditory or both forms of new words)
c) Learning the meanings of new words
d) Making a strong connection between forms and meanings of new words and
e) Using the words.

Gu and Johnson (1996) used a questionnaire (VLSQ) to establish the strategies that Chinese University EFL learners used in learning English vocabulary. A correlation between measures of vocabulary size and language proficiency was done and it was established that retention strategies correlated with higher vocabulary size but not with language proficiency. VLSQ was used in gathering data on the relationship between VLS and learning outcomes. Since the present study aimed at looking at outcome in terms of the speaking skill, Gu and Johnson (1996) study provided the researcher with information on how such data was collected and analysed. VLSQ was adapted for data collection in this study.

Schmitt (1997) investigated the use VLS and how helpful they were in language learning. The study involved 600 EFL Japanese learners. The use of verbal repetition, written repetition, bilingual dictionary, reading a new word loudly, studying word spelling and note taking in class were seen as the most helpful and useful. These strategies were also investigated in the present study.

A study by Taichi (2000) was based on secondary level Japanese EFL and ESL learners. It focused on the overall use of VLS and used VLSQ, oral interviews and observation for data collection. The variables investigated were the learning environment (ESL vs EFL), achievement levels, year of study, and gender. The results indicated that there were differences in gender in dictionary use, repetition and note taking strategies. Note taking, dictionary use and repetition were found to be related to the year of study variable. It was established that the learning environment was the main factor affecting the use of VLS by Japanese learners. The tools used in the study enabled success in achievement of the study objectives. This current study has, therefore, used the same tools.

Gu (2002) carried out a large-scale survey on Chinese adult EFL learners. The purpose of the study was to assess the relationship between gender, field of study and VLS. VLSQ, vocabulary tests and general proficiency measure were used for data collection. The results indicated that female students performed better than male students in both general proficiency test and vocabulary size test. Almost all VLS that correlated with successful EFL learning were found to be used by female students. Science students performed better than arts students in vocabulary size while arts students performed better than science students in the general proficiency test. The field of study was however found to have a less significant effect. The present study also sought to establish whether there is an important relationship between use of VLS and the CFL learner's field of study. It used a proficiency test for data collection on speaking skill of Kenyan CFL leaners and a comparison was made to see how the factors under consideration affected performance in speaking skill. The term 'sex' was used to refer to male and female learners while Gu (2002) used the term gender.

Kapifour (2011) investigated Iranian EFL learner's use of VLS and its contribution to the reading comprehension. VLSQ and a TOEFL reading comprehension test were used for data collection. The purpose of the study was to establish the frequency of use of VLS and whether they contributed to reading comprehension. The results showed that the EFL learners were medium strategy users. The study also established that metacognitive strategies were the most frequently used, followed by cognitive, memory and determination strategies, respectively. The social strategy was the least frequently used. It was the only strategy that contributed towards reading comprehension. This study is similar to the present study in that it investigated speaking which is a language skill. There is evidence that VLS contributed to good performance in reading comprehension which the current study also investigates.

Asgari and Mustapha (2012) investigated the type of VLS used by Malaysian ESL University students and used the VLSQ for data collection. The results indicated that the memory, determination and metacognitive strategies were popular and students were keen on using them. Strategies such as placing physical labels on objects that required deeper mental processing were not named by the participants. The study employs the cognitive theory of learning also employed in the present study.

A more recent study by Manuel (2017) evaluated gender differences and the most and least used vocabulary learning strategies among Angolan EFL Arts major students. The results from the study indicated that there was no statistically significant difference in overall vocabulary learning strategies use and gender. The study also detected statistically significant mean score in the use of memory and metacognitive strategies.

This study was conducted in the African context just like the current one. However, while Manuel (2017) investigated English as a foreign language, this study investigated Chinese as a foreign language.

2.5.3 Studies Related to VLS in CFL Learning

Wang, Spencer and Xing (2009) investigated strategies and metacognitive beliefs in CFL learning by tertiary- level students. The participants in the study were 45 male and female students at the beginner level from the University of Nottingham. The study used a questionnaire as a data collection tool. The results of the study indicated that metacognitive beliefs were positively associated with the CFL learners' achievement results. Metacognitive strategies were also seen to influence the achievement results of CFL learners. This study differs from the present one in several aspects. In the current study, the participants are both beginner and intermediate CFL learners. Cognitive, metacognitive, social, memory and determination strategies are investigated as opposed to metacognitive strategies only. Lastly, HSKK proficiency test is used in data collection while the earlier study uses achievement tests.

Another study by Yu (2017) investigated Vocabulary learning strategies and the factors influencing strategy use. The qualitative case study approach was employed. This involved the use of learner diaries, interviews, think aloud activities, learning products and observation. The study identified a list of VLS and systematically categorized them into six vocabulary learning tasks. The current study used the VLSQ and divided the strategies in to the subcategories by Schmitt (1997). The current study also differs with Yu (2017) study since it is a quantitative study.

This study and the current one are similar in that they both investigate factors influencing the use of VLS. However, there are differences in the factors such that in the current study, they include field of study, sex, duration of CFL learning, level of CFL learning and previous learning experience. Another difference is that the current study is quantitative while the other former is qualitative. There is also the difference that while the current study rates the most and the least used strategies as excellent, good or poor performers, the reviewed study examines the self-regulation factor between high strategic and less strategic learners.

Shen (2005) identified the commonly used strategies in learning Chinese characters and the factors underlying them. The study involved 95 non-native Chinese speakers from the beginner to the advanced levels of CFL learning. This differs from the current study which investigates 103 CFL learners of beginners and intermediate level. The current study also investigates the strategies used in learning CFL vocabulary for Chinese language and the speaking skill whereas the other study looks at the strategies for character writing. The two studies differ in terms of the skills analysed whereby, Shen (2005) looks at the writing skill while the current study looks at the speaking skill.

A survey by Yin-Sung (2011) survey involved 134 first year CFL learners enrolled in US universities. The main purpose of the investigation was to find out if the strategies used by the learners differs based on the learners' differences. These include gender, home, culture, and the number of foreign languages learnt. This study is similar to the current study in that sex is one of the factors under investigation. The studies differ because while this study employs the VLSQ as a data collection, Yin-Sung's (2011) used the Oxford's Strategy Inventory for Language Learning Surveys.

A study conducted by Ping (2006) investigated the relationship between performance and strategy use. This is similar to the current study whereby, there was an investigation on relationship between performance and strategy use among Kenyan CFL learners. The two studies are also similar in that they used achievement tests and ANOVA for data analysis. However, Ping (2006) focused on character density recognition whereas the current study focused on vocabulary learning.

Mason and Zhang (2017) investigated the strategies used by CFL learners and specifically strategies that involved the use of mobile applications. It studied how adult learners at varying levels of proficiency use mobile applications to learn Chinese language. Semi structured interviews were used to collect data from 140 learners of CFL. The difference between the two studies is that the current study used the VLSQ which did not comprise of strategies that involve the use of mobile applications.

2.6 Theoretical Framework

There are many theories that have been applied in data analysis and interpretation in the area of vocabulary and vocabulary learning strategies (Moody et al., 2018). Theories such as the dual coding theory, social constructivism and socio-cultural theories, schema and psycholinguistic theories, and the motivation theory are all relevant in the area of vocabulary learning. The current study however, uses the cognitive perspective due to its emphasis on strategies as an important aspect in cognition. This is of great importance in CFL learning since most of the learning aspects, such as character cognition involve memory and mental manipulation.

The Cognitive Theory of Learning is viewed in rather an eclectic context and subsumes a number of theories based on similar ideas and characterized by comparable conclusions.

The theory identifies learning strategies as one of the important aspects in acquiring a foreign language. This view was developed at length by O'Malley and Chamot (1996) based on the work of the cognitive psychologist Anderson (1980). In addition to this, Griffiths and Oxford (2014), after undertaking a theoretical analysis conclude that strategies are basically a cognitive phenomenon. The cognitive theory of learning draws largely from the area of cognitive psychology, so it is imperative to begin by understanding what cognitive psychology entails.

Cognitive psychology consists of main internal psychological processes that are involved in making sense of the environment and deciding what action might be appropriate. These processes include attention, perception, learning and memory, language, problem solving, reasoning and thinking (Eysenck, 2001). Cognitive perspective refers to foreign language learning as a complex cognitive skill, which like other skills, employs cognitive systems (such as perceptions and information processing) to surmount restrictions in human mental capacity which may inhibit performance (Ellis, 2000).

Learning strategy, which is one of the most important concepts of the cognitive theory influences VLS. In addition to this, Ellis (2008) acknowledges that language transfer has been increasingly understood as a cognitive process whereby L2 learners make strategic use of their L1 in the process of understanding and producing messages in the L2 and in the acquisition of the L2. This implies that strategies are an important aspect in the learning and acquisition of a foreign language. In the cognitive perspective, language learning is not seen as mere behaviour formation but it involves information intake, processing and acting upon the information (Dornyei, 2014). It also involves learners employing metacognition to their own learning which brings order into a complex and chaotic system (Anderson, 2008).

The cognitive theory does not distinguish between linguistic use and knowledge, O'Malley and Chamot (1996) explain how language knowledge is stored in memory and how the process of language acquisition leads to automatic comprehension and production of language. This is because in the cognitive theory, linguistic codes and structures are stored and retrieved from memory in a similar way as other kinds of information. Lantolf and Thorne (2006) also describe L2 acquisition as essentially similar to other kinds of learning in drawing from a common set of processes. What is important in the CFL context is the extent to which the learner has acquired the formal and functional characteristics of the Chinese language and the mental processes involved. This, therefore, implies that there could be possibility of 'degrees of knowledge' (Ellis, 1994) meaning that a CFL learner could know something partially. Thus, some CFL learners might perform better in speaking because they are more exposed to the Chinese language and use more VLS.

In this study CFL learning was viewed as a complex cognitive skill. This is provided a mechanism of describing how the ability to learn a language can be improved (O'Malley and Chamot, 1996). This is an important aspect in the learning of Chinese for CFL learners since it can help them to improve their language learning ability once they become aware of the various VLS and how they can be used.

In the cognitive theory, memory is seen as functioning in two stages, the short-term and long-term memory. The working or short-term memory has limited capacity, is serial in operation and needs conscious effort to control, and recalls only modest amounts of information. The memory is said to hold records from long-term memory that are in a state of high activation and that interact with new information (Anderson, 1995). It plays a major role in intake and speech production because during intake, it has to distinguish what is relevant for comprehension. In speech production it acts as storage for various elements that are retrieved from long-term memory for the purposes of composing a message. In the CFL context, intake may be determined by the vocabulary learning strategies that the learner uses and, therefore, knowledge of VLS is key to ensure that the learner is able to distinguish what is relevant for comprehension. This study focused on exploring the VLS used by Kenyan CFL learners and shed light of whether their choice influences their performance in speaking.

The process of language acquisition has been described by O'Malley and Chamot (1996) as an encoding process comprised of four stages involving selection, acquisition, construction and integration. In the selection stage, the CFL learner will focus their attention on specific information which they transfer first to the working memory. In the acquisition stage, information will be actively transferred by learners from the short-term memory to the long-term memory for long term storage. In the third stage, construction, learners build active internal connections between concepts in the working memory and long-term memory by making use of related information. In the final stage, integration, learners actively search for past knowledge in the long-term memory and transfer this knowledge into the active memory. Thus, according to this formulation, VLS in CFL learning are seen to make explicit what may happen without the learner's consciousness or may occur inadequately in the early learning stages. The four mental processes and a framework of two stages which involve the short term and long-term memory were used in this study to describe vocabulary learning by the use of VLS in vocabulary learning in the Kenyan CFL context.

One great strength of the cognitive theory is its ability to describe the development of competence to use foreign language knowledge. With this in mind, CFL learning can be improved by ensuring that the learners have sufficient knowledge on the language through instruction and strategy awareness. Consequently, the cognitive theory of learning was used in this study in the interpretation and analysis of data.

2.7 Chapter Summary

The analysis and review of available literature in the areas of language learning strategies, vocabulary and vocabulary learning strategies have been presented in this chapter. Issues to do with the use of VLS and speaking skill of Kenyan CFL learners have been elaborated. Varied contexts in which various studies related to VLS have been conducted have been presented. The theoretical framework on which the study was based has also been discussed. The next chapter lays the research design and methodology for this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter focuses on the research methods and procedure used in the study. Precisely, the chapter provides details on the research design, data collection procedures, research variables, research instruments, sampling techniques and sample size, target population, piloting of instruments, validity and reliability of instruments, data analysis as well as ethical and logical considerations.

3.1 Research Design

The study aimed to describe the VLS used by Kenyan CFL learners in terms of type and frequency, describing it as a quantitative study. In this study, quantitative data was collected from a cross-section of respondents at a specific point in time. Thus, the design employed was the one in which variables are typically measured using instruments and the analysis of numbered data is carried out using statistical research procedures. According to Creswell (2014), this design provides quantitative or numeric description of trends attitudes, or opinions of a population. The design allowed the researcher to determine the relationship among the variables in the study. Quantitative data collection methods were adopted with the help of VLSQ and HSKK oral proficiency tests.

3.2 Variables

Based on the review of previous works related to vocabulary learning strategies, types and frequency of VLS have been hypothesized to be influenced by certain variables (Ellis, 1994). For instance, CFL learners who have learnt Chinese longer may use more strategies and, therefore, perform better in speaking. Learner factors for the study were chosen because they are relevant to the CFL context in Kenya.

The factors (variables) that were considered were: previous learning experience of the learner, sex, field of study, duration of CFL learning, and the level of CFL learning. These were further sub-categorized. Under previous learning experience, there was a sub categorization into: up to six months; between six months and one year; and more than a year. Under sex, there was sub categorization into male and female learners. The field of study was subcategorised into sciences, arts and Chinese language. This sub-categorization was because most learners from the institute belonged to the three fields of study. The duration of CFL learning was sub categorized into the following: up to 6 months; between 6 months and one year; and more than one year if the learners had learnt Chinese before the current course. This sub-categorization was necessary because beginner and intermediate courses fell into these time frames. The level of CFL learning was sub categorized into beginner and intermediate levels.

3.3 Site of the Study

The study was carried out in two of the four universities that house Confucius Institutes in Kenya. These are the Confucius Institute at Kenyatta University and Confucius Institute at Egerton University. These two are mandated to teach by CL and are run by the Confucius Institute Headquarters.

3.4 Target Population

The target population for the study were CFL learners in Confucius Institutes at Kenyan Universities. This was the whole population that the researcher intended to cover (Anwang, 2012 & Creswell, 2012). The Confucius Institutes in Kenya include: University of Nairobi Confucius Institute, Egerton University Confucius Institute, Moi University Confucius Institute and Confucius Institute at Kenyatta University.

3.5 Sampling Techniques and Sample Size

A mixture of purposive and stratified sampling was used in selecting the two universities, Kenyatta and Egerton, CIs to participate in the study. Purposive sampling was used to select the universities. In the two universities, the students' population was similar in terms of the learner factors i.e. sex, level of learning, duration of study, field of study and previous language learning experience which were investigated in the study. The two institutes also had varied results in HSKK performance which implied that students could be using various VLS differently based on the test results from the CI headquarters, HANBAN.

Stratified sampling was used to select learners at the beginner and intermediate levels of learning. Stratified sampling technique allows the representation of specific characteristics of individuals in the sample and the sample reflects the true proportion in the population of individuals with certain characteristics, (Creswell 2014).

Out of the 115 CFL learners in Egerton and Kenyatta University CIs, the total number of respondents in the study were 103. 12 learners did not present themselves for the study. There were 72 beginner levels students and 31 intermediate learners. These were 48 beginners and 20 intermediate learners in Kenyatta University, and 24 beginners and 11 intermediate learners from Egerton University as shown in Table 3.1 below. This number was more than adequate to provide requisite feedback to answer the objectives of the study sufficiently. However, the whole population sample was considered because it was large enough to allow the generalization of results.

Table 3.1: Population of Beginner and Intermediate Learners

	Beginners	Intermediate	
Kenyatta University	48	20	68
Egerton University	24	11	35
	72	31	**103**

3.6 Research Instruments

The study employed two instruments for data collection.

1. The VLSQ questionnaire- The questionnaire which was used to elicit responses from participants is the one adapted from Schmitt (1997) taxonomy of vocabulary learning strategies (Appendix B: Learner Questionnaire). It is a 38-item Likert-scale questionnaire. This instrument was used to answer the first, second and third research questions. It was administered with the main goal being to elicit information on the type and frequency of the learners' use of VLS. The first part of the questionnaire inquired about the personal background of the student, which comprised of sex, the duration of Chinese language study, previous language learning experience, level of learning and field of study. Determining the student's personal background in the questionnaire was necessary since it included the key factors under investigation, the relationship among these factors and the frequency of VLS use. The whole VLSQ was divided into five main parts with each indicating the appropriate VLS use frequency ranging from "never', 'rarely', 'sometimes', 'often' and 'always' on a rating scale of 1 to 5 respectively. This rating scale allowed the researcher to establish the frequency of VLS use. In case the VLSQ did not include all the strategies used by the respondent, at the end of the questionnaire there was an open-ended choice for additional strategies written 'other strategies' (please specify), to be filled in by the students. The questionnaire was piloted first and revised based on the responses received in the pilot phase. The final version was then administered to the CFL learners.

2. The HSKK oral test -This test is a Chinese language proficiency oral exam. It is divided into three levels which are beginner, intermediate and advanced. The levels that were administered for purposes of the study were the beginner and intermediate levels. This is because most CFL learners were either at the beginner or intermediate level. The data collected here was used to answer the fourth research question.

The beginner level of the oral exam is divided into the three parts. The first part requires the examinee to listen and repeat a total of fifteen sentences in six minutes. The second part requires the learner to listen to some 10 questions and give answers within three minutes. The final part requires the examinee to answer questions on two topics which are written down on the question paper within 3 minutes. The whole test takes 20 minutes (including 7 minutes for preparation to answer the questions and filling out information on the question paper). In this study only the third section of the selected questions was administered. In this section, one was required to answer each of the two questions. 10 minutes were allocated for this particular test including the preparation time.

The intermediate examination is also divided into three sections. Section one is on sentence repetition with 10 questions to be done in 5 minutes. Section two is for picture description and has 2 questions to be answered in 4 minutes. Section three is for answering 2 questions based on two subjects within 4 minutes. The whole exam takes 23 minutes (including 10 minutes for preparation). In the intermediate level, the students were only required to complete the tasks in sections two and three of the selected questions for the study. 18 minutes were allocated for this particular test including the preparation time.

In the study, audio recorders were used together with the selected questions from HSKK oral tests in order to capture the answers to the questions in the oral test. This is because audio recording offers authentic language data in tests as observed by Alderson (1995). The recordings were then listened to and graded using a speaking test rubric, (see Figure 2.5). The scores from the oral tests allowed the researcher to establish how VLS related to performance in the speaking skill.

The two instruments were used since no one instrument can elicit data sufficient enough to make valid and reliable conclusions to address all objectives adequately. Ellis (2015) also states that much of the learning strategy research uses questionnaires that ask learners about their use of strategies and the frequency of use. Questionnaires are then correlated with measures of L2 achievement/proficiency. The researcher was of the opinion that the data obtained were sufficient, reliable and valid to make generalizations about the awareness of the use of VLS by CFL learners and how they relate to performance in the speaking skill.

3.7 Pilot Study

This study takes cognizance of the assertion by Gass and Mackey (2015, p.189) that "piloting the instruments enables the researcher to assess the feasibility and usefulness of the data collection methods". Piloting enabled the researcher to revise and finalize on the instruments and methods that were used in the study. It also revealed the difficulties in test administration and timing and addressed them before the study was carried out. This was done by administering questionnaires and HSKK oral tests to 20 students at the University of Nairobi CI. This institute was selected on the basis that it had similar characteristics and learning environments to Kenyatta and Egerton University Confucius institutes.

After the pilot study, changes were made to the questionnaire as a result of the feedback obtained from the students. For instance, some students did not understand some words used in the questionnaire such as “seldom” which was changed to “rarely” in the main study. The pilot study was also important since the researcher was able to administer the test better in the actual data collection after it emerged that students needed to be well spaced out to avoid interference in the recording.

3.8 Validity and Reliability of the Instruments

In any research, it is imperative to deliberate on issues of precision and accuracy if the results to be achieved are to be depended on for any decision making and policy formulation. This can be obtained through validity consideration of the research instruments. This ensures generalization of the study results to any other similar populations.

3.8.1 Instrument Validity

Content validity of the research instruments was ascertained by the supervisors. They read through the research instruments and made proposals to improve them. The proposals were adopted in the research. The clarity of the questionnaire items was ascertained through the nature of responses obtained by the researcher from the respondents in the pilot study. The study also applied measures of data collection from similar studies. The study was informed by Babbie (1992) who notes that, a way to ensure reliability is to use measures that have proven their reliability in previous research. In this regard the research used a questionnaire and a standardized oral test that have been proven valid in obtaining information on vocabulary learning strategies.

3.8.2 Instrument Reliability

The researcher tested for reliability of the questionnaire using the internal consistency method which yields an internal consistency reliability estimate. This technique involves splitting the questions of the questionnaire into two halves and correlating them (Appendix E). If a questionnaire is reliable, then correlation between the two halves is significantly either 70% or 0.7 or higher (Cronbach, 1951).

Table 3.2: Results of Reliability Statistics

Cronbach's Alpha	Part 1	Value	.865
		N of Items	20[a]
	Part 2	Value	.828
		N of Items	19[b]
	Total N of Items		39
Correlation Between Forms			.711
Spearman-Brown Coefficient	Equal Length		.831
	Unequal Length		.831

The questionnaire was tested for reliability at piloting stage and attained a reliability coefficient of 0.842 as shown in Table 3.2 which implied that the tool was adequately reliable for the main study. This technique aided in identifying any questions that needed to be modified before carrying out the main study.

3.9 Data Collection Procedures

The researcher, together with two research assistants administered the HSKK oral test and the questionnaire. The participants were seated in a spaced-out format. Before the instruments were administered, all the information required, such as how to answer the test was given to the participants. The participants were also briefed on how to use the recorders during the HSKK oral test.

The HSKK oral test was administered first. Participants were given thirty minutes to complete it. A short break followed after which the participants were requested to answer a short vocabulary learning strategies questionnaire (VLSQ). No length of time was assigned to the questionnaire; students were asked to return the questionnaire once they completed it. Voice recordings for each participant were matched to the corresponding questionnaire (each recorder had a number assigned to it which was then matched with the similar number on the questionnaire).

3.10 Data Analysis Procedures

Once data was gathered from the field, it was collated, sorted, cleaned and coded for entry into statistical package for social sciences (SPSS). SPSS software was then used to analyse data by study objectives. Data from the VLSQ questionnaire was used to answer the first, second and third research objectives/questions. The data from the questionnaires was tallied and tabulated using SPSS to identify the correlated or cause-effect relationships among variables of interest. Data from both the VLSQ questionnaire and the HSKK oral test was used to answer the fourth research question. In this case, scores from the oral test were correlated with the VLS to establish the relationship between performance in the speaking skill and VLS use. The tests were graded using a rubric by Brown (2004) for analysis. Here, there were three levels 0, 1 and 2 for poor, good and excellent, respectively. The cognitive theory of learning was used in the analysis to establish if VLS that more actively engage the CFL learner's mental process were more effective in supporting Chinese language learning. Finally, the data was interpreted and analysed to help the researcher discuss the findings according to the objectives and draw conclusions. Analytical techniques were objective–led. Appendix A shows the measurement of variables which are: descriptive frequencies, regression (cause-effect analysis), analysis of variance and comparison of means. The data was then presented in tables and graphs indicating the percentages and frequency of use.

3.11 Data Management and Ethical Considerations

The right to privacy, respect and protection from psychological and physical harm of the respondents involved in the study were ensured by the researcher. The researcher sought permission from NACOSTI, Egerton and Kenyatta University to carry out the research in the two Confucius Institutes before the actual data collection exercise. This was done through presentation of the research permit (Appendix G). The researcher met the CL lecturers and agreed on specific days and time when the test and questionnaire would be administered to CFL. Sufficient and clear background information on which the respondents based their decision on whether or not to participate in the study were provided. A precise brief on the nature of the information required by the researcher was given. Recordings only took place after informed consent was obtained (Appendix D). The researcher then assured the respondents of confidentiality of the information. They were also asked not to write their names nor their specific institutes anywhere in the questionnaire.

3.12 Chapter Summary

This chapter focused on specific research design and the methodology used in this study. Specifically, it focused on the research design, variables, and site of the study, sample and sampling techniques, research by giving details and descriptions of how the study sample was obtained. The research instruments were discussed in detail, outlining procedures for their administration. Lastly, data collection, validity and reliability of the instruments, data analysis and ethical considerations were discussed. The following chapters present the data interpretation, analysis and discussions as per the study objectives.

CHAPTER FOUR

DATA PRESENTATION ANALYSIS AND DISCUSSION ON TYPE AND FREQUENCY OF VLS EMPLOYED BY KENYAN CFL LEARNERS

4.0 Introduction

This chapter deals with the presentation, analysis and discussion of data that were elicited from the respondents regarding the type and frequency of VLS use among Kenyan CFL learners. It specifically addresses the first objective which seeks to identify and describe the type of vocabulary learning strategies employed by Kenyan learners of Chinese as a foreign language, and the second objective that sought to describe the frequency of VLS use by Kenyan CFL learners. The data for objectives was obtained through the VLSQ questionnaire adapted from Schmitt (1997) taxonomy (Appendix B). The sample characteristics that emerged from the study are also discussed.

4.1 Report and Results of the Learner Questionnaire

The learner questionnaire was given to beginner and intermediate students sampled from the 2 selected CIs. The sample target for the study was 115 students at beginner and intermediate levels from the two Institutes. 103 students responded translating to a response rate of 89.5 percent. This was considered more than adequate to provide requisite feedback to answer the objectives of the study sufficiently. All the learner questionnaires were returned. The questionnaire consisted of two main parts:

a) *Part A* was geared towards collecting specific information on the learners' background.

b) *Part B* was for collecting information about the CFL learners' use of VLS and their frequency of use. It also sought information on whether there were other strategies that the learners used.

Part A had questions 1, 2, 3, 4, and 5 which provided the background information concerning the learners' sex, duration of Chinese language study, previous language learning experience, field of study and the level of Chinese language study, respectively. This information was used to determine how the various socio-demographic factors influenced VLS use by the respondents.

Part B of the questionnaire consisted of the various statements on the VLS use by the respondents. It also indicated the frequency of VLS use. The statements sought to find out which strategies were used by the students and how often they used them. The key aspects analysed from the learner questionnaire included:

a) Types of vocabulary learning strategies employed by the learners
b) Learners frequency of VLS use
c) VLS and the socio-demographic variables
d) VLS use and the speaking skill

4.1.1 Socio-demographic Characteristics

In foreign language learning there are certain factors that affect the learners' use of VLS some relating to learners and others relating to the social context of the learner (Ellis, 2008). The socio-demographic characteristics covered in this section are the sex of the respondent, duration of studying Chinese language, previous experience of learning Chinese language, field of study, and the current level of CFL learning.

In the analysis of VLS use and socio-demographic factors, it emerged that some factors affected the use of VLS by Kenyan CFL learners. The study revealed that while some of those factors had a significant effect on choice of VLS, others did not have any significant effect.

4.1.1.1 Sex of Respondents

Table 4.1: Sex of Respondents

Sex	**Frequency**	**Percent**
Female	72	69.9
Male	31	30.1
Total	**103**	**100.0**

The data analysis from sex and VLS use indicates that majority of the learners (69.9%) were female with only 30.1% being male (Table 4.1). This finding resonates with data on registration of students who undertake Chinese as a foreign language whereby enrolment to study foreign languages at university level is usually dominated by female students. The enrolment data from the institutes also indicated that the overall number of female students was higher than that of male students. This is congruent with the results obtained by (Yilmaz, 2010) which indicated that the number of female students enrolled for English as a foreign language in a Turkish University was higher than that of male students whereby out of a total population of 140 students, 117 were female and only 23 were male.

4.1.1.2 Duration of CFL Learning

The table below (Table 4.2) presents findings on duration of learning Chinese language.

Table 4.2: Duration of Learning Chinese as a Foreign Language

How long have you been studying Chinese?	Frequency	Percent
Up to six months	57	57.0
Between six months and one year	24	24.0
More than a year	19	19.0
Total	**100**	**100.0**

Findings indicates that just above half of the students in the sample (57%) had been learners of Chinese language for up to six months, nearly a quarter (24%) for between six months and one year, and almost a fifth of them (19%) for more than one year. This could be attributed to the nature of the Chinese language courses offered at the two institutes, the courses at the two institutes are mainly the beginner and intermediate levels. The intermediate takes up to one and a half years to complete. Most of the beginner courses are offered for two academic semesters which last for six months. The beginner course is mostly offered at a subsidized fee to University students of other majors. Thus, most students do not continue with Chinese language learning after the beginner course. This explains the drop in the up to six months (57 %) category and between six months and one year (24%). Therefore, in the CFL context the number of CFL learners seems to drop as they advance in Chinese language learning.

4.1.1.3 Previous CFL Experience

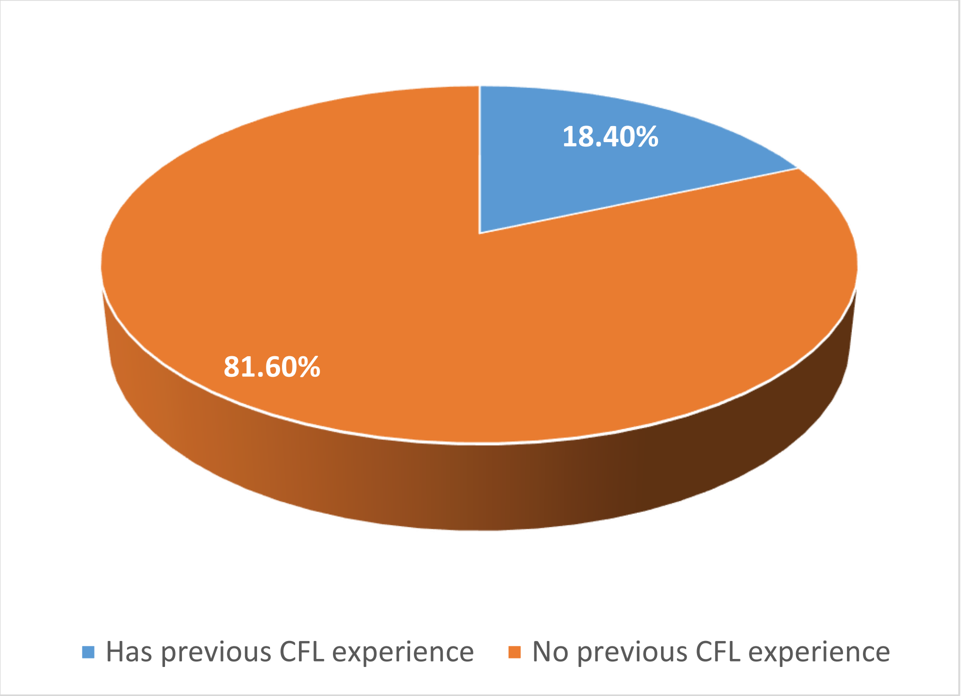


Figure 4.1: Whether Respondent had Previous CFL Experience

It emerged that only 18.4 per cent of students had previous experience of learning Chinese as a foreign language before the current course while 81.6 percent of the students had no such previous experience. Among the students with previous learning experience, 31.3 percent had previous language learning experience of below six months, 37.5 percent had learnt for between six months and one year while 31.3 percent had previous learning experience of more than a year. This means that most of the CFL learners had not learnt Chinese language before. As indicated, the durations of previous language learning experience ranged between six months and more than a year. There was, however, no significant differences between the three categories as indicated by the percentages.

It is important to note that in previous language learning experience, the researcher took into account both previous language learning experience in Kenya and abroad (China) though the respondents were not asked to indicate where they studied Chinese before.

4.1.1.3 Respondents Field of Study

The following Table displays the distribution of respondents according to their corresponding field of study.

Table 4.3: Respondents Field of Study

Field of study	Frequency	Percent
Sciences	34	33.3
Arts	39	38.3
Chinese language	29	28.4
Total	**102**	**100.0**

Arts subjects provided the field of study for the highest proportion of students responding to the survey (38.3%) followed by sciences (33.3%). The lowest proportion of students (28.4%) were undertaking Chinese language as their field of study. This could be explained by the fact that most students who enrol for the Chinese language classes are drawn from Arts courses. It could also be due to the sample whereby more arts students participated in this particular study.

4.1.1.4 Respondents Level of Learning

This section provides a description of respondents by their level of CFL learning.

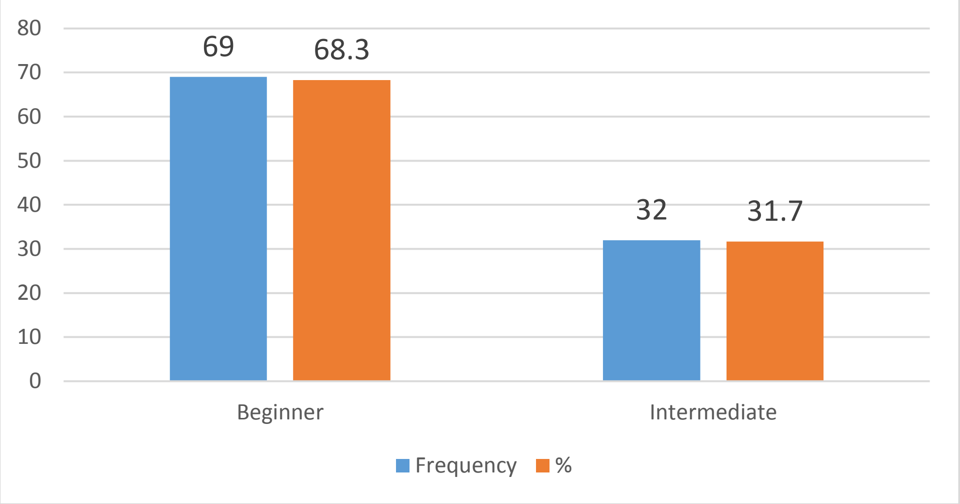


Figure 4.2: Respondent's Level of CFL

Majority of respondents (68%) were at beginner level of learning Chinese as a foreign language while 32% of respondents were at intermediate level when they took part in this study. This is a common trend in both institutes: learners tend to reduce as the language learning advances to higher levels. This could be attributed to the nature of the of the language whereby learners at the intermediate level use Chinese characters as opposed to the beginner level where they use *pinyin.*

Having laid out the factors that emerged in the study, the next section focuses on the discussion, interpretations and analysis of the types and frequency of VLS used by Kenyan CFL learners.

4.2 Presentation of Vocabulary Learning Strategies employed by Kenyan CFL Learners

This section addresses the first and second research objectives. The data gathered through the VLSQ are presented, interpreted and analysed to answer the first and second research questions regarding the type and frequency of VLS use by Kenyan CFL learners. The VLS are divided into two levels: VLS employed by Kenyan CFL learners for the discovery of new word meanings (SDM); and VLS used by Kenyan CFL learners for consolidating words that they have already learnt (SCW). For each level of analysis there are tables and graphical presentations indicating the type and frequency of VLS use.

4.2.1 Presentation Vocabulary Learning Strategies for Discovery of New Words Meaning

This section identifies and describes the types of vocabulary learning strategies employed by Kenyan CFL learners. The data is presented in terms of percentages for each individual strategy that the learner uses as shown in table 4.4 below.

Table 4.4: Vocabulary Learning Strategies for Discovery of new Words Meanings (SDM)

Strategy Category	Percent of respondents using strategy				
	5 = Always	4 = Often	3 = Sometimes	2 = Rarely	1 = Never
Determination strategies					
…analyse parts of speech	24.2	30.3	24.2	15.2	6.1
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	35.6	24.8	19.8	14.9	5.0
…analyse any available pictures or gestures	26.7	29.7	28.7	9.9	5.0
…guess its meaning from context	20.4	25.5	37.8	8.2	8.2
…use bilingual (Chinese-English-Chinese) dictionary	47.5	19.8	19.8	8.9	4.0
…use monolingual (Chinese) dictionary	15.6	14.6	27.1	19.8	22.9
Social strategies					
…ask the teacher for English translation of the word	22.8	32.7	33.7	7.9	3.0
…ask the teacher for paraphrase or synonym of new word	12.2	32.7	35.7	14.3	5.1
…ask the teacher for a sentence including the new word	32.7	37.6	22.8	5.0	2.0
…ask classmates for meaning of new words	32.0	30.0	25.0	13.0	0.0
…discover the meaning of new words through group work activities	41.6	23.8	27.7	5.9	1.0

Table 4.4 shows the use of individual strategies in the discovery of news words meanings. When use of specific strategies for discovery of new words (SDM) were rated on a scale ranging from 1=Never to 5=Always, the learners used the strategies differently. Under social strategies for discovery of meaning, the larger segment of CFL learners opted to discover new word meanings through group work activities (as indicated by 41.6% of respondents) or ask the teacher for a sentence including the new word (32.7%) while the least popular strategy was to ask the teacher for paraphrase or a synonym of the new word. The CFL learners, however, indicated that they often asked for a sentence including the new word, as indicated by a 37.6 percentage. The most popular specific determination strategy was using bilingual (Chinese-English-Chinese) dictionary as

revealed by 47.5% of CFL learners while the least used strategy was using monolingual dictionaries (22.9% of CFL learners never used this strategy). It was, however, interesting to note that the learners preferred to ask classmates for meanings of new words rather than ask the teacher for paraphrase or synonym.

Strategies for the analysis of parts of speech (24.2 %), analyse any available pictures or gestures (26.7 %) and guessing meaning form context (20.4 %) were not very popular among the CFL learners. Overall, this means that Kenyan CFL learners apply social strategies more than determination strategies to discover the meanings of new Chinese words they encounter. In terms of individual strategy use, bilingual dictionary was the most intensely applied determination strategy while use of monolingual dictionary was the least applied strategy.

4.2.2 Vocabulary Learning Strategies for Consolidating Words (SCW)

This section presents the results on the types on individual vocabulary learning strategies employed by Kenyan CFL learners for consolidation of words that they have already learnt. Table 4.5 below presents the individual VLS use in the SCW category in terms of percentages.

Table 4.5: Vocabulary Learning Strategies for Consolidating Words (SCW)

Strategy Category	Percent of respondents using strategy				
	5 = Always	4 = Often	3 = Sometimes	2 = Rarely	1 = Never
Social Strategies					
…study and practice meaning in a group	31.0	22.0	24.0	18.0	5.0
…interact with native Chinese speakers	13.5	21.9	34.4	17.7	12.5
Memory strategies					
…study words with a pictorial representation of its meaning	22.4	25.5	28.6	18.4	5.1
…image word's meaning (e.g. if the word is noun I make a mental image different from its verb form	19.8	27.7	25.7	17.8	8.9
…connect word to a personal experience	25.0	26.0	29.0	13.0	7.0
…group words together spatially on a page	15.8	26.3	24.2	25.3	8.4
… connect a word with its antonyms and synonyms	24.5	19.4	28.6	18.4	9.2
… use new word to construct sentences	43.2	25.3	17.9	11.6	2.1
… place words together within a certain storyline	27.0	29.0	29.0	11.0	4.0
… study how the word is spelt	55.6	25.3	13.1	5.1	1.0
… study the sound (tone) of the word	66.0	22.0	8.0	4.0	0.0
… saying the new word loudly while studying it	57.7	24.7	12.4	4.1	1.0
… grouping words together to study them	36.5	24.0	21.9	17.7	0.0
Cognitive strategies					
…practice verbal repetition	47.5	26.3	20.2	6.1	0.0
…practice written repetition	56.1	27.6	10.2	6.1	0.0
…use wordlists	31.7	21.8	28.7	15.8	2.0
…use flash cards	25.0	16.0	21.0	24.0	14.0
…take notes in class to highlight new words in class	57.6	26.3	13.1	1.0	2.0
…use the vocabulary section in your textbook	46.0	34.0	14.0	4.0	2.0
…listen to tapes of word lists	25.0	24.0	32.0	16.0	3.0
…put Chinese labels on physical objects	13.1	26.3	32.3	23.2	5.1
…keep a vocabulary notebook	54.1	18.4	16.3	6.1	5.1
Meta Cognitive strategies					
…use Chinese-language media (songs, movies, the internet)	43.6	25.7	18.8	6.9	5.0
…test myself with word tests	36.4	27.3	22.2	10.1	4.0
…study new words many times	57.0	13.0	18.0	6.0	6.0
...skip or pass new words	13.8	8.5	13.8	22.3	41.5
…pay attention to Chinese words when someone is speaking Chinese	64.0	17.0	17.0	1.0	1.0

From the Table, over half of the learners (57.6%) practice cognitive strategy by taking notes in class to highlight new words while 56.1% practice written repetition. The CFL learners also keep a vocabulary notebook (54.1%). On the other hand, learners rarely put Chinese labels on physical objects or use flash cards as indicated by the percentages of 13.1% and 25% respectively. As many as 66% of CFL leaners practice memory strategy by studying the sound (tone) of the word. 57.7% say the word aloud when studying it while 55.6% study how the word is spelt. The strategies that the learners used the least were connecting words to antonyms or synonyms (9.2%), image the words meaning (8.9%) and grouping the words spatially on a page (8.4%).

Metacognitive strategy is practiced mainly by paying attention to Chinese words when someone is speaking Chinese (among 64% of respondents) while CFL learners avoid skipping new words (41.5%). The learners also studied the word many times (57%), and used Chinese language media (43.6%) in consolidation with the already learnt words. Finally, social strategy is practiced mainly by studying and practicing meaning in a group as opposed to interacting with native Chinese speakers.

4.2.3 Overall Vocabulary Learning Strategies Employed by Kenyan CFL Learners

The previous section (4.3.2) presented the data in terms of the individual use of strategies in the SDM and SCW categories. Overall, under the SDM category, use of bilingual dictionary was the most popular strategy while monolingual dictionary was the least popular. In the SCW category studying the tone of the new word was the most popular while skip or pass new words was the least used.

This section presents the data on VLS use in the specific categories under SDM (determination and social strategies) and SCW (social, cognitive, memory and metacognitive strategies). Figures 4.3 and 4.4 present the means of the overall use of VLS in the SDM and SCW categories

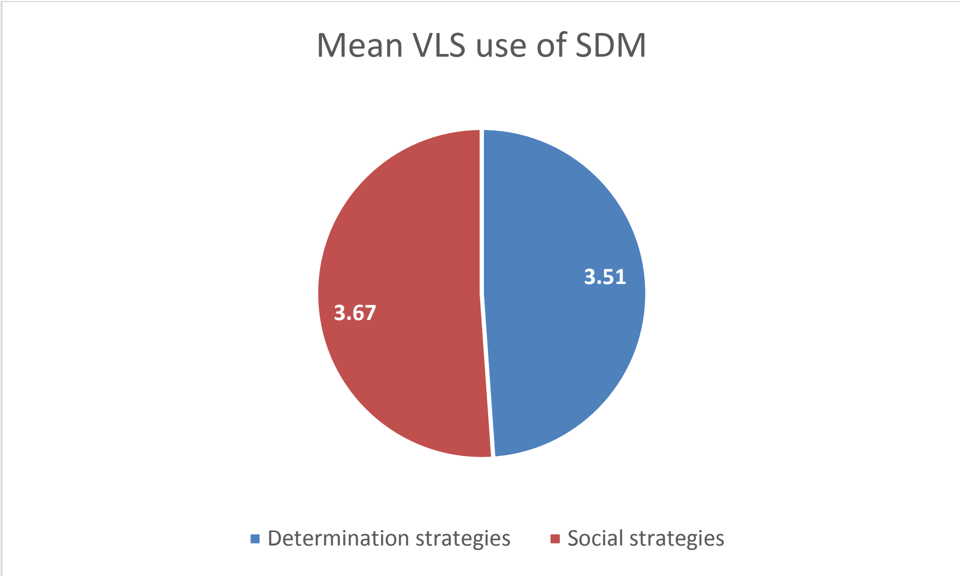


Figure 4.3: Overall VLS use in the SDM Category

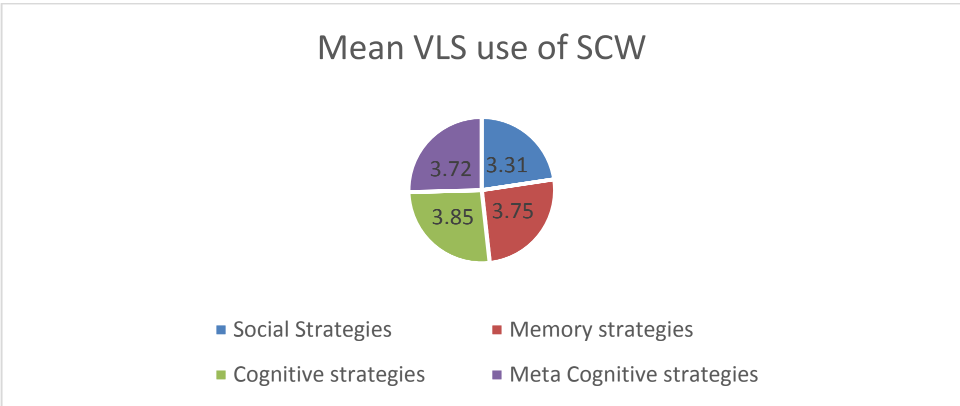


Figure 4.4: Overall VLS use in the SCW Category

In terms of the overall use of the VLS, under the SDM category, social strategies were the most frequently used with a mean of 3.67 (Figure 4.4). In the SCW category, cognitive strategies were the most popular with a mean of 3.85 (Figure 4.5) while the social strategies were the least popular among Kenyan CFL learners. Overall in the two categories (SDM and SCW), cognitive strategies were the ones that the learners used most with a mean of 3.85 (Figure 4.5) followed by memory and metacognitive strategies, respectively. The cognitive strategy was the most used while the social strategy was the least used. Under the discovery of meanings of new words, social strategy was the most used with a higher mean that in the consolidation category.

4.3 Frequency of VLS use by Kenyan CFL Learners

This section involves the use of simple statistical methods in analysing the frequency of use of VLS by 103 CFL learners in Kenyan CIs. The frequency of VLS use has been categorized as low, medium and high. This was determined by students' responses to the vocabulary learning strategy learning questionnaire (VLSQ). The results on frequency of use of the VLS are presented analysed and discussed in this section.

To generate figures that measure frequency of VLS' use by Kenyan CFL learners, data on how often respondents use the 38 specific vocabulary learning strategies (ranging from 1=Never to 5=Always for each strategy) were added up for every respondent to generate composite scores. For each respondent, the maximum possible score they could attain was 190 points (arrived at by multiplying 38 by 5). The lowest score they could attain was 38, if they reported that they "never" used any of the VLS throughout the questionnaire, or a zero (0 = 38 x 0) if they answered none of the 38 questions measuring use of VLS. However, there was no problem of non-response and this ensured that the lowest composite score attained on VLS use was 80. Hence, the range of scores across different sample respondents was 80-190.

Composite scores between 80 and 117 were classified to indicate "low" frequency of use of VLS; scores ranging from118 to 153 were classified to indicate "medium" frequency of use of VLS; and those above 153 were classified to indicate "high" frequency of use of VLS.

This approach to generation of scores was applied to discriminate and differentiate CFL learners for frequency of VLS use and performance in the speaking skill. The approach is adapted from Intaraprasert (2000) as shown in Figure 4.3 below.

Figure 4.3: Range of Points Scored by CFL Learners

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

The classification of frequency of use was done per questionnaire for each respondent after which the percentage of respondents with low medium and high frequency of VLS use was calculated. In the study, these scores are interpreted to report the extent to which Kenyan CFL learners tend to strategize learning CFL. Based on the above, the percentage of respondents who fall into each level of frequency of use of VLS is reported in Table 4.6.

Table 4.6: Frequency of use of VLS among Kenyan CFL learners

VLS use	**Frequency of VLS use**		
	Low (80-117 points)	**Medium (118-153 points)**	**High (154-190 points)**
Overall VLS use	15 (15%)	57 (56%)	29 (28%)

In general, according to Table 4.6, Kenyan CFL learners are medium strategy users of CFL strategies as confirmed by majority of sample respondents (56%) who scored between 119 and 156 points out of a possible 195 points on frequency of use of various strategies. In addition, 28% of Kenyan CFL learners are high VLS users while 15% are low strategy users. This, therefore, implies that Kenyan CFL learner's use VLS moderately which is congruent with findings by Seffar (2014), Waleed (2018) and Kapifuor (2011) on VLS use in different contexts.

To determine which VLS strategy category is most and least frequently used, composite scores were generated by category of VLS and then divided into three classes, namely "low", "medium" and "high" frequency. The results are presented in Table 4.7 showing the frequency of use in percentages for low medium and high in each category.

Table 4.7: Frequency of use of VLS Categories Employed by Kenyan CFL Learners

VLS Category	Frequency of VLS use		
	Low	**Medium**	**High**
A. Strategies for the discovery of new words meanings (SDM)			
Determination strategies	20%	56%	24%
Social strategies	10%	53%	38%
B. Strategies for consolidating words (SCW)			
Social strategies	45%	43%	12%
Memory strategies	13%	44%	44%
Cognitive strategies	12%	52%	37%
Meta Cognitive strategies	15%	56%	32%

The table reveals that Kenyan CFL learners reported medium use of strategies in all the categories. In comparing the percentage scores among the SDM and SCW categories, under the SDM category learners used the social strategies (38%) more than the determination strategies. However, there was no much difference between the two categories. Thus, determination strategies seemed to be the least used category in discovering the meaning of new words. For the consolidation of words (SCW), memory strategies reported the highest use (44%) followed by cognitive strategies (37%), metacognitive strategies (32%) while social strategies were the least used (12%). Kenyan CFL learners are, therefore, high users of social VLS strategies (and low users of determination strategies) for discovery of new words meaning while they are high users of memory strategies (and low users of social strategies) for consolidation of words.

The next section analyses other VLS used by Kenyan CFL learners.

4.4. Other Strategies Used by Kenyan CFL Learners

This study also explored other strategies that were used by Kenyan CFL learners. These were listed under "other strategies "in the vocabulary learning strategy questionnaire. The study established that Chinese puzzles and games, engaging in frequent Chinese conversations, grouping related words and studying them (e.g. family, colours, travel), writing Chinese characters, downloading Chinese teaching programs, practicing tone variations, listening to Chinese audio online, reading Chinese magazines and newspapers, saving a group of words on computer or phone's wallpaper, watching Chinese films, translating Chinese songs and poems via Google search engine, and using Chinese Apps and sticky notes were other strategies that the learners used .Some of these strategies can be incorporated in the already existing classifications. For instance, strategies such as grouping related words can be categorized under the memory category, writing Chinese characters, practicing tone variations and use of sticky notes under the cognitive strategies category, and listening to Chinese audio online, reading Chinese magazines and newspapers and watching Chinese films under metacognitive strategies category. These strategies are presented in the table below.

Table 4.8: Other Strategies Employed by Kenyan CFL Learners

No.	Strategy(ies)	Frequency %
1.	Chinese puzzles and games	5%
2.	Engaging in frequent Chinese conversations	15%
3.	Grouping related words and studying them e.g. family, colours and travel	4%
3.	Writing Chinese characters using character writing applications	43%
4.	Downloading Chinese teaching programs	25%
5.	Practicing tone variations	30%
6.	Listening to Chinese audio online and reading Chinese magazines and newspapers	28%
7.	Saving a group of words on computer or phone's wallpaper	38%
8.	Translating Chinese songs and poems via Google search engine	48%
9.	Using Chinese Apps	70%

It can be noted that most strategies that the learners stated under "other strategies" involved the use of technology. These include downloading Chinese programs, translating Chinese poems via google search engine, and using Chinese apps.

4.5 Summary of Least and Most Used Strategies by Kenyan CFL Learners

The previous section discussed the overall use of VLS in the various categories. This section is a summary of the most and least used VLS among Kenyan CFL learners. Table 4.9 captures the summary.

Table 4.9: Most and Least used Specific Strategies for CFL Learning

Strategy Category	Percent of respondents using strategy					
	5 = Always	4 = Often	3 = Sometimes	2 = Rarely	1 = Never	Mean
FOR DISCOVERY OF NEW WORDS MEANINGS (SDM)						
Determination strategies						
…use bilingual (Chinese-English-Chinese) dictionary	47.5	19.8	19.8	8.9	4.0	3.9802
…use monolingual (Chinese) dictionary	15.6	14.6	27.1	19.8	22.9	2.8021
Social strategies						
…ask the teacher for paraphrase or synonym of new word	12.2	32.7	35.7	14.3	5.1	3.3265
…ask classmates for meaning of new words	32.0	30.0	25.0	13.0	0.0	3.9406
FOR CONSOLIDATING WORDS (SCW)						
Social Strategies						
…study and practice meaning in a group	31.0	22.0	24.0	18.0	5.0	3.5600
…interact with native Chinese speakers	13.5	21.9	34.4	17.7	12.5	3.0625
Memory strategies						
…group words together spatially on a page	15.8	26.3	24.2	25.3	8.4	3.1579
… study the sound (tone) of the word	66.0	22.0	8.0	4.0	0.0	4.5000
Cognitive strategies						
…use flash cards	25.0	16.0	21.0	24.0	14.0	3.1400
…take notes in class to highlight new words in class	57.6	26.3	13.1	1.0	2.0	4.3636
Meta Cognitive strategies						
...skip or pass new words	13.8	8.5	13.8	22.3	41.5	2.3085
…pay attention to Chinese words when someone is speaking	64.0	17.0	17.0	1.0	1.0	4.4200

The results in table 4.9 indicate that the most used strategy for determining meanings of new words was the use of a bilingual dictionary with a mean score of (3.9) and the least used was the use of a monolingual dictionary (2.8). With regard to the social category, asking classmates for the meaning of new words (3.9) was the most used while asking the teacher for paraphrase or synonym of new word (3.3) was the least used. In consolidating words once they have been learnt, 4.11 shows that studying and practicing meaning in a group (3.5) was the most used strategy while interacting with native speakers (3.0) was the least used under the social category. In memory strategies, the least used strategy was grouping words together spatially on a page (3.1). Studying the sound (tone) of the word (4.5) was the most used. Taking notes in class to highlight new words (4.3) was most used while the use of flash cards (3.1) was the least used strategy under the cognitive category. Finally, with regard to the metacognitive strategies, paying attention to Chinese words when someone is speaking (4.4) was the most used, while skipping and passing new words (2.3) was the least used.

4.6 Discussion on Type and Frequency of VLS Employed by Kenyan CFL Learners

The results in Table 4.4 show that bilingual dictionary was the most popular strategy for discovery words' meanings. This could be explained by the fact that CFL learners find it easier to use bilingual dictionaries since they can always refer to the English version. In addition, they are at beginner and intermediate levels and, therefore, they might not have enough vocabulary to use a dictionary that is entirely in Chinese. They are also likely to ask the teacher to use the new word in a sentence. This could be because they might not understand individual words on their own and, therefore, need assistance on how to use them in a particular context.

On individual strategy use for consolidation of words, studying the tone was the most popular strategy as shown in Table 4.5. This could be due to the fact that Chinese is a tonal language and, therefore, there is more emphasis on the tone. It is also seen as one of the challenging effects for learners whose first language has an alphabetic system (Hu,

2010) prompting the learner to emphasize more on this aspect in CFL learning. On the other hand, the learners almost never connect words to antonyms or synonyms in learning Chinese. This could be attributed to the fact that the learners are drawn from beginner and intermediate levels while more advanced learners would be more conversant with this strategy.

Under social category for SCW, interaction with native speakers was not a popular strategy among the CFL learners. This is because the learners interact more with classmates and there are not many native Chinese speakers in the Kenyan context within their reach and circles.

In terms of the overall use of VLS for discovery of words' meanings, the cognitive strategy was the most highly used as depicted in Figure 4.3. This, therefore, indicates that Kenyan CFL Learners mainly rely on strategies that involve mental processing, the view supported by the cognitive theory of learning.

The use of memory and cognitive strategies indicates that CFL students mostly rely on memorization and repetition to consolidate words meanings once they have been learnt. These findings are similar to Omaar (2016) who recorded the same in a study among Libyan EFL students. The use of metacognitive strategies, which is among the most frequently used, also indicates that Chinese language learning in CFL contexts could be, to some extent, influenced by the learners' motives, attitudes and goals towards learning Chinese. This view is similar to that of (Wang et al, 2008) who states that learners should be encouraged to analyse their own learning processes which leads to improvement in their metacognitive learning strategies. The results for the current study are also similar to Shen (2005) who found out that metacognitive strategies were some of the most commonly used by non-native speakers of Chinese (English speaking) for learning Chinese characters. The challenges encountered by CFL learners, such as the logographic writing system (Sung & Wu, 2011), prompts the CFL them to rely more on strategies that involve mental processing as shown by the results of the current study.

With Regard to other strategies used by Kenya CFL learners, the information in Table 4.8 indicates that learners mainly use strategies that involve the use of technology. This suggests the need to come up with classifications that take technology into consideration. Indeed, Seglar (2001) notes that there are still no classifications that focus on strategies used by learners in computer assisted learning (CALL). Such a classification, if developed, would help improve on earlier ones, such as the classification by Schmitt (1997). This concept of technology use in CFL learning has been adopted in recent years leading to increased use of internet and computers in language teaching as evidenced by an increase of multimedia software and web resources for learning (Bourgerie, 2003; Xie ,2007). Most Kenyan CFL learners use computers and other devices such as mobile phones and iPads as well as other touch screen devices in learning Chinese characters. Thus, the use of technology is of great importance in language learning especially in the learning of vocabulary (Dalton and Grisham, 2011). CFL learning is complex in nature as stated in Chapter 1 (1.2). Therefore, “technology and multimodal responses offer students flexible options for developing and expressing their understanding and effective response to literacy and informational text” (Dalton and Grisham, 2013 p. 221). The use of technology is, therefore, seen as core in the learning of Chinese by Kenyan CFL learners since it aids in the development of the four language skills of listening, speaking, reading and writing.

4.7 Chapter Summary

This chapter addressed the research questions as to the type and frequency of strategies employed by Kenyan learners of Chinese as a foreign language. It looked into the types of strategies and the strategy categorizations according to the classification by Schmitt (1997). The analysis of types and frequency was done according to how students used strategies under the SDM and SCW categories. Secondly, the strategies were analysed in terms of how they were used under the six categories of SDM (social), SCW (social), cognitive, memory, metacognitive and determination strategies. Finally, the strategies were summarized in terms of the most and least used. The emerging characteristics of the sample were also discussed in this section. The next chapter looks at how VLS use is influenced by the socio-demographic factors considered in this study and how the choice of VLS influences performance in the speaking skill.

.

CHAPTER FIVE

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF THE RELATIONSHIP BETWEEN VLS, SOCIO-DEMOGRAPHIC VARIABLES AND PERFORMANCE

5.0 Introduction

Chapter 4 presented results on CFL learners that formed the study sample. The 38 individual vocabulary learning strategies in the SDM and SCW categories were presented, analysed and discussed.

The data presented, analysed and discussed in this chapter is on the third and fourth research objectives. The third objective addressed the relationship between VLS and sex, duration of CFL learning, previous learning experience, level of CFL learning and field of study. The fourth objective investigated the relationship between VLS and performance in the speaking skill of Kenyan CFL learners. In the first section, data on each of the five socio-demographic factors are presented and discussed in relation to the learners' VLS use. The second section presents and discusses data on the relationship between VLS use and performance in speaking skill of Kenyan CFL learners and VLS. Scores from the speaking test are compared to the use of VLS to show the relationship between the two aspects. Regression analysis is used to establish how performance in HSKK test depended on VLS use.

5.1 Presentation of VLS use in SDM and SCW Categories by Socio-demographic Factors

In this section, the study determines whether there is a relationship or variance between the use of VLS and the socio-demographic factors. In this regard, data collected through the questionnaire consisting of the socio-demographic factors were tabulated and analysed. The findings are discussed and presented in tables and graphs.

5.1.1 Sex

5.1.1.1 The Relationship between Sex and VLS use in the SDM category

Table 5.1 below shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to sex.

Table 5.1: Strategies Used for Discovery of New Meanings (SDM) by sex (n=103)

Determination strategies	**Males**		**Females**		**Chi-Sq. (□2) statistic**
	Mean	**Std. Deviation**	**Mean**	**Std. Deviation**	
…analyse parts of speech	3.26	1.34	3.63	1.11	5.70
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.45	1.39	3.83	1.15	6.40
…analyse any available pictures or gestures	3.13	1.15	3.86	1.05	11.02*
…guess its meaning from context	3.20	1.27	3.51	1.09	6.73
…use bilingual (Chinese-English-Chinese) dictionary	3.68	1.19	4.11	1.16	6.03
…use monolingual (Chinese) dictionary	2.48	1.31	2.95	1.37	5.27
Social strategies					
…ask the teacher for English translation of the word	3.61	0.99	3.66	1.03	0.51
…ask the teacher for paraphrase or synonym of new word	3.13	1.18	3.42	0.96	7.99*
…ask the teacher for a sentence including the new word	3.39	1.28	3.72	1.03	3.92
…ask classmates for meaning of new words	3.71	1.13	4.04	0.88	6.83
…discover the meaning of new words through group work activities	3.48	0.96	3.96	1.04	5.93
…ask the teacher for English translation of the word	3.81	1.05	4.07	1.00	3.23

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

Individual strategies used for discovery of new meanings (SDM) differed by sex so that female CFL students applied more analysis of pictures or gestures ($\chi^2=11.02$, $p<0.05$) and asked the teacher for paraphrase or synonym of new word ($\chi^2=11.02$, $p<0.05$) than male CFL students. Even though other strategies for SDM may have differed by mean values of frequency of use, the difference was not statistically significant at 5% level of hypothesis testing. This means that use of such strategies for discovery of new meanings cannot be verified to vary by sex of CFL learners.

5.1.1.2 The Relationship between Sex and VLS use in the SCW category

Table 5.2 below shows the relationship between vocabulary strategy use of the individual strategies in the SCW category according to sex.

Table 5.2: Strategies used for Consolidation of New Words (SCW) by sex (n=103)

Social Strategies	Male		Female		Chi-Sq. (□2) statistic
	Mean	S.D.	Mean	S.D.	
…study and practice meaning in a group	3.39	1.23	3.64	1.25	7.19
…interact with native Chinese speakers	2.84	1.13	3.17	1.23	5.28
Memory strategies					
…study words with a pictorial representation of its meaning	3.20	1.27	3.51	1.13	10.63*
…image word's meaning (e.g. if the word is noun I make a mental image different from its verb form	2.97	1.38	3.47	1.14	6.44
…connect word to a personal experience	3.16	1.32	3.64	1.12	7.08
…group words together spatially on a page	2.93	1.20	3.26	1.22	7.97*
… connect a word with its antonyms and synonyms	2.77	1.28	3.56	1.21	10.73*
… use new word to construct sentences	3.73	1.28	4.06	1.04	4.95
… place words together within a certain storyline	3.19	0.98	3.84	1.12	10.61*
… study how the word is spelt	4.00	1.15	4.43	0.82	12.62*
… study the sound (tone) of the word	4.26	1.03	4.61	0.67	12.04*
… saying the new word loudly while studying it	4.07	1.05	4.46	0.84	6.39
… grouping words together to study them	3.48	1.18	3.93	1.08	3.47
Cognitive strategies					
…practice verbal repetition	3.90	1.06	4.26	0.89	5.05
…practice written repetition	4.03	1.05	4.48	0.79	5.72
…use wordlists	3.58	1.15	3.69	1.15	1.53
…use flash cards	2.93	1.31	3.23	1.44	9.00*
…take notes in class to highlight new words in class	3.97	1.17	4.54	0.68	9.96*
…use the vocabulary section in your textbook	4.10	0.70	4.22	1.06	10.53*
…listen to tapes of word lists	3.27	1.11	3.63	1.12	2.68
…put Chinese labels on physical objects	3.00	1.15	3.28	1.06	2.61
…keep a vocabulary notebook	3.82	1.25	4.21	1.15	3.54
Meta Cognitive strategies					
…use Chinese-language media (songs, movies, the internet)	3.97	1.11	3.96	1.20	0.65
…test myself with word tests	3.84	1.10	3.81	1.19	1.57
…study new words many times	4.00	1.03	4.13	1.33	9.23*
...skip or pass new words	2.43	1.29	2.26	1.50	8.25*

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

Under memory strategies for consolidation of new words, female CFL learners applied certain strategies more frequently than their male counterparts as confirmed by significant Chi-square statistics. Relative to the male CFL learners, female CFL learners studied words with a pictorial representation of its meaning ($\square^2$=10.63, $p \leq 0.05$), grouped words together spatially on a page ($\square^2$=7.97, $p \leq 0.05$), connected a word with its antonyms and synonyms ($\square^2$=10.73, $p \leq 0.05$), placed words together within a certain storyline ($\square^2$=10.61, $p \leq 0.05$), studied how the word is spelt ($\square^2$=12.62, $p \leq 0.05$), and the sound (tone) of the word ($\square^2$= 12.04, $p \leq 0.05$) more.

5.1.2 Duration of CFL Learning

5.1.2.1 The Relationship between Duration of CFL Learning and VLS in the SDM Category

Table 5.3 below shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to duration of learning.

Table 5.3: Strategies for Discovery of New Meanings (SDM) by Duration of Learning

	Up to six months		Between six months and one year		More than a year		Chi-Sq. (□2) statistic
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Determination strategies							
…analyse parts of speech	3.00	1.00	3.60	1.35	3.68	1.16	4.39
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.00	1.00	3.91	1.15	4.05	1.13	7.78
…analyse any available pictures or gestures	3.00	1.73	4.00	1.20	3.84	1.17	9.12
…guess its meaning from context	3.33	0.58	3.75	1.02	3.32	1.25	3.73
…use bilingual (Chinese-English-Chinese) dictionary	4.33	1.15	4.14	1.04	4.16	1.21	9.15
…use monolingual (Chinese) dictionary	2.67	1.53	2.84	1.42	3.16	1.42	5.88
Social strategies							
…ask the teacher for English translation of the word	3.67	1.15	3.50	0.86	3.37	1.21	9.951*
…ask the teacher for paraphrase or synonym of new word	3.67	1.53	3.29	1.15	3.56	0.78	6.00
…ask the teacher for a sentence including the new word	3.67	1.53	3.48	1.12	3.74	1.24	5.44
…ask classmates for meaning of new words	3.67	1.53	4.00	0.69	4.37	1.07	16.0299*
…discover the meaning of new words through group work activities	4.33	0.58	3.95	1.13	3.61	1.04	1.10
…ask the teacher for English translation of the word	4.33	1.15	4.05	0.95	4.05	0.97	2.13

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

On individual strategies for discovery of new meanings (SDM) according to duration of CFL learning, learners who had been in the class for up to 6 months asked the teacher for English translation of the word more frequently than those who had studied CFL for longer (χ^2=9.951, $p \leq 0.05$). On a similar note, the short duration learners asked classmates for meaning of new words more often than those who had studied CFL for longer (χ^2= 16.0299, $p \leq 0.05$).

5.1.2.2 The Relationship between Duration of CFL Learning and VLS use in the SCW category

Table 5.4 below shows the relationship between vocabulary strategy use of the individual strategies in the SCW category according to duration of learning.

Table 5.4: Strategies for Consolidation of New Words (SCW) by Duration of Learning

Social Strategies	Up to six months		Between six months and one year		More than a year		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
…study and practice meaning in a group	3.70	1.19	3.36	1.18	3.47	1.47	11.99
…interact with native Chinese speakers	3.07	1.14	2.89	1.53	3.16	1.17	8.19
Memory strategies							
…study words with a pictorial representation of its meaning	3.35	1.04	3.86	1.25	3.22	1.40	13.49*
…image word's meaning (e.g. if the word is noun I make a mental image different from its verb form	3.33	1.29	3.45	1.26	3.26	1.10	10.08*
…connect word to a personal experience	3.39	1.24	3.62	1.12	3.79	1.23	2.76
…group words together spatially on a page	3.05	1.29	3.30	0.98	3.50	1.15	6.68
… connect a word with its antonyms and synonyms	3.11	1.25	3.41	1.30	3.74	1.37	8.87
… use new word to construct sentences	3.95	1.06	3.94	1.11	4.00	1.33	15.16*
… place words together within a certain storyline	3.64	1.03	3.59	1.40	3.68	1.06	10.03
… study how the word is spelt	4.26	0.94	4.30	0.92	4.32	1.11	12.92*
… study the sound (tone) of the word	4.47	0.87	4.50	0.60	4.56	0.92	8.63
… saying the new word loudly while studying it	4.27	0.97	4.48	0.68	4.33	1.08	8.33
… grouping words together to study them	3.85	1.13	3.45	1.23	3.94	1.00	8.54
Cognitive strategies							
…practice verbal repetition	4.09	0.98	4.38	0.80	4.11	1.05	2.74
…practice written repetition	4.36	0.88	4.45	0.69	4.21	1.13	5.22
…use wordlists	3.75	1.11	3.18	1.18	4.00	1.15	5.22
…use flash cards	3.02	1.37	3.14	1.61	3.53	1.22	9.86
…take notes in class to highlight new words in class	4.45	0.78	4.36	0.95	4.11	1.18	10.27
…use the vocabulary section in your textbook	4.16	1.01	4.14	0.89	4.47	0.84	9.72
…listen to tapes of word lists	3.54	1.12	3.33	1.15	3.74	0.99	6.69
…put Chinese labels on physical objects	3.15	1.11	3.23	1.11	3.21	1.08	3.95
…keep a vocabulary notebook	4.04	1.19	4.19	1.12	4.22	1.26	10.12
Meta Cognitive strategies							
…use Chinese-language media (songs, movies, the internet)	3.82	1.30	3.82	1.10	4.47	0.61	10.78
…test myself with word tests	3.79	1.17	3.52	1.33	4.32	0.75	7.95
…study new words many times	3.93	1.35	4.05	1.29	4.63	0.68	7.01
...skip or pass new words	2.50	1.42	2.05	1.39	1.89	1.37	7.34

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

When it comes to individual strategies for Consolidation of New Words (SCW) according to duration of CFL learning, short duration learners studied words with a pictorial representation of its meaning more as verified by a significant a Chi-square statistic of 13.49 ($p \leq 0.05$), they also made an image of the word's meaning (e.g. if the word is noun I make a mental image different from its verb form ($\square^2=10.08$, $p \leq 0.05$).The short duration learners also took notes in class more while the long duration learners kept a vocabulary notebook and used Chinese language media to consolidate the already learned words. long duration learners also used new word to construct sentences more ($\square^2=15.16$, $p \leq 0.05$) and studied how the word is spelt more than short duration learners ($\square^2=12.92$, $p \leq 0.05$).

5.1.3 Field of study

5.1.3.1 The Relationship between Field of study and VLS use in the SDM Category

Table 5.5 below shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to field of study.

Table 5.5: Strategies for Discovery of New Meanings (SDM) by the Field of Study

	Sciences		Arts		Chinese		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Determination strategies							
…analyse parts of speech	3.32	1.34	3.39	1.13	3.85	1.03	10.29
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.41	1.16	3.66	1.30	4.11	1.19	24.34*
…analyse any available pictures or gestures	3.53	1.13	3.53	1.06	3.81	1.21	9.03
…guess its meaning from context	3.48	1.20	3.27	1.02	3.59	1.25	21.89*
…use bilingual (Chinese-English-Chinese) dictionary	4.00	1.18	3.63	1.15	4.37	1.15	22.08*
…use monolingual (Chinese) dictionary	2.22	1.13	3.00	1.25	3.27	1.59	25.14*
Social strategies							
…ask the teacher for English translation of the word	3.68	1.01	3.79	0.96	3.37	1.08	8.7398
…ask the teacher for paraphrase or synonym of new word	2.79	1.02	3.57	1.04	3.62	0.80	18.37
…ask the teacher for a sentence including the new word	3.18	1.27	3.89	0.98	3.73	0.96	16.15
…ask classmates for meaning of new words	3.44	1.11	4.03	0.72	4.37	0.84	23.53*
…discover the meaning of new words through group work activities	3.59	0.92	4.03	1.03	3.69	1.12	12.75
…ask the teacher for English translation of the word	3.79	1.17	4.08	0.88	4.15	0.91	23.99*

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

To discover new meanings, students whose major field of study is Chinese, check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā) more frequently than those whose major field of study is arts and sciences. This is confirmed by a Chi-square statistic of 24.34 ($p \leq 0.05$). Students who are Chinese majors guess its meaning from context and use bilingual (Chinese-English-Chinese) dictionary more often than the arts and science majors (□2=21.89, $p \leq 0.05$). They also use bilingual (Chinese-English-Chinese) dictionary and monolingual (Chinese) dictionary more frequently as shown by high Chi-square statistics of 22.08 and 25.14 respectively ($p \leq 0.05$). The same cohort of Chinese majors ask classmates for meaning of new words and ask the teacher for English translation of the new word a lot more than those whose major field of study is arts and sciences as evidenced by high Chi-square statistics of 23.53 and 23.99 respectively ($p \leq 0.05$).The Chinese language majors use more determination strategies than the Arts and Science majors.

5.1.3.2 The Relationship between Field of study and VLS use in the SCW category

Table 5.6 shows the relationship between vocabulary strategy use of the individual strategies in the SCW category according to field of study.

Table 5.6: Strategies for Consolidation of New Words (SCW) by the Field of Study

Social Strategies	Sciences		Arts		Chinese		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
…study and practice meaning in a group	3.18	1.17	3.84	1.09	3.67	1.41	20.97*
…interact with native Chinese speakers	2.50	1.19	3.29	1.14	3.38	1.06	18.32
Memory strategies							
…study words with a pictorial representation of its meaning	3.00	1.14	3.55	1.11	3.62	1.20	12.89
…image word's meaning (e.g. if the word is noun, I make a mental image different from its verb form	2.85	1.31	3.58	1.08	3.44	1.22	18.90
…connect word to a personal experience	3.03	1.19	3.55	1.03	3.93	1.27	17.20
…group words together spatially on a page	3.00	1.27	3.05	1.18	3.48	1.19	9.36
… connect a word with its antonyms and synonyms	3.06	1.37	3.31	1.19	3.69	1.29	10.42
… use new word to construct sentences	3.72	1.11	3.94	1.16	4.22	1.09	8.12
… place words together within a certain storyline	3.24	1.13	3.89	0.97	3.70	1.17	17.95
… study how the word is spelt	4.06	1.00	4.34	0.88	4.48	0.98	14.29
… study the sound (tone) of the word	4.24	0.96	4.55	0.69	4.73	0.72	11.64
… saying the new word loudly while studying it	4.06	0.97	4.44	0.84	4.52	0.94	12.91
… grouping words together to study them	3.33	1.19	4.00	1.07	4.04	0.96	16.74*
Cognitive strategies							
…practice verbal repetition	3.82	1.01	4.38	0.76	4.19	1.04	11.18
…practice written repetition	4.03	0.94	4.50	0.81	4.48	0.89	11.04
…use wordlists	2.97	1.03	3.95	0.98	4.11	1.09	31.52*
…use flash cards	2.59	1.40	3.16	1.34	3.78	1.22	17.43
…take notes in class to highlight new words in class	4.29	0.94	4.43	0.80	4.31	1.01	4.37
…use the vocabulary section in your textbook	3.82	1.00	4.16	1.01	4.59	0.64	13.19
…listen to tapes of word lists	2.94	1.09	3.68	1.04	3.93	1.04	20.71*
…put Chinese labels on physical objects	2.79	1.09	3.34	1.07	3.42	0.99	13.54*
…keep a vocabulary notebook	3.97	1.24	4.03	1.21	4.31	1.12	5.98
Meta Cognitive strategies							
…use Chinese-language media (songs, movies, the internet)	3.74	1.14	3.71	1.33	4.52	0.70	14.22
…test myself with word tests	3.56	1.24	3.64	1.13	4.33	0.96	12.43
…study new words many times	3.82	1.16	3.87	1.49	4.67	0.68	17.15
...skip or pass new words	2.58	1.39	2.40	1.42	1.93	1.49	18.02

*indicates statistical significance at 5% level of testing or lower e.g. 1% (p≤0.05)

To consolidate new words, students whose major field of study is Chinese, study and practice meaning in a group as confirmed by a high Chi-square statistic of 20.97 ($p \leq 0.05$). They prefer grouping words together to study them, more often than the arts and science majors (☐2=16.74, $p \leq 0.05$). They use wordlists, listen to tapes of word lists and put Chinese labels on physical objects more frequently than arts and science majors as shown by high Chi-square statistics of 31.52, 20.71 and 13.54 respectively ($p \leq 0.05$).

5.1.4 Level of CFL Learning and VLS

5.1.4.1 The Relationship Between Level of CFL Learning and VLS in the SDM Category

Table 5.7 below shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to level of CFL learning.

Table 5.7: Strategies for Discovery of New Meanings (SDM) by level of CFL Learning

	Beginner		Intermediate		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	
Determination strategies					
…analyse parts of speech	3.48	1.21	3.59	1.15	4.98
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.58	1.24	3.93	1.22	6.17
…analyse any available pictures or gestures	3.54	1.08	3.79	1.24	6.82
…guess its meaning from context	3.39	1.11	3.52	1.27	12.71
…use bilingual (Chinese-English-Chinese) dictionary	3.87	1.16	4.14	1.25	7.50
…use monolingual (Chinese) dictionary	2.72	1.29	2.96	1.53	9.19
Social strategies					
…ask the teacher for English translation of the word	3.67	0.98	3.52	1.09	7.87
…ask the teacher for paraphrase or synonym of new word	3.21	1.04	3.54	1.04	7.25
…ask the teacher for a sentence including the new word	3.56	1.08	3.69	1.23	9.75
…ask classmates for meaning of new words	3.77	0.94	4.31	0.93	12.69
…discover the meaning of new words through group work activities	3.84	1.01	3.64	1.10	8.28
…ask the teacher for English translation of the word	3.97	1.04	4.07	0.92	16.56*

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

In order to discover new meanings, university students at intermediate level of CFL learning ask the teacher for English translation of the word more frequently than those at beginner level of CFL learning. This finding is confirmed by a high Chi-square statistic of 16.56 at 5% level of statistical significance ($p \leq 0.05$). The intermediate learners also guess the meaning from the context more than the beginner learners. Another strategy that is common among the intermediate learners is asking classmates for the meaning of a new word. Use of other determination strategies for discovery of new meanings was more or less the same for university students at both levels of CFL learning.

5.1.4.2 The Relationship between Level of CFL Learning and VLS use in the SCW Category

Table 5.8 below shows the relationship between vocabulary strategy use of the individual strategies in the SCW category according to level of CFL learning.

Table 5.8: Strategies for Consolidation of New Words (SCW) by level of CFL Learning

Social Strategies	Beginner		Intermediate		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	
…study and practice meaning in a group	3.69	1.14	3.24	1.43	15.41*
…interact with native Chinese speakers	3.03	1.22	3.04	1.20	9.29
Memory strategies					
…study words with a pictorial representation of its meaning	3.37	1.04	3.41	1.43	13.64*
…image word's meaning (e.g. if the word is noun, I make a mental image different from its verb form	3.28	1.24	3.28	1.22	5.13
…connect word to a personal experience	3.25	1.15	3.97	1.18	13.83*
…group words together spatially on a page	2.94	1.21	3.62	1.10	12.28
… connect a word with its antonyms and synonyms	3.22	1.28	3.55	1.33	8.89
… use new word to construct sentences	3.89	1.13	4.14	1.11	5.07
… place words together within a certain storyline	3.60	1.12	3.66	1.11	3.07
… study how the word is spelt	4.30	0.92	4.24	1.06	4.47
… study the sound (tone) of the word	4.48	0.82	4.54	0.84	2.01
… saying the new word loudly while studying it	4.29	0.92	4.43	0.96	5.44
… grouping words together to study them	3.74	1.15	3.89	1.10	2.17
Cognitive strategies					
…practice verbal repetition	4.18	0.95	4.07	1.00	1.42
…practice written repetition	4.38	0.84	4.21	1.05	2.99
…use wordlists	3.58	1.08	3.83	1.28	10.52
…use flash cards	2.99	1.44	3.48	1.27	7.55
…take notes in class to highlight new words in class	4.43	0.76	4.18	1.19	7.64
…use the vocabulary section in your textbook	4.00	1.01	4.55	0.74	9.76
…listen to tapes of word lists	3.44	1.12	3.69	1.11	5.25
…put Chinese labels on physical objects	3.19	1.13	3.24	1.02	0.90
…keep a vocabulary notebook	4.00	1.23	4.33	1.11	3.22
Meta Cognitive strategies					
…use Chinese-language media (songs, movies, the internet)	3.86	1.22	4.14	1.06	2.78
…test myself with word tests	3.67	1.16	4.10	1.14	9.03
…study new words many times	3.90	1.34	4.50	0.88	5.63
...skip or pass new words	2.51	1.47	1.82	1.22	6.40

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

Under strategies for consolidation of new words, beginner students applied more of study and practice of meanings in a group than intermediate students of CFL as confirmed by a high Chi-square statistic of 15.41 at 5% level of statistical significance ($p \leq 0.05$). Beginner students study words with a pictorial representation of its meaning and connect word to a personal experience more than intermediate counterparts (□2=13.64 and □2=13.83 respectively, $p \leq 0.05$).Intermediate learners connect words to personal experience, group words together spatially on a page and use wordlists more than beginner learners.

5.1.5 Previous CFL Learning Experience

5.1.5.1 The Relationship between Previous CFL Learning Experience and VLS in the SDM category

Table 5.9 below shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to the learners' CFL learning experience.

Table 5.9: Strategies for SDM by Status of Previous CFL Learning Experience

	Has previous learning experience		No previous learning experience		Chi-Sq. (□2)
	Mean	S.D.	Mean	S.D.	
Determination strategies					
…analyse parts of speech	3.31	1.40	3.59	1.13	15.23*
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.69	1.25	3.78	1.20	2.44
…analyse any available pictures or gestures	3.63	1.15	3.71	1.07	5.41
…guess its meaning from context	3.87	1.06	3.36	1.10	7.87
…use bilingual (Chinese-English-Chinese) dictionary	4.13	1.20	4.00	1.17	7.82
…use monolingual (Chinese) dictionary	2.63	1.50	2.81	1.36	6.93
Social strategies					
…ask the teacher for English translation of the word	3.44	1.21		0.99	8.29
…ask the teacher for paraphrase or synonym of new word	3.31	1.01	3.30	1.06	3.65
…ask the teacher for a sentence including the new word	3.50	1.26	3.57	1.10	5.57
…ask classmates for meaning of new words	3.88	1.20	3.90	0.93	3.28
…discover the meaning of new words through group work activities	3.44	1.03	3.91	1.02	5.09
…ask the teacher for English translation of the word	3.94	1.12	3.97	0.98	9.76

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

Under strategies for discovery of new meanings, students without previous CFL learning experience apply analysis of parts of speech more often than students with previous CFL learning experience (□2=15.23, $p \leq 0.05$). All the other strategies are applied nearly with balanced intensity among the two CFL learner groups.

5.1.5.2 The Relationship between Previous CFL learning Experience and VLS in the SCW Category

Table 5.10 shows the relationship between vocabulary strategy use of the individual strategies in the SDM category according to the learners' CFL learning experience.

Table 5.10: Strategies for SCW by Status of Previous CFL Learning Experience

Social Strategies	**Has previous learning experience**		**No previous learning experience**		**Chi-Sq. (□2)**
	Mean	**S.D.**	**Mean**	**S.D.**	
…study and practice meaning in a group	3.06	1.39	3.68	1.17	13.75*
…interact with native Chinese speakers	2.88	1.20	3.08	1.19	10.38
Memory strategies					
…study words with a pictorial representation of its meaning	3.33	1.45	3.47	1.10	17.31*
…image word's meaning (e.g. if the word is noun, I make a mental image different from its verb form	3.44	1.46	3.37	1.17	8.82
…connect word to a personal experience	3.50	1.26	3.58	1.14	6.37
…group words together spatially on a page	3.33	1.18	3.22	1.20	3.52
… connect a word with its antonyms and synonyms	3.07	1.53	3.37	1.23	10.37
… use new word to construct sentences	4.07	1.22	3.96	1.10	5.23
… place words together within a certain storyline	3.44	1.15	3.70	1.10	5.33
… study how the word is spelt	4.25	0.93	4.30	0.95	1.70
… study the sound (tone) of the word	4.50	0.73	4.51	0.80	2.01
… saying the new word loudly while studying it	4.29	0.83	4.36	0.89	2.59
… grouping words together to study them	3.43	1.28	3.84	1.09	5.68
Cognitive strategies					
…practice verbal repetition	3.81	1.05	4.22	0.90	8.25
…practice written repetition	3.75	1.06	4.44	0.79	12.82*
…use wordlists	3.44	1.26	3.67	1.11	4.64
…use flash cards	2.88	1.15	3.14	1.47	8.37
…take notes in class to highlight new words in class	3.94	1.18	4.46	0.74	11.75
…use the vocabulary section in your textbook	4.19	0.98	4.17	0.97	6.95
…listen to tapes of word lists	3.38	1.09	3.51	1.13	4.88
…put Chinese labels on physical objects	3.00	0.97	3.22	1.09	6.93
…keep a vocabulary notebook	4.33	0.90	4.08	1.19	17.67
Meta Cognitive strategies					
…use Chinese-language media (songs, movies, the internet)	4.13	1.09	3.90	1.20	4.58
…test myself with word tests	3.81	1.11	3.79	1.20	5.51
…study new words many times	4.31	0.95	4.01	1.31	4.95
...skip or pass new words	2.21	1.37	2.32	1.46	4.87

*indicates statistical significance at 5% level of testing or lower e.g. 1% ($p \leq 0.05$)

To consolidate new words, students with previous CFL learning experience study and practice meanings in a group, study words with a pictorial representation of its meaning and practice written repetition more than students without previous CFL learning experience (□2=13.75, 17.31 and 12.82, $p \leq 0.05$, respectively).Learners without previous CFL learning also connect words with antonyms and synonyms more.

The previous sections presented data on VLS use of individual strategy use by Kenyan CFL learners in the SDM and SCW categories. The next section lays out the VLS use in the determination, social, memory, cognitive and metacognitive strategies according to the five socio-demographic factors.

5.2 VLS use in SDM and SCW Categories by Socio-demographic Factors

Table 5.11 below presents the variations in VLS use according to the five socio-demographic factors in the determination, social, cognitive, memory and metacognitive strategy categories.

Table 5.11: Categories of VLS use in SDM and SCW by Socio-demographic Factors

	Sex		Duration learning Chinese			Field of Study			Level of CFL		Previous CFL Learning		Mean ($\dot{X}$)
	Female	Male	Up to six months	Between six months and one year	More than a year	Sciences	Arts	Chinese language	Beginner	Intermediate	Has Experience	Has no Experience	
Strategies for the discovery of new words meanings (SDM)													
Determination strategies	3.64	3.2	3.22	3.71	3.70	3.33	3.41	3.83	3.43	3.66	3.54	3.54	3.52
Social strategies	3.81	3.52	3.89	3.71	3.78	3.41	3.90	3.82	3.67	3.79	3.59	3.73	3.72
Strategies for consolidating words (SCW)													
Social strategies	3.41	3.11	3.39	3.12	3.31	2.84	3.56	3.53	3.36	3.14	2.97	3.38	3.26
Memory strategies	3.89	3.43	3.69	3.81	3.85	3.42	3.84	3.99	3.67	3.88	3.69	3.79	3.75
Cognitive strategies	3.95	3.62	3.84	3.82	3.95	3.47	3.96	4.12	3.80	3.95	3.64	3.88	3.83
Metacognitive strategies	3.54	3.56	3.51	3.36	3.83	3.43	3.41	3.86	3.49	3.64	3.61	3.51	3.56

The results from table 5.11 indicate that university students who are CFL learners generally use social strategies (mean frequency, $\dot{\mathbf{X}}$ =3.72) more than determination strategies ($\dot{\mathbf{X}}$ =3.52) for discovery of new words meanings (SDM).

On strategies for consolidating words (SCW), university student CFL learners use cognitive strategies most ($\dot{\mathbf{X}}$ =3.83) followed by memory strategies ($\dot{\mathbf{X}}$ =3.75) with social strategies being the least used ($\dot{\mathbf{X}}$ =3.26).

In terms of the field of study, the Chinese language majors were heavier users of the cognitive strategies, memory strategies and metacognitive strategies than the Arts and Science majors. Arts majors mainly used the social and cognitive strategies. With regard to the level of CFL learning, under the SDM category, the intermediate learners mainly used social strategies. They however used the cognitive, memory and metacognitive strategies to consolidate words.

Learners without previous learning experience mainly used social strategies to determine meanings. The also used cognitive, memory and metacognitive strategies to consolidate meanings of words.

Observing sex differences for consolidating new words, female students were heavier users of social strategies, memory strategies and cognitive strategies as compared to male students. On the other hand, male students were heavier users of metacognitive strategies. Students who had been learning CFL for the shortest time (up to 6 months) used social strategies for consolidating new words than those who had studied CFL for longer. On the contrary, memory strategies, cognitive strategies and metacognitive strategies were applied most by students who had been learning CFL for the longest time in the study (more than 1 year). Use of strategies for consolidating new words did not differ by major field of study, levels of CFL learning and previous CFL learning experience where cognitive strategy was most intensely applied.

5.3 Socio-Demographic Characteristics and Choice of VLS among Kenyan Learners

This section the discusses VLS use by socio-demographic variables using a chi-square test to show the level of significance. Table 5.12 below presents the general variations of VLS use in the five socio-demographic factors.

Table 5.12: Frequency of VLS use by Socio-demographic Variables

Socio-demographic variable	Outcomes	Frequency of VLS Use			Chi Square Statistic	d.f.	Significance (P-value)
		Low	Medium	High			
Sex	Female	10%	56%	34%	6.102*	2	.047
	Male	26%	58%	16%			
Level of CFL Learning	Beginner	15%	67%	19%	12.657*	4	.013
	Intermediate	17%	35%	48%			
How long have you been studying Chinese	Up to six months	14%	61%	25%	2.809	4	.590
	Between six months and one year	18%	50%	32%			
	More than a year	16%	42%	42%			
Have you learned Chinese language before?	Yes	19%	56%	25%	3.660	4	.454
	No	13%	59%	28%			
Which is your field of study?	Sciences	27%	59%	15%	13.919*	6	.031
	Arts	11%	63%	26%			
	Chinese language	7%	44%	48%			

Note: *indicates that the calculated statistic has attained significance at 5% level of testing in which points to presence of a relationship between the two discreet variables

The socio-demographic characteristics covered in this section are sex, duration of studying Chinese language, previous experience of learning Chinese language, field of study, and the current level of CFL learning. The use of VLS for each socio-demographic factor was analysed in terms of the individual strategy use in SDM and SCW categories and also in the determination, social, cognitive, memory and metacognitive categories.

Findings imply that VLS use differs by sex with 34% of females having a high VLS use compared to 16% of males. In terms of frequency, females have low VLS use at 10% compared to 26% by males. In general, females have higher VLS use than males as verified by a significant (χ^2=6.102, 2 d.f.; p=0.047>0.05). From Table 5.12, it emerged that female CFL learners dominated use of all strategies for consolidating words and discovery of meanings for new words. These findings were similar to studies by Catalan (2003), Green & Oxford (1995), Gu (2002) and Siriwan (2007) who found out that females used significantly more strategies than males. However, Manuel (2017), Omaar (2016), Lee and Oxford (2008) found out that there was no statistically significant difference between males and females in VLS use. On the contrary Wharton (2000) found out that males used more strategies that their female counterparts. Thus, it can be established that there is no consistency on VLS use and sex; perhaps there could be something beyond sex that needs to be looked at.

Learners at intermediate level of learning were high users of VLS than beginner (48% of intermediate CFL students were high users of VLS compared to 19% among beginners) as confirmed by a significant calculated Chi-square statistic of 12.657, p<0.05, 4 degrees of freedom (see Table 5.12). This could be attributed to the fact that the intermediate students' vocabulary level was higher and they would, therefore, need more strategies to discover meanings and new words, and also consolidate words once they have been learnt. Zhang (2011) and Baskin, Iscan, Karagoz and Birol (2017) indicate that the students' language level influences the use of VLS with students at higher levels employing a higher number of strategies.

Frequency of VLS use did not differ by current duration of CFL learning as confirmed by an insignificant Chi-square statistic (□^{2}=2.809, $p>0.05$, 4 degrees of freedom) which implied that there is independence of relationship between the current duration of CFL learning and VLS use in the study sample. Hence, potentially, the duration of learning of CFL does not affect the use of VLS for learning of Chinese language among university students in Kenya.

Even though students with previous Chinese language learning had higher frequency of VLS use than those without previous learning experience (28% versus 24%), this difference was not statistically significant as confirmed by an insignificant Chi-square statistic of 3.660 ($p>-0.05$, see Table 5.12). On the contrary, studies done by Purdie and Oliver (1999) and Opper, Teichler, and Carlson (1990) noted that previous experience in language learning had significant effect on language learning strategy choices. Similarly, Khamken (2010) in his study on language learning experience of Thai and Vietnamese learners found out that both groups of the students' experience in learning English had an effect on the choice of language learning strategies, especially on Thai students.

The findings on Table 5.12 indicate that CFL learners whose field of study is Chinese language had consistently higher use of VLS for both consolidating of words and discovery of meanings for new words. This is similar to findings by Siriwan (2007) who found out that students of English major generally reported using vocabulary learning strategies more frequently than both science and non-science-oriented students. There was no significant difference between science and non-science-oriented majors and the use of vocabulary learning strategies. On the other hand, Gu (2002) found out that field of study was a less potent background factor. The science students slightly, though insignificantly outperformed arts students in vocabulary size. Arts students on the other hand significantly outperformed science students on the general proficiency test. There were also strategy differences between science and art majors. In this study arts students used more strategies than science students as indicated by the high frequency use of 26% and 15% respectively. Thus, from the results of the chi-square test on Table 5.12 above, it can be concluded that there is a significant relationship between sex, level of CFL learning, field of study and VLS use. However, the use of VLS does not differ with duration of Chinese language learning and previous learning experience among Kenyan CFL learners. With regard to VLS use in the determination, social, memory, cognitive and metacognitive strategies, the strategies that were most frequently used by CFL learners that had learnt Chinese for longer were memory, cognitive and metacognitive (Table 5.3). This indicates that students who have learnt Chinese longer are able to use more complex strategies that involve perception, problem solving, reasoning and thinking, processes which are outlined within the cognitive theory of learning.

The next section (5.5) focusses on the relationship between VLS use and the speaking skill of Kenyan CFL learners

5.4 Presentation on Relationship between VLS use and Performance of Kenyan CFL Learners

This section addresses the fourth research question on whether the choice of VLS influences performance in the speaking skill of Kenyan CFL learners. A chi-square test of independence was applied to investigate for relationship between VLS use and performance of Kenyan CFL learners. The results on VLS use with the performance in speaking skill of Kenyan CFL learners are compared. To generate scores from the HSKK tests administered to the learners, the scoring rubric adapted from Brown (2004) was used to grade the learners. The rubric is a scale of 0, 1 and 2 for poor, good and excellent, respectively. The learners were graded in these three levels and their scores compared with the VLS use of the individual strategies in the SDM and SCW categories. The results displayed in Tables 5.13 and 5.14 indicate how performance was measured for speaking skill in terms of individual strategies in both SDM and SCW categories.

5.4.1 Specific VLS use for SDM against HSKK test Score Performance

Table 5.13 below represents the means of HSKK oral tests performance in relation VLS use in the SDM category.

Table 5.13: Specific VLS for SDM against HSKK test Score Performance

	Poor	**Good**	**Excellent**
Determination strategies	ẋ	ẋ	ẋ
…analyse parts of speech	3.1667	3.4912	3.8214
…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)	3.2143	3.7719	3.8214
…analyse any available pictures or gestures	3.3571	3.7368	3.6071
…guess its meaning from context	3.0769	3.4727	3.5000
…use bilingual (Chinese-English-Chinese) dictionary	3.8571	4.0351	4.0357
…use monolingual (Chinese) dictionary	2.9167	2.7407	2.9286
Social strategies			
…ask the teacher for English translation of the word	3.2857	3.8246	3.4286
…ask the teacher for paraphrase or synonym of new word	3.2857	3.3889	3.2500
…ask the teacher for a sentence including the new word	3.6154	3.7193	3.4074
…ask classmates for meaning of new words	3.5714	4.0175	3.9643
…discover the meaning of new words through group work activities	3.7143	3.9123	3.6667

Under the SDM in the determination strategy category, CFL Learners with excellent performance in speaking skill analysed parts of speech and checked for English cognates more than the ones who performed poorly. The use of bilingual dictionary was high in both the good and excellent performers. However, the poor performers also used this strategy significantly. Under the social category for SDM, the learners with good performance used all the five individual social strategies more that the excellent performers as indicated.

Results also indicate that the most intensely used social strategy by the good performers was asking classmates for meanings of new words (4.0175). It is also interesting to note that the poor performers asked the teacher for paraphrase of new words and discovered the meanings of new words through group work activities more than the excellent performers. The poor and excellent learners, however, used the strategy of asking the teacher for paraphrase or synonym of new words in a similar way.

The overall indication from Table 5.13 is that excellent performers applied determination strategies more that good and poor performers though they used bilingual dictionaries in a similar way. It is important to note that the strategy use between the good and excellent performers is not very significant. However, this could vary depending on the sample size.

5.4.2 Specific VLS use for SCW against HSKK test Score Performance

Table 5.14 below represents the means of HSKK oral tests performance in relation to VLS use in the SCW category.

Table 5.14: Specific VLS for SCW against HSKK test Score Performance

	Poor	Good	Excellent
Social Strategies	ẋ	ẋ	ẋ
…study and practice meaning in a group	3.8571	3.5536	3.3929
…interact with native Chinese speakers	3.0833	3.1481	2.8571
Memory strategies			
…study words with a pictorial representation of its meaning	3.3077	3.4821	3.3929
…image word's meaning (e.g. if the word is a noun, I make a mental image different from its verb form	3.3571	3.2281	2.8571
…connect word to a personal experience	3.0769	3.5088	3.3333
…group words together spatially on a page	3.2500	2.9091	3.4286
… connect a word with its antonyms and synonyms	3.2143	3.2545	3.7143
… use new word to construct sentences	3.5833	4.1636	3.6923
… place words together within a certain storyline	3.7143	3.6786	3.5185
… study how the word is spelt	4.0769	4.3860	3.7692
… study the sound (tone) of the word	4.2143	4.6071	3.4643
… saying the new word loudly while studying it	4.0000	4.4364	4.1852
… grouping words together to study them	3.5833	3.8000	4.4286
Cognitive strategies			
…practice verbal repetition	3.7692	4.1964	4.2500
…practice written repetition	3.6923	4.4909	4.3929
…use wordlists	3.7857	3.6316	3.7500
…use flash cards	2.6923	3.0877	3.3571
…take notes in class to highlight new words in class	4.0000	4.4386	4.4074
…use the vocabulary section in your textbook	3.9286	4.3509	3.9643
…listen to tapes of word lists	3.3077	3.5614	3.5714
…put Chinese labels on physical objects	2.9286	3.3214	3.1111
…keep a vocabulary notebook	3.4615	4.2143	4.1481
Meta Cognitive strategies			
…use Chinese-language media (songs, movies, the internet)	3.8571	3.7719	4.4286
…test myself with word tests	3.7143	3.7273	4.1071
…study new words many times	4.0000	3.9643	4.3571
...skip or pass new words	2.5385	2.2500	2.3571
…pay attention to Chinese words when someone is speaking Chinese	4.5000	4.4107	4.3929

For consolidation of new Chinese words (Table 5.14), the poorly performing students in HSKK are reported as using strategies that involve interaction more than the excellent performers. This is indicated by the fact that they interact with native speakers and study and practice meaning in a group more than the excellent performers. On the specific use of strategies under the memory category, the good performers used the new word to form sentences (4.1) while they rarely grouped words spatially (2.9). The good learners also reported using the strategy of studying the sound (tone) of the new word highly when compared with the excellent learners. Verbal and written repetition were highly used by both the good and excellent performers under the cognitive category. On the other hand, students performing at excellent in the speaking skill tend to use cognitive and metacognitive strategies more by practice of verbal and written repetition, taking notes in class to highlight new words, listening to tapes of word lists, putting Chinese labels on physical objects, and keeping a vocabulary notebook. The high performers also use Chinese-language media (songs, movies and the internet) and test themselves with word tests.

5.4.3 Relationship between VLS Categories and Performance

The previous sections have highlighted the use of the specific VLS in the SDM and SCW categories. Table 5.15 below shows the use of VLS in the determination, social, memory, cognitive and metacognitive categories.

Table 5.15: Summary Relationship between VLS Categories and Performance

VLS use	**Performance in the Speaking Skill**		
	Poor	**Good**	**Excellent**
A. Strategies for the discovery of new word meanings (SDM)	ẋ	ẋ	ẋ
Determination strategies	3.26	3.54	3.62
Social strategies	3.49	3.77	3.54
B. Strategies for consolidating words (SCW)			
Social strategies	3.47	3.35	3.13
Memory strategies	3.58	3.77	3.62
Cognitive strategies	3.51	3.92	3.88
Metacognitive strategies	3.72	3.62	3.93

Overall, excellent performing students in HSKK test are more intense users of determination strategies for discovery of new Chinese word meanings, whereas the good performers are heavier users of social strategies. For consolidating new words, excellent performers in the speaking skill apply more cognitive and metacognitive strategies whereas the good performers mostly apply cognitive and memory strategies. The poor performers on the other hand used metacognitive and memory strategies more. The most used strategy by the excellent performers in the HSKK oral test is the metacognitive category while the least used is the social strategy category. The good performers were heavier users of the cognitive strategies.

The graphical relationship of Figure 5.1 shows that high VLS users attain high performance in HSKK test while low VLS users attain low performance in the speaking skill.

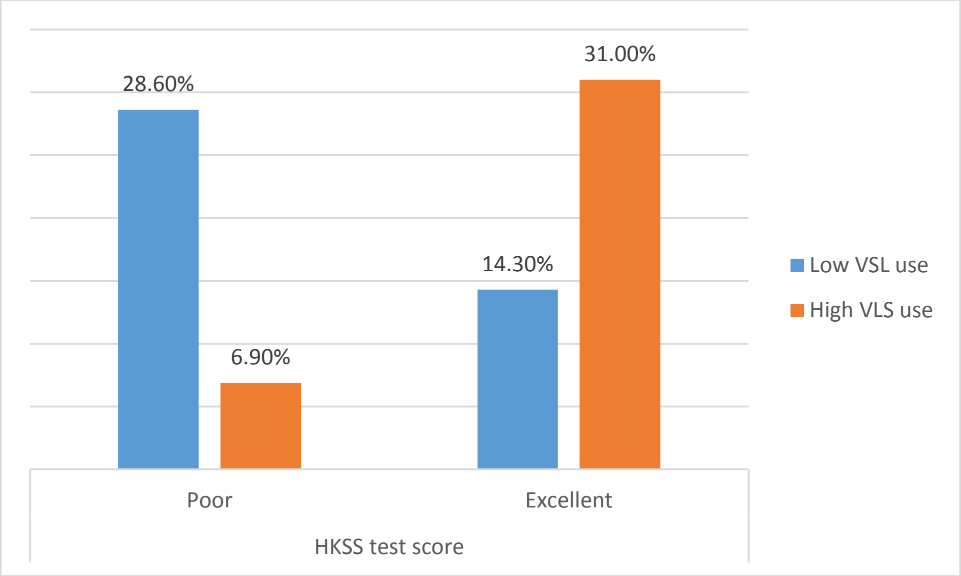


Figure 5.1: A Presentation of VLS use against test Score Performance

5.4.4 VLS use against Performance in the Speaking Skill by Socio-demographic Factors

The Table below represents VLS use against performance in the speaking skill by the learner factors.

Table 5.16: Relationship between CFL Speaking Skill and VLS by Respondent Socio-demographic Factors

	Sex		Duration learning Chinese			Field of study			Level of Chinese	
	Female	**Male**	**Up to six months**	**Between six months and**	**More than a year**	**Sciences**	**Arts**	**Chinese language**	**Beginner**	**Intermediate**
Strategies for the discovery of new words meanings (SDM)										
Determination strategies	9.56*	1.86	3.73	2.36	8.53*	2.25	2.43	5.37*	3.24	6.65*
Social strategies	0.88	2.70	12.89*	7.69*	2.33	4.56	0.63	2.71	5.82	1.55
Strategies for consolidating words (SCW)										
Social strategies	5.82	5.35	1.56	3.75	3.17	1.23	8.37*	3.83	6.20*	1.14
Memory strategies	3.58	9.04*	3.49	11.39*	9.66*	6.38	4.57	13.95*	11.37*	7.19*
Cognitive strategies	1.21	16.91*	4.31	5.93	9.36*	8.84*	3.73	13.77*	7.17*	8.98*
Metacognitive strategies	9.49*	6.73	6.89*	3.00	0.77	9.77*	6.02	3.73	4.07	4.51

Among females, VLS use did not indicate a relationship with HSKK test score performance as confirmed by an insignificant Pearson chi-square statistic of 0.2778 (1. d.f., p = 0.598>0.05) whereas among males VLS use had a relationship with HSKK test score performance (□^{2}= 3.7333, 1. d.f., p = 0.053<0.05).

Concerning the field of study, VLS use did not have a relationship with HSKK test score performance among science and arts majors because of insignificant Pearson chi-square statistics (p>0.05) whereas, among Chinese majors, VLS use had a relationship with HSKK test score performance (□^{2}= 7.000, 1. d.f., p = 0.008<0.05). Specifically, for Chinese majors, HSKK test score was higher among high VLS users while performance was low among low high VLS users.

The level of CFL learning displayed a relationship with Chinese language speaking skills among intermediate students ($\square^2$= 3.9375, 1. d.f., p = 0.047<0.05) but not beginners ($\square^2$= 0.0583, 1. d.f., p = 0.809>0.05). Specifically, HSKK test score was higher among high VLS users while performance was low among low VLS users.

5.5 Learner Socio-demographic Attributes and Performance of Kenyan CFL Learners

Table 5.17: CFL HSKK oral Test Performance by Socio-demographic Factors

	Full sample		Sex		Duration learning Chinese			Field of Study			Level of Chinese	
Test Score Results	**Frequency**	**Percentage**	**Female**	**Male**	**Up to six months**	**Between six months and one**	**More than a year**	**Sciences**	**Arts**	**Chinese language**	**Beginner**	**Intermediate**
Poor	**14**	**14%**	**12%**	**19%**	**16%**	**17%**	**5%**	**15%**	**17%**	**7%**	**19%**	**3%**
Good	**58**	**58%**	**59%**	**55%**	**64%**	**57%**	**37%**	**52%**	**72%**	**50%**	**61%**	**55%**
Excellent	**28**	**28%**	**29%**	**26%**	**20%**	**26%**	**58%**	**33%**	**11%**	**43%**	**19%**	**42%**
Calculated Pearson Chi-Square Stat.			*1.075*		*10.282*			*9.655*			*9.132*	
Asymptotic. Significance p-value			*.584*		*.036*			*0.047*			*.058*	
Degrees of freedom			*2*		*4*			*4*			*4*	

From the Table, there is a significant relationship between duration of learning, level of CFL learning, field of study and performance in speaking skill. Overall, the majority of respondents in the sample (58%) attained a good performance in Chinese language speaking skill, 28% scored excellent while 14% attained a poor result.

The findings indicate that there is a relationship between performance in Chinese language speaking skill and learner factors such as durations of CFL learning, field of study and level of CFL learning, but not sex. Performance does not differ by sex as confirmed by an insignificant Chi-square statistic ($\square^2$=1.075, 2 d.f.; p=0.58>0.05). This is regardless of the fact that, a higher proportion of females than that of males performed excellent (29% versus 26%, respectively) in the speaking skills of Chinese language. However, the proportion of CFL learners performing excellent is higher among students whose duration of Chinese language exceeds one year (58% versus less than 30%) compared to CFL learners with less than one-year of CFL learning. This finding is confirmed by a statistically significant chi-square statistic ($\square^2$=10.282, 4 d.f.; p=0.036 <0.05).

There is also clear evidence that learners majoring in Chinese (CFL) learning have higher performance in speaking skill than those majoring in arts and sciences (43% of Chinese language majors performed excellent as compared to 33% and 11% of learners majoring in sciences and arts respectively). This finding is supported by a significant Chi-square statistic ($\square^2$=9.655, 4 d.f.; p=0.047<0.05). Finally, performance in CFL speaking skill is higher among CFL students at intermediate level than beginner level (42% versus 19% who attained excellent results) associated with a significant Chi-square statistic ($\square^2$=9.132, 4 d.f.; p=0.058<0.05).

5.6 Discussion on Relationship between VLS use and Performance

Speaking skill is seen as one of the important skills in foreign language learning and teaching (Bygate, 1987; Nunan 2001a; McCarthy, 1998; Shumine, 1997). The results from the comparison of performance and VLS use sheds light on which strategies contribute to better performance in the speaking skill. An investigation by Ping (2006) found out that there were strategies that positively correlated with performance. The current study also established that the poor, good and excellent performers used strategies differently. The results on Table 5.13 show that the poor performers used paraphrase of new words and group activities more that excellent performers. This could be because the good and poor learners mainly rely on each other to learn the language while the excellent performers are more independent and do not need such consultation. The high use of determination strategies by the excellent performance is an indication that they have an understanding of the various language aspects of Chinese. These strategies were less popular among the poor and good learners since they were more complex. The specific strategy that contributed most to the performance in the speaking skill was the use of bilingual dictionary while the monolingual dictionary made the least contribution. This indicates that the use of bilingual dictionary had a significant relationship with performance in the speaking skill.

In the SCW category, the similar use of the verbal and written repetition by both poor and excellent learners shows the importance of these strategies in CFL learning. This is because most learners need to practice the tones and also write characters several times to be able to remember them.

The use of metacognitive strategy by the excellent performers is an indication that the learners have become independent in their learning. In the cognitive perspective, language learning is not mere behaviour formation but involves uptake of information, and processing and acting upon this information (Dornyei, 2014). Thus, these excellent learners are seen to be able to apply what they see or hear through the use of the metacognitive strategies in their learning of Chinese. High VLS use correlates with high performance. Sabo & Lightbown (2002) also found out that high VLS was associated with high levels of achievement. This is congruent with the cognitive theory perspective which views learning strategies as one of the important aspects in learning a foreign language (O'Malley & Chamot, 1990). Consequently, CFL learners should be exposed to more strategies to enable them learn the language better. Learners should be exposed to VLS so that they can perform better in speaking. This investigation is revisited more profoundly in Section 5.7 under cause-effect analysis. The use of ordered regression is used to show how performance in the HSKK tests depended on the VLS used by Kenyan CFL learners.

5.7 Effect of VLS use on Performance of Kenyan CFL Learners

To investigate how choice of VLS affects performance in the speaking skill of Kenyan CFL learners, data from VLSQ questionnaire and HSKK Oral Test was subjected to regression analysis. This established how speaking performance in the HSKK test depended on VLS use. The Dependent Variable was HSKK test whose results were coded as follows:

$$\text{HSKK Test Score Result} = \begin{cases} 0, \text{Poor} \\ 1, \text{Good} \\ 2, \text{Excellent} \end{cases}$$

Given that the above dependent variable was ordered and discreet, an ordinal regression technique was necessary. The study, therefore, estimated using ordered logistic regression method. The independent variables were sex, learning duration, previous learning experience, major field of study, level of Chinese language learning, and vocabulary learning strategies (VLS) (for discovery of meanings and consolidation of words).

The independent variables were measured. For sex, males were coded 2 while females were coded 1. Learning duration was coded as: 1= Up to six months; 2= between six months and one year; and 3= More than a year. Major Field of study had: 1= Sciences, 2=Arts and 3= Chinese language. The level of Chinese language learning was 1= Beginner, and 2= Intermediate. Vocabulary learning strategies (VLS) was measured as a composite variable comprising of aggregated counts.

Table 5.18 presents the results of various predictors on the speaking skill performance of Kenyan CFL learners.

Table 5.18: Ordered Logistic Regression: Effect of VLS use on Performance of CFL Learners

Predictors of HSKK oral test performance	**Parameter estimates (Coefficients)**			**Coefficients for learning duration**		**Coefficients for field of Study**	
	Full Sample *Model 1*	**Females** *Model 2*	**Males** *Model 3*	**Up to 6 months** *Model 4*	**Above 6 months** *Model 5*	**Chinese Majors** *Model 6*	**Arts and Sciences** *Model 7*
VLS SDM Determination Categories	0.131**	0.260*	-0.272**	0.161	-0.046	0.391*	0.064
VLS SDM Social Categories	-0.107**	-0.023	-0.257**	-0.026	0.117	-0.039	-0.090
SCW Social Categories	-0.237*	-0.195	-0.187	-0.359*	0.022	0.525**	-0.374
SCW Memory Categories	0.008	-0.060	0.152	-0.022	0.060	-0.329*	0.099
SCW Cognitive Categories	0.061	-0.073	0.326*	0.128*	-0.273*	0.272*	0.035
SCW Metacognitive Categories	0.077	0.115	0.013	0.003	0.328*	0.051	0.264
Pseudo R-Squared	**0.167**	**0.122**	**0.345**	**0.096**	**0.093**	**0.391**	**0.148**
Log likelihood (Iteration 4)	**-87.865**	**-55.098**	**-20.246**	**-45.022**	**-19.847**	**-17.063**	**-20.812**
LR chi2(6)	**12.70***	**15.45***	**21.31***	**9.59**	**4.08**	**21.87***	**7.25**
No of observations (n)	**99**	**68**	**31**	**55**	**41**	**36**	**62**
/Cut 1	0.720	**-1.518**	2.010	**2.044**	**-1.006**	**4.248**	**4.671**
/Cut 2	3.749	**1.935**	6.384	**5.527**	**1.839**	**11.133**	**8.095**

Notes: *"*" and "**" indicate that parameter attains significance at 5% and 10% test levels (p<0.05 and p< 0.1) respectively*

5.7.1 Assessing the power of the seven models estimated

In the full sample model, a Pseudo R-squared of 0.167 is realized. This indicates that the model with all independent predictor variables (VLS categories) improves the power of estimating performance in the speaking skill by 16.7% compared to a model with only the intercept alone. In terms of the power of the models, the most powerful one was the model for Chinese major students whose Pseudo R-square is 21.87 (21.87%). Judging from the likelihood ratio (LR) Chi-square ($\square^2$) test of joint significance of predictors (independent variables), four out of the seven models attain joint significance. These models concern estimation by field of study, sex and for the full sample ($\square^2$= 12.70, $p<0.05$ in the full sample model; $\square^2$= 15.45, $p<0.05$ and $\square^2$= 21.31, $p<0.05$ and for females and males respectively; $\square^2$= 21.87 $p<0.05$ among Chinese majors). On the other hand, models for duration of learning did not attain joint significance ($\square^2$=9.59, $p>0.1$ among students who had leant Chinese for below six months; $\square^2$=4.08, $p>0.1$ among students who had leant Chinese for above six months). Similarly, the model for arts majors did not attain joint significance of independent variables ($\square^2$=7.25, $p>0.1$). Specific effects of independent variables on HSKK test score performance were as follows.

5.7.2 Model 1: Full-sample CFL students' model

Three independent variables had significant coefficients. These were determination VLS category for discovery of meanings, social VLS category for discovery of meanings, and social VLS category for consolidation of new words. Specifically, the odds of attaining an excellent HSKK test score increases by 0.131 if the CFL learner was a high user of determination strategy category for discovery of meanings, assuming all other factors are held constant. The odds of attaining an excellent HSKK test score increases by -0.107 if the was student a high user of social strategy category for discovery of meanings, other factors held constant. The odds of attaining an excellent HSKK test score increases by -0.237 if the student was a high user of social strategy category for consolidation of new words, other factors being constant. The most effective VLS was social category, since the other strategies had no significant coefficient estimates that affected the speaking performance of Kenyan CFL learners.

5.7.2 Models 2 and 3: Effect of Sex on HSKK performance

Within the female CFL students' model, only one independent variable had significant coefficients: Determination VLS category for discovery of meanings. Specifically, the odds of attaining an excellent HSKK test score increases by 0.260 if the CFL learner was a high user of determination strategy category for discovery of meanings, assuming all other factors are held constant. All other strategies had insignificant parameter estimates, meaning that they had no important effect on speaking performance among Kenya university student CFL learners.

Within the male CFL students' model, parameters for three predictors attained statistical significance. These predictors are determination VLS category for discovery of meanings, social VLS category for discovery of meanings and cognitive VLS category for consolidation of new words. It emerged that, high users of VLS determination categories for SDM have -0.272 better odds of HSKK excellent score, ceteris paribus. High users of VLS social categories for SDM have -0.257 better odds of HSKK excellent score, ceteris paribus and intensive users of cognitive VLS categories for consolidation of words have 0.326 better odds of HSKK excellent score, ceteris paribus. The most effective strategy was cognitive strategy.

This means that males have more diversity of vocabulary learning strategies, both for discovery of meanings and consolidation of words than females. The most effective strategy was cognitive strategy among males, and determination VLS category for discovery of meanings for females.

5.7.3 Models 4 and 5: Effect of Learning Duration on HSKK Performance

Social and cognitive VLS categories for consolidation of new words attained statistical significance among CFL leaners who had studied Chinese for up to six months. High users of social VLS category had -0.359 better odds of HSKK excellent score. High users of cognitive VLS category had 0.128 better odds of HSKK excellent score, ceteris paribus. On the other hand, among CFL leaners who had studied Chinese for more than six months, high users of cognitive and metacognitive VLS categories for consolidation of words had -0.273 and 0.328 better odds, respectively, of HSKK excellent scores, ceteris paribus. This means that there was no particular effect of duration of learning on choice of strategies for discovery of new meanings and consolidation of words among Kenyan CFL learners.

5.7.4 Models 6 and 7: Effect of Field of study on HSKK Performance

Among Chinese majors, determination VLS category for discovery of new meanings and social, memory and cognitive strategy categories for consolidation of new words were found to have statistically significant coefficients. High users of determination VLS category for discovery of new meanings had 0.391 better odds of HSKK excellent scores, ceteris paribus. Similarly, high users of social, memory and cognitive strategy categories for consolidation of new words had 0.525, -0.329 and 0.272 better odds, respectively, of HSKK excellent scores, ceteris paribus. Among Chinese majors, the most effective VLS was social VLS category more so for consolidation of new words. This implies that Chinese majors did, or can possibly strategize their learning to influence performance in

HSKK. However, among the arts and science majors, none of the VLS categories was found to have an effect on HSKK performance. Hence, it is highly likely that arts and sciences majors did not strategize learning to influence their performance in CFL.

5.8 Chapter Summary

This chapter addressed the third and fourth research questions on how Socio-demographic factors influence the use of VLS and how the use of VLS influences performance in the speaking skill. It was established that duration of learning and previous learning experience had no significant effect on VLS use. Results also showed how the various factors under investigation affected performance in the speaking skill. It was shown that majority of CFL learners were average students as most of them were ranked as “good” according to the rubric. The results also showed that all the factors investigated had a relationship with the speaking skill, except sex. Finally, performance in the speaking skill was seen to vary with the use of the various VLS. The next chapter discusses the summary of the findings, conclusions and suggestions for further research from the four objectives in this study.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMENDATIONS

6.0 Introduction

This study described the vocabulary learning strategies employed by Kenyan CFL learners based on the cognitive theory of learning. The study was guided by four objectives. The first objective was to identify and describe the type pf VLS employed by Kenyan CFL learners. The second objective focused on the frequency of VLS use. The third objective delved on socio-demographic factors related to VLS use. The fourth objective looked at the relationship between vocabulary learning strategies and performance in the speaking skill. The summary of the findings is presented in the following section.

6.1 Summary of findings

The vocabulary learning strategies employed by Kenyan CFL learners have been identified and described. These include the strategies for discovery of meanings of words and strategies for consolidation of the already learned words. The summary of the findings is presented as per the study objectives.

The first study objective was to Identify and describe the vocabulary learning strategies employed by Kenyan CFL learners in learning Chinese. The results indicated that the learners used vocabulary learning strategies for discovery and consolidation of words in different ways. The learners also used most of the VLS on the questionnaire. This was an indication that learners were aware of the existence of VLS. Learners also used strategies that mostly involve the mechanical processing. As a consequence, cognitive strategies were the most used followed by the memory and the metacognitive strategies. It was also evident that CFL learners preferred use of strategies that involved technology. This included the use of soft wares, mobile devices, computers and other multimedia means. These strategies were not in the various categories of the main study but were listed under "other strategies" by the participants. The overall use of the strategies did not differ much as Kenyan CFL learners reported using the different strategies in the various categories in similar ways. The learners relied more on each other in discovering meanings of new words.

In consolidating words that they had already learnt, learners relied more on repetition. This was indicated by the high use of the cognitive strategies. Thus, it can be concluded that the CFL learner's use of strategies was in line with the cognitive theory of learning evidenced by the use of strategies that mainly involve mental processes.

The second objective of the study was to describe the frequency of VLS use by Kenyan CFL learners. The results indicated that Kenyan CFL learners used VLS moderately, an implication that they were medium strategy users. This meant that although they were aware of the existence of strategies, they were not maximizing their use in learning Chinese vocabulary. With regard to VLS categories used by Kenyan CFL learners in the discovery of meanings of new words, the learners tended to use social strategies more than determination strategies. They relied more on social means to discover the meanings of new words as opposed to individual means.

Cognitive strategies were seen as the most frequently used in consolidation of words once they had been learnt. Social strategies were the least frequently used. In the frequency of individual strategy in discovering meanings of new words, the use of bilingual (Chinese-English-Chinese) dictionary was the most frequent. The monolingual (Chinese) dictionary was the least frequently used strategy. With regard to consolidation of words once they have been learnt, skipping or by-passing a new word was the least frequently used while studying the sound (tone) was the most frequently used strategy. Thus, although learners used strategies in learning Chinese as a foreign language, most strategies were not fully utilized.

The third objective of the study was to investigate the relationship between VLS and the socio-demographic variables. The results showed that the learners' sex, level of learning and field of study influenced how they used VLS. Regarding sex, the results showed that it was a less potent factor compared to level of learning and field of study. As for the level of CFL learning, learners at the intermediate level reported a high use of VLS than the beginner level. They used more VLS both for the SDM and SCW categories. As learners advanced in CFL learning, the number and complexity of vocabulary increased leading to higher use of VLS.

VLS use was not affected in any way by duration of Chinese language learning in both SDM and SCW categories. The results showed that learners with previous language learning experience used VLS differently from those without any learning experience of the Chinese language. This difference was, however, insignificant.

On the other hand, the learners' field of study influenced the use of VLS. Learners who majored in Chinese language had the highest use of VLS. The arts students also used a higher number of VLS than the science students. The high use of VLS by CL learners could be attributed to the fact that the language requires one to learn individual words, or it could be that this is their main field of study.

The fourth objective was to determine the effect of VLS use on performance in speaking skill of Kenyan CFL learners. Most CFL learners attained a good performance in the speaking skill based on the HSKK oral test scores. There was a relationship between performance in speaking skill and the field of study, level of CFL learning, duration of CFL learning and previous language learning experience. With regard to previous language learning experience, learners with previous language learning experience attained a higher score than those without previous language learning experience. Learners of Chinese language major performed better in the speaking skill than those of science and arts majors. Learners majoring in arts however outperformed the science major students.

Additionally, learners at the intermediate level performed better in the speaking skill than those at the beginner level. Learners with high VLS use attained a high performance while low VLS use lead to low performance. However, sex did not affect performance in the speaking skill in any way.

6.2 Conclusions

The present investigation yielded insight into the use of vocabulary learning strategies by Kenyan CFL learners. This is a contribution to the field of vocabulary learning strategies in terms of classification of VLS, factors affecting VLS use and VLS use and performance in the speaking skill. The main contribution is in terms of VLS used by Kenyan CFL learners in discovery of meanings of new Chinese words and in consolidating Chinese words once they have learnt them.

The major conclusion drawn from the findings from this research is that Kenyan CFL learners use vocabulary learning strategies in learning Chinese as a foreign language. However, different learners use the strategies differently. The type of vocabulary learning strategies employed by Kenyan CFL learners are mostly those that involve repetition. Strategies that involve the use of technology and which are not in many previous classifications are also used.

On the frequency of VLS use, the Kenyan CFL learners are medium strategy users. They are aware of the existence of the various strategies but they do not utilize them fully. They mostly use social strategies for the discovery of meanings of new words and tend to use strategies that involve mechanical processing in consolidating the already learnt words.

In terms of socio demographic factors and how they influence the use of VLS, sex, level of CFL learning and field of study affect the choice of VLS in CFL learning. The study, therefore, concludes that VLS use is indeed influenced by certain factors as evidenced by the study outcome.

Learners with high use of VLS attain higher scores than those with low use of VLS. Performance in the speaking skill also varies depending on the various socio-demographic factors. The study therefore concludes that VLS are an important aspect influencing performance in the speaking skill. It is, therefore, important to note the need for further emphasis on training and awareness of VLS. This will go a long way in improving the proficiency levels of the learners for effective communication.

6.3 Recommendations

This study advances some recommendations which could be used to enhance the teaching of Chinese in Universities and other institutions of learning in Kenya. This is done with particular reference to how learners use VLS in discovering and consolidation of Chinese words once they have been learnt. These include:

i. The current investigation used the cognitive theory of learning whereby learning strategies are seen to involve mental processes that support the learning of Chinese as a foreign language. As is evident from many studies on vocabulary learning strategies, most scholars tend to use the cognitive perspective. It would be prudent to explore multidimensional approaches in the study of vocabulary learning strategies or look into other perspectives such as the sociocultural approach as a compliment to existing views on vocabulary learning.

ii. Learners of Chinese need to use VLS frequently so as to embed them within their language learning and use, especially for speaking purposes.

iii. Learners of Chinese should be frequently tested on the speaking skill so as to ensure that learners use the vocabulary that they learn in communication. This could incorporate other aspects of the speaking skill such as pronunciation and grammar.

6.4 Implications

CFL learners should be made aware of vocabulary learning strategies during Chinese language lessons so that they can fully utilize them in their learning. In this regard, strategy instruction can be incorporated in the curriculum to enhance CFL learning since VLS are crucial.

With the advancement in technology, learners should be encouraged to use more strategies that involve the use of technology. This might make Chinese language learning faster since the language involves use of Chinese characters that can be more easily learnt by the use of input apps such as Google pinyin which helps learners to type characters rather than writing them manually.

6.5 Suggestions for Further Research

The literature reviewed in this study and the results from this research reveal that the area of VLS is rich and it provides valuable insight into how CFL learners go about learning Chinese. They also provide valuable information concerning the various factors that affect the use of VLS and how their use contributes to performance in the speaking skills. Thus, further research could be carried out in the following areas:

i. The present investigation only focused on vocabulary learning strategies employed by CFL learners at the University level of education in Kenya. Other studies could be conducted to establish the VLS used by CFL learners at other levels of education, such as primary and secondary schools. This will provide information on the overall use of vocabulary learning strategies in CFL learning across the different levels of education.

ii. This study focused on VLS use by learners. It is also important for a study to be conducted to establish if the CFL instructors are aware of VLS, how they use them, and how they teach learners to use them. This will go a long way in improving CFL teaching and standardization of the curriculum.

iii. A study can be done to establish the relationship between VLS use and the other language skills of reading and writing. Chinese proficiency examinations cover the four language skills. It is important to delve into reading and writing so as to give proper guidance on how the CFL learners can master vocabulary in these two skills.

REFERENCES

Adams, P. (2006). Exploring Social Constructivism: Theories and Practicalities. *Education, 34*, 243–257.

Aitchison, J. (1990). *Words in the Mind*. Oxford: Basil Blackwell.

Alderson, J.C., Claphan, C. and Wall, D. (1995). *Language Test Construction and Evaluation*. U.K: Cambridge University Press.

Allen, V. F. (1983). *Techniques in Teaching Vocabulary*. Oxford: Oxford University.

Al-Rahmi, W. (2018). Vocabulary Learning Strategies (VLS) Through Secondary Students at Saudi School. In *Malaysia (SSM): A Pilot Study*. Journal of Research in International Education. 4.

Arellano, R., Acosta- Gonzaga, E., Bory- Reyes, J. and Hernández- Simón, L, M. (2018). Factors affecting student learning performance: A causal model in higher blended education. *Journal of Computer Assisted Learning*, *34*, 6, (807-815).

Anderson, John R. *Cognitive Psychology and its implications*. WH Freeman/Times Books/Henry Holt & Co, 1990.

Anderson, N. (2008) *Metacognition and good language learners.* In C. Griffiths (Ed.), *Lessons* from Good Language Learners, pp. 99-109. Cambridge, UK: Cambridge University Press.

Andrew D. C. (2003). The Learner's Side of Foreign Language Learning: Where Do Styles, Strategies, and Tasks Meet? *International Review of Applied Linguistics in Language Teaching 41(4):*279-291 DOI: 10.1515/iral.2003.013

Asgari, A., & Mustapha, G. (2012). *Vocabulary Learning Strategies of Malaysian ESL Students*. Pertanika Journal of Social Sciences & Humanities, 20(3).

Attapol Khamkhien (2010). *Electronic Journal of Foreign Language Teaching*. Vol. 7, No. 1, pp. 66–85.

Babbie, E. (1992). *The Practice of Social Research. (6th).* California: Wads Worth Publishing.

Barcroft, J. (2004). *Second Language Vocabulary Acquisition: A lexical input approach.* Foreign Language Annals, pp. 200-208.

Baskin, S., Iscan, A., Karagoz, B., & Birol, G. (2007). The use of Vocabulary Learning Strategies in Teaching Turkish as a Second language. *Journal of Education and Practice,* 8(9), 126-134.

Bicer, N., & Polatcan, F. (2015). Yabanci dil olarak Turkce ogretiminde kelime ogrenme stratejilerinin *Turkiyat Arastirmalan Enstitusu Dergisi*, 54, 811-828.

Boers, F. & Webb, S. (2018). Teaching and learning collocation in adult, Second and foreign language learning. *Language Teaching*, 51(1),77-89. doi:10.1017/S0261444817000301

Bogaards, P., & Laufer, B. (Eds.). (2004). *Vocabulary in a second language: Selection, acquisition, and testing.* (Vol. 10). Amsterdam/Philadelphia: John Benjamins Publishing.

Bourgerie, D. S. (2003). Computer assisted language learning for Chinese: A survey and annotated bibliography. *Chinese Language Teachers Association*, 38(2), 26-47.

Bristi, N. L. (2015). Exploring Vocabulary Learning Strategies used by Banglandeshi Undergraduate EFL Learners: A Comparative Analysis of Three Proficiency Level Learners. *Global Journal of Human-Social Science: G Linguistics & Education Vol 15(12)*

Brown, C., & Payne, M. E. (1994, March). *Five essential steps of processes in vocabulary learning.* In TESOL Convention, Baltimore.

Brown, H. Douglas, 2004. *Language Assessment: Principles and Classroom Practices.* San Francisco State University.

Brown, H.D. (2000). *Principles of language learning and teaching*. White Plains, NY: Longman.

Bygate, M. (1987). Speaking. In C. Carter & D. Nunan (Ed)., *The Cambridge guide to teaching English to speakers of other language*s. Cambridge University Press.

Cameron, L. (2001). *Teaching languages to young learners*. Cambridge: Cambridge University Press.

Cameron-Faulkner, T., Lieven, E., & Tomasello, M. (2003). *A Construction based analysis of child directed speech.* Cognitive Science, 27(6), 843-873.

Carter, R. (2012). *Vocabulary: Applied Linguistics perspectives*, London: Routledge.

Catalan, R. M. J. (2003). *Gender differences in L2 vocabulary learning strategies*. International Journal of Applied Linguistics, 13(1), 54-77.

Ching-Hsue C. and Chung-Hsi C, (2019). Investigating the impacts of using a mobile interactive English learning system on the learning achievements and learning perceptions of student with different backgrounds, *Computer Assisted Language Learning*, 10.1080/09588221.2019.1671460, (1-26), (2019).

Chiu, Y.H. (2013). Computer-Assisted Second Language Vocabulary Instruction: A Meta-Analysis. *Br. J. Educ. Tech.* 2013, *44*, E52–E56.

Cohen, A. D. (1990). *Language learning: Insight for learners, teachers, and researchers*. Boston: Heinle & Heinle.

Cohen, A. D. (2014). *Strategies in learning and using a second language.* New York: Routledge

Cohen, A.D., Oxford, R.L., and Chi, J. (2003) *Language Strategy Use İnventory.* Minneapolis, MN: Center for Advanced Research on Language Acquisition, University of Minnesota. http://www.carla.umn.edu/maxsa/documents/langstratuse_inventory.pdf

Conzett, J. (2000). *Teaching collocation: Further developments in the lexical approach* (pp. 39-42). M. Lewis (Ed.). Hove: Language Teaching Publications.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). London: Sage Publications Ltd.

Creswell, J. W. (2014). *Research design*. Sage publications Inc.

Cronbach, L.J. (1951). *Education Measurement*. 2nd ed, Washington DC: American council of education.

Dalton, B. (2013). Engaging children in close reading: Multimodal commentaries and illustration remix. *Reading Teacher*, 66(8), 642-649.

Dalton, B. and Grisham, D. L. (2011). eVoc Strategies: 10 Ways to Use Technology to Build Vocabulary. *The Reading Teacher*, 64: 306–317. doi: 10.1598/RT.64.5.1

Dalton, B., & Grisham, D. L. (2013). Love that book: Multimodal response to literature. *The Reading Teacher*, 67(3), 220-225.

Decaricco, J. (2001). Vocabulary learning and teaching. In M. Celce- Murcia, (Ed), *Teaching English as a second or foreign language,* (pp.285-299), Boston, MA: Heinle & Heinle.

Dhillon, J. & Wanjiru, J. (2013). Challenges and Strategies for Teachers and Learners of English as a Second Language: The Case of an Urban Primary School in Kenya. *International Journal of English Linguistics, 3 (2)*. pp. 14-24. ISSN 1923-869X

Dorney, Z., & Thurrel, S. (1994). Teaching conversational skills intensively: Course content and rationale. *ELT Journal*, 48(1), 40-49.

Dörnyei, Z. (2014). *The psychology of the language learner: Individual differences in second language acquisition*. Routledge.

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge.

Ellis, R. (1994). *The Study of Second Language Acquisition.* Oxford: Oxford University Press.

Ellis, R. (2000) *Instructed Second Language Acquisition*. Oxford, UK and Cambridge, USA: Blackwell.

Ellis, R. (2008) *The Study of Second Language Acquisition* (second edition). Oxford: Oxford University Press.

Ellis, R. (2015). *Understanding Second Language Acquisition 2nd Edition-Oxford Applied Linguistics*. Oxford: Oxford university press.

Eysenck, M. (2001) *Principles of cognitive psychology* (second edition) Hove: Psychology press.

Fan, M. 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.

Foley, J., and Thompson, L. (2003). *Language Learning: A Lifelong Process*. London: Arnold.

Ford-Connors, E., & Paratore, J. R. (2015). Vocabulary instruction in fifth grade and beyond: Sources of word learning and productive contexts for development. *Review of Educational Research, 85(1),* 50-91.

García, T., & Pintrich, P. R. (1991). *Student Motivation and Self-Regulated Learning*: A LISREL Model. American educational research association.

Gass, S. M. (2013). *Second language acquisition: An introductory course*. Newyork: Routledge.

Gerami, M.H. & Baighlou, Shiva. (2011). Language Learning Strategies used by Successful and Unsuccessful Iranian EFL Students. *Procedia-Social and Behavioural Sciences. 29. 10.1016/j.sbspro.2011.11.399*.

Graham, S., McKeown, D., Kiuhara, S., & Harris, K. R. (2012). *A meta-analysis of writing instruction for students in the elementary grades*. Journal of Educational Psychology, 104(4), 879-896.

Graves, M. F. (2016). *The vocabulary book: Learning and instruction*. Teachers College Press.

Gregersen, T., MacIntyre, P.D., & Meza, M.D. (2014). *The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety*. Modern Language Journal, 98(2), 574–588.

Griffee, D. T. (2012). An introduction to second language research methods: Design and data. *TESL-EJ Publications, Berkeley*.

Griffiths, C. (2003) *Patterns of Language Learning Strategy Use*. System, 31, 367-383.

Griffiths, C. (2004). Language Learning Strategies: Theory and Research. *Occasional Paper No. 1.* Auckland Institute of Studies, Auckland.

Griffiths, C. (2013). *The Strategy Factor in Successful Language Learning.* Bristol, UK: Multilingual Matters.

Griffiths, C., & Oxford, R. L. (2014). *The twenty-first century landscape of language learning strategies: Introduction to this special issue*. System, *43*, 1-10.

Gu, Y. (2002). Gender, field of study, and vocabulary learning strategies of Chinese EFL learners. *RELC journal*, *33*(1), 35-54.

Gu, Y. (2003a). Vocabulary learning in second language: person, task, context and strategies. *Electronic Journal*. TESL-EJ, 7, 2, 1-26.

Gu, Y. (2003b). Fine brush and freehand: The vocabulary learning art of two successful Chinese EFL learners. *TESOL Quarterly*. 37, 73-104.

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

Hatch, E. and Brown, C. (2000) *Vocabulary, Semantics, and Language Education* (Third edition). Cambridge: Cambridge University Press.

Hedge, T. (2001). *Teaching and learning in the language classroom* (Vol. 106). Oxford, UK: Oxford University Press.

Hornby, A.S., Cowie, A.P., and Gimson, A.C. (1984*). Oxford Advanced Dictionary of Current English.* Oxford: Oxford University Press.

Hu, B. (2010). The challenges of Chinese: A preliminary study of UK learners' perceptions of difficulty. *The Language Learning Journal 38 (1*), 99e118

Huang Borong & Liao Xudong. (2009). *Modern Chinese Language*. Beijing: Higher Education Press.

Intaraprasert, C. (2000). *Language learning strategies employed by engineering students learning English at the tertiary level in Thailand.* Unpublished Doctoral dissertation. School of Education. University of Leeds. The United Kingdom.

Izabella K. & Patsy M. L. (2002). Students' Approaches to Vocabulary Learning and Their Relationship to Success. https://doi.org/10.1111/0026-7902.00014

Jackson, H., & Amvela, E. Z. (2000). *Words, Meaning and Vocabulary: An Introduction to Modern English Lexicology*. London: Cassell.

Jinghui W., Ken S., Mingjie Xing (2009). *Matacognitive Beliefs in Learning Chinese as a foreign language.* Science Direct

Kafipour, Reza & Hosseini Naveh, M. (2011). *Vocabulary learning strategies and their contribution to reading comprehension of EFL undergraduate students in Kerman Province.* European Journal of Social Sciences. 23. 626-647.

Kafipour, Reza. (2011). *Vocabulary learning strategies and their contribution to reading comprehension of EFL undergraduate students in Kerman Province.* European Journal of Social Sciences. 23.4. (2011): 626-647.

Kenneth, K. (2010). China's cooperation in education and training with Kenya: A different model? *International Journal of Educational Development*, Volume 30, Issue 5.

Kitajima, R. (2001). *The effect of instructional conditions on students' vocabulary retention*. Foreign Language Annals, 34(5), 470-482.

Ko-Yin, S & Hsiao-Ping W. (2011) *Factors influencing the Learning of Chinese Characters.* International Journal of Bilingual Education and Bilingualism, 14(6), 683-700, DOI: 10.1080/13670050.2011.571658

Kothari, C.R. (1990) *Research methodology: Methods and Techniques.* New Delhi.

Kudo, Y. (1999). *L2 vocabulary learning strategies*. http://www.nflrc hawaii.edu.networks

Lam, H. (2011). A critical analysis of the various ways of teaching Chinese characters. *Electronic Journal of Foreign Language Teaching*, *8*(1), pp 57-70.

Lantolf, J.and S.Thorne (2006) *sociocultural theory and the genesis of second language development* .Oxford: Oxford University Press.

Laufer, B., & Nation, I. S. P. (2012). Vocabulary. *The Routledge handbook of second language acquisition*, 163-176.

Lee, K.R, &Rebecca. (2008). Understanding EFL learners ‘Strategy use and Strategy awareness. *The Asian Journal*, 10(1),7-32.

Lewis, M. (2000). *Teaching collocation: Further developments in the lexical approach*. UK: Language Teaching Publications.

Li, F. (2010). A Study of English Reading Strategies Used by Senior Middle School Students. *Asian Social Science. 6(10):* 184-192.

Lin, J., Wang, A., & Du, W. (2013). Learning English Vocabulary in the Chinese Context. International Journal of Language Teaching and Research, Vol 2(1)

Liu, S. (2013). Tablets and Chinese language teaching and learning, *Journal of Technology and Chinese Language Teaching, 4*(1), 64-75.

Liu Xun (2002). *New Practical Chinese Reader 1 Textbook Beijing Language & Culture University Press, China.*

Liu Xun (2009). *New Practical Chinese Reader Vol. 1&2*. 1st Edition, Beijing: Beijing Language and Culture University.

Lu Bisong (2012). *A new way of teaching Chinese.* Beijing: Beijing University Press.

Lu, M. P., Hallman, G. & Black, J. (2013). Chinese character learning: Using embodied animations in initial stages. *Journal of Technology and Chinese Language Teaching, 4*(2), 1-24.

Luoma, S. (2004). *Assessing Speaking*. U.K: Cambridge University Press.

Macaro, E. (2003). *Second Language Teachers as Second Language Classroom Researchers*. Language Learning Journal, *27*(1), 43-51.

MacCarthy, M. (1998). *Spoken language and applied linguistics*. Cambridge: Cambridge University Press.

Mackey, A., & Gass, S. M. (2015). *Second language research: Methodology and Design*. New York: Routledge.

Maha Ounis (2017) *A Comparison between Holistic and Analytic Assessment of Speaking* Journal of Language Teaching and Research, Vol. 8, No. 4, pp. 679-690, July 2017.

Manuel, N. N. (2017). *Evaluating Vocabulary Learning Strategies (VLS): Gender differences, the most and least used (VLS) among Angolan EFL Students at the Faculty of Arts (Luanda, Angola).* International Journal of Scientific Research in Education, 10(5), 483-504.

Mason.A & Zhang (2017). An exploration of the use of mobile applications to support the learning of Chinese Characters employed by students of Chinese as a Foreign language. In Q.Kan & S.Bax (Eds).*Beyond the language classroom: Researching MOOCs and other innovations (pp 99-112)* Research -publishing net.

Maximo, R. (2000). *Effects if rote, context, keyword, and context/ keyword method on retention of vocabulary in EFL classroom.* Language Learning, 50, 2, 385-412.

McCarthy, M. (1990). *Vocabulary.* Oxford: Oxford University Press. Hedge, T. (2000) Oxford: Oxford University Press.

McEwen, P. (2006). Vocabulary Acquisition in CFL (Chinese as a Foreign Language) Contexts: A Correlation of Performance and Strategy Use". *All Theses and Dissertations*. 1093.https://scholarsarchive.byu.edu/etd/1093

Miller, G. A., & Gildea, P. M. (1987*). How Children Learn Words*. Scientific American, 257, 94-99.

Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education, Vol. III (3),* pp. 21-34. DOI: 10.20472/TE.2015.3.3.002

Moody, S., Hu, X., Kuo, L.-J., Jouhar, M., Xu, Z., & Lee, S. (2018). Vocabulary Instruction: A Critical Analysis of Theories, Research, and Practice. Education Sciences, 8(4), 180. http://doi.org/10.3390/educsci8040180

Nakamura, T. (2000). *The use of vocabulary learning strategies: the case of Japanese EFL learners in two different learning environments* (Doctoral dissertation, University of Esgender).

Nandy, M. (1994). *Vocabulary and grammar for GCE 'O'level English*. Singapore: Composite Study Aids.

Nation, P. (1990). *Teaching and Learning Vocabulary.* Boston: Heinle & Heinle.

Nation, P. (2001*). Learning Vocabulary in Another Language***.** Cambridge: Cambridge University Press.

Nation, P. (2014). *How much input do you need to learn the most frequent 9,000 words? Reading in a Foreign Language, 26*(2), 1. New Age International (P) Ltd.

Nation, P. (2015). Principles guiding vocabulary learning through extensive reading. *Reading in a Foreign Language.* Volume 27(1), 136–145

Njoroge, M. C., Ndung'u, R. W. and Gathigia, M. G. (2013). The Use of Crossword Puzzles as a Vocabulary Learning Strategy: A Case of English as Second

Language in Kenyan Secondary Schools. *International Journal of Current Research Vol. 5, Issue, 1*

Nousin L. B. (2015). Exploring Vocabulary Learning Strategies used by Bangladeshi Undergraduate EFL Learners: A Comparative Analysis of Three Proficiency Level Learners. *Global Journal of Human-Social Science: G Linguistics & Education Volume 15 Issue* 12 Version Global Journals Inc.
Online ISSN: 2249-460x

Nunan, D. (2001a). *Second language teaching and learning*. Newbury House Teacher Development.

O'Malley, J. M., and Chamot, A. U. (1990*). Learning Strategies in Second Language Acquisition.* Cambridge: Cambridge University Press**.**

O'malley, J.M., Chamott, A, V., Stewner-Manzares, G., Russo, R.P. and Kupper, L. (1985). *Learning strategies used in beginning and intermediate ESL students*. Language Learning. Vol. 35 (1):21-46c

O'Malley, M.J. and Chamot, A.U. (1996*) Learning Strategies in Second Language Acquisition.* Cambridge: Cambridge Applied Linguistics.

Omaar, A.A. (2016). *EFL Vocabulary Learning Strategies Tuareg people*. (Unpublished doctoral dissertation). Washington state university. Pullman, Washington.

Opper, S., Teichler, U., & Carlson, J. (1990*). Impacts of studying abroad programmes on students and graduates.* London: Jessica Kinglsey Publishers.

Oxford, R. (1990*). Language Learning Strategies: What Every Teacher Should Know* New York: Newbury House.

Oxford, R. L. (2016). *Teaching and researching language learning strategies: Self-regulation in context*. Taylor & Francis.

Oxford, R.L. (2011). *Teaching and Researching Language Learning Strategies*. Harlow, UK: Pearson Education.

Purdie, N., & Oliver, R. (1999). Language strategies used by bilingual school-aged children. *System, 27,* 375–388.

Purpura, J. E. (1999). *Learner strategy use and performance on language tests: A structural equation modelling approach*. Cambridge University Press.

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

Richards, J. C., Platt, J., and Platt, H. (1992). *Language Teaching and Applied Linguistics* (2nd ed.). Esgender: Longman.

Rubin, J. (1975). What the "good language learner" can teach us. *YESOL Quarterly*, 9(l): 41-51.

Schmidt, R., & Watanabe, Y. (2001). *Motivation, strategy use, and pedagogical preferences in foreign language learning.* Motivation and second language acquisition, 23, 313-359.

Schmitt, N. (1997). *Vocabulary learning strategies*. In N. Schmitt and M. McCarthy (Eds.), Vocabulary: Description, Acquisition and Pedagogy. Cambridge: Cambridge University Press.

Schmitt, N. (2000). *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.

Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Springer.

Scott, T. (2002). *How to teach vocabulary*. Harlow: Longman: 2004,185 p.

Seffar. S (2014). *The effect of vocabulary knowledge on EFL oral competence.* IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388, p-ISSN: 2320–737X Volume 5, Issue 6 Ver. I (Nov. - Dec. 2015), PP 08-13. www.iosrjournals.org.

Segler, T, Pain, H. and Sorace, A. (2001). *Second Language Vocabulary Acquisition and Learning Strategies in ICALL Environments*. Workshop on Computer Assisted Language Learning, AI-Ed 2001, San Antonio, USA.

Sesnan, B. (1997). *How to Teach English*. Oxford: Oxford University Press.

Sheeler, W. D., and Markley, R. W. (2000). *Words around us and effective ways to use them.* Michigan: The University of Michigan Press

Shen, H.H. (2005). An investigation of Chinese-character learning strategies among non-native speakers of Chinese. *System*, *33*, 49–68.

Shumine, K. (1997). *Factors to consider: Developing adult EFL students' Speaking abilities*. In J. C. Richards & W. Renandya (Ed.). Methodology in language teaching. Cambridge University Press.

Singleton, D. (1999) *Exploring the Second Language Lexicon.* Cambridge: Cambridge University Press.

Siriwan, M. (2007). *English Vocabulary Learning Strategies Employed by Rajabhat University Students.* Unpublished Doctoral Dissertation, Suranaree University of Technology, Thailand.

Sung, K. (2011). Factors influencing Chinese language learners' strategy use. *International Journal of Multilingualism*, *8 (2),* 117-134.

Stoffer, I. (1995). *University foreign language students' choice of vocabulary learning strategies as related to individual difference variables*. Unpublished Doctoral Dissertation, the University of Alabama, USA.

Taichi, N. (2000). *The use of vocabulary learning strategies: The case of Japanese EFL learners in two different learning environments*. Unpublished Doctoral Dissertation, University of Essex, UK.

Teller, Marion, (2008). *The effect of gestures on second language memorization by young children.* Gesture, John Benjamins Publishing, 8 (2), pp.219-235.

Trask, R. L. (1995*). Language: The Basics*. London: Routledge.

Višnja, P. (2008). *Vocabulary Learning Strategies and Foreign Language Acquisition.* Great Britain: Cromwell Press Ltd.

Wharton, G. (2000*). Language learning strategy use of bilingual foreign language learners in Singapore.* Language Learning, *50*(2), 203-244.

Wheeler, A. (2014). Cultural Diplomacy, Language Planning, and the Case of the University of Nairobi Confucius Institute. *Journal of Asian and African Studies*, *49*(1), 49–63. https://doi.org/10.1177/0021909613477834

Xie, T. W., & Yao, T.-C. (2009). Technology in Chinese language teaching and learning. In M. E.Everson & Y. Xiao (Eds.), *Teaching Chinese as a foreign language: Theories and applications* (pp. 151-172). Boston: Cheng & Tsui Company.

Xu Ping (2013). *A Study of Chinese Reading Strategies Used by Thai Undergraduates* Assumption University DOI: 10.7763/IPEDR. 2013. V68. 17

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

Yang Yu (2017*). Vocabulary learning strategies used by English speakers Learning Chinese as a foreign language*. PhD Thesis, Kings College London.

Yiling W. (2000). *A course on Chinese Vocabulary.* Beijing University Press.

Zhan, H., & Cheng, H. (2014). The Role of Technology in Teaching and Learning Chinese Characters. *International Journal of Technology in Teaching and Learning*, *10*(2). Retrieved from https://commons.erau.edu/publication/1097

Zhang, Y (2011). *The use of vocabulary learning strategies by good and poor learners: A case study of Chinese non- English major sophomores.* Kristianstad University Sweden.

APPENDICES

APPENDIX A: MEASUREMENT OF VARIABLES

Research Objective	Study Tool	Variables/ Data	Analytical Techniques/Tests
To identify and describe the type of vocabulary learning strategies employed by CFL (Chinese as a foreign language) learners.	VLSQ questionnaire	**Categories of VLS:** • Determination • Social • Memory • Cognitive • Metacognitive **Categorization of learners:** • Sex • Beginner vs Intermediate • Field of study • Duration of study • Previous language learning experience	• Chi-square (test of independence)
To describe the frequency of VLS use by Kenyan CFL learners	VLSQ questionnaire	Frequency of use of particular VLS by different respondents	• Descriptive frequencies • Measures of central tendency (the mean)
To establish the relationship between learner socio-demographic characteristics and choice of VLS	VLSQ questionnaire	**Choice of VLS:** • Determination • Social • Memory • Cognitive • Metacognitive **Learner socio-demographic:** • Sex • Beginner vs Intermediate • Field of study • Duration of study • Previous language learning experience	• Analysis of variance (comparison of means) • Chi-square (test of independence)
To investigate how choice of VLS affects performance in the speaking skill of Kenyan CFL learners.	▪ VLSQ questionnaire ▪ HSKK Oral Tests	**Dependent Variable:** • HSKK test result (Good, excellent and poor) **Independent Variables:** 1. Determination, 2. Social, 3. Memory, 4. Cognitive,	• Binary logistic regression (Log likelihood test) • Analysis of variance (comparison of means) • Chi-square

		5. Metacognitive	(test of independence)

APPENDIX B: LEARNER QUESTIONNAIRE

The Vocabulary Learning Strategy Questionnaire

Dear respondent,

The following questions are aimed at seeking honest and true opinions about the learning process of Chinese at the University level in Kenya. Please provide as objective responses as possible. Confidentiality of your responses will be maintained so please do not write your name or your school anywhere in this questionnaire. The feedback obtained from these questionnaires will be useful for recommendation on improving and enhancing the teaching and learning of Chinese in Kenya.

NOTE: Kindly mark your choice using a tick or write a clear response where necessary in the spaces provided. No particular answer is right or wrong, your views are important.

PART A: General Information

1. What is your gender? ☐ Female ☐ Male
2. How long have you been studying Chinese?
   ☐ Up to six months ☐ between six months and one year ☐ More than a year
3. Have you learned Chinese language before? ☐ Yes ☐ No
   If Yes to Q3, how long have you learned Chinese language before?
   ☐ Up to six months ☐ between six months and one year ☐ More than a year
4. Which is your field of study? ☐ Sciences ☐ Arts ☐ Chinese language
5. Which level of Chinese are you in? ☐ Beginner ☐ Intermediate
6. Which of the following statements describe what you normally do during your learning and using Chinese vocabulary?
   (Tick against a scale of 1-5 where 5 = Always, 4 = Often, 3 = Sometimes, 2 = rarely and 1= Never, based on the frequency of your use of the stated strategy)

Part B: STATEMENTS ON VOCABULARY LEARNING STRATEGIES	always	often	Sometimes	rarely	never
A. Strategies for the discovery of new words meanings (SDM) ***When I find a new Chinese word that I do not know I……….*** **(DETERMINATION STRATEGIES)**					
1.1.0 … analyse parts of speech e.g. classify a word as a noun, verb etc.					
1.1.2…check for English cognates (words that look and mean the same thing in Chinese e.g. Shāfā)					
1.1.3…analyse any available gestures or pictures					
1.1.4…guess its meaning from context					
1.1.5…use Bilingual (Chinese-English-Chinese) dictionary					
1.1.6…use monolingual (Chinese) dictionary					
(SOCIAL STRATEGIES)					
1.2.0 …ask the teacher to translate the word into English					
1.2.1 …ask the teacher for synonym or paraphrase of a new word					
1.2.3…ask the teacher to give an example in a sentence using the new word					
1.2.4…ask fellow students for meaning of a new word					
1.2.5…ask the teacher for the meaning of a new word					
B. Strategies for consolidating words once they are encountered. (SCW) ***When I want to retain a Chinese word once I have encountered it, I………***					
(SOCIAL STRATEGIES)	always	often	sometimes	rarely	never
2.1.0…study words and practice meaning in a group					
2.1.1… interact with native Chinese speakers					
(MEMORY STRATEGIES)					
2.2.1…study a word with a picture to represent its meaning					

2.2.2…make an image of a word's meaning. (e.g. A word which is a noun a different mental image of its verb form is made.)					
2.2.3…connect word to a personal experience					
2.2.4…group words together spatially on page					
2.2.5…Connect a word with its antonyms and synonyms					
2.2.6…use new word to construct sentences					
2.2.7…place words together within a certain storyline					
2.2.8…study how the word is spelt					
2.2.9…study the sound(tone) of the word					
2.2.10…saying the new word loudly while studying it					
2.2.11 …grouping words together to study them					
(COGNITIVE STRATEGIES)					
2.3.1…practice verbal repetition					
2.3.2…practice written repetition					
2.3.3…use wordlists					
2.3.4 …use flash cards					
2.3.5…taking notes in class to highlight new words					
2.3.6…use the vocabulary section in your textbook					
2.3.7…listen to tapes of word lists					
2.3.8… label physical objects in Chinese					
2.3.9…keep a notebook for vocabulary					
(METACOGNITIVE STRATEGIES)					
2.4.0…use Chinese-language media (movies, songs, the internet)					
2.4.1…Use word tests to test myself					
2.4.2…study new words over and over					
2.4.3...pass or skip new words					
2.4.4…pay attention to Chinese words when someone is speaking Chinese.					
…try other strategies (please specify) ……………..					

APPENDIX C: HSKK ORAL TESTS

HSKK ORAL TEST (Beginner Level)

第 26-27 题：回答问题 (Answer the questions)

26. . Qǐng jièshào yīxià nǐ de Jiārén
请 介绍 一下 你 的 家人。

(Please introduce your family briefly)

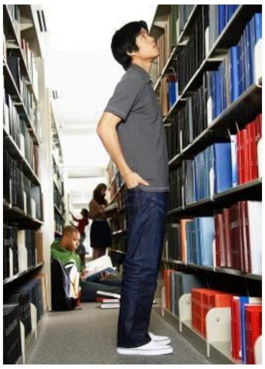
27. Yī ge xingqi yǒu 7 tiān, nǐ zuì xǐhuān de shì nǎ yī tiān? Wèishéme?

一 个 星期 有 7 天， 你 最 喜欢 的 是 哪 一 天？ 为什么？

(One week has 7 days, which is your favorite day? Why?)

HSKK ORAL TEST (Intermediate Level)

第二部分 第 11-12 题：看图说话（question11-12,describe the pictures）



第三部分（section 3）

第13-14 题：回答问题(question 13-14:answer the questions)

13.你 喜欢 和 什么样 的 人 交 朋友？为什么？ (What kind of a person would you like to become friends with? Why?

14.你 对 减肥 是 什么 态度？为什么？（what is your approach towards losing weight? Why?

APPENDIX D: INFORMED CONSENT

Consent to Participate in Research

Project title

Vocabulary Learning Strategies employed by Kenyan Learners of Chinese as a Foreign Language (CFL) in Kenyan Universities

Researcher

Email

Telephone

Sponsor none (*approval for this research project has been granted by the review board at the university. For any information on your rights on this research work, you can contact…………………………*

Introduction

You are requested to consider taking part in this study. The study will be investigating the vocabulary learning strategies used by Kenyan learners of Chinese as a foreign language and their relationship with performance in the speaking skill. The nature and purpose of the study together with the rights of the participant will be described in this form. You may or may not take part in the study; the decision lies with you. If you decide to be part of this study, please write the date and sign in the space provided at the end of the form.

Description of the study

The study will entail looking at the types of vocabulary learning strategies you use in learning Chinese as a foreign language: the variables that affect VLS use and how their use relates to performance in the speaking skill. About 115 students enrolled in the

Confucius Institutes will take part in this study. In this study, you will answer a questionnaire and take a HSKK oral test. It will take about one hour to complete both tasks. The oral test will be recorded using a tape recorder.

Confidentiality

Confidentiality of all the information collected will be ensured and the information will only be used for research purposes. This therefore implies that your identity will not be revealed, thus: It is only the researcher who will know your name. Your name will not be used anytime data from this study are published. The information that you give will be stored in a computer and will only be accessible to the researcher.

Your participation

Taking part in this study is strictly on voluntary basis. Your grades will in no way be affected by your decision to take part in this study. If you change your mind at any point and do not want to participate, you can inform your lecturer. There will be no payment for participating in the study. In case you have any questions about the study, please contact……………..by email ………………., by telephone at …………….or visit the office and see her in person at…………………………….

Researcher's statement

I have given all the details required by the students for this study, I have also answered all the questions asked by the student and discussed all the activities involved.

Signature of the Researcher …………………………………. Date …………………….

Learner's Consent

I have read the information provided in this Form. All my questions about the study have been answered satisfactorily, I therefore voluntarily agree to take part in this study.

Your signature……………………………………………..Date ……………………..

APPENDIX E: KENYATTA UNIVERSITY SCHOOL GRADUATE AUTHORIZATION

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

OUR REF: C82/26343/13

Date: 8th June, 2018

The Director General,
National Commission for Science, Technology & Innovation
P.O. Box 30623-00100,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR SUSAN W. WACHIRA REG. NO. C82/26343/13

I write to introduce Ms. Susan W. Wachira who is a Postgraduate Student of this University. The student is registered for Ph.D. Degree programme in the **Department of English & Linguistics in the School of Humanities & Social Sciences.**

Ms. Wachira intends to conduct research for Ph.D. Thesis entitled, entitled **"Vocabulary Learning Strategies Employed by Kenyan Learners of Chinese as a Foreign Language in Kenya Universities"**

Any assistance given will be highly appreciated.

Yours faithfully,

KENYATTA UNIVERSITY OFFICE OF DEAN
21 JUN 2018
GRADUATE SCHOOL
P.O. Box 43844-00100 NAIROBI

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

RM/cao

Committed to Creativity, Excellence & Self-Reliance

APPENDIX F: KENYATTA UNIVERSITY ETHICS REVIEW PERMIT

KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575
Email: kuerc.chairman@ku.ac.ke
kuerc.secretary@ku.ac.ke
Website: www.ku.ac.ke

P. O. Box 43844,
Nairobi, 00100
Tel: 8710901/12

Our Ref: **KU/ERC/ APPROVAL/VOL.1** (185) Date: 16th August, 2018

Susan Wachira
P.O Box 43844-00100
NAIROBI

Dear Susan,

APPLICATION NUMBER: PKU/858/1923 "VOCABULARY LEARNING STRATEGIES EMPLOYED BY KENYAN LEARNING OF CHINESE AS FOREIGN LANGUAGE IN KENYAN UNIVESITIES"

---

2. **IDENTIFICATION OF PROTOCOL**

The application before the committee is with a research topic "" **Vocabulary Learning Strategies Employed By Kenyan Learning Of Chinese As Foreign Language In Kenyan Univesities "** received on 21st June, 2018 and discussed on 14th August, 2018.

---

2. **APPLICANT**

Susan

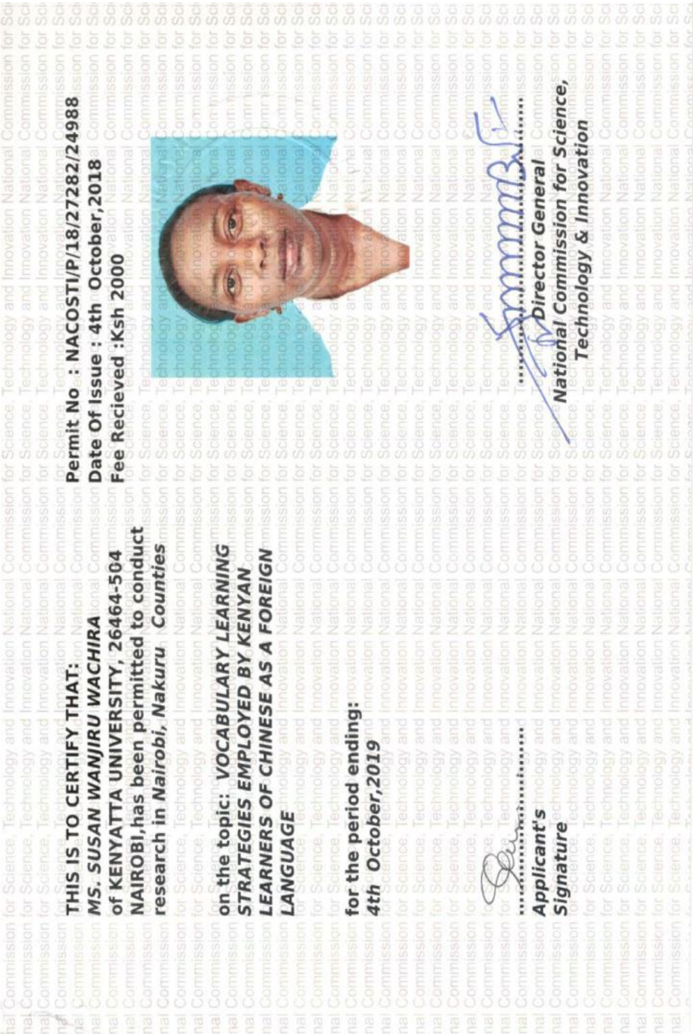
3. **SITE**

Kenyan Universities

4. **DECISION**

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines and **APPROVED that the research may proceed for a period of ONE year from 14th August , 2018.**

APPENDIX G: NACOSTI PERMIT



THIS IS TO CERTIFY THAT:
MS. SUSAN WANJIRU WACHIRA
of KENYATTA UNIVERSITY, 26464-504
NAIROBI,has been permitted to conduct
research in *Nairobi, Nakuru Counties*

on the topic: ***VOCABULARY LEARNING STRATEGIES EMPLOYED BY KENYAN LEARNERS OF CHINESE AS A FOREIGN LANGUAGE***

for the period ending:
4th October,2019

…………………………
Applicant's Signature

Permit No : NACOSTI/P/18/27282/24988
Date Of Issue : 4th October,2018
Fee Recieved :Ksh 2000

…………………………
Director General
National Commission for Science, Technology & Innovation