

بسم الله الرحمن الرحيم



**Sudan University of Science & Technology**  
**College of Graduate Studies**  
**College of Languages**



**The Effect of Using L1 and L2 Glosses on Developing  
University Students' Vocabulary and Reading  
Comprehension**

أثر استخدام اللغتين العربية و الإنجليزية في تعزيز فهم المفردات والقراءة للطلاب الجامعيين

**A thesis Submitted to the Department of English, College of Languages in  
fulfillment of requirements for the Ph.D. degree in English Language (Applied  
Linguistics)**

**Submitted by**

**NaglaTahaBashrieAlnour**

**Supervised by:**

**Dr.Mahmoud Ali Ahmed**

**March 2017**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In The name of Allah Most Gracious Most Merciful

{ فَتَعَالَى اللَّهُ الْمَلِكُ الْحَقُّ وَلَا تَعْجَلْ بِالْقُرْآنِ مِنْ قَبْلِ أَنْ يُقْضَىٰ إِلَيْكَ وَحْيُهُ وَقُلْ رَبِّ

زِدْنِي عِلْمًا }<sup>1</sup> صدق الله العظيم

(Highly exalted be Allah, the true King! Do not hasten with the Koran before its revelation has been completed to you, but say: 'Lord, increase me in knowledge)<sup>2</sup>

---

<sup>1</sup>- سورة طه . الآية : 114

<sup>2</sup>-Grand Shaykh, Professor HasanQaribullah .English translation provided and sponsored by:©  
2001 <http://www.Allah.com> . 114

# **Dedication**

**To my family**

## **Acknowledgments**

All praise is due to Allah, Who has sent to His servant the book so that it may be an admonition to all creatures and take them out darkness into lights and peace is upon his messenger Mohamed.

I owe particular debt to all those who supported me in achieving this study. I would like to express my gratitude to Sudan University of science and technology and the College of Languages and I wish to express my respect and gratitude to my supervisor Dr. *Mahmoud AliAhmed* who generously undertook the heavy burden of reading, guiding, criticizing and encouraging me along the course of this study.

I would be glad to take this opportunity to express my thanks to my colleagues, for their great help, heartily thanks to all university teachers who cooperated in the research and helped in filling in the questionnaires and provided me with good ideas.

## Abstract (Arabic Version)

### المستخلص

هدفت الدراسة إلى معرفة أثر استخدام المسارد المختلفة على تعلم مفردات اللغة الإنجليزية واستيعاب نصوصها لطلاب اللغة الأجنبية. استهدفت الدراسة 124 طالباً (السنة الأولى) يدرسون اللغة الإنجليزية بكلية اللغات، جامعة السودان للعلوم والتكنولوجيا. تم تقسيم الطلاب تقسيماً عشوائياً إلى مجموعتين. درست المجموعة الأولى مع وجود توضيح للمفردات باللغة العربية، بينما درست المجموعة الثانية مع شرح المفردات باللغة بالإنجليزية فقط. حيث جلست المجموعتان لاختبار قبلي وآخر بعدي شمل مفردات اللغة والاستيعاب، كما عبر المشاركون عن آرائهم تجاه الأسلوبين بملء الاستبانة المعدة لذلك. وهناك استبيان آخر يهدف إلى معرفة آراء أساتذة اللغة في استخدام المسرد لتسهيل عملية الفهم والاستيعاب (القراءة) وزيادة مفردات اللغة. أظهر التحليل الإحصائي أن أداء الطلاب الذين درسوا مع وجود توضيح لمفردات اللغة كان أفضل من أقرانهم الذين درسوا مفردات اللغة باستخدام اللغة الثانية (الإنجليزية). وأوصت الدراسة واضعي المناهج والتربويين بالاهتمام بوضع مسرد لمفردات اللغة (إنجليزي/عربي) لأهميتها في تحسين معرفة معاني المفردات وفهم نصوصها.

## **Abstract (English Version)**

This study aimed at investigating the effect of different types of glosses on second-language vocabulary learning and reading comprehension. The total number of students involved in the study is 124 university students who were randomly divided into two groups; L1 (Arabic) gloss group and L2 (English) gloss group. Both of the groups were subjected to two main tests (pre- and post-test), comprehension and vocabulary tests. They were also asked to complete a students' opinion questionnaire for examining their opinions about the uses and the types of glosses. Another questionnaire was distributed to the university teaching staff to know their views about using glosses to facilitate reading comprehension and vocabulary increase. Post the statistical analysis of the two tests, the results showed that the students' performance has improved. The group with L1 glosses has produced relatively higher marks than the one with L2 glosses. This result provides a potential insight for course developers and educators to pay attention to the question of glosses in general and glosses in L1 and L2 and the foremost role they play in improving students reading comprehension in particular.

## Table of Contents

Subject	Page
الآية القرآنية	1
Dedication	11
Acknowledgments	111
Abstract ( English )	1V
Abstract ( Arabic )	V
Table of Contents	VI
List of Tables	X
List of Figures	XI
<b>Chapter One</b>	
<b>Introduction</b>	
1.1 Context of the Study	1
1.2 Statement of the Research Problem	5
1.3 Objectives of Study	6
1. 4 Significance of the Study	6
1.5 Questions of the Study	7
1.6 Hypotheses of the Study	7
1.7 Limits of the Study	8
1.8 Methodology	8
1.10 Summary of the study	8

<b>Chapter Two</b>	
<b>Literature Review and Previous Studies</b>	
<b>Part One:</b> Theoretical Frame Work	9
2.1 Vocabulary Learning Theories	10
2.1.1 Factors Affecting Vocabulary Learning and Acquisition	11
2.1.2 Linguistic Feature of Lexical Items	12
2.1.3 Universally Accepted Definition	14
2.1.4 Paradigmatic Relationship	15
2.2 Influence of the First and Other Languages	18
2.3 The Incremental Nature of Vocabulary Acquisition	19
2.3.1 The Role of the Memory in Vocabulary Learning Acquisition	20
2.3.2 The Organization and Development of the Second Language Mental Lexicon	21
2.3.3 Similarities and Differences Between L1 and L2 Lexicon	24
2.4 The Source of Vocabulary	25
2.4.1 Wide- context as a Source	27
2.5 Individual Learners Differences	27
2.6 Theoretical anchorage	28
2.6.1 The Cognitive Theory of Learning	28
2.6. 2 Inter language Theory	30



2. 6. 3 Bialystok Model	32
2.6. 4 Multidimensional Model	34
2.6.5 Adaptive Control of Thought	35
2.6.6 Mc laughlin's Information Process Model	36
2.6.7 Stren's Synthesis of Model	37
2.6.8 Abraham and Vann's Model of Second Language Learning	40
2.6.9 Ellis's Second Language Acquisition Model	41
2.6.10 Cognitive/ Conative Model of Learning	42
2.6.11 Skenhan's Model of Individual Differences	45
2.7 Vocabulary Learning	47
2.7.1 Vocabulary Learning and Acquisition	47
2.7.2 Incidental Vocabulary Learning	48
2.7.3 Contextual Effect on word Meaning	50
2. 7.4 Glossing	50
2.8 Learning Vocabulary Through Reading	53
2.8.1 Reading for Pleasure VS Instructional Reading	55
2.8.2 Incidental Vocabulary Learning	55
2.8.3 Incidental Vocabulary Learning and Reading Comprehension	58
Part two: Previous Studies	60
2.9 The Summary of the Chapter	61

<b>Chapter Three</b>	
<b>Research Methodology</b>	
3.1 The Study Methodology	62
3.2 The Study Population and Sample	62
3.3 Tools of the Study	64
3.3.1 Validity of the Tools	64
3.3.2 Tools' Reliability	65
3.4 Strategies for The Research	65
3.4.1 Grounded Theory	66
3.4.1.1 Grounded Theory and Present Study	66
3.4.2 Triangulation	67
3.4.3 Saturation	67
3.5 Research Experiment	68
3.6 Teachers' Questionnaire	68
3.6.1 Procedures	69
3.6.2 Pilot Study	69
3.7 Summary of The Research	70
<b>Chapter Four</b>	
<b>Data Analysis, Results and Discussion</b>	
4.1 The Analysis of the Experiments	71
4.2 Analyzing the Students' Questionnaire	74

4.3 Analyzing The Teachers' Questionnaire	87
4.4 Summary of The Study	112
<b>Chapter Five</b>	
<b>Main findings , Conclusions, Recommendations and Suggestion for Further Studies</b>	
5.1 Summary and Conclusion	113
5.2 Recommendations	115
5.3 Suggestions for The further studies	116
5.4 Summary of The Chapter	117
<b>Bibliography</b>	118
<b>Appendix (1)</b>	138
<b>Appendix (2)</b>	141
<b>Appendix (3)</b>	142

## Table of Contents

No	Table	Page
3.1	Reliability Statistics of the Test	65
3.2	Summary of Teacher's Questionnaire	69
3.3	Teachers' Questionnaire /Sex	70
4.1	Distribution of Pre-test and Post-test Scores within the Experimental and Control Groups	71
4.2	Comparing the Results of the Two Groups	72
4.3	It is Important to Learn Vocabulary	74
4.4	It is more Important to Learn Grammar than Words	75
4-5	Glossing is Interesting for Reading Comprehension and Vocabulary	77
4-6	Glossing helps me to understand the passage	78
4.7	I prefer Arabic (L1) glossing to English (L2) glossing	79
4.8	Glossing helps me to read faster and more smoothly	81
4.9	Glossing helps me not to be too dependent on the teacher to give the meaning of the unknown words	83
4.10	Glossing helps me not to consult the dictionary very often and allows me to follow text without much interruption	84
4.11	Glossing make reading interesting and enhance comprehension	85
4.12	I would read more books for pleasure if they used glosses	86
4.13	Teaching years	87
4.14	Vocabulary acquisition is considered an important aspect for EFL students	88

4.15	inaccurate explanation of vocabulary meaning affects students understanding of text	89
4-16	Using glosses is not a completely new idea to most teachers	91
4-17	Glosses are essential tool for learning vocabulary among EFL students	92
4-18	Glosses minimize student's guessing of the word meaning by getting the suitable meaning which fit in context	93
4-19	Glosses make reading interesting and enhance comprehension	95
4-20	Glosses are common phenomena amongst Sudanese students, who apply them across the subjects they study	96
4-21	Textual glosses are valuable tool which facilitate reading in foreign language	97
4-22	Glosses are one of the most effective tools for increasing identification of a word that enhances vocabulary learning among EFL learners	98
4-23	Glosses help students to recognize vocabulary when coming across it again	99
4-24	Glosses make reading more an autonomous activity for learners	100
4-25	Glosses are necessary in extensive reading which contents numerous unknown word	102
4-26	Glosses help students to read faster and smoothly	103
4-27	Glosses minimize the use of additional in turn reduce interruption of fast reading and comprehension	104
4-28	The L1 gloss activates the reader's rare knowledge and facilitates vocabulary again	106
4-29	Learners who use L1 gloss are better at understanding the text than those who use English gloss	107

4-30	Using L1 gloss ties students with his environment	109
4-31	Using L2 gloss connect student with native speaker environment	110
4-32	Learners who use L2 are better at understanding the text than those who use Arabic gloss	111
4-33	Glosses help student not to be too depending on the teacher to supply the meaning of unknown words	112

# CHAPTER ONE

## INTRODUCTION

### 1.0 Overview

**This** introductory chapter provides a description on the theoretical framework of the study with a special focus on the statement of the problem, study questions, hypotheses, objectives and the methodology of the study.

### 1.1 Context of the study

One aspect of a second language (L2) taken into account as one of the fundamental aspects of every L2 is vocabulary or lexicon. Vocabulary learning is essential for the learning of a second language, which constitutes a great challenge and enormous task for both second language learners and teachers. Perhaps the greatest tools teachers can give students for succeeding, not only in their education but more generally in life, is a large, rich vocabulary and the skills for exploiting their huge repertoire. Our ability to function in today's complex social and economic world is mightily affected by our language skills and word knowledge

The significant role of vocabulary in L2 learning should not be looked down upon. Thus, within the framework of teaching, L2 teachers should take a more comprehensive approach to develop ESL/EFL learners' vocabulary. Knight, (1994) stated that Learning words can be considered to be the most important aspect of second language (L2) learning. Also; Candlin (1988, : vii) said, "... the study of vocabulary is at the heart of language teaching in terms of organization of syllabuses, the evaluation of learner performance, and the provision of learning resources" ...

Nation (2001) claimed that ' among these cognitive activities, reading, especially extensive reading, has aroused much research attention because of the fact that pleasure reading habits can enlarge first language (L1) learners' vocabulary, and promote their language competence and academic performances'.

Vocabulary is generically defined as the knowledge of words and word meanings. More specifically, we use vocabulary to refer to the kind of words that students must know to read increasingly demanding text with comprehension (Kamil & Hiebert, 2005). It is something that expands and deepens over time. The NRP's synthesis of vocabulary research identified eight findings that provide a scientifically based foundation for the design of rich, multifaceted vocabulary instruction.

Stahl (2005) stated, "Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world." Consequently, researchers and practitioners alike seek to identify, clarify, and understand what it means for students "to know what a word means." The sheer complexity of vocabulary acquisition, as evidenced by reviewing critical components such as receptive vocabulary versus productive vocabulary, oral vocabulary versus print vocabulary, and breadth of vocabulary versus depth of vocabulary (Kamil & Hiebert, 2005) raise questions worthy of further research. Other factors such as variations in students' vocabulary size (Anderson & Freebody, 1981; Nagy, 2005), levels of word knowledge (Dale, 1965; Graves & Watts-Taffe, 2002), as well as which words are taught (Beck et al., 2002; Biemiller, 2005) and how word knowledge is measured (Biemiller, 2005) must all be considered in shaping our understanding of vocabulary acquisition.

Vocabulary instruction does lead to gains in comprehension, but methods must be appropriate to the reader's age and ability. The importance of vocabulary to success in reading is well known, but there continues to be little research that



conclusively identifies the best methods or combinations of methods of vocabulary instruction.

Second language learning researchers (Hulstijn & Laufer, 2001; Krashen, 1989; Wesche & Paribakht, 1999) generally think that vocabulary growth often appears incidentally while learners are doing other cognitive exercises. Among these cognitive activities, reading, especially extensive reading, has aroused much research attention because of the fact that pleasure reading habits can enlarge first language (L1) learners' vocabulary, and promote their language competence and academic performances (Nation, 2001). In addition, children can acquire L1 vocabulary through reading within a short period of time by incidental vocabulary learning.

It is a large established and considerable percentage of L2 vocabulary acquisition on the part of learners occurs incidentally, i.e. as a by-product of reading (Davis, 1989; Fraser, 1999; Jenkins, Stein & Wycsocki, 1984; Nation, 2001; Rieder, 2003). Text comprehension, however, would not essentially call for the type of word processing that result in long-term retention (Rott & Williams, 2003). Therefore, if the goal is to make new words learned and retained, a diversity of textual enhancement techniques such as adjunct aids (Robinson, 1994; Marefat & Ghahari, 2009), increased word frequency, or glosses (during-reading vocabulary guides), could be opted for and applied.

Researchers have suggested some ways to promote vocabulary gains in incidental vocabulary learning: the use of dictionary, guessing from context, glosses, and so on. Many studies have confirmed that glosses are very useful for reading comprehension (Davis, 1989; Jacobs, 1994; Johnson, 1982; Myong HeeKo, 2005) and incidental vocabulary learning (Chen, 2002; Duan & Yan, 2004; Gettys et al., 2001; Grace, 1998, 2000; Hulstijn, Hollander and Greidanus, 1996; Jacobs et al., 1994; Kost et al., 1999; Miyasako, 2002). With the development of computer and

multimedia technology, gloss formats are not limited in text only. This technologically advanced tool offers different modalities of gloss, i.e., pictures, animations, video, sound, etc., which cause immediate access, reader control and absence of interruption in reading (Al-Seghayer, 2003).

What does “incidental learning” really mean? There are not always agreed-upon or overtly stated definitions of it (Gass, 1999). Most of the papers in the special issue of incidental vocabulary learning (Wesche & Paribakht, 1999) have taken incidental learning as something that is learned without specific focus of attention in a classroom context. In Wesche and Paribakht’s definition(1999), incidental vocabulary learning refers to the process in which learners focus on comprehending meaning of reading and listening contexts rather than on the intentional vocabulary learning and acquire vocabulary as a “by-product” without the learner’s conscious decision, or intention to learn the words. Nation (2001) has shown that in incidental vocabulary learning the learners’ attention is focused on some other feature, usually the message that is conveyed by a speaker or a writer. If the amount of unknown vocabulary is low in such messages, considerable vocabulary learning can occur even though the learners’ attention is not directed toward vocabulary learning.

Another different interpretation of the incidental learning was put by Haynes (1998, cited by Wesche & Paribakht, 1999). She saw attention rather than intention as the key to clarifying the construct, as well as a separation of teaching considerations from those of learning. She proposed two continua, one of them from “indirect teaching” to “direct teaching” and the other from “incidental learning” (or automated learning, involving the learner’s peripheral attention while focal attention is elsewhere) to “attended learning” (involving focal attention).

## **1.2 Statement of The Problem**

At undergraduate level, EFL learners have a drastic need for reading in very broad general terms by virtue of being exposed to diverse subjects or disciplines. This is the time when learners start developing independent reading comprehension as a requisite factor to cope with the university new learning environment. A number of researcher demonstrated that EFL learners' reading is limited to textbooks. Lee and Millender (2011) declared that second language learners lack a substantial amount of pleasurable reading outside the classroom since their reading is limited to the textbooks. Therefore, they are not expected to develop the required vocabulary.

What further blurs the image for EFL learners is the fact that they are often frustrated by a large amount of unknown words in reading material especially when they have relatively poor vocabulary knowledge. They should enjoy reading without the resorting to dictionaries. A number of researchers suggested the use of gloss in an attempt to solve the problem, especially for the lower-level learners. Glosses are considered as valuable tools which facilitate reading in foreign language (Watanable, 1997). Using gloss is easier and it prevents excessive dependence on dictionaries that have the effect of minimizing pleasure the text is bound to give. Again using dictionary is time consuming as it interrupts the reading process, (Ko,2005,Nation,2002).

Good knowledge of vocabulary is desirable across the foreign or second language learning. Hence, to maximize one's vocabulary power, it is essential to learn vocabulary acquisition strategies. Glosses are such strategies that multiple students resort to solve their reading problems. Hence; this study is specifically going to investigate the effect of using L1 (Arabic) gloss and L2 (English) gloss on developing vocabulary and reading comprehension among university students.

### **1.3 Objectives of the Study:**

The current study seeks to explore the area of glosses with following set of objectives in mind:

1. Glosses are traditionally used by most Sudanese learners of English as part of their learning recess
2. Glosses are widely considered as personal tools that are use differently by different people and hence interpreted in the users' own ways.
3. Glosses are viewed by many linguists and academics as a universal phenomenon among language learners across the globe.

### **1.4 Significance of the Study:**

The past fifteen years have produced an explosive of research in the field of second language vocabulary acquisition (SLVA). This emphasis is warranted, given the recent evidence for the lexical nature of much of aural language processing speed production, and writing. Moreover; as researchers and teachers; have come to understand the role of the vocabulary in language learning and communication, the increased attention to vocabulary teaching has become more important.

Also; there is mounting evidence that many learners, particularly those English as a foreign language (EFL) context whose native language not genetically related to English, are not developing their vocabulary to level which we would permit them to function adequately in many English language contexts (Barron, Nakanishi, and Lshino, 1999, Nurweni and Read, 1999). Many researchers believe that the heat of the language comprehension and use is vocabulary, and that Widdowsons (1989) calls (... to shift grammar from its preeminence and to allow the rightful clam of lexis”).

Further researches, over the past years, have been done on the effects of gloss on developing vocabulary learning. Most of these studies attempted to question the following issues: gloss language; i.e. the learners' mother tongue (L1) or the target language (L2); the place where the glosses should be put (in-text glosses, marginal glosses, or on attached sheet); and gloss type (i.e. multiple choice glosses, single glosses, or no glosses). The different and inconsistent results of these researchers make it necessary to investigate the problem in different contexts (particularly a context like Sudan, where the issue is largely under-researched, where there is a growing need for English in the university is set).

Thus the present study is expected to help promote understanding of the issue of EFL reading and vocabulary learning, using glosses, in the context of Sudanese universities exemplified by Sudan University of Science and Technology.

### **1.5 Questions of the study**

This study sets out primarily to find answers to the following questions:

1. To what extent are there significant differences in scoring marks between learners using L1 (Arabic) gloss and L2 (English) gloss on reading comprehension tests (pre-post-tests)?
2. To what extent can gloss practice maximize vocabulary and enhance overall understanding?
3. To what extent do EFL Learners prefer to use glosses whether in L1 or L2?
4. What are the teachers' opinions about using glosses?

### **1.6 Hypotheses of The Study**

This study sets out to test the following hypotheses:

1. There is a significant difference in scoring marks in reading comprehension between learners using L1 glosses and their peer using L2 glosses.

2. Gloss practice maximizes vocabulary and enhances overall understanding.
3. EFL learners prefer to use glosses whether in L1 or L2.
4. Teachers have good opinion about using glosses among EFL learners.

### **1.7 Limits of the study**

The title of this study shows that it is concerned with using L1 and L2 glosses to facilitate reading comprehension and vocabulary acquisition. Thus it is limited to practicing, examining and analyzing reading comprehension of the sample then evaluating how much they gain after studying reading comprehension.

This research has carried out on a sample of the first-year students, of the department of English Languages, college of languages at Sudan University of Science & Technology.

### **1.8 Methodology**

The methodology that has been adapted to the current study is descriptive and practical approach. The researcher used; for a specific period of time (a semester); selected reading material using L1 and L2 glosses to two different groups.

As far as this study is concerned; the researcher has used two tools. One typical tool is a questionnaire, intended to examine the teachers' and learners' attitude towards the use of glosses and their preferences as regards using L1 or L2. They are two different questionnaires. The second tool is a test for the students. The participants' results will be analyzed by means of (SPSS) to show the differences between the scores of the groups.

### **1.10 Summary of the study**

In this chapter a detailed description of the theoretical framework has been provided with some focus on the definition of the research problem and the research methodology. In the next chapter some relevant literature will be critically reviewed.

## CHATER TWO

### LITERARTURE REVIEW and PREVIOUS STUDIES

This chapter reviews the relevant literature on the issue of glosses L1 and L2 use on FL classroom and other related topics with some emphasis on the effect of glossing on reading comprehension and writing. Important findings and arguments from opponents and proponents of an English-only teaching method will be discussed. The chapter is divided into two parts, the first one is on the theoretical framework, and the other is on previous studies.

#### **Part one: Theoretical framework**

Vocabulary knowledge is considered the key ingredient in successful reading. The direct link between vocabulary and reading has been made in L2 research in that vocabulary enhances reading comprehension and reading in turn increases vocabulary knowledge. It was reported that L2 learners are often reluctant to read (Day & Bamford, 1998) because they regard reading as an unpleasant and painful process to the extent that the lack of reading leads to the lack of vocabulary that is a big problem for L2 learners. Furthermore, it is necessary for EFL/ESL learners to read without using dictionary to enjoy reading and overcome the feeling of frustration by unknown words. It is mentioned that one of the major factors in unsuccessful reading can be a lack of noticing. In his Noticing Theory, Schmidt (1995) emphasizes that conscious attention is necessary for learning and noticing is generally the first stage of learning. It is highly possible that during reading, the readers fail to notice unknown words and vocabulary learning will not occur. Numerous researchers (e.g., Yoshii, 2006; Nation, 2002) referred to glossing as one of the most effective tools for increasing noticing that enhances vocabulary learning among ESL/EFL learners. Nation (2002, pp. 174-175) defines gloss as .a brief definition or synonym of unknown words provided in text in L1 or

L2. According to Paribakht and Wesche (1999), Parry (1997), and Watanabe (1997), glossing is necessary since the problems arise from extensive reading. Glosses are considered as valuable tools which facilitate reading in a foreign language (Watanabe, 1997). Using the gloss is easier and minimizes the interruption of reading flow compared to using a dictionary that is time-consuming and interrupts the reading process (Ko, 2005; Nation, 2002). Glosses make the learners more autonomous in reading activity (Nation, 2002).

## **2.1 Vocabulary Learning Theories**

Now, this part will shed light on principally salient theories connected with implicit and explicit vocabulary acquisition, retention and comprehension. Relevant to the present study and reviewed here will be Vocabulary Acquisition Theory (Coady et al., 1985, 1993; Nation, 1990; Lewis, 1997), Dual Coding Theory (Paivio, 1971; 1986), Levels of Processing Theory ( Craik and Lockhart, 1972), Involvement Load Theory (Laufer and Hulstijn, 2001) and the Cognitive Theory of Multimedia (Wittrock, 1990; Mayer, 1997; 2001). What follows is a 34 comparison of the implicit and explicit modalities of teaching and learning vocabulary as done on the computer, and their impact on comprehension and retention, assessed at different points in time. Coady et al.'s (1985) theory of vocabulary acquisition advocates special focus on the category of words whose forms and often meanings are unknown to the learner and urges the use of practical learning action as a solution to the limitations that constrain the second language learner's vocabulary knowledge. In this theory, active teaching and learning of vocabulary is essential to second language development. Coady's (1993) Theory of Vocabulary Knowledge and the ability to comprehend text are inextricably linked to breadth and depth of a student's vocabulary as a key predictor of his or her ability to understand a wide range of texts. According to Coady's theory, vocabulary learners need good vocabulary knowledge in order to be able to



successfully derive word meaning as a limited knowledge can lead to faulty guessing. This is what Nation (1990) describes as the paradox of the beginner. For Nation (1990), vocabulary choice should be based on good understanding of the principles behind it, the theoretical and experimental justification, and the way of dealing with it. Nation also believes that there is a place for both direct and indirect vocabulary learning and that contact with language in use should be given more time than decontextualized activities. Thus, vocabulary teaching and learning need to be principled and based on empirical findings in teaching, learning, and production. Nation (1990) also supports the view that foreign and second language learners at lower levels need to develop vocabulary for different purposes, and those at higher levels need to improve theirs in order to ascend toward the native speakers' level of competence and performance. As a means of enhancing vocabulary instruction, there has been a diversification in the forms and use of technology in teaching and learning vocabulary through the use of software and hypertext, as well as the World Wide Web among other aspects. This use of technology provides the opportunity to introduce the new language in a diverse form that can support the variety of processes as well as allow the possibility of matching diverse learner strategies. This use of multiple modalities is supported by Paivio's (1971, 1986) Dual Coding Theory and Myer's (1997, 2001) Cognitive Theory of Multimedia.

### **2.1. 1 Factors affecting vocabulary learning and acquisition**

Despite the abundance of research on vocabulary acquisition that has been conducted by linguists, psychologists and theorists of L2 acquisition, there is still no generally accepted theory of vocabulary acquisition (for further discussion, see Meara, 1997). This fact may be partially attributed to the lack of cooperation or agreement among experts. On the one hand, psycholinguists have a particular interest in vocabulary development and exploration of the formal models of

vocabulary acquisition, and ignore the L2 vocabulary literature because it is model free. Applied linguists, on the other hand, are mainly concerned with the descriptive aspects of vocabulary and do not draw on existing psycholinguistic models of bilingual lexicon even when this implies an immediate pedagogical significance. Differences in the research focus have caused the two fields to develop at different rates, which have led to an even larger gap between them. It is, therefore, extremely difficult to list all the significant factors and the ways in which they influence vocabulary acquisition. In this section, a selection of the factors most frequently discussed in the relevant literature is presented.

### **2.1.2 Linguistic features of lexical items**

When it comes to linguistic features of lexical items, several issues need to be taken into consideration. To begin with, there is the problem of defining a ‘word’. Intuitively, vocabulary could be defined as a ‘dictionary’ or a set of words. This general view is reflected in the lexicographical approach to the traditional way of listing words in a dictionary. However, it is obvious that for linguistics and L2 acquisition theory this interpretation is far too simplistic and limited. Linguists’ attempts to specify what speakers of a language traditionally regard as a ‘word’ have resulted in so many formally different definitions of this term that their number alone suggests the complexity of the problem.

Firstly, according to the orthographic definition, a ‘word’ is ‘. . . any sequence of letters (and a limited number of other characteristics such as hyphen and apostrophe) bounded on either side by a space or punctuation mark’ (Carter, 1992: 4). Its flaw is not only its limitation to the written language, but the fact that it is formalistic, inconsistent and incomplete because it neglects differences in meaning and the issues of polysemy, homonymy, grammar functions, etc.

Secondly, based on semantics, a word can be defined as the smallest meaningful unit of language (Carter, 1992). As there is still no satisfactory definition of what

‘meaning’ is, i.e. what the relationship between the linguistic sign is and what it denotes outside the language, this definition is not reliable enough. Namely, some units of meaning consist of several words (e.g. bus conductor), for some the meaning cannot be determined without looking into their function in structuring and organizing information (e.g. if, but), and certain ‘integral’ parts of words cannot stand on their own even if we know their meaning (e.g. the prefix ‘re-’ in retell).

Thirdly, by the same token, the definition that restricts a word to a single stressed syllable allows for many exceptions: words like if and but do not have a stress, and bus conductor would be regarded as a single word in this view.

Next, Bloomfield’s definition, according to which a word is a minimal free form, i.e. the smallest form that has a meaning when standing on its own (Sˇkiljan, 1994), encompasses most of the categories and, without excluding further reduction of forms, provides a word with a degree of stability. Again, the problem of marginal cases arises and undermines every attempt to define a word in a formalistic way: firstly, items like and the appear only in contextual relations to other words and secondly, idiomatic expressions, which consist of several orthographic words and cannot be reduced without radically changing their meaning (Carter, 1992).

Furthermore, McCarthy (1994) claims that a word, as a free meaningful unit of language, must contain at least one potentially freestanding morpheme. From this view a conditional definition of a word may be derived: a word is a combination of morphemes that comprise a firm unit suitable for the formation of higher level units (Sˇkiljan, 1994). In addition, in Carter’s view (1992), one of the greatest problems of defining a word, along with the above-mentioned constraints, is the fact that words have different forms that would not intuitively be regarded as

different words. Moreover, words can have the same form with completely different and unconnected meanings.

Finally, by way of attempting to solve this problem, a neutral term *lexeme* or *lexical unit* has been introduced. It is an abstract unit that includes various orthographic, phonological, and grammatical and semantic features of a 'word'. Thus, this term covers inflections, polysemy, as well as multi-word items with different degrees of fixedness, such as compounds, phrasal verbs, and idioms. The difference between holistic multi-word items and other kinds of strings (i.e. multi-word inflectional forms, such as verb phrases *are going* or *has been chosen*) may be determined by applying the following criteria: institutionalization or lexicalization (the degree to which a multi-word item is considered as being a unit by the language community), fixedness (the degree to which a multi-word item is frozen as a sequence of words) and no compositionality (the degree to which a multi-word item cannot be interpreted on a word-by-word basis, but has a specialized unitary meaning) (cf. Moon, 1997: 44).

### **2.1.3 Universally accepted definition**

The second issue that needs to be discussed arises from the lack of an unambiguous and universally accepted definition of a word: vocabulary of any language consists of a wide range of lexical forms. Thus, many linguists and theorists of L2 acquisition agree that vocabulary is made up of a variety of forms, such as morphemes, both free and bound (e.g. *laugh*, or the prefix *un-*), their combinations, i.e. derivatives (e.g. *laughter*, *unbelievable*), compounds (e.g. *bus conductor*), idioms, i.e. units that cannot be reduced or changed, and whose meaning cannot be retrieved from individual meanings of their components (e.g. *to bite the dust*), and other fixed expressions, such as binomials and trinomials (e.g. *sick and tired*; *ready, willing and able*), catchphrases (e.g. *they don't make them like that anymore*), prefabricated routines or prefabs (e.g. *if I were you*), greetings

(e.g. How do you do?) and proverbs (e.g. It never rains but it pours). This list of formal categories indicates a tremendous heterogeneity and a wide range of lexical items, but is by no means complete and absolute, nor are the categories strictly demarcated: their overlap is inevitable. It is this aspect that places vocabulary on the boundaries between morphology, syntax and semantics.

The third issue takes into consideration the fact that lexical items can hardly be viewed in isolation from each other, for they enter, semantically speaking, into various relations. These include hyponyms (lexical items within the same semantic field, i.e. at content level), synonyms (two or more lexical items that have the same or nearly the same meaning but different form), antonyms (lexical items of opposite meanings) and homophones (lexical items that have the same form but different meanings).

Meaning can be studied by means of the so-called componential analysis, which is based on the assumption that the meaning of a lexical item can be broken down into a set of meaning components or semantic features. The meaning of a lexeme is determined by a number of distinctive semantic features, namely their absence (marked by ‘\_’), presence (marked by ‘\_’) or irrelevance for the definition of a lexeme’s meaning (marked by ‘9’). This approach shows which features of lexical items from the same semantic field overlap or differ, and is therefore suitable for the exploration of synonymy. A disadvantage of componential analysis is not only its failure to cover all meanings, but also the fact that it reduces the meaning components to binary oppositions that cannot always be precisely determined, and the fact that it may result in an indefinite list of a lexical item’s relevant features.

#### **2.1.4 Paradigmatic relationship**

The above-mentioned cases exemplify a paradigmatic relationship.

This is the relationship between a lexeme and other lexemes that could be substituted for it in a sentence. A different type of relationship which lexemes enter

into \_ called a syntagmatic relationship \_ is characterized by linear sequencing of lexemes. Such combinations of lexemes, however, are restricted. These restrictions (or ‘collocations’) determine which lexical units may be selected to form semantically acceptable combinations of two or more syntactically combined lexical units. Some collocations are entirely predictable (e.g. blond and hair); some lexical items have a wide range of collocations (e.g. letter collocates with alphabet, box, post, write, etc.), and some lexemes appear in so many different contexts that it is practically impossible to predict all of their collocations (e.g. verbs like have or get). To be noted is the fact that collocations differ from free associations of ideas: associations are highly individual, whereas collocations are lexical connections established in the same way by all speakers of a language. The study of collocations can be effective if it is conducted on large amounts of data, which is inevitably associated with corpus studies,<sup>1</sup> because collocations are not merely random combinations of lexical items, but are part of their meaning in the broadest sense of the word (Moon, 1997).

Finally, other factors influence the learning of a lexical item and make the acquisition of vocabulary difficult. According to Laufer (1997), the factors that affect the learnability of lexical items include pronounceability (phonological or suprasegmental features), orthography, length, morphology, including both inflectional and derivational complexity that increase the vocabulary learning load, similarity of lexical forms (e.g. synforms,<sup>2</sup> homonyms), grammar, i.e. part of speech, and semantic features (e.g. abstractness, specificity and register restriction, idiomaticity

<b>Facilitating factors</b>	<b>Difficulty-inducing factors</b>	<b>Factors with no clear effect</b>
Familiar phonemes	Presence of foreign Phonemes	
Phonotactic regularity	Phonotactic irregularity	
Fixed stress	Variable stress and vowel Change	
Consistency of sound_ script relationship	Incongruency in sound_ script relationship	
		Word length
Inflexional regularity	Inflexional complexity	
Derivational regularity	Derivational complexity	
Morphological Transparency	Deceptive morphological Transparency	
	Synformy	
		Part of speech
		Concreteness/ abstractness
Generality	Specificity	
Register neutrality	Register restrictions	
	Idiomacity	
One form for one Meaning	One form with several Meanings	

### **2.3 Influence of first and other languages**

L2 vocabulary acquisition is different from L1 vocabulary acquisition because an L2 learner has already developed conceptual and semantic systems linked to the L1. This is why L2 acquisition, at least in its initial stages, often involves a mapping of the new lexical form onto an already existing conceptual meaning or translational equivalent in L1. The role of L1 in this process varies depending on the degree of equivalency between languages: although in some cases it may facilitate the acquisition or use of L2 lexical items, in others it will create an obstacle. This may occur in the process of acquisition, in recalling and using previously learnt lexical items, or in attempts of constructing a complex lexical item that has not been learnt as a unit. By making cross-linguistic comparisons (i.e. by contrastive analysis) one can often predict difficulties caused by interference of the L1 that learners may encounter when learning the target language. Namely, the learner's approach to L2 learning is based on an 'equivalence hypothesis': 'the learner tends to assume that the system of L2 is more or less the same as in his L1 until he has discovered that it is not' (Ringbom, 1987: 135). The learner's readiness to transfer may also be influenced by his perceptions of linguistic and cultural distance. Forming a kind of equivalence hypothesis enables learners to learn an L2 without having to go all the way back to learning how to categorise the world. However, equivalence hypothesis may fail and lead to erroneous conclusions because of the following reasons (Swan, 1997):

- . Lexical units in two languages are not exact equivalents (i.e. there is more than one translation);
- . Equivalent lexical units in related languages have different permissible grammatical contexts;
- . Equivalents belong to different word classes;
- . Equivalents are false friends;



. There are no equivalents at all.

Coping with these problems may be overwhelming, and the learners tend to avoid such ‘difficult’ lexical items, especially if there is a semantic void in the L1. A possible explanation is that in such cases there is no foundation on which L2 knowledge may be built (Gass, 1989).

Finally, the L2 learner, unlike the child acquiring its L1, cannot significantly expand his or her vocabulary solely through exposure to the language input. The exposure to L2 input is often limited to the classroom context. The input may be increased by reading (cf. Ellis, 1997) or listening (Rivers, 1981) in the target language. But these activities, although undoubtedly useful, do not guarantee the development of rich vocabulary. Similarly, formal teaching of vocabulary has its limitations, for, as Rivers (1981: 463) claims, ‘vocabulary cannot be taught’.

## **2.2 The incremental nature of vocabulary acquisition**

Knowledge of an L2 lexical item consists of several components. Generally, it is characterized by several dimensions of word knowledge (i.e. phonological and orthographic, morphological, syntactic and semantic) and by knowledge of conceptual foundations that determine the position of the lexical item in our conceptual system. Finally, it inevitably includes the ability of productive use, i.e. efficient retrieval of the lexical item for active use.

Ideally, knowledge of a lexical item would include all of the abovementioned dimensions and would be reflected in the ability to react in the manner of an educated native speaker. However, knowledge of a lexical item is not an ‘all-or-nothing’ proposition; it is rather to be conceived of as a continuum of knowledge at whose ends, according to some theoreticians, the receptive and productive knowledge is placed. It can be concluded that even partial knowledge represents a degree of knowing a lexical item. The initial degree is elementary knowledge, such

as the visual recognition of a lexical item in a context that still does not enable a learner to produce it. Higher degrees of knowledge, close to productive knowledge, would suggest, for example, knowledge of multiple meanings of a polysemous lexical item or its collocations, etc. Whereas interpretation requires only as much information as is necessary to distinguish a lexical item from all other possibilities, production requires more information, which may even include the aid of an adequate stimulus (e.g. context) (Melka, 1997).

### **2.3.1 The Role of Memory in Vocabulary Learning and Acquisition**

The role of memory<sup>3</sup> is crucial in any kind of learning and vocabulary learning is no exception. According to the above-described continuum, learning of lexical items is not linear. Learners, without fail, forget some components of knowledge. In both long-term and short-term memory forgetting takes place in a similar way. When obtaining new information, most of it is forgotten immediately, after which the process of forgetting slows down. On the basis of available research results, Thornbury (2002) has compiled a list of principles that facilitate the transfer of the learning material into the long-term memory. These include multiple encounters with a lexical item, preferably at spaced intervals, retrieval and use of lexical items, cognitive depth (cf. Schneider et al., 2002), affective depth, personalization, imaging, use of mnemonics<sup>4</sup> and conscious attention that is necessary to remember a lexical item. A proper understanding of the role memory plays in vocabulary acquisition has an immediate practical value: as lexical knowledge is more prone to attrition than other linguistic aspects (Schmitt, 2000), the learning and teaching of vocabulary needs to be planned following the above mentioned principles if it is to be efficient.

### **2.3.2 The Organization and Development of the Second**

#### **Language Mental Lexicon**

L2 vocabulary development is also influenced by the organization of the mental lexicon. The mental lexicon is ‘a memory system in which a vast number of words, accumulated in the course of time, has been stored’ (Hulstijn, 2000: 210). This system is seen to be organized and structured, because it is the only possible explanation for the fact that people can, at an astonishing rate, in a vast quantity of lexical items stored in the memory, recognize and retrieve the lexical item they need to express what they want. Human memory is very flexible and it can ‘process’ a large quantity of data, but only if it is systematically organized.

It is not easy to gather the data on the organization and functioning of the mental lexicon. Some answers can be found by studying various speakers’ behavior, such as tip-of-the-tongue phenomena, slips of the tongue and problems manifested by people who suffer from aphasia (Aitchison, 1990) or by analyzing communication strategies used by L2 learners (Ridley, 1997). It is understandable; therefore, that many conclusions about the development and organization of the mental lexicon are based on assumptions. Nevertheless, such studies have yielded results that significantly contribute to modeling the mental lexicon.<sup>5</sup> Research on the L2 mental lexicon is further complicated by the presence of at least one more language. In addition to the organization and development of the L2 mental lexicon, these studies deal with similarities and differences between the L1 and L2 mental lexicon and the degree of separation or integration of the two systems.

The term mental lexicon or mental dictionary is reminiscent of a traditional printed book dictionary only because it refers to a collection of lexical items. But, a printed dictionary is necessarily static, limited and prone to become outdated, whilst the mental lexicon encompasses a multitude of features suggesting a more complex yet

far more efficient organization. Aitchison (1990) lists additional differences between the mental lexicon and a book dictionary.

The mental lexicon can partially be organized according to initial sounds, but the order will not be strictly alphabetical as in book dictionaries. Other features of a lexical item's structure, such as suffixes or stress, may also play a role in its placement in the mind. Furthermore, words in the mind seem to be connected into semantic networks, and the strongest links, as shown by association tests, are coordination and collocation. Moreover, the mental lexicon is characterised by fluidity and flexibility (Aitchison, 1990: 12). These characteristics are reflected in the unlimited human creativity in applying the knowledge in new ways and interpreting new situations in light of previous knowledge. But the amount and the range of information on every single 'entry' provided by the mental lexicon (such as information on collocation, meanings in relation to other words, frequency of usage, syntactic patterns a word may slot into, etc.) must be held as the greatest difference between the mental lexicon and the dictionary-book. Also, the mental lexicon offers multiple accesses to information; processes of word recognition and word production activate more words than necessary, only to make a final selection and suppress the 'unnecessary' information.

On the basis of the above considerations it is assumed that the place of a word in the mental lexicon should be represented by a three-dimensional model 'with phonological nets crossing orthographic ones and criss-crossing semantic and encyclopaedic nets' (McCarthy, 1994: 41). However, the links between individual nets are very fragile and can 'break'. This is manifested in such cases when a speaker cannot produce the sound of the word although he/she has produced it before, knows that it exists and what it means, and can even give many descriptive details about it. This situation, in addition to the fact that a speaker of a language can understand novel forms, is often taken as empirical evidence supporting the

existence of the dichotomy between receptive and productive vocabulary.<sup>6</sup> Speakers of a language intuitively support this view and assume that receptive vocabulary is much larger than productive vocabulary, and that receptive vocabulary precedes productive vocabulary. The current literature, however, does not offer an adequate definition of the two notions, and the distinction has been criticised as being too simplistic in that it implies the idea of the mental lexicon as a static unit consisting of two separate compartments. Melka (1997) has concluded from the review of a number of studies that there are two directions in understanding the dichotomy between receptive and productive vocabulary. On the one hand, reception is thought to precede production and the distance between the two asymmetric notions is fairly large. Moreover, reception and production are two different processes dependent on different mental processes. An opposing view is that reception may precede production, but the gap between the two notions is not that significant and it varies and shifts. The abovementioned contrasting views of reception and production have led to different estimates of receptive and productive vocabularies (cf. Melka, 1997). One group of researchers estimates the receptive vocabulary to be double the size of productive vocabulary, another that the distance between reception and production, although constantly present, diminishes with the development of knowledge, and a third group does not find the gap that significant at all. Although it is impossible to reach a definite conclusion, primarily because of different ways of testing and interpreting results, it is plausible to suppose that the ‘truth may lie between the second and the third possibilities’, says Melka (1997: 93). A further suggestion put forward by the same scholar is that the notions of receptive and productive vocabularies should be replaced by other notions, such as familiarity and degrees or continuum of knowledge.

Namely, there are different stages of familiarity with a lexical item that enables one to recognise it when its production is still impossible. These stages bring us closer to the border of reception and production and to the point where reception finishes and production starts, if only partially. The mental lexicon is seen as ‘a mixed system which has found a workable compromise between the requirements of production and those of comprehension’ (Aitchison, 1990: 193).

### **2.3.3 Similarities and differences between L1 and L2 lexicons**

The debate on similarities and differences between L1 lexicon and L2 lexicon(s) can be summarized into four basic hypotheses as follows (Hulstijn, 2000):

- (1) the extended system hypothesis: L1 words and L2 words are stored in a single store);
- (2) The dual system hypothesis: words are stored in separate stores;
- (3) The tripartite hypothesis: similar words (e.g. cognates) are stored in a common store, and language-specific words are stored in separate stores;
- (4) The subset hypothesis: L1 words and L2 words are stored in two relatively separated subsets, but both subsets are stored in a common store.

It is claimed by many that for L2 learners networks of semantic associations are not the most frequent way of word association as is the case in the native language: more often L2 learners connect words on the basis of their phonological similarity. Meara (1984) concludes on the basis of his research that techniques for word storage and handling may depend on the language, i.e. that the L2 mental lexicon is considerably different from that of the native speaker. Consequently, says Meara, learners use strategies inadequate for the given language, which can account for some difficulties in L2 learning. Swan’s approach to this issue is somewhat different. He claims that one should not conclude that there are ‘. . . generalisable, significant qualitative differences between the L2 mental lexicon and the L1

mental lexicon for all language learners' (Swan, 1997: 175). The above-mentioned difficulties in L2 learning may as well be attributed to other factors. According to Singleton (1999), the conclusion that the activation of the mental lexicon is primarily phonologically conditioned has been made on the basis of the nature of the research design.<sup>8</sup> The implication is that in L2 learning attending to form precedes attending to meaning.<sup>9</sup> There is, however, a body of research findings suggesting other possible explanations. For example, results of the study conducted by O'Gorman (1996) supply evidence in favour of semantic links with prompts. Worth noting in this context is the finding of Henning (1973) who explored the parameters of lexical coding in memory. Focusing his research on two parameters, that of semantic and that of acoustic grouping, Henning attempted to answer the question whether L2 learners code vocabulary in the memory in phonological or semantic clusters, and whether there is a correlation between learners' proficiency and the type of coding.

#### **2.4 The source of vocabulary**

Research on L1 vocabulary acquisition has shown that the primary source of vocabulary for native speakers is a wide range of contexts that enable them to experiment and to confirm, expand or narrow down the lexical nets (Carter, 1992). Naturally, this process is not based on explicit formal instruction, but on incidental learning from large amounts of language input. When it comes to learning an L2, however, the answer is not that simple. Although some research results have confirmed the assumption that L2 vocabulary can also be acquired through exposure to various contexts (such as reading, see Sternberg, 1987), these conclusions cannot be interpreted without taking into consideration the factors that directly affect the efficiency of the process. Clearly, the role of the context in initial stages of vocabulary learning is relatively negligible. The success of contextual Inferencing will depend on the learner's proficiency level, i.e. on the

various categories of knowledge (linguistic knowledge, world knowledge and strategic knowledge) that the learner needs to apply (Nagy, 1997).

Beginners do not have enough linguistic knowledge, so they have to make deliberate attempts at learning lexical items often connected to a synonym, definition, translation into L1, or an illustration. A significant amount of vocabulary can be successfully learnt through the often criticised rote learning (Carter, 1992). Still, vocabulary acquisition is not merely a mental collection of individual lexical items with a 1:1 correspondence to L1 lexical items. As has already been mentioned, familiarity with a lexical item includes more than knowing its semantic aspect. Vocabulary learning is the acquisition of memorised sequences of lexical items that serve as a pattern on the basis of which the learner creates new sequences. The main task is to discover the patterns in the language, starting from phonological categories, phonotactic sequences (i.e. allowable arrangement of phonemes), and morphemes, to collocations and lexical phrases, and their analysis into meaningful units or chunks (which are units of memory organisation). This implies that language production is based on assembling ready-made chunks suitable for particular situations, and that language comprehension relies on the ability to predict the pattern that will appear in a given situation.

Although it might appear illogical at first sight, it is the ability to use conventionalized and predictable language sequences that brings an L2 learner closer to the native speaker. Namely, ‘native speakers do not exercise the creative potential of syntactic rules of a generative grammar’ (Ellis, 1997: 129), it is the use of idiomatic, frequent and familiar units that reflects a native-like competence. Therefore, the task of the L2 learner is to acquire lexical sequences (collocations, phrases and idioms), as well as sequences within lexical units. A precondition for an automatic analysis of such information is sufficient exposure to language input or explicit teaching and awareness raising (Ellis, 1997).



### **2.4.1 Wide-context as a source**

An important source of vocabulary in L2 learning is a wide range of contexts. Learners can learn lexical items if they are exposed to sufficient amounts of comprehensible input. Nagy (1997) claims that an average learner can learn to recognize up to 1000 words a year from written materials. As has already been stated, the role of the context in initial stages of learning is limited, but its significance grows as the learner's knowledge expands. An ideal source for learning L2 vocabulary from context is reading (Ellis, 1997). Low-frequency lexical items (the ones that are characteristic of individuals with a wide vocabulary) occur more frequently in written than in spoken language. Besides, the learner has more time at his or her disposal for analysis, hypothesis testing and inferencing if working on a written text. Context-based Inferencing contributes to the knowledge of morphological rules, collocations, additional meanings (for it is the context that determines the meaning of a lexical unit), etc. However, mere exposure during reading does not guarantee a rapid vocabulary growth. In order to accelerate the process, the learner must have critical strategic knowledge that will enable him or her to turn the incidental learning into an explicit learning process.

### **2.5 Individual learner differences**

Vocabulary learning strategies play an important role in vocabulary learning. Their significance is reflected practically in all the factors discussed so far. Vocabulary learning strategies activate explicit learning that entails many aspects, such as making conscious efforts to notice new lexical items, selective attending, context-based inferencing and storing into long-term memory (Ellis, 1994). However, the influence of other factors that account for individual learner differences, such as the affective ones (motivation, attitudes towards vocabulary learning, fear of failure) or the language learning aptitude, should not be neglected.

## **2.6 Theoretical anchorage**

In this part a theoretical background to the learning strategies phenomenon will be reviewed. A precondition for understanding vocabulary learning strategies is a clear idea of what language learning strategies are in general. Therefore, this chapter discusses the role of general language learning strategies in cognitive theory and other relevant L2 acquisition theories and models. The second part of the chapter explores the problem of establishing criteria for defining the concept of language learning strategies, their features and classifications.

### **2.6.1 The cognitive theory of learning**

We first turn to the cognitive theory of learning for what seems an obvious reason: unlike linguistic theories of L2 acquisition, the cognitive theory recognizes learning strategies as one of the significant cognitive processes in L2 acquisition.

Generally speaking, the cognitive theory of learning, which is largely based on the theory of human information processing, deals with mental processes involved in learning. This mainly refers to three fundamental cognitive aspects of learning: how knowledge is developed, how knowledge becomes automatic and how new knowledge is integrated into an existing cognitive system of the learner.

Emphasis is placed on ‘meaningful learning’, i.e. learning with understanding which is not manifested in behaviour, but which can be described as ‘a clearly articulated and precisely differentiated conscious experience that emerges when potentially meaningful signs, symbols, concepts, or propositions are related to and incorporated within a given individual’s cognitive structure’ (Ausubel, 1967: 10).

Findings of research conducted in the domains of cognitive psychology and psycholinguistics had reverberations in the area of L2 acquisition. Research within the latter field has attempted to find, among other things, answers to questions concerning the nature of cognitive skills, namely the ways in which they affect L2

acquisition and learning, and the possible role of formal instruction. Because cognitive theory does not make a distinction between linguistic knowledge and its use, researchers have also endeavored to explain the way in which knowledge about the language is stored in the memory and how the process of language acquisition results in automatic comprehension and production of language (O'Malley & Chamot, 1996). The cognitive theory suggests that linguistic codes and structures are stored and retrieved from the memory in exactly the same way as other kinds of information. What is important is the extent to which the learner has acquired formal and functional characteristics of the language and mental processes. This implies the possibility of 'degrees' of knowledge, i.e. the fact that the learner can know something only partially (Ellis, 1995).

The cognitive theory defines L2 acquisition as a complex cognitive skill which, like other such skills, engages cognitive systems (such as perception, memory and information processing) to overcome limitations in human mental capacity which may inhibit performance (Ellis, 2000: 175). The cognitive theory sees memory as functioning in two stages. The first is the working (or short term) memory system characterized by limited capacity. This means that short-term memory requires conscious effort and control to retain only modest amounts of information. Short-term memory is believed to be serial in operation. The second stage of storing information is the long-term memory system which is large in capacity, operates in parallel fashion and is not susceptible to conscious control (Atkinson & Schiffrin, 1968, cited in Skehan, 2000). Material is transferred from one system to another by means of phonological and visual repetition in the working memory system, which also contains a central executive component whose task is to direct a limited amount of attention.<sup>1</sup> The working memory also holds 'records' from long-term memory that are in the state of 'high activation' (Anderson, 1995) and that interact with new information. The working memory system assumes an important role

during intake and speech production. During intake, the working memory has to distinguish what is relevant for comprehension, and in speech production it serves as ‘storage’ for storing various elements that are retrieved from long-term memory for the purposes of composing a message. The process of new information acquisition, as O’Malley and Chamot (1996: 17) conclude \_ citing Weinstein and Mayer (1986) \_ is a four-stage encoding process involving selection, acquisition, construction and integration. In the first stage integration, learners actively search for prior knowledge in the long-term memory and transfer this knowledge into the active memory.

**In** sum, in contrast to linguistic L2 acquisition theories, which view linguistic knowledge as unique and separate from other knowledge systems, a cognitive account of L2 acquisition considers language acquisition as being guided by the same principles as other types of learning, although probably more complex in nature (Ellis, 1995).

**One** advantage to viewing L2 acquisition as a complex cognitive skill, which seems especially interesting for formal foreign language learning contexts, is that it implies a possibility of improving the language learning ability (O’Malley & Chamot, 1996). Because cognitive learning results in general knowledge applicable in a wide range of similar learning situations, this feature of cognitive learning is often underlined as the most significant (cf. Zarevski, 1994).

### **2.6.2 Interlanguage theory**

**Interlanguage** theory has brought about the first attempt to describe the process of SLA from a cognitive \_ and not only a linguistic \_perspective. The term interlanguage<sup>5</sup> refers to a language system (i.e. grammar) constructed by language learners in the process of L2 learning. Since its appearance in the early 1970s, the term has dominated SLA research for several decades.

The theory views errors made by learners in language production as evidence indicating the development of linguistic competence. What must be accentuated is that errors are not considered to be an extremely negative side effect of learning, but a manifestation of efforts invested by the learner in organizing the language input.

The theory explicitly refers to the notion of learning strategies: it distinguishes between (cognitive) learning strategies and communication strategies. Namely, the originator of the theory, Selinker (1972), postulated that interlanguage is the product of five central cognitive processes involved in L2 acquisition: language transfer, transfer of training, strategies of learning an L2, strategies of communication in L2 and overgeneralization of linguistic material. Language learning strategies appear to be central to this theory according to which interlanguage evolves over time as a result of various strategies that learners use to make sense of the language input and to control the output. Therefore, on the one hand, some elements of the interlanguage may be the result of learners' specific approach to the language material to be learnt, i.e. their selection of learning strategies. On the other hand, use of communication strategies may lead to fossilization (when learners cease to develop their interlanguage any further), because they enable learners to communicate in an acceptable manner. On the one hand, some elements of the interlanguage may be the result of learners' specific approach to the language material to be learnt, i.e. their selection of learning strategies. On the other hand, use of communication strategies may lead to fossilization (when learners cease to develop their interlanguage any further), because they enable learners to communicate in an acceptable manner.

Selinker et al. (2000) define learning strategies as cognitive activities at the conscious or unconscious level that involve the processing of L2 data in the attempt to express meaning. This primarily refers to grammar learning strategies,

i.e. learning strategies that help learners to develop a mental grammar of the L2. It is these strategies that support a definite systematicity in the interlanguage. Errors in production may be caused by the use of strategies such as language transfer, overgeneralization of L2 rules or simplification. In sum, interlanguage is a single system composed of hypothetical rules that have been developed through different cognitive strategies and are tested and modified by the learner during the process of comprehension and production.

The question that poses itself is why in the original list of five central cognitive processes, language transfer and overgeneralization are listed separately from learning strategies, although both seem to be examples of learning strategies, and were explored as such even by Selinker and his associates (cf. Ellis, 1995; McLaughlin, 1987), as can be inferred from the discussion above.

Nevertheless, the significance of interlanguage theory lies in the fact that it is the first attempt to take into account the possibility of learner' conscious attempts to control their learning. It was this view that initiated an expansion of research into psychological processes in interlanguage development whose aim was to determine what learners do in order to help facilitate their own learning, i.e. which learning strategies they employ (Griffiths & Parr, 2001). It seems, however, that the research of Selinker's learning strategies, with the exception of transfer, has not been taken up by other researchers.

### **2.6.3 Bialystok model**

One of the first theorists who recognized the significant role of learning strategies in the process of L2 acquisition was Bialystok (1978). Her model (also labeled the Analysis-Control Model<sup>7</sup>) is cognitive in nature and is based on the assumption that language is processed by the human mind in the same way as other kinds of information. The model distinguishes, although not always consistently (cf. Ellis,

1995), between processes as obligatory and strategies as optional mental activities (see Figure 2.2; Bialystok, 1978: 71). Learning strategies in the model fall into two groups: formal and functional. Formal strategies refer to accurate linguistic form (formal practicing and monitoring), which means that they involve either conscious learning of the L2 or attempts to make the learnt explicit knowledge automatic.

Functional strategies refer to language use (functional practicing and inferencing), i.e. to learners' endeavors to expose themselves to the target language via communication. Bialystok (1978) states that the model includes an additional mechanism that could also qualify as a learning strategy: the possibility to correct a response and return to the Output process line. In other words, it would be a sort of a correction strategy, the concept of which has not been adequately developed in the model.

Strategies are defined as 'optimal methods for exploiting available information to increase the proficiency of L2 learning. . . They operate by bringing relevant knowledge to the language task that has the effect of improving performance' (Bialystok, 1978: 76). Their use depends on the choice of individual language learners. These strategies connect the three levels of the model (Input, Knowledge and Output). When interacting in the L2, learners use three sources of knowledge (other knowledge, explicit or conscious and implicit or intuitive knowledge), but their choice of learning strategies will depend on the specific knowledge needed for task completion, the difficulty of the task and the proficiency level. Individual learner differences can be attributed to learning strategies used by individual learners (cf. Bialystok, 1979).

The pedagogical implication of this model, as Vandergrift (1995) observes, is the fact that explicit linguistic knowledge can become implicit through a strategy of formal practicing. This would suggest that learning strategies can become automatic and, eventually, convert to implicit linguistic knowledge. By the same

token, explicit knowledge can be derived from implicit linguistic knowledge through a strategy of inferencing.

#### **2.6.4 Multidimensional model**

The Multidimensional Model was advanced by Clahsen et al. (cf. 1983). The two dimensions of the model address different areas of development that this model proposes: whereas one dimension deals with acquisitional sequences in interlanguage, the other recognizes and provides an explanation for individual learner variation. In this model, learners are believed to rely initially on non-linguistic processing devices, such as formulas and lexical items that are not assigned to grammar categories, after which they move through a series of stages until they are able to carry out more complex grammatical operations. The relationship between the implicit knowledge and output is determined by indicating learning strategies that learners have to master in order to produce certain linguistic structures. The authors of the model maintain that learners form different paths to the L2. These paths are characterized by developmental stages (defined on the basis of linguistic criteria), but they may vary due to the fact that within stages learners may differ because of their social-psychological orientation, which may range from segregative to integrative. The integrative learner is more likely to achieve higher proficiency levels in an L2, which comes from the use of different learning strategies. A distinction is made between two strategies of simplification: 'restrictive' simplification and 'elaborative' simplification. Restrictive simplification involves omission of elements and morphology. It is characteristic of early learning and learners with a segregative orientation. Elaborative simplification is a learning strategy used by integrative learners in a later stage in the learning process. This strategy involves formulation of



hypotheses about second language rules and is seen as a predictor of greater progress in learning.

### **2.6.5 Adaptive control of thought (ACT) model**

Anderson's Adaptive Control of Thought Model (ACT) is another model that is cognitive in nature, because it attempts to explain L2 acquisition in terms of a general theory of skill learning (cf. Ellis, 1995; O'Malley & Chamot, 1996; Robinson, 2001). The model is based on the distinction between two types of knowledge, i.e. two types of representations in long-term memory: declarative knowledge and procedural knowledge.

Declarative knowledge refers to knowledge of facts and things that we know, whereas procedural knowledge consists of what we know how to do. The distinction between the two types of knowledge is based on the following three assumptions: (a) whilst declarative knowledge is a concept characterized by 'all or nothing', procedural knowledge can be partial; (b) declarative knowledge is acquired suddenly, by receiving a message, whereas procedural knowledge is acquired gradually, by performing the skill; (c) declarative knowledge, unlike procedural, can be communicated verbally (Ellis, 1995).

The model views L2 acquisition as a three-stage process (cognitive, associative and autonomous stages) during which declarative knowledge (i.e. information stored as facts) becomes proceduralised through practice. The process by which new linguistic knowledge is acquired is different from the process of achieving control over this kind of knowledge. New knowledge is 'declarative', whereas automatic knowledge is 'procedural'. One proceeds from declarative to procedural

knowledge by developing control. Many errors in the learner's production can be attributed to the lack of procedural, not declarative knowledge.

As for the role of learning strategies, Anderson's theory provides for two interpretations of the term 'learning strategy'. One is that learning strategies occur in the early cognitive stage when they are conscious, after which they cease to be 'strategic' (cf. O'Malley & Chamot, 1996). The other interpretation suggests that strategies occur in all three developmental stages in the form of 'IF . . . THEN' statements. For example, the strategy of inferencing would take the following form (O'Malley & Chamot, 1996: 52):

IF the goal is to comprehend an oral or written text, and I am able to identify a word's meaning, THEN I will try to infer the meaning from context.

O'Malley and Chamot hold the view that in this theory, similarly to some other cognitive theories of L2 acquisition discussed so far, learning strategies can be described as complex cognitive skills. They are used consciously in initial stages of learning, but can become proceduralised by practicing, i.e. by moving through the cognitive, associative and autonomous stages of learning. However, this difference is not of great significance for research as 'learning strategies can only be effectively studied in the declarative stage, when learners are able to verbalize them', claims Ellis (1995: 533).

#### **2.6.6 McLaughlin's information processing model**

Based on the assumption that a critical period for language development exists, cognitive theory views language development after the critical period as an example of the human-information processing system (cf. Skehan, 2000). This

means that, prior to the closure of the critical period, the so-called lateralization \_ or the completion of allocation of language functions in the brain \_ has not yet taken place, so that the human brain is especially sensitive to language input. After the critical period, language development is based on general cognitive modules, meaning that language development can be seen as an example of the human information processing system at work in a way that resembles learning in other domains (Skehan, 2000: 79). Thus, L2 learning is modular but organised on the basis of the three stages of information processing: input, central processing and output. In other words, ‘the end of the critical period is the point at which the nature of language learning changes from being an automatically engaged process to one in which it becomes yet another cognitive activity’ (Skehan, 2000: 283). Different aspects of L2 acquisition are then supported by cognitive abilities that are best understood if they are linked to the information-processing stages.

One of the most ardent advocates of this approach, McLaughlin(1987), claims that learners’ capacity to process information is limited by the nature of the task on the one hand, and their own information processing ability on the other. Learners can extend this capacity in two ways. The first is automatization, i.e. practising through which activation of skills, initially accessible only through controlled processing, becomes automatic or routinised. Thus, the number of information chunks learners can automatically process increases, which results in quantitative modifications in interlanguage. Another way to extend the information- processing capacity is restructuring. It allows for qualitative changes in interlanguage that relate to both the way knowledge is represented in the minds of learners and the learning strategies they use. In his analysis of the relationship between restructuring and learning strategies, McLaughlin (1987) draws on the work of Ellis and Farch and Kasper. The line of argument based on Farch and Kasper’s supposition is that internalised rules and memorized chunks of the language constitute learners’

declarative knowledge, whereas procedural knowledge consists of knowing how to employ learning strategies and procedures to process L2 information. Ellis (cited in McLaughlin, 1987), on the other hand, categorised the above-mentioned procedures into learning strategies (relating to acquisition of procedural knowledge), and production and communication strategies (relating to language use). Their further classification is shown in Table 2.1 (McLaughlin, 1987: 145). The strategies involved in restructuring are learning strategies. In other words, restructuring can be facilitated by the flexible use of learning strategies. In the early stages of learning, learners often simplify, regularise, overgeneralise and reduce redundancy, which results in creating an internal representational system that is more simple than the input and that relies on L1 and on universal principles of language acquisition. At later stages of L2 development, inferencing and hypothesis testing strategies predominate. 'If learning requires a constant modification of organizational structures, then it is these strategies of inferencing and hypothesis testing that govern the process of restructuring' (McLaughlin, 1987: 147).

### **2.6.7 Stern's synthesis of models**

In his analysis of the state of the art in the field of L2 acquisition, especially the development of theoretical foundations, Stern (1986) highlights the usefulness of the proposed models of L2 acquisition, in that they give a much needed overview of relevant factors and their interactions to be taken into consideration when interpreting L2 acquisition. However, none of the models can be regarded as conclusive and capable of explaining all the phenomena involved in L2 learning. Therefore, he proposed an 'uncontroversial synthesis representing the consensus among different investigators on the main factors that play a role in language learning' (Stern, 1986: 338).

Stern's model (or rather a framework for examination of L2 learning) consists of five sets of variables: (1) social context, (2) learner characteristics, (3) learning conditions, (4) learning process and (5) learning outcomes. The question believed to be crucial is why certain learners are successful while others are not, i.e. what combination of factors contributes to their success or failure.

The fourth set of variables, the learning process (4), consists of overt strategies and techniques used by learners and covert mental operations. In the model, these variables are determined by learner

Characteristics and learning conditions, and, indirectly, by social context. They directly influence the learning outcomes. Learners are involved in the learning process in three ways: (1) intellectually/cognitively, (2) socially and (3) affectively. Strategies that (good) learners are likely to employ in this process can be categorized in the following groups (Stern, 1986: 411):

- (a) Active planning strategy, involving selecting goals, recognizing stages and developmental sequences, and active participation in the learning process;
- (b) 'Academic' (explicit) learning strategies, reflecting learners' readiness to study and practice language rules and relationships; to notice, to analyze, and to develop the necessary techniques of practice and memorization; to monitor their own performance and revise it in order to make progress towards a higher level of competence in the target language;
- (c) Social learning strategies, involving a number of strategies such as recognition of initial dependent status, seeking opportunities for communicative contact, and development of communication strategies for overcoming difficulties in communicating in the target language;
- (d) Affective strategies, which refer to learners' management of emotional and motivational problems, and which include behaviors such as development of positive attitudes towards the self as language learner, towards the L2

culture and society, accumulation of energy needed for overcoming frustrations, and, finally, persisting in their efforts.

All learners do not use the four strategies in the same way for many reasons. It seems safe to assume, however, that failure to learn is caused by an inadequate use of what, in a particular learning situation, might be a crucial learning strategy. Unsuccessful learners are therefore those who do not use strategies adequately, those who are inconsistent in using them or those who have not developed any learning strategies at all. However plausible this explanation appears, it should be treated with caution, i.e. confirmed or modified in light of new evidence from further research.

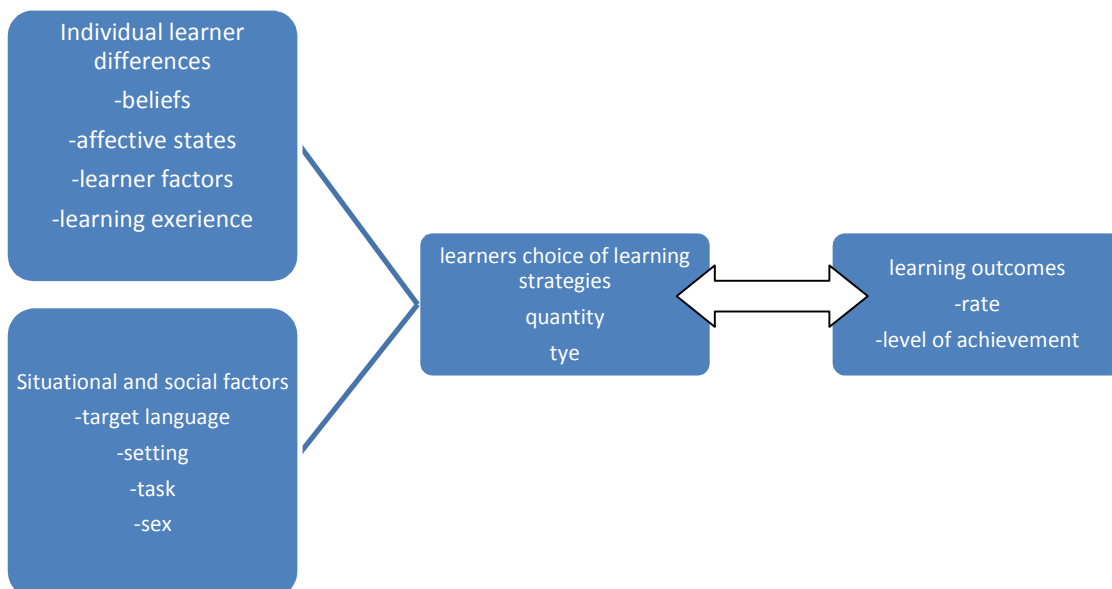
#### **2.6.8 Abraham and Vann's Model of Second Language Learning**

What distinguishes Abraham and Vann's (1987) Model of Second Language Learning is the fact that it resulted from its authors' research into learning strategies. The model was developed on the basis of the results of an investigation and comparison of strategies used by a successful and an unsuccessful language learner. As can be seen in the model suggests that learners have a certain philosophy of language learning that determines their approach in language learning situations. This approach is manifested in observable and unobservable strategies used in learning and communication. These factors create a hierarchy and they directly influence learners' achievement, i.e. degrees of success. The model allows for a number of combinations of variables, marked (a) and (c) in the model, that can have both a positive and a negative impact on language learning outcomes.

The authors argue that this model redresses the limitations of previously proposed models by emphasizing the significance of background factors and their influence on the learning process. However, they also call for further research in order to test and refine the model.

### 2.6.9 Ellis's second language acquisition model

In the model of L2 acquisition proposed by Ellis (1995), learning strategies act as a mediator between individual learner differences and situational and social factors on the one hand, and learning outcomes on the other. Those sets of variables determine the learner's choice of learning strategies that affect learning outcomes in terms of level and rate of achievement, but also the other way around: learning outcomes and achieved level of competence may affect the selection of learning strategies. The sets of variables and their interactions are shown in Figure 2.5 (Ellis, 1995: 530).



Following Tarone's classification, Ellis distinguishes three groups of strategies: production strategies, communication strategies and learning strategies. The first two groups refer to language use. The learner uses production strategies in the attempt to use his or her linguistic system efficiently and clearly, with a minimum of effort. This group of strategies includes, for example, simplification, rehearsal and discourse planning. Communication strategies help learners to overcome limitations in communication. Learning strategies reflect the learner's attempt to develop linguistic and sociolinguistic competence in L2, the examples being memorization, initiation of conversation with native speakers and inferencing. Although differences among strategy types are important, the distinction is not easy to maintain, because it is based on the learner's intent to learn or to communicate.

Furthermore, Ellis \_ again relying on Tarone (1981) \_ finds the distinction between skill learning strategies and language learning strategies useful. Skill learning strategies refer to the efforts a learner invests in the development of listening, speaking, reading and writing skills.

#### **2.6.10 Cognitive/conative model of learning**

Young and Perkins (1995) created the cognitive/conative model, i.e. a general theory of human learning. They assert that their model explicates the diversity of mental representations apparent in L2 acquisition more efficiently than other current SLA theories. Also, they believe, it effectively accounts for individual differences in L2 learning processes.

According to this theory, learning (i.e. knowledge changes) can take place in the following ways:

- (1) Vector learning: learners accrete new knowledge (accumulate L2 knowledge) and become more skilful (increase the speed of information



processing). In the area of learning strategies, this is manifested by initial limitation, for example, to mnemonics, but acquiring new strategies leads to flexible use of strategies or their adaptation to new tasks.

- (2) Interaction of new information with existing knowledge to cause restructuring which may take two forms: the reorganization of one type of knowledge or the transformation of one type of knowledge into another (cf. the above discussed McLaughlin's model of learning).
- (3) Diverse developmental processes due to modularity.

The model recognises five basic types of mental construct: conceptual structures, procedural skills, learning strategies, self-regulatory functions and motivational orientations. Conceptual structures encompass declarative knowledge mostly accessible by conscious introspection. Procedural skills become automatic after practice and trigger fast and skilled performance. Learning strategies are defined as 'specialized ways of processing information that enhance its comprehension, learning or retention' (Young & Perkins, 1995: 150). In the model, strategies are seen as having the capacity to change, which implies the possibility of strategy training, despite the fact that they are deeply rooted in every learner's personal style. Self-regulatory functions provide learners with the ability to consciously regulate their information processing, i.e. with metacognitive awareness, which may influence learning. Motivational orientations refer to motivation for continued learning and achievement, interest in the subject matter, and a sense of confidence and self-efficacy as a learner.

The first two constructs (conceptual structures and procedural skills) are cognitive in nature, for they refer to cognitive information processing. Motivational orientations and self-regulatory functions are conative features of the learner. Both cognition and conation are considered as having equal values in the model. To

learning strategies, both cognitive and conative features are attributed: they are cognitive because they affect information processing, and they are conative because they can be influenced by motivation and volition. This indicates that the distinction between cognition and conation is not conceived as a dichotomy, but as one of degrees. Learning strategies include global planning for learning, mnemonics, problem solving heuristics, mapping and structuring tactics using key words detected in reading or listening, and metacognitive processes of comprehension monitoring or hypothesis formation and testing.

The existence of five different types of knowledge points to the modularity of the L2 acquisition process, i.e. the independence of individual constructs. However, interactions among individual constructs are more numerous than can be discerned from the model. For example, learners can modify their learning strategies by conscious attempts to regulate their thoughts and behaviors. In this way, interaction between the two types of knowledge in the cognitive/conative model occurs.

Each cognitive and conative category in the model is characterized by a number of factors typical of the initial state, of the desired end state, or of a developmental transition between initial and final states. Either end of this developmental axis is marked by the so-called distal and proximal construct of aptitude and achievement. Distal aptitude constructs are relatively stable learner characteristics that are difficult to modify, whereas proximal aptitude constructs are relatively malleable and can be influenced by instruction. At the other end of the continuum, proximal achievement constructs (short-term learning goals) and distal achievement constructs (long-term learning outcomes) are placed. With regard to learning strategies, proximal achievement construct would refer to flexible strategy use, and distal goal would be the achievement of a capacity for autonomous learning.

Finally, the model suggests a direction for further research which would, among other things, measure individual differences in developmental processes in all five dimensions or show, for example, how selfregulation affects learning strategies. The significance of the model lies in the fact that it recognises the role of formal instruction which surpasses provision of comprehensible input in Krashen's terms. Future research would, therefore, explore the ways in which teachers, their procedures and teaching materials may influence the development of learning strategies. Furthermore, it is necessary to conduct an empirical investigation into whether there is a difference between 'novice learners' and 'expert learners' in the use of strategies, which would yield information on strategies appropriate for different levels of development.

#### **2.6.11 Skehan's model of individual difference in language learning**

Drawing on research on individual differences in L2 learning, Skehan(2000) has proposed an introductory general model incorporating four classes of individual differences: modality preference, foreign language aptitude, learning style and learning strategies (Figure 2.6; Skehan, 2000: 268). Firstly, modality preference concerns the preferred input channel \_ visual, auditory or kinaesthetic. Secondly, language aptitude entails the ability of phonemic coding, language analytic capacity and memory, suggesting that the learner can have either an analytic or a memory predisposition. Thirdly, learning style refers to cognitive dimensions of holistic versus analytic processing, as well as to visual versus verbal representations. In addition, another learner characteristic belonging to this class is the learner's personality aspect of style which may be either passive or active. Finally, the fourth class of individual differences is made up of learning strategies. The classification of learning strategies into metacognitive, cognitive and socio-affective Skehan adopts from O'Malley and Chamo. What needs to be emphasised with regard to the model is the left-to right movement: it implies progressively

greater degrees of flexibility; i.e. degrees to which individual differences are amenable to change through instruction. It is assumed that language aptitude and modality preference are rather inflexible features, although learners can learn how to exploit them to the best degree possible. Changes in learning styles are possible, because every individual commands a range of styles. These changes occur at different points of a style continuum depending on, for example, communicative demands. The model suggests, one concludes, that learning strategies are the most amenable to change of all features, that is that instruction can affect their development and use.

## **2.7 Vocabulary learning**

Vocabulary knowledge is undoubtedly a central part of linguistic knowledge, and its study is as old as the study of language learning itself. The literature of second language learning/acquisition abounds with the study of vocabulary learning. Schmidt (1993), knight (1994), nation (1997,2001), and yoshii (2002) are among many researchers who consider learning vocabulary essential for ESL and EFL learners. Much of the recent research has been conducted to examine the importance of vocabulary in reading comprehension .the finding of many studies show a strong relationship between students' vocabulary knowledge and general reading skills (Salem,2007).

Psychologists, linguists, and language teachers have been interested in vocabulary learning strategies for a long time (Levenston,1979).

Actually, researchers began to effectively focus on vocabulary learning research in the mid-1980s and vocabulary is now a current focus in ESL pedagogy and research. Learning now vocabulary is, presumably, the most important element in second language learning, (Knight, 1994). Candlin (1988) describes the study of vocabulary –in its social context-by being “the heart of the learning process”

(p.260). Other researchers such as Harley (1996) accept the importance of vocabulary learning in language proficiency and academic achievement. However, their ideas about how vocabulary is learning vary widely. They argue that one of the major concerns in FL/L2 vocabulary learning is the need of develop affective pedagogical methods for teaching FL/L2 vocabulary. Yet here, it is important to mention what Nation (2001) states about the difference between two categories of vocabulary concerning the teachers' and learners' aims, and the efforts they exert: high-frequency words, and low- frequency words. high-frequency words do not require as much effort as low- frequency words. For the latter, he claims that "the teachers" aim is to train learners in the use of strategies to deal with such vocabulary. These strategies are guessing from context clues, deliberate studying words on word cards, using word parts, and dictionary use". (p.20) A number of questionnaires, interviews and case studies (Gu & Johnson, 1996: Jones, 1995: Lawson & Hogden, 1996: Sanaoui, 1995) as reported in Hulstijn (2001)-handled the concern of learners of a second language with the burden of vocabulary learning. They investigated two major hypotheses: students should learn words intentionally, even by memorizing, and students should learn or acquire new vocabulary by 'picking up' words incidentally, as by-product of being exposed to L2 input in reading and listening tasks.

### **2.7.1 Vocabulary learning and acquisition**

According to the Acquisition-Learning Hypothesis (Krashen 1981), second language learners have two distinct ways of developing ability in second languages: learning and acquisition. Language acquisition is similar to the way children develop their first language. Learners can acquire L2 without meaning to. What they are aware of is using the language for some communicative purposes. What is more, they are often not aware of what they have acquired: they usually cannot describe or talk about the rules they have acquired but all they have is a

“feel” for the language. Language learning is different. It involves knowing about language or formal knowledge of a language. Language learning is thought to profit from explicit presentation of rules and from error correction. Error correction, supposedly, helps the learner come to the correct conscious mental representation of a rule. “Error correction has little or no effect on subconscious acquisition, but is thought to be useful for conscious learning” (Krashen, 1982:14). Similarly, Saville-Troike (2012:2) argues that:

Second language Acquisition (SLA) refers both to the study of individuals and groups who are learning a language subsequent to learning their first one as young children, and to the process of learning that language. “the scope of SLA includes informal L2 learning that takes place in naturalistic contexts, formal L2 learning that takes place in classrooms, and L2 learning that involves a mixture of these settings and circumstances.

Language acquisition is the ability of the brain/mind in its cognitive development to conceptualize concepts, structures and meaning in a language, while learning is mostly the active participation involving conscious-effort making to learn a language. In everyday terms, acquisition is picking up a language, while the normal equivalents for learning include grammar and rules. (Krashen 1982)

### **2.7.2 Incidental vocabulary learning**

There are two main strands of vocabulary learning: deliberate vocabulary learning and incidental vocabulary learning (Day, Omura, & Hiramatsu, 1991; Ridder, 2002). The main difference between the two lies in the amount of noticing and consciousness involved: in that, deliberate learning is more focused and goal-oriented than incidental learning. Deliberate learning, however, can result in a very quick expansion of vocabulary learning which then needs to be consolidated and enriched by meaning-focused and context-based exposures (i.e., incidental learning). According to Schmitt, deliberate learning by itself may rarely "provide

the knowledge of grammar, collocation, associations, reference, and constraints on use that may be best learned through meeting items in context" (2002, p.42).

Schmitt (2002) lists a number of strategies which can be employed while deliberate learning; among them, one can refer to sound-spelling correspondences, word parts (prefixes, stems, suffixes), word form analogy, underlying concepts and extensions, collocational patterns, as well as types of associations (for a detailed discussion of vocabulary learning strategies you may refer to Kudo, 1999).

Incidental vocabulary learning is closely associated with the concept of *context*- a key concept in current studies on language learning- and is of two main types: a) Learning vocabulary from meaning-focused input (reading and listening) and, b) learning vocabulary from meaning-focused output (speaking and writing). The former approach accounts for most first language vocabulary learning (for more on the latter approach see Schmitt, 2002). For such learning to occur with non-native speakers, some conditions should be met:

- 1) Low unknown vocabulary load: Unknown words should make a very small proportion of the tokens (target words), preferably one unknown word in 50.
- 2) Large quantity of input: There needs to be a very large quantity of input, preferably one million tokens or more per year.
- 3) Deliberate attention: Effective learning also requires consciousness-raising of unknown words, for example through glossing, dictionary use, or highlighting in the text (Hu & Nation, 2000).
- 4) Large number of exposures: As incidental learning is cumulative, each word needs to be met a number of times in order to be strongly learned and retained. According to Rott and Williams (2003), sizable word gain may require eight to twelve exposures to an unknown word; however, recent L2 research has found that two encounters could suffice to lead to significant word gain.

### **2.7.3 Contextual Effects on Word Meaning**

As stated above, incidental vocabulary learning and the concept of context are closely intertwined. Once one tries to grapple with the notion *the meaning of a word*, they come up against a problem; say the interpretation one may give to a particular word item can vary greatly from context to context (Cruse, 2004). This contextual variability of word meaning, which is endemic in the vocabulary of any natural language, endorses the undeniable role of context in vocabulary learning (Cai & Lee, 2010).

According to Cruse, the meaning of a word is selectively activated by contexts; "this selection operates largely through the suppression of readings which give rise to some sort of semantic clash with the context" (p. 118). If all the meanings are suppressed except one of them, then this one will be selected and the alternatives do not even enter the consciousness of reader.

The effects of context on the meaning of a word (called contextual modulation) mostly do not go beyond the bounds of a single sense and could be through either *enrichment* or *impoverishment*, according to whether the effect is to add or remove meaning. Enrichment is the most obvious effect of context through which it adds semantic content, that is, enriches a meaning or makes it more specific. The enrichments arise as a result of processes of inference (see below for a detailed discussion of lexical inferencing). The effect of context could be also through impoverishment, if it makes clear that a lexical item is being used in a vague sense (For more see Cruse, 2004).

### **2.7.3 Glossing**

Glosses, in general, are vocabulary guides during reading; they offer additional information beyond text and thereby assist the learner as a mediator between learner and text (Hulstijn, Hollander, & Greidanus, 1996; Jacobs, Dufon, & Hong, 1994; Yee, 2010). However, within the scope of second language learning, glosses



can be defined as information on important words through definitions or synonyms (Hee Ko, 2005). Glossing can be situated in the context of recent work on the reading process (Eskey, 1988; Rumelhart, 1980; Stanovich, 1980) and learning strategies (Cohen, 1990; O'Malley & Chamot, 1990; Wenden, 1991). "Glossing strengthens the bottom-up component of the reading process. [It] is one of several possible repair strategies that readers can use when they recognize comprehension breakdowns" (Jacobs, 1994, p. 115).

The two most important functions that glosses may serve are with reading comprehension (Nation 1982, 1990) and vocabulary learning (Holley & King, 1971). There are several advantages in using glosses: Firstly, glosses provide definitions of low-frequency words.

According to Parry, "vocabulary teaching takes a good deal of time, and it is simply not economic to spend precious minutes on items whose chances of reoccurrence are only ten in a million" (1993, p. 2). Secondly, glosses can get across new words so accurately that prevent incorrect guessing which could result if they were left with only context to guide them.

Several researchers have confirmed the difficulty of deriving meaning from context (e.g., Jenkins & Dixon, 1983; Nation, 1990; Parry, 1993). Thirdly, they can minimize interruptions while reading is in process resulting from students looking up words in a dictionary or asking the teacher or other information sources for help. Fourthly, glosses can make a meaningful relation between prior knowledge and new information in text. Fifthly, glosses would allow for greater autonomy and individualization on the part of learner because different students will have problems with different vocabulary items. And finally, glossing can assist vocabulary learning through the rehearsal involved in the process which thereby help students learn the vocabulary: students leave the text to check the gloss of the unknown vocabulary, repeat the word or phrase to themselves in order to hold the

meaning in memory until they get back to the original unknown word (Holley & King, 1971; Nation, 1982, 1990).

Twaddell (1973) goes as far as to suggest that selecting comprehensible reading materials for beginning- or intermediate-level learners is very difficult without the use of glosses. He believes that the overwhelming majority of words in a language appear in low frequencies and, thus, remain unknown to learners until they reach high levels of proficiency; for them "anything that would be interesting and worth reading ... would require a much larger vocabulary than is available, so that tremendous sacrifice in either speed or comprehension would have to be made" (p. 65). Very recently, Hee Ko (2012) made a comparison between no gloss, L1 gloss, and L2 gloss conditions. The study showed that glossed conditions were superior over no gloss one in both immediate and delayed tests.

Glossing, however, has been roundly criticized for it disallows inferred meaning. Laufer and Hulstijn (2001), for example, argue that inferred meanings are more likely to be retained than meanings provided by glosses. Likewise, Nassaji considers *lexical inferencing* as one of the central cognitive processes involved in reading comprehension and defines it as

.... ...making informed guesses about the meaning of unknown words based on the available linguistic and non-linguistic cues in the text...Lexical inferencing has also been found to be closely associated with incidental vocabulary learning, that is learning vocabulary through reading natural texts (2004, p. 109).

Much lexical development in both L1 and L2 appears, in effect, to occur while learners attempt to comprehend new words they hear or read in context. Nassaji (2004) further enumerates some factors which have the potential to affect success in lexical inferencing; included are the nature of the word and the text that contains the word, the extent of textual information that the text presents, the learner's

ability to use extra-textual cues, the importance of the word to comprehension of the text, the degree of cognitive and mental effort the task engages, the learner's attention to the details of the text as well as the preconceptions the learner may have about the possible meaning of the word. Overall, based on *mental effort hypothesis*, inferring requires effort, and the greater the mental effort the more likely information will be recalled and retained. In this sense, single glosses would be of little use especially for long-term retention of new words.

Due to the fact of facing too many unknown words in reading which is frustrating to foreign language readers and learners, something should be done to help making reading much easier and more fun for them. They should enjoy reading so that they can read more texts without any obstacles, go on with their academic study, and at the same time continue acquiring L2 vocabulary unintentionally. One of the ways to face the problems of reading comprehension and vocabulary learning is the use of glosses. A number of researchers have suggested using gloss to solve this problem especially for lower-level or poor-achieving learners.

Glossing is necessary since the problems arise from extensive reading glosses are considered as valuable tools which facilitate reading in a Foreign language (Watanabe,1997).Using glossing is easy and minimizes the interruption of the flow of reading compared to using the dictionary which is time-consuming and interrupts the reading process(Ko,2005; Nation,2001).Glosses make the learners more autonomous in reading activity (Nation,2001).Therefore, many studies have been carried out on the effect of L1 gloss and L2 gloss on reading Comprehension and Vocabulary learning.

## **2.8 Learning vocabulary through reading**

It is generally known that a considerable percentage of L2 vocabulary learning occurs incidentally, i.e. through reading, Fraser (1999), and Hulstijn (2001). Therefore, reading is perhaps one the most successful ways of teaching new

vocabulary. But what kind of reading are teachers advised to do with their students? As a tutor at Sudan University of Science and Technology, teaching EFL to undergraduate students, it can safely be claimed that in most of intermediate and secondary educational institutions in Sudan, and up to university preparatory year stage, reading lessons are conducted in classes, which last only for less than an hour, and mostly, once a week that is why guided and free reading should be back to the center of attention, principally for postgraduate students who are required to continue reading more detailed texts.

Krashen,(2004:3) summarises a wide range of ideas concerning the effects and power of reading. The ones on developing vocabulary through reading are included in the following table.

<b>READING AND VOCABULARY DEVELOPMENT</b>	
RESEARCH THEORY	PRACTICE
*Vocabulary is best developed through real encounters with the words in context, over time in small doses	*Eliminate or reduce vocabulary lists and tests Provide in-context vocabulary through the reading of paragraphs
*Acquiring a word requires acquiring all of its subtle and complex qualities-hard to teach with direct instruction	*Evaluate the level of vocabulary we expect students to attain: set priorities, determine what matters
*Time spent teaching vocabulary lists better spent on doing free voluntary reading-more likely to result in word acquisition.	*Vary the vocabulary input between additional readings and other avenues-use short excerpts to introduce new words
	*Provide more free reading time and greater access to books.

*Table (2.1) Reading and Vocabulary Development Krashen,(2004:3)*

Furthermore, the type of text also matters as the authentic materials expose students to real language and increase their motivation for learning, (Lien, 2010). Lexical items can be acquired incidentally through reading (Hulstijn,2001). Equally, Nation (2001) states that a typical English conversation proves to contain very few words compared to a written text while Rott and Williams (2003) claim that text comprehension would not necessarily require the kind of word processing that results in long-term retention. Stanovich (1986) describes the relationship between reading and vocabulary as being reciprocal, in that vocabulary facilitates the acquisition of reading skills, and reading facilitates growth in vocabulary. Moreover, vocabulary knowledge influences the development of word reading and reading comprehension skills (Storch & Whitehurst, 2002). Thus, teaching new vocabulary through reading is beneficial in both directions: learning reading skills and learning new vocabulary as well.

### **2.8.1 Reading for Pleasure VS Instructional Reading**

Krashen (1993) claims that when children read for pleasure, they incidentally acquire much vocabulary as well as most of the language skills that people need. They develop the ability to understand and use complex grammatical constructions, develop a good writing style, and become good (but not necessarily perfect) spellers.

The following figure shows how reading can affect the learning abilities of SL learners in a comparison between a good reader and a weak reader, Nuttal (1982:167-168).

### **2.8. 2 Incidental Vocabulary Learning**

Teachers and researchers are doing more research and discussion concerning the importance of developing the learners' L2 proficiency and expanding their L2 vocabulary. Nation (2001) claims that academic learners of English must read written text if they want, to expand their lexicons because written texts are richer in

lexis than spoken ones. Many researchers claim that a large percentage of foreign language (L2) Vocabulary learning comes incidentally when the reader is involved in extensive reading. Some: e.g. Krashen (1981) would even go further to argue that the more the reader is engaged in reading, the more vocabulary is acquired. However, more research is needed on incidental vocabulary learning to answer all the queries concerning the type and amount of vocabulary needed for the correct comprehension and guessing, the repetition of the new words in a text for profitable acquisition, the influence of the type or topic of the text being read, classroom conditions and atmosphere, and so on.

Yet, research is still not adequate regarding how incidental learning occurs principally regarding the cognitive and metacognitive processes learners engage in, when encountering unfamiliar words while reading and how differences in these processes affect vocabulary learning. Incidental vocabulary learning has been believed to primarily occur through the process of inferring word meaning. But some research suggests that L2 learners infer only when there is a specific need, and ignore most of the unfamiliar words they encounter (Bensoussan & Laufer, 1984; Paribakht & Wesche, 1997) incidental vocabulary learning refers to learners' acquisition of vocabulary knowledge during a language learning activity that is not intended for vocabulary instruction (Read, 2004) According to (Hulstijn, 1989; Schmidt, 1994), incidental learning can be defined as the accidental learning of information without the intention of remembering that information. Additionally, Ferguson, (2009, p. 5) argues that "incidental reading-based vocabulary learning refers to word learning which occurs as the result of attempts on the part of a learner to comprehend a reading passage, and it can be fragile" moreover, Hulstijn (2001:267-268) states that: "Currently, in the applied domains of L1 and L2 pedagogy, incidental vocabulary learning refers to the learning of vocabulary as the byproduct of any activity not explicitly geared to vocabulary learning, with

intentional vocabulary learning referring to any activity aiming at committing lexical information to memory” he also claims that it is perfectly possible for learning to be both incidental and involving explicit memory. He explains this by both incidental and involving explicit memory. He explains this by describing the process of looking up the meaning of a word in a dictionary by an L2 reader when they encounter a new word in an L2 text for the purpose of comprehending the target text (and not for the purpose) of vocabulary learning) as a mental event that can be categorized both as incidental learning and as involving explicit memory and conscious attention however, explicit learning, as defined by Schmidt (1994), normally takes place under conditions of intentional learning.

Hulstijn (2001) defines intentional vocabulary learning as “any activity geared at committing lexical information to memory” (p. 268). Also, Nation (1997) argues that “deliberately vocabulary is one the least efficient ways of developing learners’ vocabulary knowledge, but is nonetheless an important part of a well-balanced vocabulary programme” (p.1) Incidental vocabulary learning has lately been the centre of attention for many researchers. Wesche and Paribakht (1999) define incidental vocabulary learning as the process in which the reader, or the listener, focuses on comprehension rather than on the intentional learning of vocabulary. In other words, the learner acquires vocabulary as a “by-product” while focusing on another activity. Many studies indicate that there is an important relationship between incidental vocabulary learning and extensive reading. For example, Milton and Meara (1995), as cited in Nagy (1997) assume that advanced students could learn around 2.500 words a year in a second language setting. A considerable part of this growth can be by incidental learning. Ben Salem (2006) states that the difference between incidental vocabulary learning and intentional vocabulary learning is the learner’s type of attention when reading a text accordingly, it is definitely the role of language instructors to give clear instruction and to create the

appropriate for learners while reading for instance, in a normal reading class situation, learners must know what exactly they are reading for, and how long the time allotted is.

### **2.8.3 Incidental Vocabulary Learning and Reading Comprehension**

Reading comprehension is the ability to understand information in a text. In a lecture by Jacqueline Comas, the professor of literacy at George Washington University, she stated that literate people usually keep 60 percent of what they read in their memory. Decoding words is a necessary ability, but it is not sufficient for reading comprehension and one needs to develop language comprehension skills. At the same time, children with good decoding skills and weak listening comprehension are struggling with language difficulties that are an obstacle to reading comprehension.

Many educators have realized that there is a close relationship between vocabulary knowledge and reading comprehension. Under the main scientific theory of reading and listening comprehension, people build and integrate meaning from one text to another. The literature also shows the importance of the mutual relationship between lexical development and reading comprehension (for examples, Nation, 2001; Koda, 2005) as well as stressing the importance of the relationship between vocabulary knowledge and reading comprehension in vocabulary learning. Consequently, it is worth mentioning that vocabulary knowledge leads to better understanding of the target text, and reading comprehension leads to better incidental new vocabulary learning, which leads to better Comprehension. Stahl (1983:33) argues that, the relationship between Vocabulary knowledge and reading, comprehension is one of the best Documented relationships in reading research. Moreover Nagy 1988 Statement: vocabulary knowledge is fundamental to reading



Comprehension; one cannot understand text without knowing what most of the words mean is one strong opinion that supports the idea of connecting reading Comprehension to vocabulary knowledge .Many other researchers support the same argument by considering words the building blocks of a connected text, and claiming that getting individual word meanings is essential to understanding a text. In a similar way, Laufer,(1997)and Nation(2001)relate understanding a text successfully for a reader to having automatic recognition and decoding of 95%of words in a text.

Anderson and free body (1981) also studied the effect of vocabulary knowledge on the reading Comprehension of eighth grade students from a small city central Illinois, USA. Their findings showed a strong correlation between participants' degree of vocabulary knowledge and reading comprehension. They claimed that vocabulary knowledge is the best indicator of how well a reader can understanding a text. To sum up, there are some important factors that affect successful guessing while reading; these are: learners' proficiency, learners' use of appropriate guessing strategies, the number of times difficult words occur in a text, learners current level of vocabulary knowledge and the density of difficult words in text (Laufer,1997;Nation, 2001;Rott,2004).

Although previous knowledge of vocabulary is necessary for reading Comprehension, as agreed upon by many researchers, research proves that understanding new words in authentic texts to be a significant challenge for readers(Abraham,2008).However, research that has examined the correlation between vocabulary knowledge and reading Comprehension, e.g., (Harley,1996; Free body & Anderson, 1983;Fraser,1999; Mushiast 2003), concluded that vocabulary has a positive impact on reading Comprehension.

The studies of (Ko,2005; Huang; 2003; Chen,2002;Bell&LeBlanc,2000; Jacobs,1994) show that using glosses in better Comprehension and retention while

in some other studies (e.g.Cheng, 2009; Yanguas, 2009; Yoshii, 2006; Ko, 1995; Jacobs, Dufon & Hong, 1994) there was no significant effect of glossing on reading Comprehension. The results of some other studies (Palmer.2003; Chen,2002; Bell & LeBlanc, 2000; Jacobs, 1994; Jacobs, Dufon & Hong, 1994;Davis,1989; Holley & King, 1971)showed that there was a significant difference in favor of gloss groups in reading Comprehension, but there was no significant difference between L1 gloss and L2 gloss groups conversely, a group other researchers (e.g. PaK, 1986; Baumann, 1994; Joyce, 1997; Lomicka, 1998; Al-Jabri, 2009; cheng,2009) came to the result that there was no significant difference between gloss groups and control group in reading Comprehension. Despite these inconsistencies of gloss research, this study is built on the general assumption that using glosses will make a difference and in better reading Comprehension and vocabulary retention for the specimen chosen for the experiment.

### **Part Two: Previous studies**

As far as the researcher knows no such previous studies were conducted in Sudan in glossing. However, there are many carried out in the Arab world and in the West. There are some carried out in Saudi Arabia namely by some researchers coming from the Gulf or Egypt.

One such study on hypermedia annotation, presentation in different locations of the text found that students who had access to hypermedia annotations outperformed their peers who used traditional glosses listed at the end of the text. Learners referred hypermedia annotations in the margin but not relationship was found between their preferences and their level of achievement.

Another study was conducted on a population of both males and female students have shown superiority of Arabic text-picture gloss group over the other three groups in the immediate and delayed definition supply tests. Text-picture gloss

groups recognized more words than other groups but the differences were insignificant.

The following study was conducted on engineering students, where audio and text, audio, text and picture and 12 gloss picture. Those who received, for language ability, audio, text and picture glosses had higher comprehension scores than the text –based groups. Online glosses with dynamic pictures were found to be more effective in supporting comprehension and were rated higher than text-based glosses.

The following points can be elicited in connection with the overall research on glosses:

1. Different types and locations of glosses and were experimented
2. Reading comprehension and vocabulary retention were investigated together and separately with various studies.
3. The majority of participants preferred glosses to no glosses
4. Listening comprehension was not affected by the use of glosses
5. Language learning anxiety affected reading comprehension, and immediate vocabulary retention.

## **2.9 Summary**

In this chapter a detailed description of the theoretical framework of the use of glosses was provided. Different theoretical frameworks as to vocabulary and language learning have been investigated. Different types of glosses were also explored and defined. The chapter reviewed some of the previous works conducted in this area.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter will provide a full description of the research methodology adopted as well as the research instruments employed. Moreover, the validity and reliability of these instruments will be confirmed.

The chapter will further include as part of its components, four main sections:

1. The subjects of the study
2. The teaching/learning materials.
3. The theoretical principles on which the methodology is based.
4. Instrumentation and procedures of data collection.

#### **3.1 The Study Methodology**

To analyze the collected data and arrive at a solid conclusion, the study espoused a mixed-method approach: the descriptive analytical and experimental method. This situation has the effect of allowing the instruments used in the research to go together in a complementary manner. For this reason, an experiment, questionnaires, and class observations were used to deal with the research questions and objectives. The (SPSS) program version 17 was used for data analysis.

#### **3.2 Study population and sample**

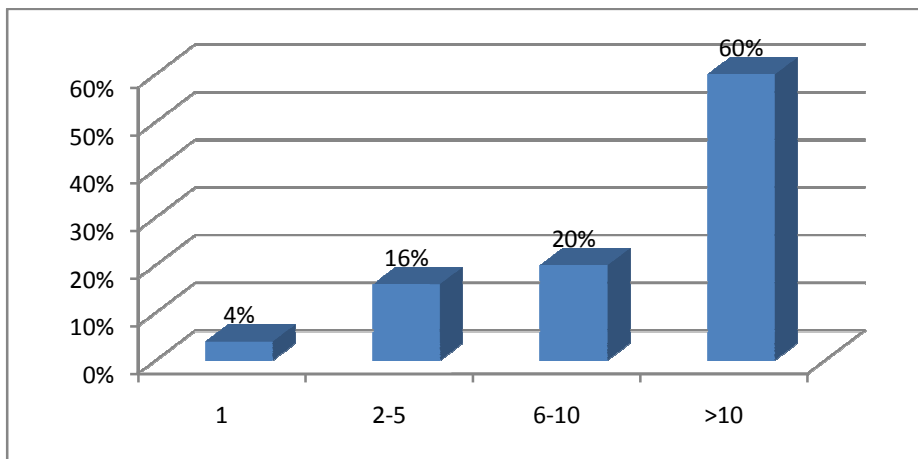
The study population was students and the teaching staffs of English, male and female at the Sudan University of Science and Technology. This experiment was conducted at the College of Languages. It goes without saying, that undergraduate students enter university after spending eight years studying English at the basic and secondary levels of general education. All the students are aged 18 years old.

They all speak Arabic as their first language, and all of them have studied English for 8 years at school. All the students who took part in the study experiment were gender-mixed groups.

The students stay for 4 years at the university before graduation. There were 62 students per group. The total number of them is 124 students. The 124 student sat to pre-and post-tests. Besides English, students also enroll in other courses including Arabic and French and course of Islamic studies to complete their undergraduate credit hours. As the students mix together for hours, they spend a lot of time speaking Arabic, and have little or no exposure to English outside the classroom, apart from that they may speak very little English or listen songs in English over their headphones. They listen to the types of songs that appeal to the interest of young and have no formal diction.

Most of the tutors, who participated in the experimentation process, are experienced Sudanese teachers. Some have taught at the university for 10 years, while a few have joined recently.

The descriptive statistics of the sample has been shown in the following graph:



*Graph (3:1): Teachers' Years of Experience*

The above figure shows that most of teachers (60%) have a good experience in teaching English language to EFL learners.

### **3.3 Tools of the study**

To collect the desired information to inform the recent study, two types of tools have been adopted. One type is a questionnaire, which was distributed to a randomly selected group of Sudanese English language teachers at universities. Another questionnaire has been distributed to the students; after they finished the post- test. A pre-test and a post-test, is the second tool used in this research and classroom observation, among others. The tests were administered to *first year* undergraduate students of Sudan University of Science and Technology. Students were amounting to as many as a hundred were divided into two groups, namely experimental and controlled. Both of them have a course of Reading; they had more than 20 passages selected from *Real 2* reading book.

The descriptive and analytical method of investigation has been adopted in the present research. The well-known package of (SPSS) was employed for the data analysis to produce the wanted statistical end.

#### **3.3.1 Validity of the tools**

Validity refers to the extent to which the data collection procedure measures what it intends to measure. The questionnaires, teachers and students questionnaires, and tests were validated by a jury consisting of five assistant professors specialized in English language. They based their comments on the following criteria:

- (1) The clarity of the items and instruction.
- (ii) The simplicity of items, and how far they related to the subject.
- (iii) The language used.

The jury made some remarks concerning some items and suggested modification for these items. Two items from TsQ. were omitted, and the researcher responded to their suggestions, and made the required modifications.

### 3.3.2 Tools' Reliability

In statistics, reliability is the consistency of a set of measurements often used to describe a test. The reliability of the test is 0.95 as shown the following table:

*Table (3-1) Reliability Statistics of the test*

N of Items	Cronbach's Alpha Based on Standardized Items
2	0.95

The reliability of the test is 0.95 this mean that the test is reliable. The correlation of each specific item with the sum/total of other items in the scale is 0.80 this mean that the questionnaire is reliable. For the reliability of the teachers' questionnaire, the study used the split – half method: A measure of consistency where a questionnaire is split in two and the score for each half of the questionnaire was compared with one another. The questionnaires were distributed to 50 teachers of English at Sudanese universities. The coefficient correlation formula was used to calculate the correlation:

The analysis shows that there was strong positive correlation between the answers given to the items asked: = 0.84%

### 3.4 Strategies for the research

The methodology adopted in this study is based mainly on a blend of the following methods and techniques:

1. Grounded Theory
2. Case study
3. Triangulation
4. Saturation

### **3.4.1 Grounded theory**

This theory stresses the importance of “developing theories on the basis of empirical research and gradually build up general theories that emerge from data.” (Denscombe, 2003: 110). This means that “researchers should engage themselves in fieldwork as the fundamental part of the work they should do.” Practically, this entails that “the researcher should undertake data collection from the field.” which has to be a continuing process. The basic concepts of the theory are:

- a. Theories should be generated by a systematic analysis of the data.
- b. The selection of instances to be included in the research reflects the developing nature of the theory and cannot be predicted at the start.
- c. Researchers should start out with an “open-mind”.
- d. Theories should be useful at a practical level and meaningful to those on ‘the ground’.

#### **3.4.1.1 Grounded theory and the present study**

The present study employs these concepts of Grounded Theory.

- a. Grounded Theory is suitable for the present study since the present study focuses on language learning in a specific setting – the classroom context.
- b. The data, which is taken first hand from the field, will be approached on an “open-mind” basis.
- c. The results of the study can be of great use and meaning to those “on the ground”. It will help enhance the learning outcomes of English language in the Sudanese context.



### **3.4.2 Triangulation**

Triangulation refers to the practice of using multiple methods, data sources, and instruments to enhance the validity of research findings. Mathison (1988:14) explains that the notion of triangulation as a research strategy is based on some basic assumptions. Firstly, the bias inherent in any particular data source, investigator, or method will be cancelled out when used in conjunction with other data sources, investigators, and methods. Secondly, when triangulation is used as a research strategy the result will be a convergence upon the truth about some social phenomenon. In other words, when data is collected from different sources and through different methods agree, the outcome is convergence.

Patton (2001: 247) advocates the use of triangulation by claiming that “triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches”.

### **3.4.3 Saturation**

Saturation stems from Grounded Theory. It refers to the concept and practice of continuous sampling and collection and analysis of data until no new patterns emerge. Sandelowski (2008:875-876) points out that saturation occurs “when the researcher can assume that her/his emergent theory is adequately developed to fit any future data collected.” Although Grounded Theory and saturation relate primarily to qualitative data, Glaser (1978:6) observes that:

Grounded Theory method although uniquely suited to fieldwork and qualitative data, can be easily used as a general method of analysis with any form of data collection: survey, experiment, case study. Further, it can combine and integrate them. It transcends specific data collection methods.

The present study combines both quantitative and qualitative data analysis. As such it makes use of saturation as a technique for reaching more conclusive results.

### **3.5 Research Experiment**

The participants read more than 20 reading texts under one of the two conditions: L1 gloss (Arabic language) and L2 gloss (English language). The participants in Arabic language gloss group were considered as experimental group, while the subjects in English language gloss group were assumed as control group in this study. The main difference between the classes, in terms of how they studied, was that the researcher could use Arabic in the English class. The researcher has to resort to L1 now and then to help explain things that may pose impediments to understanding, while Arabic was not used at all in the control group. Both groups took a pre-test prior to the reading course and a post-test after the course. After they finished the post-test, the researcher has distributed the student opinion questionnaire, which was design to investigate learners' opinion about the use of glosses and type of glosses.

### **3.6 Teachers' Questionnaire**

The teachers' questionnaire (TsQ.), consist of 20 multiple statements and two open-ended questions. It was divided into three parts:

- i) The importance of teaching/learning vocabulary to EFL learners.
- ii) The use of glosses as a learning tool.
- iii) Using L1 and L2 glosses.

Part one i) includes 2 statements surveying teachers' views of the importance of teaching/ learning vocabulary, with Likert 5 points scale (strongly agree, Agree, neutral, disagree and strongly disagree).

Part two included also 13 statements surveying the tutors' attitude towards the glosses as learning tool, also with Likert 5 points scale.

Part three surveyed tutors' towards using L1 or L2 glosses with reading material, with Likert 5 points scale.

The questionnaire papers were distributed to as many as a 50 tutors who spend a considerable time responding to the different items. The papers were, and then collected after two days for conducting the desired analysis and evaluation.

### 3.6.1 Procedures

1. The teachers' questionnaire was administered to teachers by hand, and was given up to 20 days to respond to the questions, some were given to other teachers to distribute them. Two forms were returned unfilled, and some were lost.

### 3.6.2 Pilot Study

The pilot study (P.S) was conducted to check out the instruments used before their final administration. A group of randomly selected ten teachers, they were requested to fill in the questionnaire and feel free to write or comment orally on any observation they think necessary with a view to check the following:

- 1- The appropriate length of time needed to fill in the questionnaire.
- 2- Clarity of the questions.

The researcher received no comments regarding the above points from the teachers.

*Table (3-2) summary of teacher's questionnaire*

<b>Variable measured</b>	<b>Measured by</b>
The importance of teaching/learning vocabulary to EFL learners	Item 1 and 2.
The use of glosses as a learning tool	Item 3,4,5,6,7,8,9,10,11,12,13,14, and 15
Using L1 and L2 glosses	Item 16,17,18,19 and 20

*Table (3:3) Teachers' Questionnaire /Sex*

Valid	Frequency	Percent
Male	33	66.0%
Female	17	34.0%
Total	50	100.0%

### **3.7 Summary of the chapter**

This chapter described the methodology employed for gathering the data of the present study. Research instruments were described; instruments reliability and validity were confirmed. Having finished with the methodology of the study, the next chapter will present data analysis, results and discussion.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

This chapter presents the analysis of data obtained from experiment, teachers' questionnaire, pupils' questionnaire, and classroom observations.

#### 4.1 Analysis of the Experiment.

The analysis of the experiment will focus on answering a vital question: To what extent does the use of the Arabic language glosses and English glosses in EFL reading comprehension can be helpful? Which of the two categories is more useful the English or Arabic glosses? To answer this question, we computed the mean, standard deviation, standard error and ranges for the pretest- and post-test scores of both experimental and control groups. T-test was computed to find out whether each group had made any progress as a direct result of instruction.

Some prior knowledge of the standards of the students is desirable to eliminate any element of favoritism of any group. The two groups of the students were subjected to a test to examine their knowledge of English language in general. The following table shows that both groups are relatively equal:

**Table (4-1):***Distribution of Pre-test and Post-test Scores within the Experimental and Control Groups*

Group		Mean	Std. Deviation	Std. Error Mean
Experimental Group	Pre-test	9.7742	5.21479	.66228
	Post-test	19.9194	3.76480	.47813
Control Group	Pre-test	9.3226	3.81014	.48389
	Post-test	17.5000	3.64287	.46264

**Table (4-2):** *Comparing the results of the two groups*

**T-Test**

Group	N	Mean	Std Deviation	Std Error Mean	t-observed	df	Sig(2tailed)
Experimental	62	19.91935	3.7680	.47813	41.661	61	.000
Control	62	17.50000	3.64287	.46264	37.826	61	.000

Judging by table (4-1) it can readily be observed that the results have remarkably improved, the results of the experimental group have soared up quite significantly. Improvement garnered by members of the controlled group was not expected. However, the students in this group have studied for 13 weeks, which possibly could have produced that little effect. As shown by the same table, both groups have significantly made successes, better still is the improvement attained by members of the controlled group due to the high scores they realized. These improvements and results attained in the tests account for and verify the original hypotheses one and two: H1. *There is a significant difference in scoring marks in reading comprehension between learners using L1 glosses and their peer using L2 glosses.* Hence, using glosses will help students to improve their reading, and enhance their understanding of the English language in broad general terms. It also verifies H2 *gloss practice can maximize vocabulary and enhance improve overall understanding.* As far as the data collection techniques suggest, the experiment group will perform better than the control group as their use of L1 gloss will help them achieve high standard in understanding reading texts and developing vocabulary.

In accordance with the results of the present study, many studies also reported that L2 learners think that glosses are helpful and assist their comprehension (Jacobs et al., 1994; Ko, 2005; Ko, 2012; Luo, 1993). Moreover, contrary to the participants'

preferences for L2 glosses in Ko's (2012) study, most of the participants in the present study opted for L1 glosses by stating two main reasons: (1) it is difficult for them to understand the L2 definitions; and (2) they can understand the content of the passage better thanks to L1 definitions. Similarly, Laufer and Hill (2000) noted that most of the Israeli participants (72%) preferred L1 translation over L2 explanation in glosses.

It is generally accepted that the use of glosses is facilitative for L2 learners' vocabulary learning while reading (Hulstijn, Hollander, & Greidanus, 1996; Jacobs, Dufon, & Fong, 1994; Mondria, 2003; Nagata 1999; Rott, 2007; Rott & William, 2003; Watanabe, 1997; Yoshii, 2006). The positive effects of gloss on fostering vocabulary learning can be attributed to several factors. First, due to providing accurate meanings for words, gloss is more accessible and easier to use than dictionary (Hulstijn et al., 1996). Second, with its bold-faced design, gloss salience can draw L2 learners' attention to L2 words, supporting the notion of "consciousness-raising" and "input- enhancement" (Nagata, 1999). Gloss also helps to connect word forms to meanings with minimal interruption of reading process (Rott & William, 2003). The presence of gloss finally persuades L2 learners to read back and forth between the L2 words and gloss, triggering more lexical processing that, in turn, manifests itself as word retention (Jacobs et al... (1994).

On the other hand, some studies claim that glosses may have a negative effect on text comprehension by interrupting the reading flow (Johnson, 1982), and use of glosses may prevent students from inferring the meaning by decreasing their interaction with learning process (Mondria, 2003).

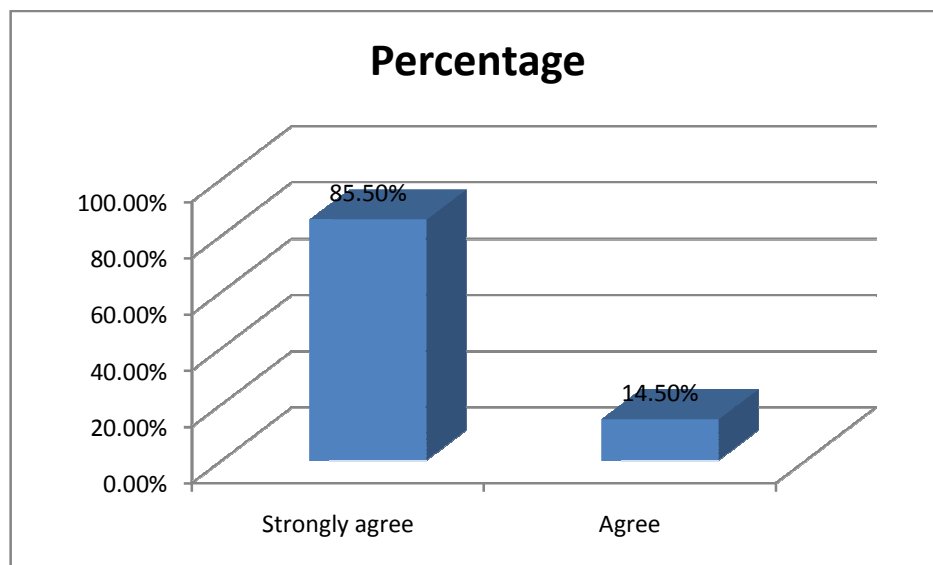
So favorable environment for learning can have a positive effect on the students' academic achievement as was clearly demonstrated by the results shown on both cases as far as the two groups are concerned. This result confirms the first and the second hypothesis.

## 4.2 Analyzing Students' Questionnaire

This consists of five interrelated parts surveying the students' opinions as regards reading to further help foster and reinforce vocabulary knowledge. It was presented in English after it has been simplified and explained in Arabic to arrive at concrete results.

Table (4-3) It is important to learn vocabulary

Variables	Frequency	Percentage %
<b>Strongly agree</b>	106	85.5
<b>Agree</b>	18	14.5
<b>Total</b>	<b>124</b>	<b>100</b>



Graph (4-1): Important to learn vocabulary

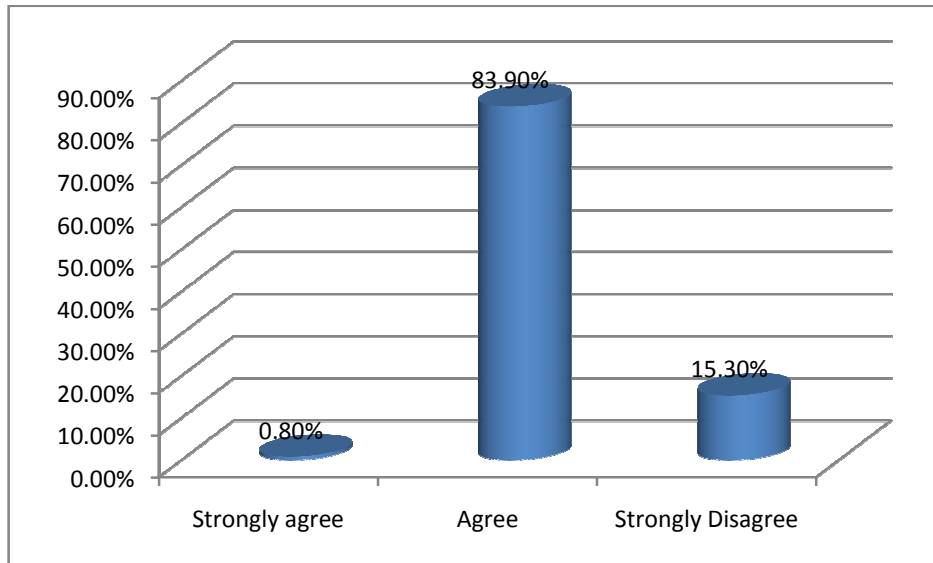
As regards the issue of learning vocabulary, considering the table (4-3) and graph (4-1) above, (85.5%) of the students strongly agreed that vocabulary is one of the most important aspects in teaching and learning a foreign language. In addition, vocabulary is the key of enriching the knowledge of a foreign/target language. A



leading linguist researcher Paul Nation (1994) notes: “Vocabulary is not an end in itself. A rich vocabulary makes the skills of listening, speaking, reading, and writing easier to perform.”It is a basic component of language proficiency which provides the basis for learners' performance in other skills, such as speaking, reading, listening, writing, spelling and pronunciation. It is the basis for the development of all the other skills: reading comprehension, listening comprehension, speaking, writing, when confronted with a native English speaker, when watching a movie without subtitle or when listening to a favorite English song, when reading a text or when writing a letter to a friend, students will always need to operate with words. Vocabulary is the main tool for the students in their attempt to use English effectively.(Nation, 2008) Therefore, acquiring vocabulary it is a fundamental process when learning an L2 because it will not only develop the writing skills, but also the remaining ones.For a large majority of learners, the ultimate goal of studying is to be able to communicate in a new language. If you do not wish to lean completely on non-verbal skills, mastering vocabulary is not just important, but crucial in a foreign language environment.

Table (4-4)It is more important to learn grammar than words:

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>Strongly agree</b>	1	0.8
<b>Agree</b>	104	83.9
<b>Strongly Disagree</b>	19	15.3
<b>Total</b>	124	100



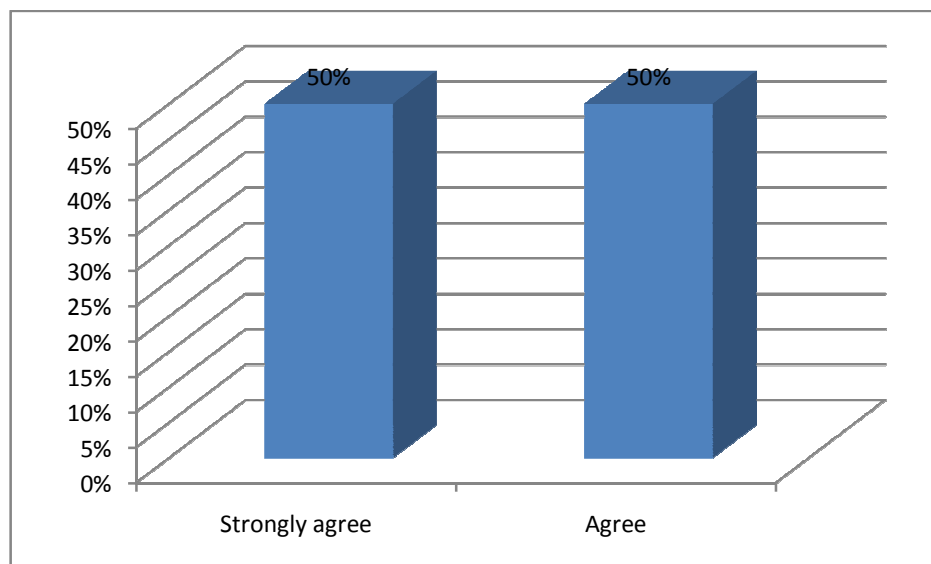
Graph (4-2): More important to learn grammar than words

**Judging by the table and graph above** that a substantial number (83.9%) of the respondents do agreed that learning vocabulary is more essential than grammar. As the British linguist David A. Wilkins (1972) puts it: “without grammar, very little can be conveyed; without vocabulary nothing can be conveyed”. There is a reason we tend to travel with a dictionary, not a grammar book.

Recently, meaning has become of paramount importance in language teaching or learning process. As Widdowson, H. G. (1990: p. 95) points out:" Teaching which gives primacy to form and uses words simply as a means of exemplification actually denies the nature of grammar as a construct for the mediation of meaning. I would suggest that the more natural and more effective approach would be to reverse this traditional pedagogic dependency, begin with lexical items and show how they need to be grammatically modified to be communicatively effective".

Table (4-5)Glossing is interesting for reading comprehension and vocabulary:

Variables	Frequency	Percentage %
Strongly agree	62	50
Agree	62	50
<b>Total</b>	124	100



Graph (4-3): Glossing is interest for reading comprehension and vocabulary

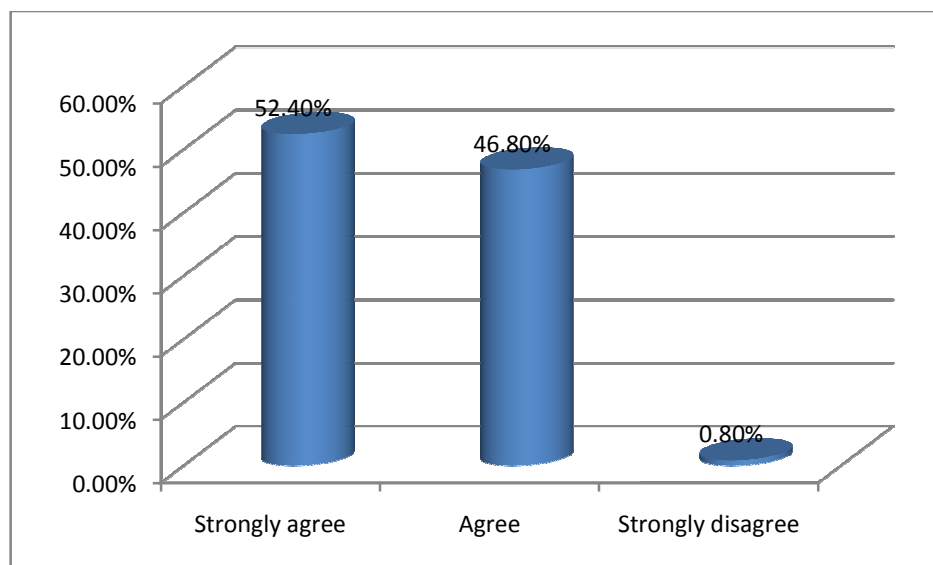
It is quite clear, from the above table (4-5) that all the students feel the importance of using glosses and they are interested to use them in reading comprehension and vocabulary, (50%) strongly agreed and (50%) agreed.

The two most important reasons to use glosses are to assist reading comprehension and aid vocabulary learning. In general, four advantages result from glossing. First, glosses can help readers understand new words more accurately by preventing incorrect guessing. Deriving meaning from context can be difficult and risky

because of readers' lack of language or reading strategies (e.g., Bensoussan and Laufer, 1984; Hulstijn, 1992; Kruse, 1979; Nation, 2001; Stein, 1993). Third, glosses may help readers build a bridge between prior knowledge or experience and new information in the text. In other words, interactions among gloss, reader, and text may promote comprehension and retention of the content of the text. Researchers generally agree that glosses facilitate reading comprehension and short-term vocabulary retention (Kost et al., 1999).

Table (4-6) Glossing helps me to understand the passage

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	65	52.4
Agree	58	46.8
Disagree	1	0.80
Total	124	100

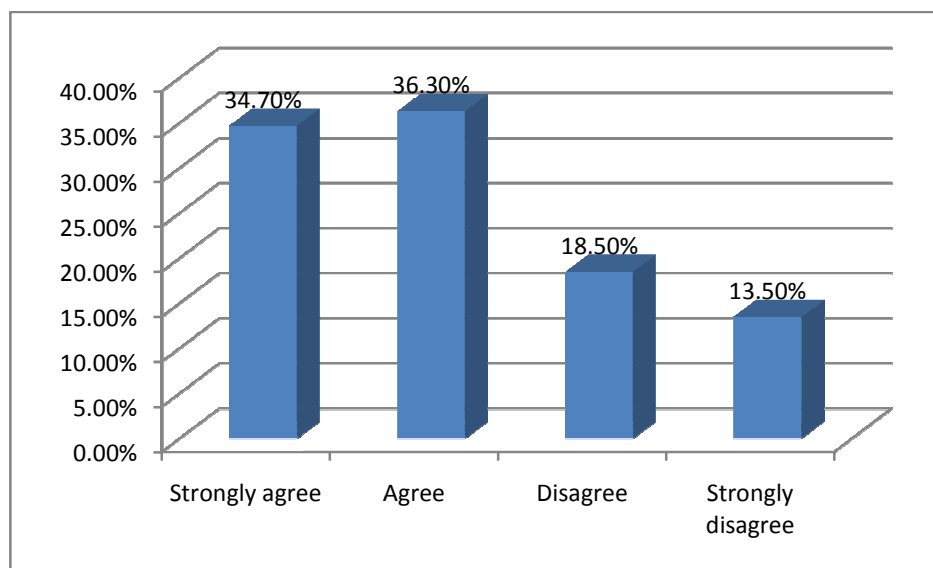


Graph (4-4) Glossing helps me to understand the passage

It is quite apparent from the table above that the majority of the respondents side the above statement in every respect. They are extremely in favor of the idea that glossing helps them to understand the passage. Gloss is defined as an explanation of the meaning of a word (Pak, 1986) or a brief definition or synonym either in L1 or in L2 (Nation, 2001).

Table (4-7): I prefer Arabic (L1) glossing to English (L2) glossing:

Variables	Frequency	Percentage %
Strongly agree	43	34.7
Agree	45	36.3
Disagree	23	18.5
Strongly disagree	15	10.5
Total	124	100



Graph (5): Prefer Arabic (L1) glossing to English (L2) glossing

The majority of the respondents (34.7%) do strongly agree and (36%) do agree that they prefer to use Arabic (L1) glossing, whereas (18%) disagreed and (10.5%) strongly disagreed, they prefer to use English (L2) gloss.

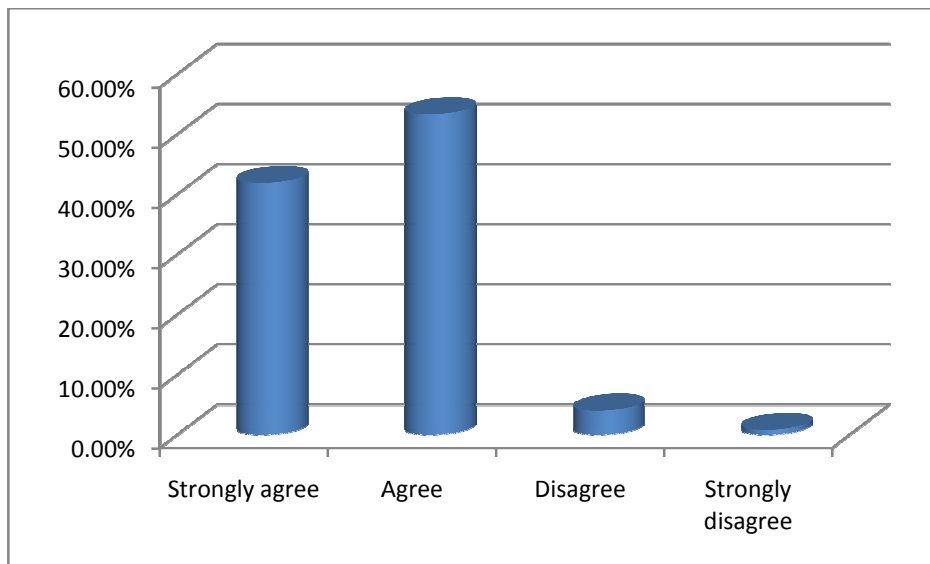
Regarding the literature related to participants' preferences and attitudes towards different gloss types, the analysis of questionnaires in Jacobs (1994) revealed that the participants preferred to use L2 gloss over L1 gloss, whereas they confirmed that glossing is more helpful than non-glossing. In another study, Ko (2005) reported that more than 62% of the subjects preferred L2 glosses for their reading material. Jacobs, Dufon, and Hong's (1994) study showed that 98.7% of the participants preferred to read glossed texts, 47% of them preferred L1 glossed texts and 53% preferred L2 glossed texts. Results of Nazary's (2008) research revealed that Iranian university students did not have the tendency to use the first language in L2 class which is in line with Prodromou's (2002) survey. Fang (2009) reported that 86% of the participants preferred to read glossed texts and also most of them had positive attitudes toward the use of gloss that is in line with previous studies such as Nation (2001). Fang added that most of the participants preferred to use L2 (English) gloss that is in line with Jacobs et al., (1994) and Ko (2005). The additional analysis of Al-Jabri's (2009) study revealed that more than (94%) of subjects preferred to use glosses and (50%) were interested in using L2 glosses for their reading materials. Only, the result of Bell and LeBlanc's (2000) study indicated that the subjects preferred L1 gloss to L2 gloss.

Some studies have shown that students prefer to have glosses in their L2 language reading materials (e.g., Jacobs, Dufon and Fong, 1994). At any rate, the use of vocabulary glosses in L2 reading materials is a common practice (Holley and King, 1971; Jacobs, et al., 1994). Bland, Noblitt, Armington, and Gay (1990) argue for a developmental relationship between proficiency level and the effects of glossing. They found that learners with high L2 proficiency preferred L2 glosses instead of

L1 glosses. Likewise, Ko (2005) reported that L2 glossing was significantly more effective only when students were at a high L2 proficiency level.

**Table (4.8):** Glossing helps me to read faster and more smoothly:

Variables	Frequency	Percentage %
Strongly agree	52	41.9
Agree	66	53.2
Disagree	5	4
Strongly disagree	1	0.8
Total	124	100



*Graph (4-6) Glossing helps me to read faster and more smoothly*

As regards table (4-8) quite a good number of respondents (53.2) do agree that glossing help them to read faster and smoothly. Glossing can minimize interruption while reading is in process. Since glossing provides definitions for low frequency words, L2 readers do not have to constantly look them up (Nation, 1990; Nation, 2001).

On the other hand, some studies claim that glosses may have a negative effect on text comprehension by interrupting the reading flow (Johnson, 1982), and use

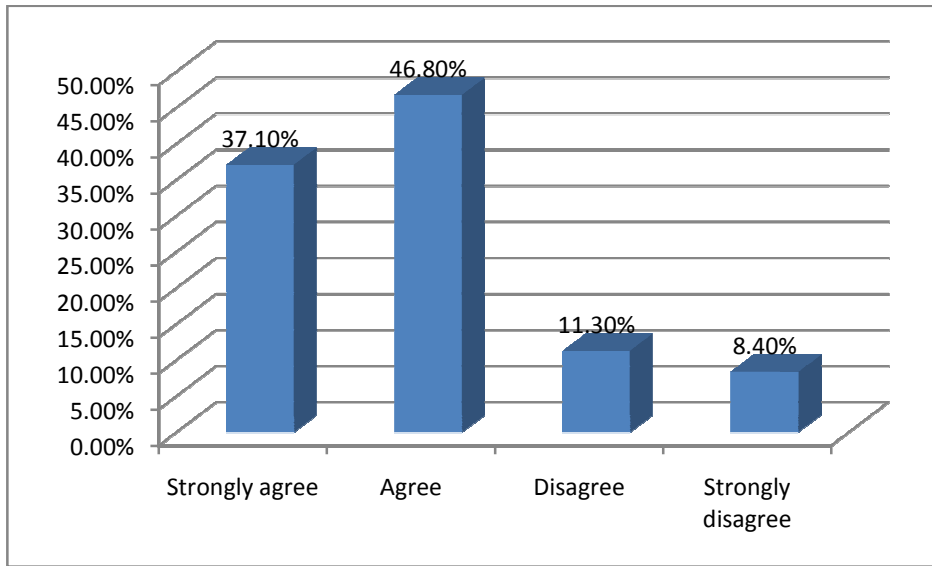
of glosses may prevent students from inferring the meaning by decreasing their interaction with learning process (Mondria, 2003). Notwithstanding these limitations, most of the studies report on the benefits of glosses (Hulstijn, Hollander, & Greidanus, 1996; Jacobs et al., 1994; Myong, 1995; Watanabe, 1997). For example, reading texts elaborated with glosses are recalled more in comparison with texts without glosses (Davis, 1989; Jacobs, 1994), and incidental vocabulary learning is more effective with glossed texts (Hulstijn et al., 1996; Watanabe, 1997). By the same token, Vela (2015) summarizes the justifications for using glosses by stating that reading process can continue without distraction thanks to glosses, they prevent wrong guessing by providing definitions, and both teachers and learners can benefit from the classroom time in a fruitful way because glosses are practical and timesaving.

However, for texts without glosses, the possibility of misunderstanding may be a problem if students cannot infer the correct meaning. Hulstijn (1992) calls this wrong inference situation as ‘unlearning’ and suggests fixing it by using glosses to aid students to understand the text properly by avoiding random guesses.

Table (4-9): Glossing helps me not to be too dependent on the teacher to give the meaning of the unknown words:

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	46	37.1
Agree	58	46.8
Disagree	14	11.3
Strongly disagree	6	4.8
Total	124	100



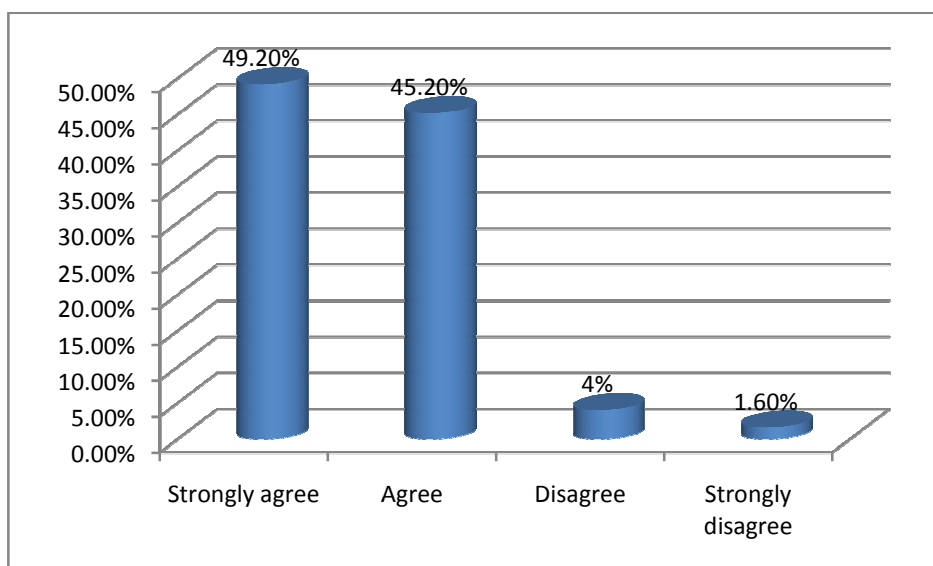


*Graph (4-7) Glossing helps me not to be too dependent on the teacher to give the meaning of the unknown words*

It is apparent as guided by the above table and figure that a substantial number (46.8%) of the respondents do agree that glossing will reduce considerably their dependence on their teachers, if they use glosses quite satisfactorily. Since not all students have problems with the same words, they can look up just the words they do not know (Jacobs, 1994; Nation, 1990). Glosses can make students less dependent on their teachers, allowing for greater autonomy.

Table (4.10): Glossing helps me not to consult the dictionary very often and allows me to follow text without much interruption:

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	61	49.2
Agree	56	45.2
Disagree	5	4
Strongly disagree	2	1.6
Total	124	100



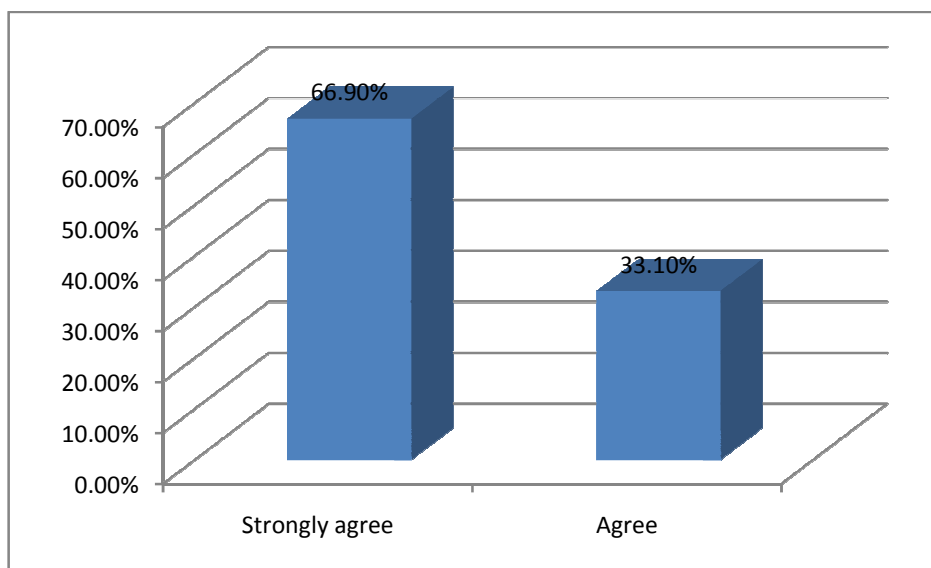
*Graph (4-8) Glossing helps me not to consult the dictionary very often and allows me to follow text without much interruption*

Guided by table (4-10) that most of the respondents agreed that glosses do not interrupt their reading by using dictionary. Glosses provide a short definition or an image in order to facilitate reading and comprehension processes for L2 learners. It is the easiest way to understand the meanings of words as they appear in context, since it does not even demand the effort of searching and then choosing the appropriate meaning out of several possible ones, which is required by dictionary look-up. Nation (1983) defined glosses as short definitions; Pak (1986) refers to them as explanations of the meanings of words. Glosses are usually located in the side or bottom margins, and they are most often supplied for "unfamiliar" words, which may help to limit continual dictionary consultation that may hinder and interrupt the L2 reading comprehension process.

Table (4-11): Glossing make reading interesting and enhance comprehension:

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	83	66.9
Agree	41	33.1
<b>Total</b>	<b>124</b>	<b>100</b>

Apparently, from table (4-11) the all of the respondents believe that using glosses not only enhance comprehension, but also make reading more interesting.

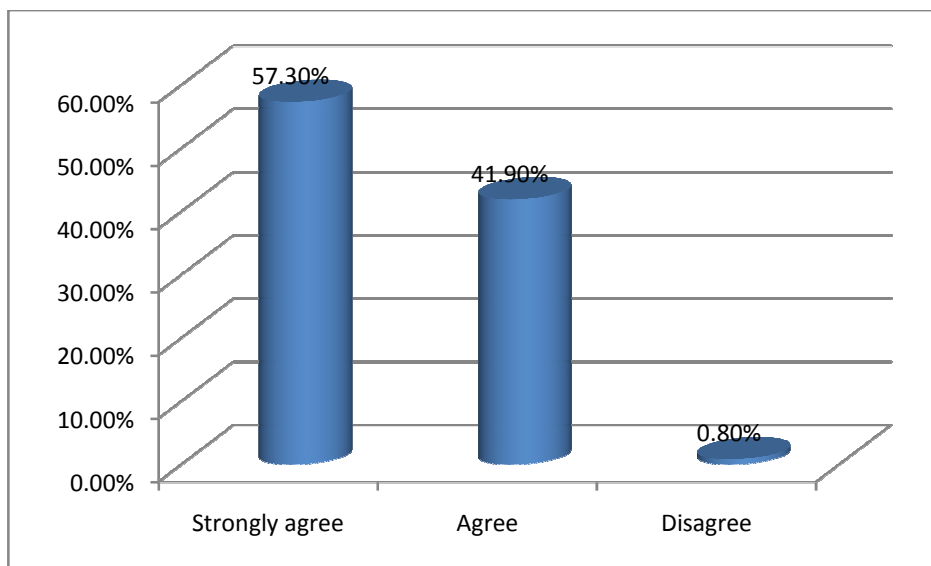


Graph (4-9) Glossing make reading interesting and enhance comprehension

Bell and LeBlanc (2000) state that glossing is the most common form of text adaptation since it assists the reader in comprehending words and phrases and, therefore, helps second language learners to comprehend reading materials. The use of vocabulary glosses is common in second language materials (Davis, 1989).

Table (4-12) I would read more books for pleasure if they used glosses:

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	71	57.3
Agree	52	41.9
Disagree	1	0.80
<b>Total</b>	<b>124</b>	<b>100</b>



Graph (4-10) I would read more books for pleasure if they used glosses

It is quite evident from the above table and graph that all the students are interested with the material that used glosses. All of them would read any type book if it used glosses.

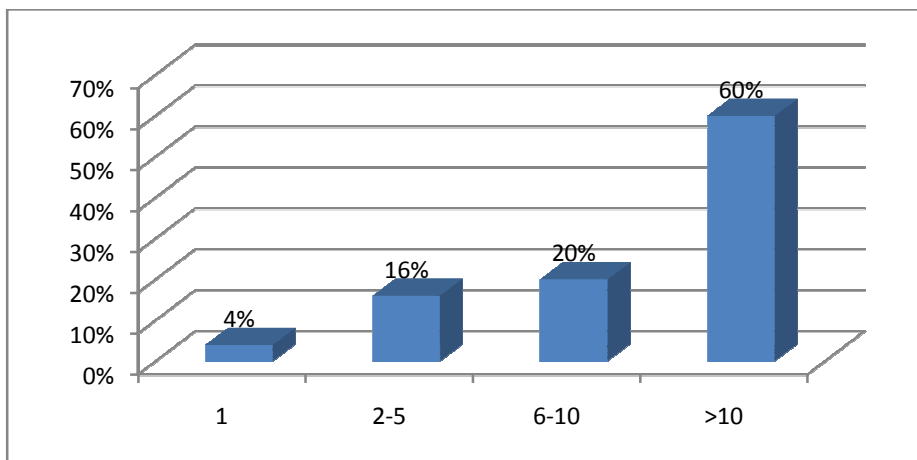
To sum up, the majority of participants preferred to have L1 and L2 glossed texts, followed by participants who preferred to read L1 glossed texts and L2 glossed texts. Moreover, the majority of participants preferred to read glossed texts. These results are not surprising since the reading texts presented numerous unknown words and EFL learners who suffer from the small vocabulary knowledge need text enhancement to help them read the authentic texts without referring to dictionary.

### 4.3 Analyzing the Teachers' Questionnaire

This questionnaire consists of four interrelated parts which are deliberately designed to address a specific issue and underscore it. Respondents are of different professional experience in relation to their term of years on the job. So their overall assessment is absolutely reliable.

Table (4-13) *Teaching years*

Teaching Years	Frequency	Percentage %
1	2	4
2- 5	8	16
6- 10	10	20
>10	30	60
Total	50	100



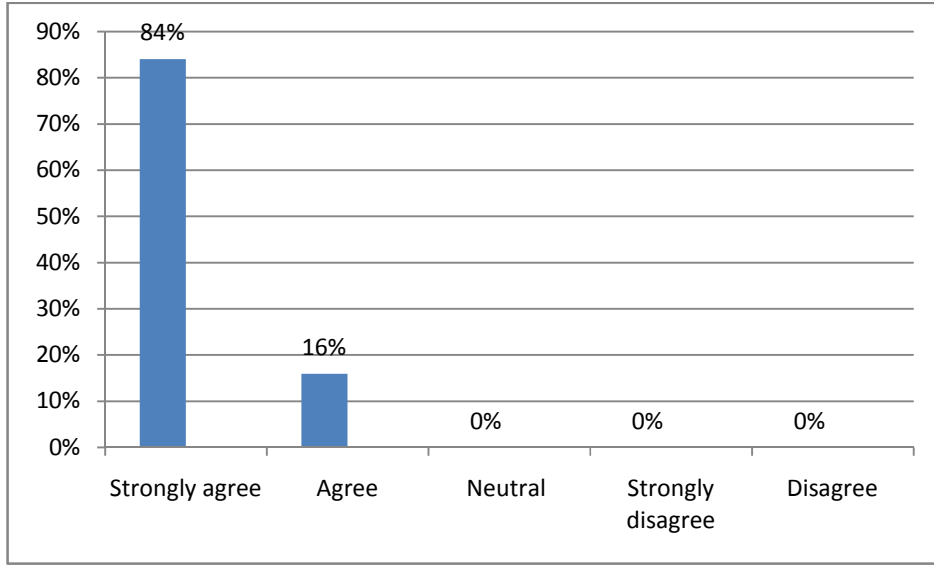
Graph (4-11) *Teaching years*

Judging by the table and graph above, the majority of the respondents are veteran classroom practitioners (60%), whereas 20% are considered of somewhat substantial professional experience. This fact accounts for the reliability of their choices and responses.

Table (4-14) *Vocabulary acquisition is considered an important aspect for EFL students:*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	42	84
Agree	8	16
Neutral	0	0
Strongly disagree	0	0
Disagree	0	0
Total	50	100

Judging by the table above, 84% of the respondents do strongly agree to the variable in question that vocabulary is essential for EFL learners to proceed with their learning, whereas 16% are also in favor of the variable. Hence, in alignment with this percentage any other considerations are taken to be negligible. Undoubtedly, vocabulary lays such a central role in language learning and improvement of particularly communicative competence which is responsible for any successful communication.



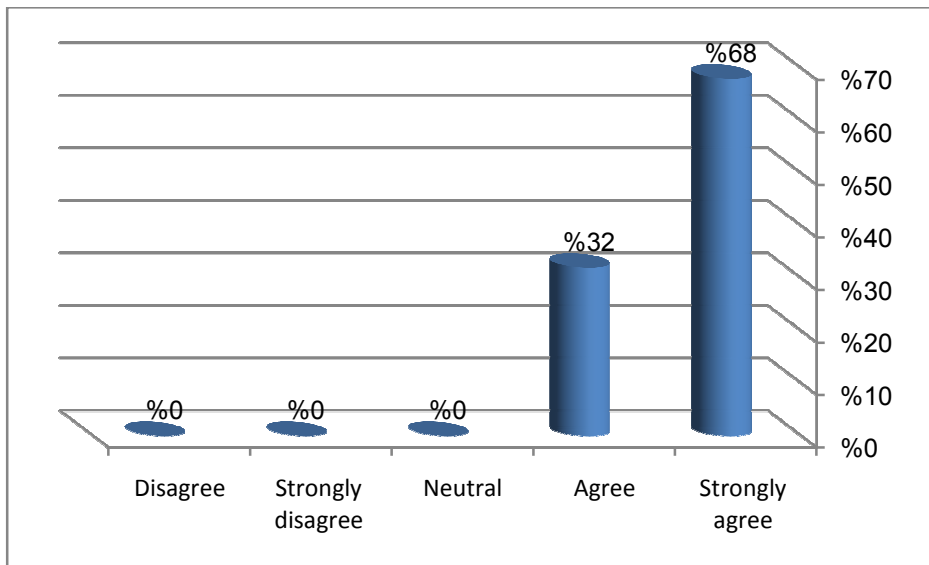
Graph (4-12) Vocabulary acquisition is considered an important aspect for EFL students

The figure above which is in full alignment with the table reflects the importance of vocabulary in language learning. This confirms the second hypothesis which states: ***Gloss practice which relates directly to vocabulary stock maximizes reading comprehension and enhances overall understanding.***

Table (4-15) inaccurate explanation of vocabulary meaning affects students understanding of text

Variables	Frequency	Percentage %
Strongly agree	34	68
Agree	16	32
Neutral	0	0
Strongly disagree	0	0
Disagree	0	0
Total	50	100

It is clear from the table above and the figure below that almost 98% of the respondents do agree that inaccurate explanation of lexical items affect the students' understanding of the text to be handled. It goes without saying that incorrect grasp of the vocabulary the students working with, is sure to lead to erroneous outcome. This entails that tutors have to exercise utmost care to explain and illustrate the meanings of the unfamiliar words as sometimes the mistaken process of explaining words can have a long-lasting effect. A word explained incorrectly may prove very difficult set right again. 10% of the respondents believe that a remedial revisiting of the items taught incorrectly is possible, however in the face of the huge percentage of those who favor the variable, the 10% is considered negligible.

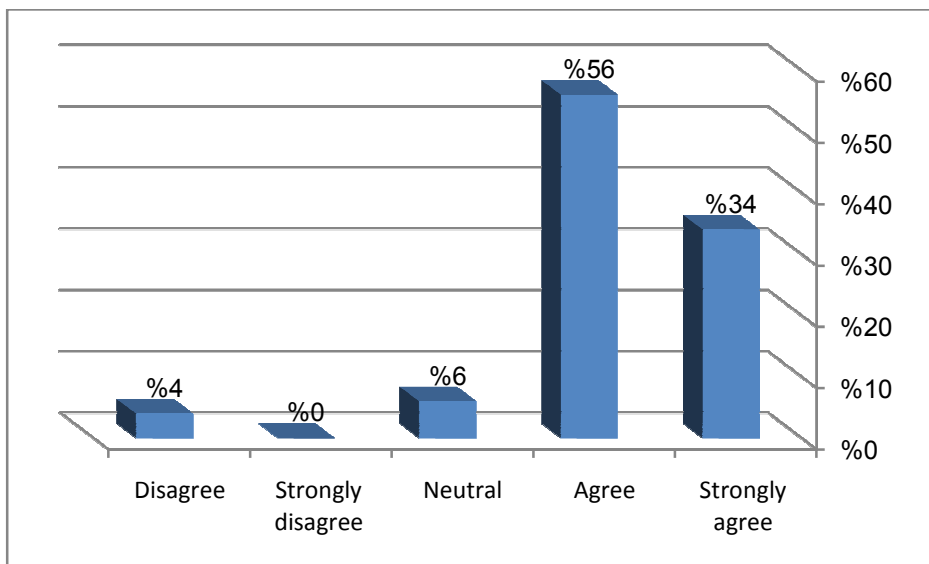


*Graph (4.13): Inaccurate explanation of vocabulary meaning affects students understanding of text*



Table (4-16) *Using glosses is not a completely new idea to most teachers*

Variables	Frequency	Percentage %
Strongly agree	17	34
Agree	28	56
Neutral	3	6
Strongly disagree	0	0
Disagree	2	4
Total	50	100



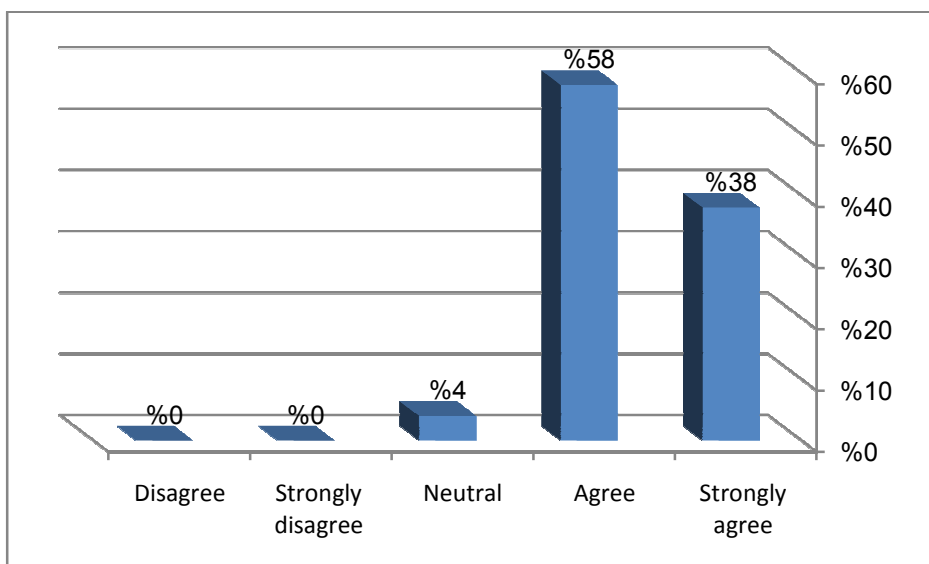
Graph (4.13): *Using glosses are not a completely new idea to most teachers*

It is apparent from the table and the figure above that 90% of the respondents is in the opinion that the idea of glosses is not a new idea for the Sudanese tutors as the tutor themselves have tended to use the glosses as a learning style when they were students. The use of glosses as far as the Sudanese teaching experience is concerned is a tradition of very long standing. The generation who studied the old English language syllabus of *Michael West* that is the alternative readers, were

expose so abundantly to the use of glosses. The method on which these readers were based is heavily built in the use of glosses as the unfamiliar words were fronted above and then later explained at a particular part called *word study*. This part further confirms the **second hypothesis**.

Table (4-17) *Glosses are essential tool for learning vocabulary among EFL students*

Variables	Frequency	Percentage %
Strongly agree	19	38
Agree	29	58
Neutral	2	4
Strongly disagree	0	0
Disagree	0	0
Total	50	100

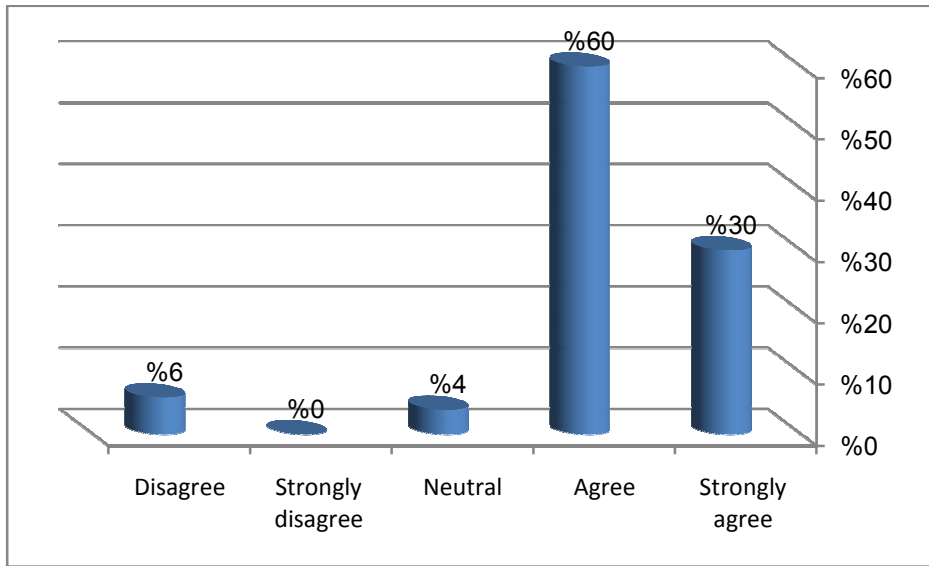


Graph (4.14): *Glosses are essential tool for learning vocabulary among EFL students*

The above table and figure states quite clearly that 96% of the respondents understand perfectly well the value and importance of the use of glosses in reinforcing and maximizing students' grasp of the reading texts. This in art confirms the third hypothesis which reads **EFL learners prefer to use both types of glosses**. Drawing on their classroom experience tutors, understand that their students prefer to use glosses both in English and Arabic.

Table (4-18) *Glosses minimize student's guessing of the word meaning by getting the suitable meaning which fit in context*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	15	30
Agree	30	60
Neutral	2	4
Strongly disagree	0	0
Disagree	3	6
Total	50	100



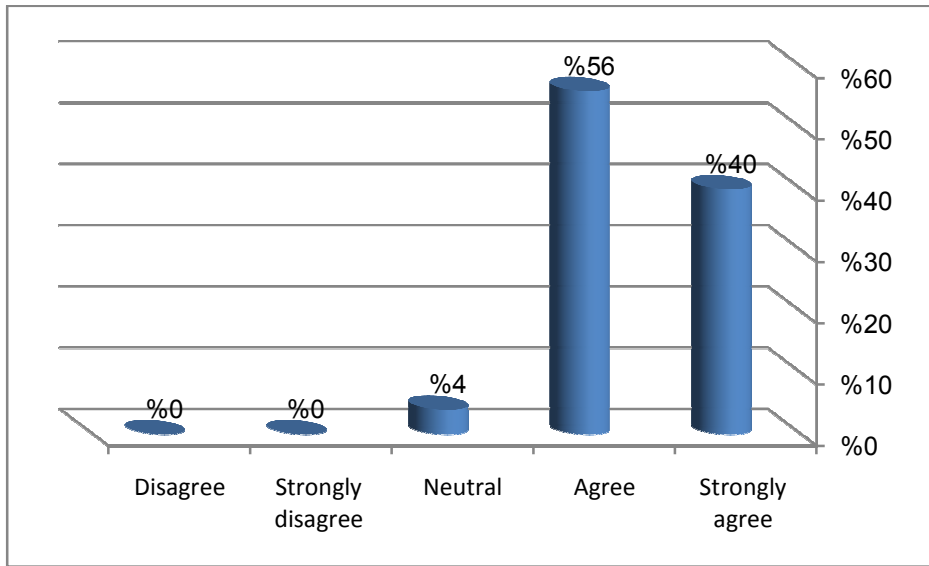
*Graph (4-15):Glosses minimize student’s guessing of the word meaning by getting the suitable meaning which fit in context*

As shown from the table above and graph that 90% respondents agree that glosses minimize student’s guessing of the word meaning by getting the suitable meaning which fit in context and hence this has the effect of expediting reading comprehension as the students stop guessing the meaning from the context. However, this can also be counterproductive as it makes the students largely dependent on the glosses and interfere with the sub-skill of inference. Inference is greatly required for the student to develop as far as reading comprehension is concerned.

Table (4-19) *Glosses make reading interesting and enhance comprehension*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	20	40
Agree	28	56
Neutral	2	4
Strongly disagree	0	0
Disagree	0	0
Total	50	100

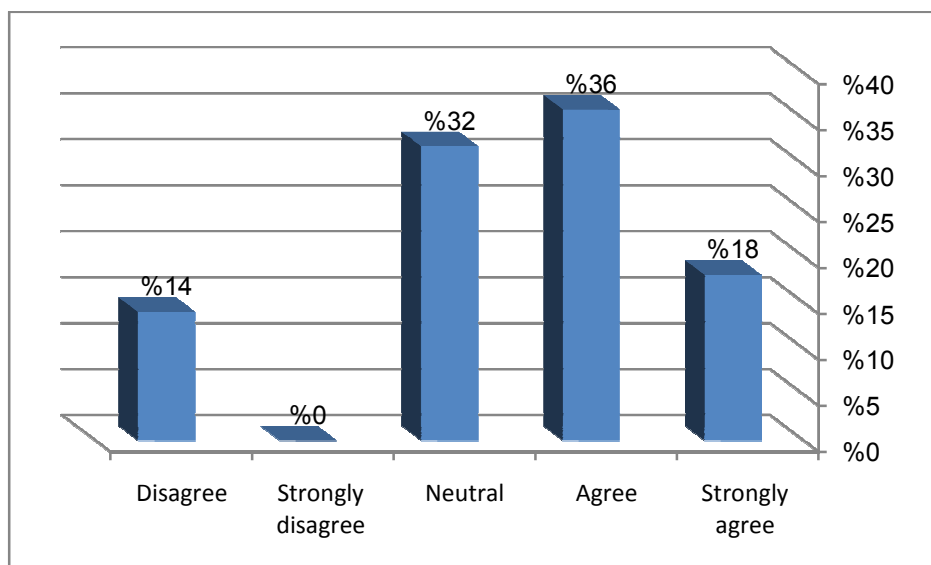
As is apparent from the table above and graph, 90% of the respondents are happy with the variable glosses make reading interesting and enhance comprehension. This is because in the absence of glosses the students have to rely on guessing or to turn frequently to the dictionary a thing which makes the reading loses much of the pleasure it ought to give. However, tutors have to be thrifty in providing glosses as too many of them can make the students excessively dependent.



Graph (4.16): Glosses make reading interesting and enhance comprehension

Table (4-20): Glosses are common phenomena amongst Sudanese students, who apply them across the subjects they study

Variables	Frequency	Percentage %
Strongly agree	9	18
Agree	18	36
Neutral	16	32
Strongly disagree	0	0
Disagree	7	14
Total	50	100

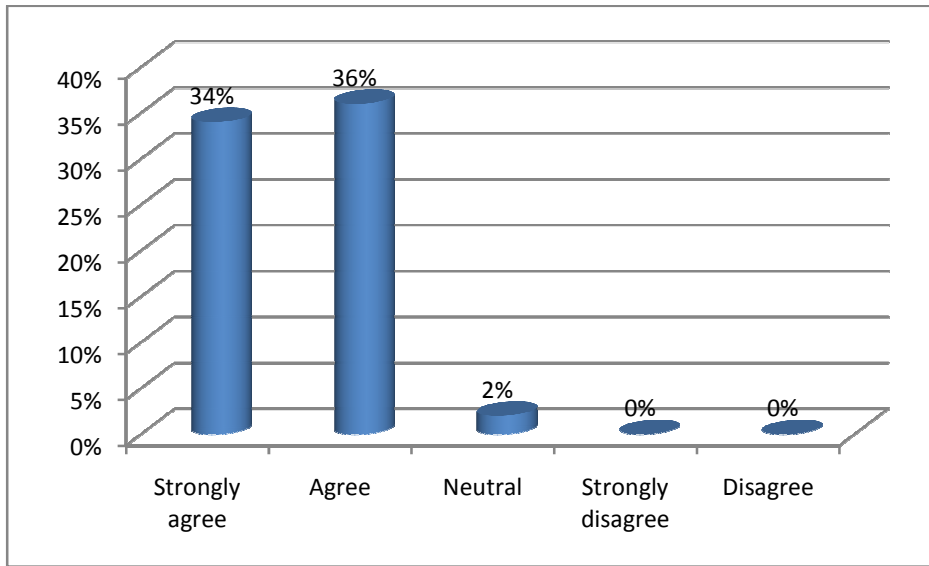


Graph (4-17): Glosses are common phenomena amongst Sudanese students, who apply them across the subjects they study

The table and graph indicates that the respondents 76% are not happy with this variable which holds glosses to be *common phenomena amongst Sudanese students, who apply them across the subjects they stud*. Older Sudanese learner generations of English language were actually exposed to excessive use of glosses largely because of the type syllabus followed which were heavily based on *Grammar Translation Method* of which the use of glosses is of paramount importance and a genuine part of its basic tenets. However, the new generations of learners who taught along the communicative courses are hardly exposed to the issue of glosses.

Table (4-21) *Textual glosses are valuable tool which facilitate reading in foreign language*

Variables	Frequency	Percentage %
Strongly agree	17	34
Agree	32	36
Neutral	1	2
Strongly disagree	0	0
Disagree	0	0
Total	50	100



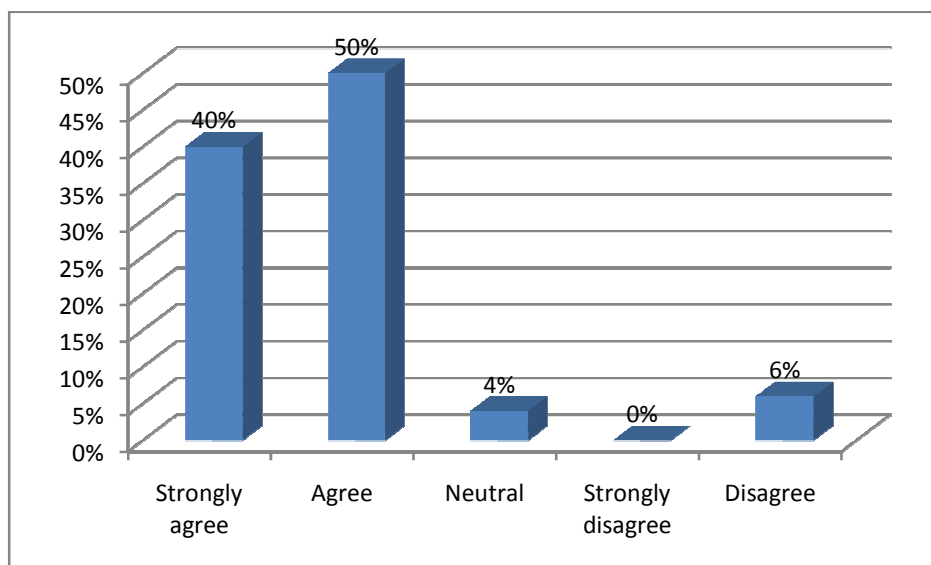
Graph (4-18): Textual glosses are valuable tool which facilitate reading in foreign language

A considerable percentage 80% accrued to answering that question by respondents who believe that *textual glosses are valuable tool which facilitate reading in foreign language*. This can be viewed from the angle of sheer facilitating understanding unfamiliar lexicons. Understanding separate words can be useful but it is absolutely not enough for comprehensive grasp of the whole text where there are elements that pertain to figurative language that can hardly be accounted for.

Table (4-22) Glosses are one of the most effective tools for increasing identification of a word that enhances vocabulary learning among EFL learners

Variables	Frequency	Percentage %
Strongly agree	20	40
Agree	25	50
Neutral	2	4
Strongly disagree	0	0
Disagree	3	6
Total	50	100



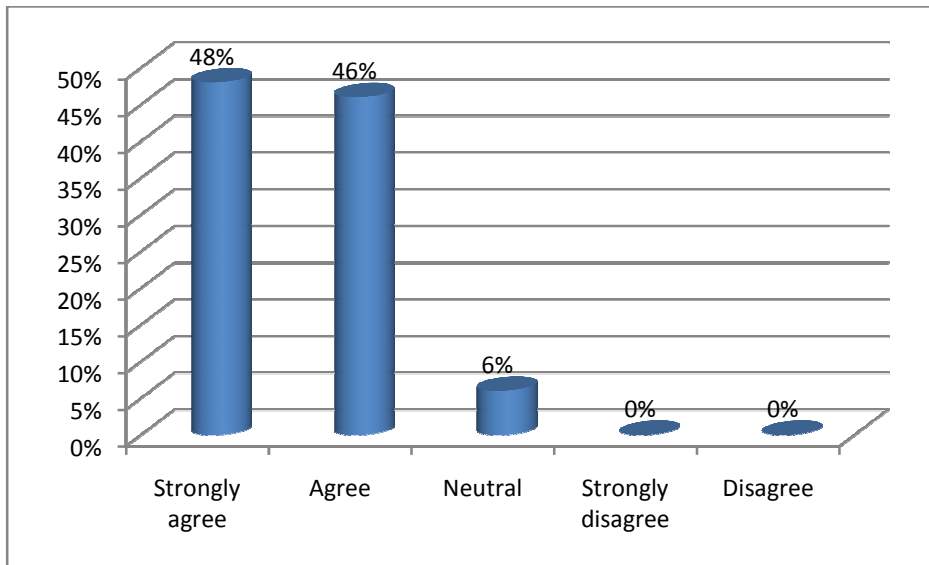


Graph (4-19): Glosses are one of the most effect tools for increasing identification of a word that enhance vocabulary learning among EFL learners

It is absolutely true that glosses play such a central role in clarification of meaning 90% of the respondents do agree to that. The variable states that *Glosses are one of the most effective tools for increasing identification of a word that enhances vocabulary learning among EFL learners*. It is evident that understanding the meaning of a word can be a key to grasping the whole context however, difficult it may be. According to Paribakt and Wesche(1999), Parry (1997), and Watanabe (1997), glossing is necessary since there are numerous unknown words which are problematic in extensive reading. One of the most widely investigated effective techniques is the provision of vocabulary gloss while reading(Hulstijn, 1992; Hulstijn el al.,1996; Watanabe,1997; Rott, et al., 2002; Rott&Williams, 2003).

Table (4-23): *Glosses help students to recognize vocabulary when coming across it again*

Variables	Frequency	Percentage %
Strongly agree	24	48
Agree	23	46
Neutral	3	6
Strongly disagree	0	0
Disagree	0	0
Total	50	100

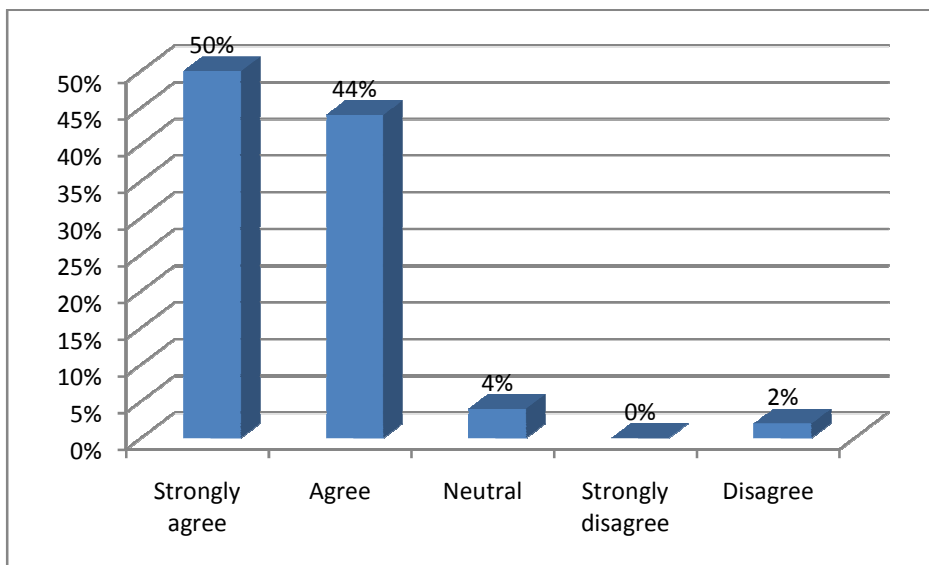


Graph (4-20): *Glosses help students to recognize vocabulary when coming across it again*

Guided by the table (4-23) 94% of the respondents are happy with the above variable which readily reads as *glosses help students to recognize vocabulary when coming across it again*. The National Reading Panel (NICHD, 2000) identified vocabulary as one of five major components of reading. Its importance to overall school success and more specifically to reading comprehension is widely documented (Baker, Simmons, & Kame’enui, 1998; Anderson & Nagy, 1991). The National Reading Panel (NRP) stated that vocabulary plays an important role both in learning to read and in comprehending text: readers cannot understand text without knowing what most of the words mean. “Teaching vocabulary will not guarantee success in reading, just as learning to read words will not guarantee success in reading. However, lacking either adequate word identification skills or adequate vocabulary will ensure failure” (Biemiller, 2005).

Table (4-24): *Glosses make reading more an autonomous activity for learners*

Variables	Frequency	Percentage %
Strongly agree	25	50
Agree	22	44
Neutral	2	4
Strongly disagree	0	0
Disagree	1	2
Total	50	100



*Graph (4-21): Glosses make reading more autonomous activity for learners*

Glancing at the table and graph above, 90% of the respondents believe that glosses have the effect of making reading comprehension autonomous and pleasurable activity. This is enormously attributed to the power of vocabulary. Vocabulary is generically defined as the knowledge of words and word meanings. More specifically, we use vocabulary to refer to the kind of words that students must know to read increasingly demanding text with comprehension (Kamil & Hiebert, 2005). It is something that expands and deepens over time. The NRP's synthesis of vocabulary research identified eight findings that provide a scientifically based foundation for the design of rich, multifaceted vocabulary instruction.

Table (4-25): *Glosses are necessary in extensive reading which contents numerous unknown words*

Variables	Frequency	Percentage %
Strongly agree	22	44
Agree	26	52
Neutral	2	4
Strongly disagree	0	0
Disagree	0	0
Total	50	100

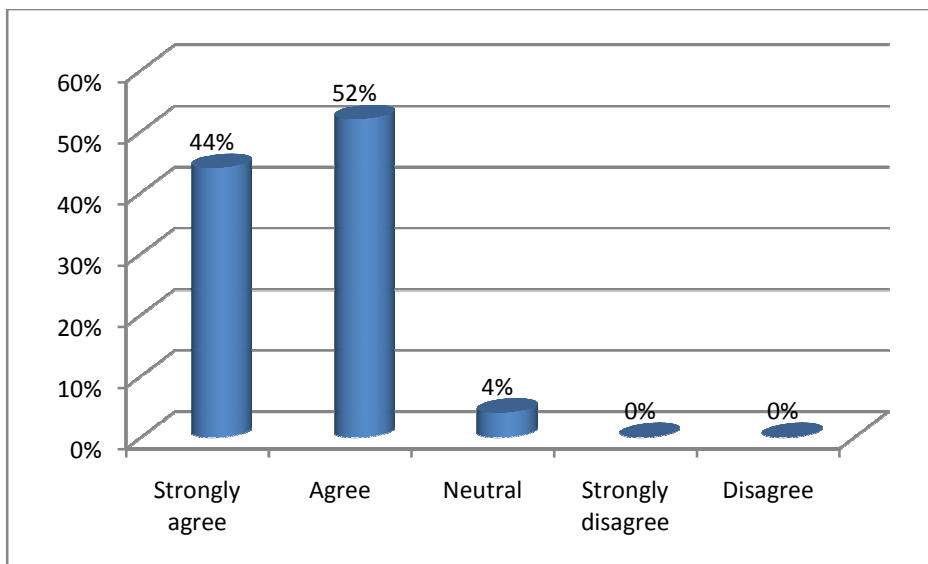


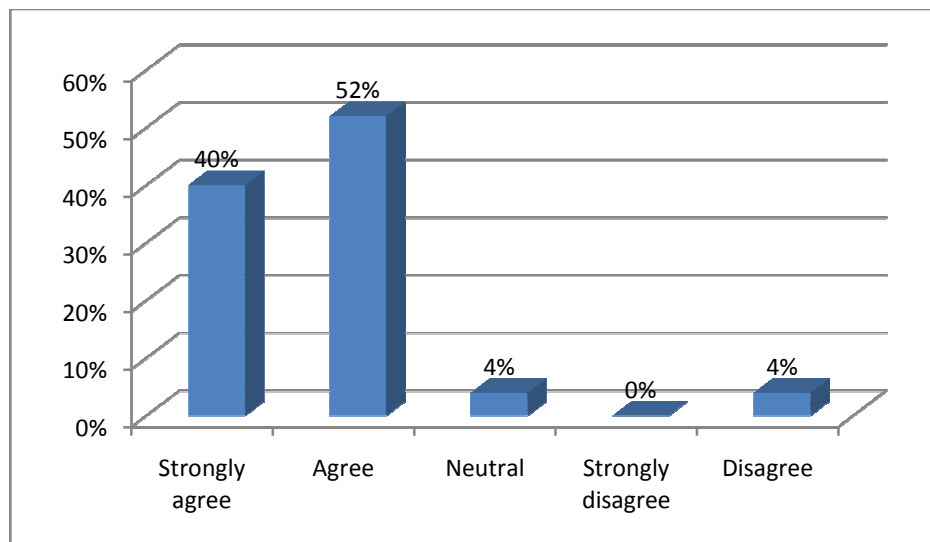
Figure (4-22): *Glosses are necessary in extensive reading which contents numerous unknown words*

Table (4-25) and graph demonstrates clearly that 96% of the respondents do agree that *glosses are necessary in extensive reading which contents numerous unknown word*. This is because vocabulary provides direct instruction of vocabulary words for a specific text. Anderson and Nagy (1991) pointed out “there are precise words children may need to know in order to comprehend particular lessons or subject matter.” Repetition and multiple exposures to vocabulary items are important. Stahl (2005) cautioned against “mere repetition or drill of the word,” emphasizing

that vocabulary instruction should provide students with opportunities to encounter words repeatedly and in a variety of contexts.

Table (4-26): *Glosses help students to read faster and smoothly*

Variables	Frequency	Percentage %
Strongly agree	20	40
Agree	26	52
Neutral	2	4
Strongly disagree	0	0
Disagree	2	4
Total	50	100



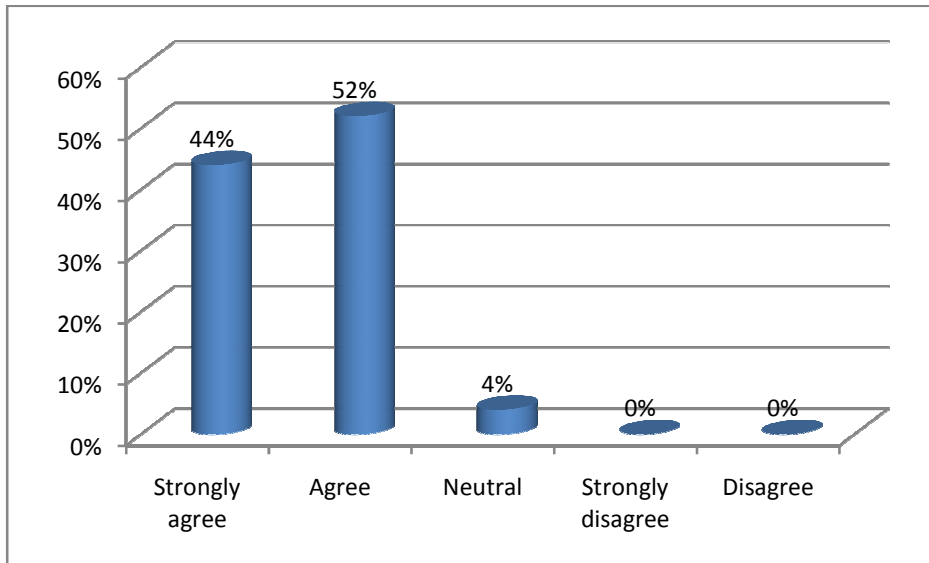
Graph (4-23): *Glosses help students to read faster and smoothly*

As many as 92% of the respondents held the above variable as true *that glosses help students to read faster and smoothly*. Knowing the meaning of the unfamiliar word as well as the neighboring lexical items does have a positive effect of the swiftness of reading and its flow. Stahl (2005) stated, “Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world.” Consequently, researchers and practitioners

alike seek to identify, clarify, and understand what it means for students “to know what a word means.” The sheer complexity of vocabulary acquisition, as evidenced by reviewing critical components such as receptive vocabulary versus productive vocabulary, oral vocabulary versus print vocabulary, and breadth of vocabulary versus depth of vocabulary (Kamil & Hiebert, 2005) raise questions worthy of further research. Other factors such as variations in students’ vocabulary size (Anderson & Freebody, 1981; Nagy, 2005), levels of word knowledge (Dale, 1965; Graves & Watts-Taffe, 2002), as well as which words are taught (Beck et al., 2002; Biemiller, 2005) and how word knowledge is measured (Biemiller, 2005) must all be considered in shaping our understanding of vocabulary acquisition.

Table (4-27): *Glosses minimize the use of additional in turn reduce interruption of fast reading and comprehension*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	22	44
Agree	26	52
Neutral	2	4
Strongly disagree	0	0
Disagree	0	0
Total	50	100



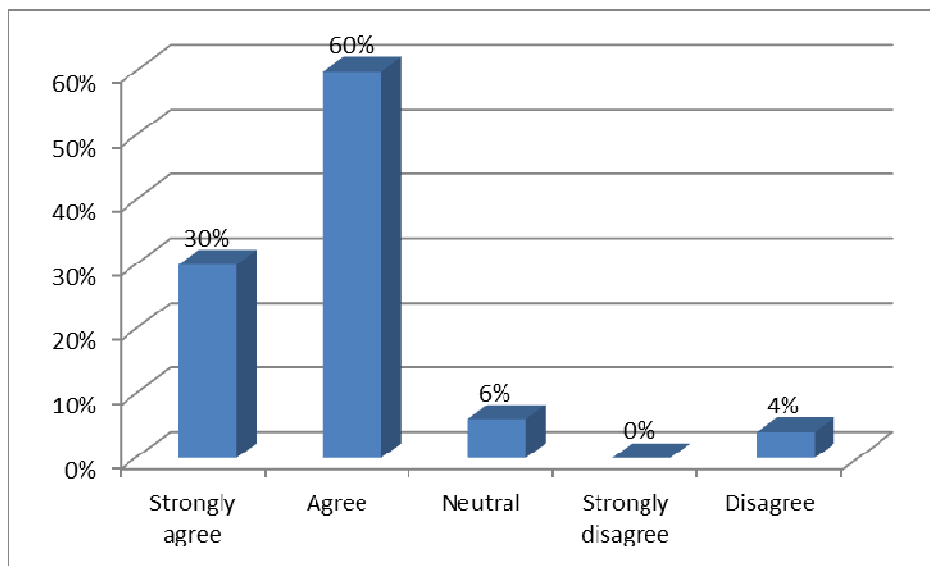
Graph (4-24): *Glosses minimize the use of additional in turn reduce interruption of fast reading and comprehension*

Respondents (96%) as seen from the above table do agree that *Glosses minimize the use of additional in turn reduce interruption of fast reading and comprehension*. Higher frequency of exposure to targeted vocabulary words will increase the likelihood that young children will understand and remember the meanings of new words and use them more frequently.

In a multiple study research design, Biemiller and Boote (2006) found that repeated reading of a storybook resulted in greater average gains in word knowledge by young children. The researchers found that students made an average gain of 12% compared with the control group (children who only heard the story read once), as measured by a vocabulary test that assessed the meaning of words within context.

Table (4-28): *The L1 gloss activates the reader's rare knowledge and facilitates vocabulary again*

Variables	Frequency	Percentage %
Strongly agree	15	30
Agree	30	60
Neutral	3	6
Strongly disagree	0	0
Disagree	2	4
Total	50	100



Graph (4-25): *The L1 gloss activates the reader's rare knowledge and facilitates vocabulary again*

As evident from the table and graph above, 90% of the respondents are happy with the statement or variable: *The L1 gloss activates the reader's rare knowledge and facilitates vocabulary again*. Nation, Snowling, and Clarke (2006) studied a group of eight- and nine-year-olds to determine individual differences in vocabulary acquisition in children who have impaired reading comprehension. The findings indicate that poor comprehenders needed as many trials as the control group (children without comprehension deficits) to learn the phonological form of four nonsense words. It was learning the meaning, or definitions, of the “words” that



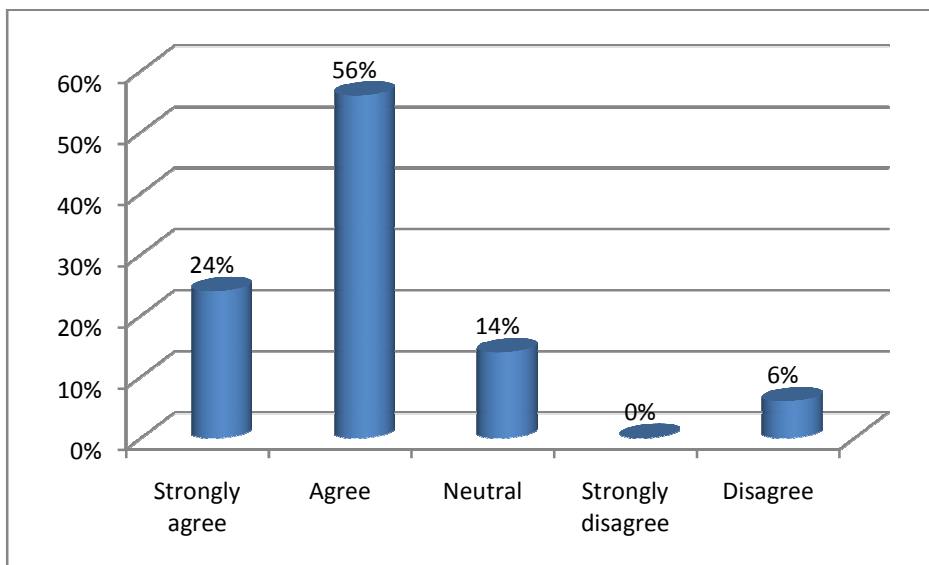
clearly separated the children who struggled with comprehending text from those who did not have comprehension difficulties. The findings indicate that the source of poor comprehenders' difficulties with lexical learning may be rooted in semantic, rather than phonological, learning differences.

Explicit instruction of words and their meanings increases the likelihood that young learners will understand and remember the meanings of new words.

Biemiller and Boote (2006) found that while rereading stories improved students' understanding of word meanings by 12%, an additional 10% gain occurred when word explanations were taught directly during the reading of the storybook. Biemiller and Boote suggest that teachers introduce more rather than fewer word meanings during read-alouds, stating that increasing the oral vocabulary of K–2 students by 400 word meanings per year is a reasonable goal. A similar study in Ipswich, England (Cain, 2007), with third grade students, investigated whether or not the use of word explanations (definitions) facilitated students' word learning. The investigator found that although students made gains when explanations were provided for unfamiliar words, they made the greatest increases when they explained their own definitions of the targeted words.

Table (4-29): *Learners who use L1 gloss are better at understanding the text than those who use English gloss*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	12	24
Agree	28	56
Neutral	7	14
Strongly disagree	0	0
Disagree	3	6
Total	50	100



*Graph (4-26): Learners who use L1 gloss are better at understanding the text than those who use English gloss*

**Judging by the table (4-29) and graph 80% of the respondents do agree that *learners who use L1 gloss are better at understanding the text than those who use English gloss*. Vocabulary instruction through indigenous languages or making indigenous glosses is a crucial component of reading instruction. The goal of vocabulary instruction is to help students learn the meanings of many words so they can communicate effectively and achieve academically.**

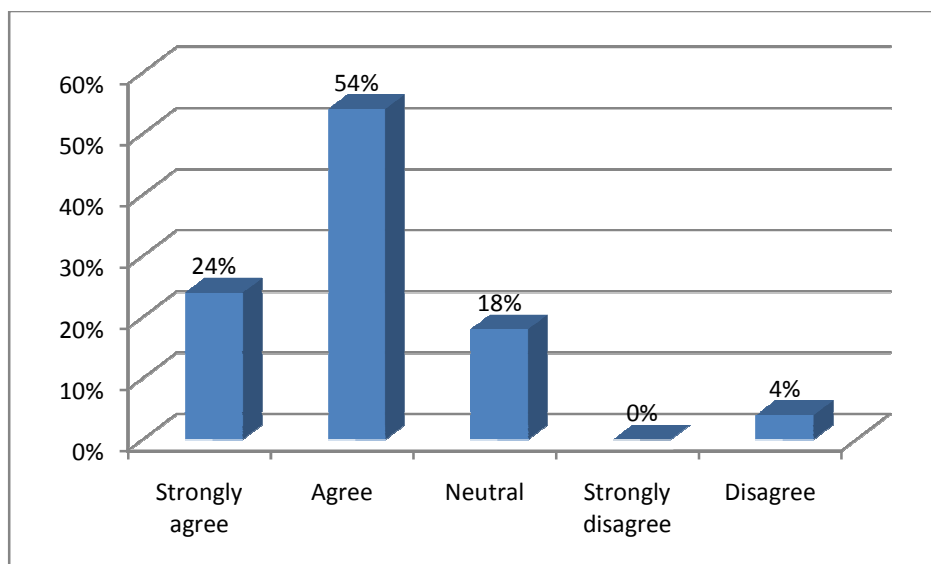
**Effective vocabulary instruction requires educators to intentionally provide many rich, robust opportunities for students to learn words, related concepts, and their meanings. Students need strong instructional opportunities to build their personal warehouse of words, to develop deep levels of word knowledge, and acquire a toolbox of strategies that aids their independent word acquisition.**

**This review of current vocabulary research confirms the benefits of explicit teaching over implicit teaching in promoting vocabulary development. Results**

from this review suggest that effective and efficient research-based methods are available when selecting a particular instructional approach.

Table (4-30): *Using L1 gloss ties students with his environment*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	12	24
Agree	27	54
Neutral	9	18
Strongly disagree	0	0
Disagree	2	4
Total	50	100



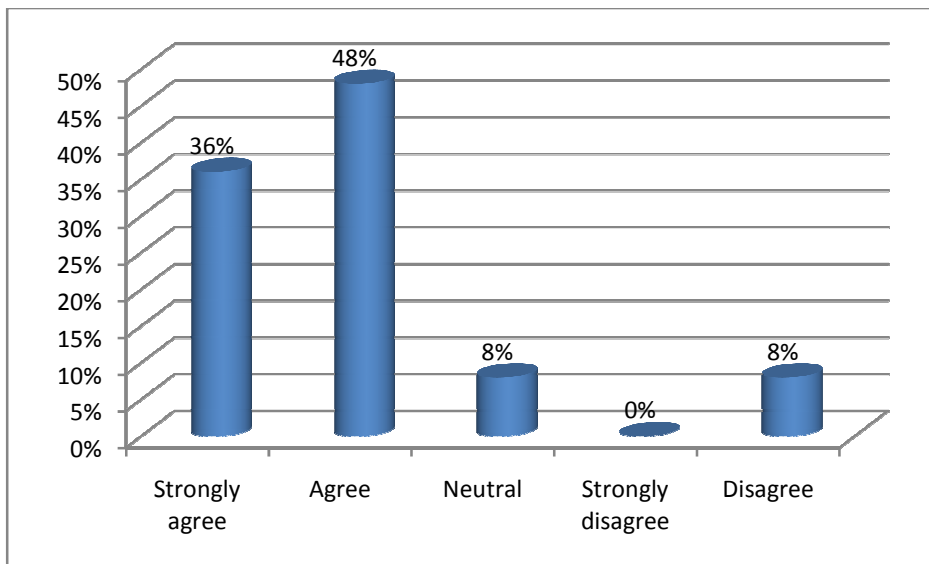
Graph (4-26): *Using L1 gloss ties students with his environment*

As far as this variable is concerned, as shown in table (4-30) and figure as many as 78% of the respondents believe that the use of L1 can further link students with their environment through the effect produced by their language. Whether the gloss is in L1 or L2, active vocabulary instruction should permeate a classroom and contain rich and interesting information. Vocabulary instruction should cover many words that have been skillfully and carefully chosen to reduce vocabulary

gaps and improve students' abilities to apply word knowledge to the task of comprehension

Table (4-31): *Using L2 gloss connect student with native speaker environment*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	18	36
Agree	24	48
Neutral	4	8
Strongly disagree	0	0
Disagree	4	8
Total	50	100

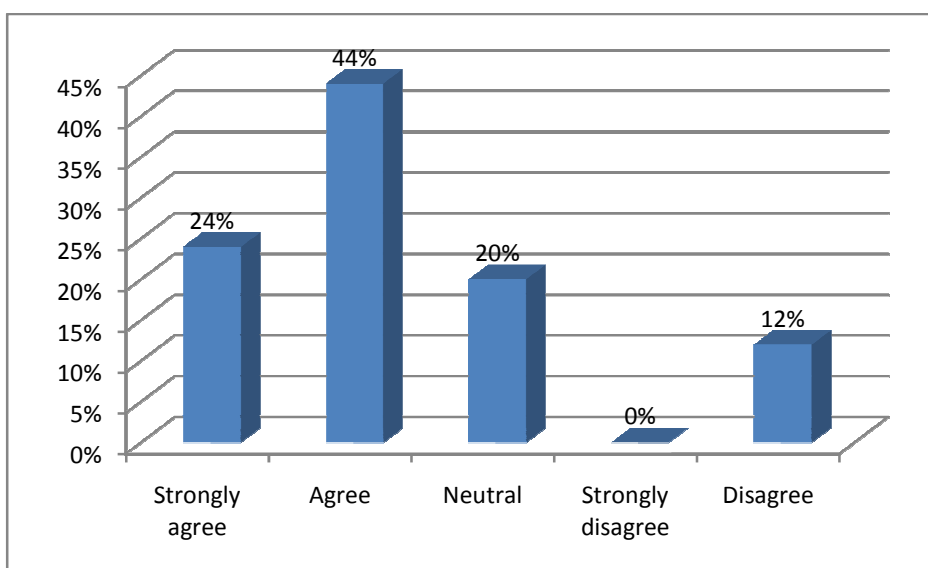


Graph (4-27): *Using L2 gloss connect student with native speaker environment*

As seen from the table and figure above, 84% of the respondents believe that *using L2 gloss connect student with native speaker environment*. Frequent exposure to targeted vocabulary words whether through glosses or in context, as was described by Biemiller and Boote (2006) that repeated reading of a storybook resulted in greater average gains in word knowledge for young children.

Table (4-32): *Learners who use L2 are better at understanding the text than those who use Arabic gloss*

Variables	Frequency	Percentage %
Strongly agree	12	24
Agree	22	44
Neutral	10	20
Strongly disagree	0	0
Disagree	6	12
Total	50	100



Graph (28): *Learners who use L2 are better at understanding the text than those who use Arabic gloss*

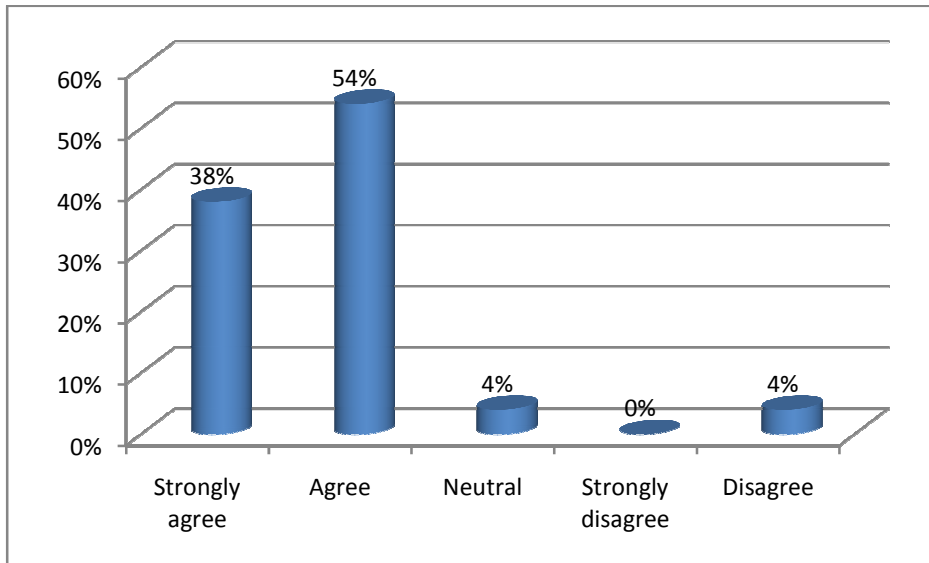
Only 68% of the respondents believed that *Learners who use L2 are better at understanding the text than those who use Arabic gloss*. 20% of the respondents remained neutral to this variable where 12% disagree that this can have that positive effect. In fact vocabulary instruction is a crucial component of reading instruction. The goal of vocabulary instruction is to help students learn the meanings of many words so they can communicate effectively and achieve academically.

Effective vocabulary instruction requires educators to intentionally provide many rich, robust opportunities for students to learn words, related concepts, and their meanings. Students need strong instructional opportunities to build their personal warehouse of words, to develop deep levels of word knowledge, and acquire a toolbox of strategies that aids their independent word acquisition.

Many people believe that the use of L2 whether in teaching or glossing can have a better effect on overall understanding. However the negative part of using L1 is that students will grow so dependent on glosses particularly those of L1. So, tutors have to be careful when presenting students with glosses not to draw so heavily on using L1 as the aim is not to excel in L1 but to learn a foreign language.

Table (4-33): *Glosses help student not to be too depending on the teacher to supply the meaning of unknown words*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
Strongly agree	19	38
Agree	27	54
Neutral	2	4
Strongly disagree	0	0
Disagree	2	4
Total	50	100



*Graph (29): Glosses help student not to be too depending on the teacher to supply the meaning of unknown words*

Judging by the table above, 92% of the respondents do agree that the use of glosses help student not to be too depending on the teacher to supply the meaning of unknown words.

#### **4.4 Summary of the Chapter**

This chapter has represented the data analysis of the pre-posttests, questionnaire of the students who subjected in the study, and questionnaire of the university teachers. Also; the results have shown and discussed. The next chapter will present the summary, conclusion, and the recommendations of the study.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a summary of the study, conclusions, recommendations and suggestions for further studies.

#### 5.1 Summary and Conclusions

This study sets out to investigate the use of the glosses both in Arabic and English to help maximize the grasp of the undergraduate students of the reading texts. The study explores the possibility of the employment of glosses with reading comprehension and the engendered effect as an outcome. Reading comprehension is not only restricted to English Language classes but require enormously at undergraduate level particularly for those who are majoring in English. The study examined the teachers' and students' views about the utility or efficacy of the use of glosses in promoting reading comprehension.

The study as part of achieving its overall objectives posed the following questions which were turned into hypothetical statements:

1. Which is remarkably significant the use of Arabic glosses or English for promoting reading comprehension?
2. To what extent can gloss practice maximize reading comprehension and hence improve overall understanding?
3. To what extent do EFL Learners prefer to use glosses whether in L1 or L2?
4. What are the teachers' opinions about using glosses

In order to examine these questions thoroughly the following hypotheses were formulated:



5. There is a significant difference in scoring higher marks between learners using L1 glosses and their peer using L2 glosses.
6. Gloss practice which relates directly to vocabulary stock, maximizes reading comprehension and enhances overall understanding.
7. EFL learners prefer to use both types of glosses.
8. Teachers have good opinion about using glosses among EFL learners

To realize its objectives, the study adopted a descriptive analytical method where all the data collected have been statistically handled to arrive at clear cut conclusions. This has the effect of allowing the different instruments used here to be in full alignment with each other. The SPSS program, version 20 was used for analyzing the data.

As many as 124 students have been selected for the experiment and 50 tutors have answered the questionnaire. The study found beyond doubt that most students prefer to be provided with glosses and more particularly Arabic glosses. It is quite evident that a huge percentage of L2 vocabulary occurs quite incidentally i.e. as a by-product of reading (Davis, 1989; Fraser, 1999; Jenkins, Stein & Wysocki, 1984; Nation, 2001; Rieder, 2003). Text comprehension, however, would not necessarily require the kind of word processing that results in long-term retention (Rott & Williams, 2003). Therefore, if the goal is to make new words learned and retained, a variety of textual enhancement techniques such as adjunct aids (Robinson, 1994; Marefat & Ghahari, 2009), increased word frequency, or glosses (during-reading vocabulary guides), could be applied.

Almost all students 96% do agree that the use of glosses is highly needed to help them understand English texts. Tutors 90% also believe that the use of glosses whether in Arabic or English is substantial to reading comprehension and this would help keep the use of L1 in-check in English classes.

The study found that the use of glosses is a global phenomenon where different people learning English across the globe they tend to use their indigenous languages in terms of glosses to facilitate understanding and reading comprehension. However the main argument against the use of Arabic glosses is that it reduces the amount of exposure to L2. Hence, this will limit the students' abilities to follow their studies in English which is the ultimate aim. So the following findings are observed to occur in case of excessively depending of Arabic glosses:

- (i) The students would develop the bad habit of relying excessively on Arabic glosses for thorough understanding.
- (ii) Students may develop the habit of speaking to their teachers in Arabic even if they can use English to communicate
- (iii) Students might fail to observe that there instances when they should use only English to develop a certain aspect such as polite request in English
- (iv) Excessive use of Arabic glosses may ultimately lead to oversimplification which fail to account for explaining for example figurative language, which highly desirable for effective communication.

The findings taken together stress the fact that glosses have such a significant pedagogical role if carefully introduced and treated. However, glosses, overwhelmingly used can otherwise have counterproductive effect.

## **5.2 Recommendations**

As regards the findings arrived at inn this study, the following recommendations are formulated and forwarded:

1. Teachers should understand and assess the role to be played by glosses and introduce them to their students after careful consideration

2. Tutors should utilize glosses to reduce anxiety amongst their students which might ensue as result of lack of understanding and inability to cope with the text in question and the classroom as a whole.
3. Teachers should encourage students to make their own glosses in order to inculcate and entrench the concept of glosses
4. Teachers should opt for using the glosses for a further objective of creating a friendly or positive atmosphere in the classroom which happens as a result of grasping the subject matter.
5. Glosses should be thought of by teachers or tutors as an essential pedagogical technique of very paramount importance so that it can be generalized and stabilized as a classroom technique for reading comprehension.
6. Excessive use of Arabic glosses should be avoided, and that a wise balance of English and Arabic glosses should be yardstick for assessing the use of glosses
7. Teachers may use translation along with the Arabic glosses to further augment understanding

### **5.3 Suggestions for Further Studies**

The following suggestions are forwarded by the present study:

1. A large scale study is required to substantiate the current one and hence assures the effectiveness of using glosses.
2. Excessive research on this area of glosses is largely recommended to portray glosses as an important classroom tool and free it from any denigration or poor consideration particularly the type of glosses presented in L1.
3. In the current study glosses are mainly viewed as effective tools for reading comprehension. They can be used with other skills particularly academic writing.

4. A workshop or any influential project should be arranged for to further raising the awareness of tutors of the importance of glosses.
5. The researchers investigated the effects of glossing on reading comprehension. Future studies can explore whether glosses help lower level ESL/EFL learners more than higher level learners in text comprehension.
6. Future studies can examine the effectiveness of multimedia software, namely multimedia glosses on L2 vocabulary learning in mobile -assisted language learning context. Applying think-aloud text can clarify other aspects of multimedia glosses.
7. Further L2 research is needed to examine different strategies deployed by L2 learners in different multimedia glosses conditions.
8. Another area which needs further research is individual differences. Future L2 studies might investigate the effect of cognitive styles on taking advantage of multimedia glosses.

#### **5.4 Summary of the chapter**

In this chapter, the researcher writes the summary and concludes the study. In addition to that the researcher gives recommendations and suggestion of the further studies might be written in the future.

## BIBEOGRAPHY

Abraham, R. G., & Vann, R. J. (1987). Strategies of two language learners: A case study. In A. L. Wenden, & J. Rubin (Eds.), *Learner strategies in language learning* (pp.85-102) London: Prentice Hall International.

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

Al-Jabri S. (2009). The effects of L1 and L2 glosses on reading comprehension and recalling ideas by Saudi students. *Umm Al-Qura University, Journal of Social Sciences*, 1(1), 11-27.

Al-Seghayer, K. 2003. Technological and pedagogical considerations for a more effective electronic glossary. *The Reading Matrix*, 3 (1), 1-15.

Anderson, N. H. (1981). *Foundation of information integration theory*. New York: Academic Press.

Anderson, R.C. & Freebody, P. (1981). Vocabulary Knowledge In J.T. Guthrie (Ed), *Comprehension and teaching: Research reviews* (pp.77-117). Newark, DE: International Reading Association.

Anderson, R., and W. Nagy. 1991. Word meanings. In R. Barr, M. Kamil, P. Mosenthal, and P.D. Pearson, (Eds.), *Handbook of Reading Research*, Vol. 2, pp. 690–724. New York: Longman.

Ausubel, D.P., Robinson, F.G. (1969). *School Learning: An Introduction To Educational Psychology*. New York: Holt, Rinehart & Winston.

Atkinson, R. C., & Shiffrin, R. M. (1968). Chapter: Human memory: A proposed system and its control processes. In Spence, K. W., & Spence, J. T. *The psychology of learning and motivation* (Volume 2). New York: Academic Press. pp. 89–195.

Baker, S., Simmons, D., & Kame'enui, E. (1998) *Vocabulary acquisition: Synthesis of the research*. Washington, DC:U.S. Department of Education, Office of Educational Research and Improvement, Educational Resources Information Center.

Baumann, C.C. (1994). *The effect of previews and glosses on the reading comprehension of beginning and intermediate students of German*. University of Minnesota.

Barcroft, J. (2003). Effects of questions about word meaning during L2 lexical learning. *The Modern Language Journal*, 87, 4, 546-561.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life*. New York: Guilford.

Bell, F. L., & LeBlanc, L. B. (2000). The language of glosses in L2 reading on computer learners' preferences. *Hispania*, 83(2), 274-285.

Bensoussan, M., & Laufer, B. (1984). Lexical guessing in context in EFL reading comprehension. *Journal of Research in Reading*, 7(1), 15-32.

Bialystok, E. (1978). A theoretical model of second language learning .  
Language Learning, 28, 69-83.

Biemiller, A. (2005). Size and sequence in vocabulary development: Implications for choosing words for primary grade vocabulary instruction. In E. H. Hiebert and M. L. Kamil (Eds.), Teaching and learning vocabulary: Bringing research to practice (pp. 223–242). Mahwah, NJ: Lawrence Erlbaum. Retrieved August 18, 2009, from PsycINFO database.

Biemiller, A., & Boote, C. (2006, February 1). An effective method for building meaning vocabulary in primary grades. *Journal of Educational Psychology*, 98(1), 62–74. ERIC Document Reproduction Service No. EJ734337. (Retrieved August 18, 2009, from ERIC database.

Bland, S. K., Noblitt, J. S., Armington, S., & Gay, G. (1990). The naive lexical hypothesis: Evidence from computer-assisted language learning. *Modern Language Journal*, 74, 440-450. <http://doi.org/bwb695>.

Cain, K. (2007). Deriving word meanings from context: Does explanation facilitate contextual analysis? *Journal of Research in Reading*, 30(4), 347–359. (ERIC Document Reproduction Service No. EJ778837). Retrieved August 18, 2009, from ERIC database.

Candlin, C. N. 1988. Preface. In R. Carter & M. McCarthy (eds.), *Vocabulary and Language Teaching*. New York: Longman

Cai, W. & Lee, B. (2010). Investigating the effect of contextual clues on the processing of unfamiliar words in second language listening comprehension. *Australian Review of Applied Linguistics*, 33, 1-28.

Chaudron, C., & Richards, J. C. (1986). The Effect of Discourse Markers on the comprehension of lectures. *Applied linguistics* 7(2): 113-127.

Chen, H. (2002). Investigating the effects of L1 and L2 glosses on foreign language reading comprehension and vocabulary retention. Paper presented at the annual meeting of the Computer-Assisted Language Instruction Consortium, Davis, CA.

Cheng Y., & Good, R.L. (2009). L1 glosses: Effects on EFL learners' reading comprehension and vocabulary retention. *Reading in a Foreign Language*, 21(2), 119–142. ISSN 1539-0578.

Chiang, C. S. and P Dunkel. (1992) ' The effect of speech modification, prior knowledge, and listening proficiency on EFL learning ' *TESOL Quarterly* 26 345-74.

Coady, J. (1993). Research on ESL/EFL vocabulary acquisition: Putting it in context. In T. Huckin, M. Haynes, & J. Coady (Eds.), *Second language reading and vocabulary learning*, (pp. 3-23). Norwood, NJ: Ablex Publishing.

Coady, J., Magotto, J., Hubbard, P., Graney, J. & Mokhtari, K. (1993). High frequency vocabulary and reading proficiency in ESL readers. In T. Huckin, M. Haynes & J. Coady (Eds.), *Second language reading and vocabulary learning* (228-217). Norwood, NJ: Ablex.



Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal behavior*, 11, 671-684.

Cruse, A. (2004). *Meaning in language: An introduction to semantics and pragmatics*. Oxford, UK: Oxford University Press.

Dale, E. (1965). Vocabulary measurement: Techniques and major findings. *Elementary English*, 42, 895-901.

Davis, J. N. (1989). Facilitating effects of marginal glosses on foreign language reading. *The Modern Language Journal*, 73 (1), 41-48.

David, A., Wilkins (1972). *Linguistics in language teaching* - London: Edward Arnold.

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

Day, R.R. and Bamford, J. (1998) *Extensive Reading in the Second Language Classroom* Cambridge University Press, Cambridge [9.4]

Denscombe, M. (2003) *The Good Research Guide: For Small-Scale Social Research Projects*. (2nd edition) Buckingham: Open University Press.

Dufon, P., & Fong, C. H. (1994). L1 and L2 vocabulary glosses in L2 reading passages: Their effectiveness for increasing comprehension and vocabulary knowledge. *Journal of Research in Reading*, 17(1), 19-28

Duan S. & Yan C. (2004). Impact of multiple choice note on English incidental vocabulary acquisition. *Foreign Language Teaching and Research*, 3, 213-218.

Ellis, R. (1997). *SLA Research and Language Teaching*. Oxford: Oxford University Press.

Fraser, C. (1999). Lexical processing strategy use and vocabulary learning. *Studies in Second Language Acquisition*, 21, 225–241.

Gass, S.M. (1999) Incidental vocabulary learning. *Studies in Second Language Acquisition* 21: 319-333. [11.1]

Gass, S.M. (1988) Second language vocabulary acquisition. *Annual Review of Applied Linguistics* 9: 92-106. [1.3]

Gettys, S., Imhof, L. A., & Kautz, J. O. (2001). Computer-assisted reading: The effect of glossing format on comprehension and vocabulary retention. *Foreign Language Annals*, 34(2), 91-106.

Grace, C. (1998). Retention of word meanings inferred from context and sentence-level translations: Implications for the design of beginning-level CALL software. *The Modern Language Journal*, 82(4), 533-544.

Graves, M. F., & Watts-Taffe, S. M. (2002). The place of word consciousness in a research-based vocabulary program. In S. J. Samuels & A. E. Farstrup (Eds), *What research has to say about reading instruction* 3rd ed. (pp. 140–165). Newark, DE: International Reading Association.

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

Harley, B. (1996). Introduction: Vocabulary learning and teaching in a second language. *The Canadian Modern Language Review*, 53(1), 3-12.

HeeKo, M. (2005). Glosses, comprehension, and strategy use. *Reading in a Foreign Language*, 17, 180-195.

Henning, G.H. (1973) Remembering foreign language vocabulary: acoustic and semantic parameters. *Language Learning* 23, 2: 185-196. [2.2].

Holley, F.M., & King, J.K.(1971). Vocabulary glosses in foreign language reading materials. *Language Learning*, 21, 213-219.

Huang, Y.C. (2003). The effects of vocabulary glosses and example sentences on junior high school EFL students' reading comprehension and vocabulary learning. Unpublished Master Thesis. National Cheng-Kung University.

Hulstijn, J. H. (1992). Retention of inferred and given word meanings: Experiments in incidental vocabulary learning. In P. Arnaud, & H. Bejoint (Eds.), *Vocabulary and applied linguistics* (pp. 43-47). London: Macmillan.

Hulstijn, J. H., Hollander, M., & Greidanus, T. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use and the reoccurrence of unknown words. *The Modern Language Journal*, 80, 110-132.

Jacobs, G. M., Dufon, P., & Hong, F. C. (1994). L1 and L2 vocabulary glosses in L2 reading passages: Their effectiveness for increasing comprehension and vocabulary knowledge. *Journal of Research in Reading*, 17(1), 19-28.

Jenkins, J.R. and Dixon, R. (1983) Vocabulary learning. *Contemporary Educational Psychology* 8: 237-260. [18.3]

Jenkins, J.R., Stein M.L.,& Wysocki, K. (1984). Learning vocabulary through reading. *American Educational Research Journal*, 21,767-787.

Johnson, P. (1982). Effects on reading comprehension of building background knowledge. *TESOL Quarterly*, 16, 503-516.

Jones, F.R. (1995) Learning an alien lexicon: a teach-yourself case study. *Second Language Research* 11, 2: 95-111. [2.1]

Jourdenais, R., Mitsuhiro, O., Stauffer, S., Boyson, B., & Doughty, C. (1995). Does textual enhancement promote noticing? A think-aloud protocol analysis. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 183-216). Honolulu, Hawaii: University of Hawaii, Second Language Teaching & Curriculum Center.

Kamil, M., & Hiebert, E. (2005). Teaching and learning vocabulary: Perspectives and persistent issues. In E. H. Hiebert and M. L. Kami(Eds) ‘Teaching and learning vocabulary: Bringing research to practice (pp. 1-23).

Koda, K. (2005). *Insights into second language reading: A cross-linguistic approach*. NY: Cambridge University Press. Mahwah, NJ: Lawrence Erlbaum. Retrieved August 18, 2009, from PsycINFO database.

Kelch, K. (1985). Modified input as an aid to comprehension. *Studies in Second Language Acquisition*, 7, 1, pp. 81-90.

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

Ko, M. H. (2005). Glosses, comprehension, and strategy use. *Reading in a Foreign Language*, 17(2), 125-143.

Ko, M. H. (2012). Glossing and second language vocabulary learning. *TESOL Quarterly*, 46(1), 56-79. <http://doi.org/bfdx>.

Kost, C. R., Foss, P., & Lenzini, J. (1999). Textual and pictorial glosses: Effectiveness on incidental vocabulary growth when reading in a foreign language. *Foreign Language Annals*, 32(1), 89-97. <http://dx.doi.org/10.1111/j.1944-9720.1999.tb02378.x>.

Krashen, S. (1981). *Second language acquisition and second language learning*. Oxford: Oxford University Press.

Krashen, S. (1982). *Principles and practice in second language acquisition*. New York: Pergamon Press.

Krashen, S. 1993. The case for free voluntary reading. *The Canadian Modern Language Journal*, 50(1), 72-82.

Kruse, A.F. (1979) Vocabulary in context. *ELT Journal* 33, 3: 207-213. [22.1].

Larsen-Freeman, D. and M. Long. (1991). *An Introduction to Second Language Acquisition Research*. New York: Longman.

Laufer, B., & Shmueli, K. (1997). Memorizing new words: Does teaching have anything to do with it? *RELC Journal*, 28(1), 89-108.

Laufer, B., & Hill, M. (2000). What lexical information do L2 learners select in a CALL Dictionary and how does it affect word retention? *Language Learning and Technology*, 3(2), 58-69.

Laufer, B., & Hulstijn, J. (2001). Incidental vocabulary acquisition in a second language: The construct of task-induced involvement. *Applied Linguistics*, 22(1), 1-26.

Lenders, O. (2008). Electronic glossing-is it worth the effort? *Computer Assisted Language Learning*, 21(5), 457-481.  
<http://dx.doi.org/10.1080/09588220802447933>.

Levenston, E.A. (1979) Second language acquisition: issues and problems. *Interlanguage Studies Bulletin* 4, 2: 147-160. [1.3]

Lewis, M. (1997). L2 vocabulary acquisition through extensive reading. In J. Coady & T. Huckin (Eds.), *Second Language Vocabulary Acquisition* (pp. 255-270). Cambridge: Cambridge University Press.

Miyasako, J. (2002). L1 and L2 glosses: Their effects of incidental vocabulary learning. *Language Learning & Technology*, 5(2), 110-120.

Lomicka, L. L. (1998). To gloss or not to gloss: An investigation of reading comprehension online. *Language Learning and Technology*, 1(2), 41-50.

Luo, J. (1993). A study of the effects of marginal glosses on the reading comprehension of intermediate college students of French (Unpublished doctoral dissertation). University of Pennsylvania, PA, US.

Marefat, H., & Ghahari, S. (2009). Incorporating adjunct displays: A step toward facilitation of reading comprehension. *Porta Linguarum*, 11, 179-188.

Mayer, R. E. (1997). Multimedia learning: Are we asking the right questions? *Educational Psychologist*, 32(1), 1-19.

Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press

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

McLaughlin, B. (1987). *Theories of Second Language Learning*. Baltimore, MD: Edward Arnold.

Meara, P. (1984) The study of lexis in interlanguage. In A. Davies, C. Criper and A.P.R. Howatt (eds) *Interlanguage* Edinburgh University Press, Edinburgh [1.3].

Melka, F. (1997) Receptive vs. productive aspects of vocabulary. In Schmitt and McCarthy: 84-102. [2.4].

Milton, J. and Meara, P. (1995) How periods abroad affect vocabulary growth in a foreign language. *ITL: Review of Applied Linguistics* 107-108: 17-35. [7.4]

Mondria, J., & Wit-de Boer, M. (1991). The effects of contextual richness on the guess ability and the retention of words in a foreign language. *Journal of Applied Linguistics*, 12, 249-267.

Mondria, J. A. (2003). The effects of inferring, verifying, and memorizing on the retention of L2 word meanings: An experimental comparison of the meaning-inferred method and the meaning-given method. *Studies in Second Language Acquisition*, 25(4), 473-499.

Moon, R. (1997) Vocabulary connections: multi-word items in English. In Schmitt and McCarthy: 40-63. [5.1].

Myong, H. K. (2005). Glosses, comprehension, and strategy use. *Reading in a Foreign Language* 17(2), 125–143.

Nagata, N. (1999). The effectiveness of computer-assisted and interactive glosses. *Foreign Language Annuals*, 32(4), 469-479.



Nagy, W.E.(1988)Teaching vocabulary to improve reading comprehensionIllinois: National Council of Teachers of English.

Nagy, W.E. (1997) On the role of context in first- and second-language learning. In Schmitt and McCarthy: 64-83. [3.2].

Nagy, W. E.(2005). Why vocabulary instruction needs to be long-term and comprehensive. In E. H. Hiebert and M. L.Kamil (Eds.) ‘Teaching and learning vocabulary: Bringing research to practice (pp. 27–44). Mahwah, NJ:Lawrence Erlbaum. Retrieved August 18, 2009, from PsycINFO database.

Nassaji,H. (2004).The relationship between depth of vocabulary knowledge and L2 learners’ lexical differencing strategy use and successCanadian Modern Language Review/La Revue Canadienne des Langues Vivantes, 61 (1), pp. 107-135

Nation, I. S. P. (1990). Teaching and learning vocabulary. New York: Heinle and Hienle.

Nation, I. S. P. (Ed.). (1994). New Ways in Teaching Vocabulary. Alexandria, Virginia: TESOL, Inc.

Nation, I.S.P. and Waring, R. (1997) Vocabulary size, text coverage, and word lists. In Schmitt and McCarthy: 6-19. [9.1].

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

Nation, I. S. P. (2002). *Learning vocabulary in another language*. The Cambridge Applied Linguistics Series. Cambridge University Press.

Nation, K., Snowling, M., & Clarke, P. (2007, June). Dissecting the relationship between language skills and learning to read: Semantic and phonological contributions to new vocabulary learning in children with poor reading comprehension. *Advances in Speech Language Pathology*, 9 (2), 131–139.

Nation, P. (2008). *Teaching vocabulary: Strategies and techniques*. Boston, Heinle.

National Institute of Child Health and Human Development. (2000) *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Nazary, M. (2008). The role of L1 in L2 acquisition: Attitudes of Iranian university students, *Novitas-Royal*, 2 (2), 138-153.

Oh, S. Y. (2001). Two types of input modification and EFL reading comprehension: Simplification versus elaboration. *TESOL Quarterly*, 35, 69–96.

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

Paivio, A. (1971). *Imagery and verbal processes*. New York, NY: Holt, Rinehart & Winston.

Paivio, A. (1986). *Mental representation: A dual-coding approach*. New York: Oxford University Press.

Pak, J. (1986). *The effect of vocabulary glossing on ESL reading comprehension*. Unpublished manuscript, University of Hawaii, Manoa.

Palmer, R. C. (2003). *A comparison of the effect of glossed self-instruction reading materials and traditional teacher fronted instruction*. Unpublished Doctoral Dissertation, Indiana University of Pennsylvania.

Paribakht, T. S., & Wesche, M. (1997). *Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition*. In J. Coady, & T. Huckin (Eds) *Second language vocabulary acquisition* (pp. 174-200). Cambridge: Cambridge University Press.

Parry, K. (1993). *Too many words: learning the vocabulary of an academic subject*. In T. Huckin, M. Haynes, & J. Coady (Eds.), *Second language reading and vocabulary learning* (pp. 109-159). Norwood, New Jersey: Ablex Publishing Co.

Parry, K. (1997). *Vocabulary and comprehension: Two portraits*. In Coady & Huckin 1997: 54-68.

Prodromou, L. (2002). „The Role of the Mother Tongue in the Classroom“ *IATEFL ISSUES* April-May pp.6-8.

Salem, I. (2007). The lexico-grammatical continuum viewed through student error. *ELT Journal*, 1, 211-219.

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

Sanaoui, R. (1996). Processes of vocabulary instruction in 10 French as a second language classrooms. *The Canadian Modern Language Review*, 52(2), 179-199.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129-158.

Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics*, 13, 206-226.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness. In R. Schmidt (Ed.), *Attention and awareness in foreign language teaching and learning* (Technical Report No. 9) (pp. 1-64). Honolulu: University of Hawai'i at Manoa.

Schmitt, N. (1998). Tracking the incidental acquisition of second language vocabulary: A longitudinal study. *Language Learning*, 48(2), 281-317.

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

Schmitt, N., & Zimmerman, C.B. (2002). Derivative word forms: What do learners know? *TESOL Quarterly*, 36(2), 145-171.

Schmitt, N. (2008). Review article: Instructed second language vocabulary learning. *Language Teaching Research*, 12(3), 329-363. <http://doi.org/dh2bzh>

Sharwood Smith, M (1991). "Speaking to many minds: On the relevance of different types of language information for the L2 learner". In *Second Language Research*, 7 (2), 118–132.

Singleton, D. (1999) *Exploring the Second Language Mental Lexicon* Cambridge University Press, Cambridge [1.1].

Stahl, S.A. (1983) Differential word knowledge and reading comprehension. *Journal of Reading Behaviour* 15, 4: 33-50. [14.2].

Stahl, S. (2005). Four problems with teaching word meanings (and what to do to make vocabulary an integral part of instruction). In E. H. Hiebert and M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 95–114). Mahwah, NJ: Lawrence Erlbaum. Retrieved August 18, 2009, from PsycINFO database.

Stanovich, K. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly*, 16, 32-71.

Stein, M.J. (1993) The healthy inadequacy of contextual definition. In Huckin, Haynes and Coady: 203-214. [18.4]

Stein, M.J. (1993) The healthy inadequacy of contextual definition. In Huckin, Haynes and Coady: 203-214. [18.4].

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal model. *Developmental Psychology*, 38, 934–947.

Strother, J. B., & Ulijn, J. M. (1987). Does syntactic rewriting affect English for science and technology (EST) text comprehension? In J. Devine, P. L. Carrell & D. E. Eskey (Eds.), *Research in reading in English as a second language*. Washington, D.C.: TESOL.

Swan, M. (1997). The influence of the mother tongue on second language vocabulary acquisition and use. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy*. Cambridge: Cambridge University Press.

Thornbury, S. (2002). *How to teach vocabulary*. Boston: Pearson Education, Inc.

Twaddell, F. (1973) Vocabulary expansion in the TESOL classroom. *TESOL Quarterly* 7, 1: 61-78. [22.1]

Read, J. (2004) Research in Teaching Vocabulary *Annual Review of Applied Linguistics*, 24 (2004), pp. 146-161.

Ridder, I. (2002). visible or invisible links: Does the highlighting of hyperlinks affect incidental vocabulary learning, text comprehension, and the reading process? *Language Learning and Technology*, 6(1), 123-146.

Rieder, A. (2003). A cognitive view of incidental vocabulary acquisition: From text meaning to word meaning. *Vienna English Working Papers*, 12, 53–71.

Robinson, D. H. (1994). Textbook selection: Watch out for ‘inconsiderate’ texts. In K. Prichard & M. Sawyer (Eds.), *Handbook of college teaching* (pp. 415-422). Westport, CN: Greenwood.

Robinson, P.(2001), Individual differences, cognitive abilities, aptitude complexes and learning conditions, in *second language acquisition* *Second language research*, 17 (4) pp. 368-392

Rott, S. (2004). "A comparison of output interventions and un-enhanced reading conditions on vocabulary acquisition and text comprehension." *Canadian Modern Language Review* 61.2 : 169-202.

Rott, S., Williams, J., & Cameron, R. (2002). The effect of multiple-choice L1 glosses and input output cycles on lexical acquisition and retention. *Language Teaching Research*, 6(3), 183–222.

Rott, S., & Williams, J.(2003). Making form-meaning connections while reading: A qualitative analysis of word processing. *Reading in a Foreign Language*, 15 (1), 89-90.

Vela, V. (2015). Using glosses for incidental vocabulary acquisition. *Procedia - Social and Behavioral Sciences*, 199, 305-310. <http://doi.org/bfdz>.

Watanabe, Y. (1997). Input, intake, and retention: Effects of increased processing on incidental learning of foreign language vocabulary. *Studies in Second Language Acquisition*, 19(3), 287-307.

Wesche, M., & Paribakht, S. (Eds.). (1999). Incidental L2 vocabulary acquisition: Theory, current research, and instructional implications [Special issue]. *Studies in Second Language Acquisition*, 21(2).

Weinstein, C.E., & Mayer, R.E. (1986). The teaching of learning strategies. In M. Wittrock (Ed.), *Handbook of research on teaching* (pp. 315-327). New York, NY: Macmillan.

Widdoson H. G., (1990). *Aspects of Language Teaching*. Oxford University Press.

Wittrock, M.C. (1991) Generative teaching of comprehension. *Elementary School Journal* 92, 2: 169-184. [11.3].

Wong, W. (2005). *Input enhancement: From theory and research to the classroom*. New York: McGraw-Hill.

Yoshii, M., & Flaitz, J. (2002). Second language incidental vocabulary retention: The effect of text and picture annotation types. *CALICO Journal*, 20(1), 33-58.

Yoshii, M. (2006). L1 and L2 glosses: Their effects on incidental vocabulary learning. *Language Learning and Technology*, 3(10), 85-101.

Young, R. and K. Parkins, (1995). Conition and Conation in second Language Acquisition Theory, *International Review of Applied Linguistics*, 33: 142-64.



# Appendix (1)

SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF GRADUATE STUDIES AND SCIENTIFIC RESEARCH

COLLEGE OF LANGUAGES-ENGLISH DEPARTMENT

## A QUESTIONNAIRE FOR UNIVERSITY TEACHERS AT SUDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Dear teachers,

This questionnaire will gather data about the thesis entitled: "The Effect of Using L1&L2Glosses on Developing EFL Learners' Vocabulary and Reading Comprehension". You are kindly requested to answer the questions. Your assumed answers will be treated and used confidentially just for the research purposes.

### **Part one:**

1- Name (optional).....

2- How many years have been teaching English?

1 year ( )    2-5 ( )    6-10 ( )    more than 10 years ( )

### **Part two:**

#### **General statement:**

Please choose only one answer for every question or statement.

Use the following scales:

*Strongly agree:* (If you strongly agree with the idea stated in the item).

*Agree:* (If you agree with the idea stated in the item).

*Neutral:* (if you do not favour both side).

*Disagree:* (If you disagree with the idea stated in the item).

*Strongly disagree:* (If you strongly disagree with the idea stated in the item).Neutral.

No	Statements	STRONGLY AGREE	AGREE	Neutral	DISAGREE	STRONGLY DISAGREE
1.	Vocabulary acquisition is considered an important aspect for EFL students.					
2.	Inaccurate explanation of vocabulary meaning affects students understanding of text.					
3	Using glosses are not a completely new idea to most teachers.					
4	Glosses are essential tool for learning vocabulary among EFL students.					
5.	Glosses minimize student's guessing of the word meaning by getting the suitable meaning which fit in the context.					
6.	Glosses make reading interesting and enhance comprehension.					
7.	Glosses are a common phenomenon amongst Sudanese students, who apply them across the subjects they study.					
8.	Textual glosses are valuable tools which facilitate reading in foreign language.					
9.	Glosses are one of the most effective tools for increasing identification of a word that enhance vocabulary learning among EFL learners.					
10	Glosses help students to recognize vocabulary when coming across it again.					
11	Glosses make reading a more autonomous activity for learners.					
12	Glosses are necessary in extensive reading which contains numerous unknown words.					
13	Glosses help student to read faster and smoothly.					
14	Glosses minimize the use of a dictionary in turn reduce interruption of fast reading and comprehension.					
15	The L1 gloss activates the reader' prior knowledge and facilitates vocabulary gain.					
16	Learners who use L1 gloss are better at understanding the text than those who use English gloss.					
17	Using L1 gloss ties student with his environment.					
18	Using L2 gloss connect student with native speaker environment.					
19	Learners who use L2 gloss are better at understanding the text than those who use Arabic gloss.					
20	Glosses help student not to be too depending on the teacher to supply the meaning of unknown words.					

Thank you

**Appendix (2)**  
**Sudan University of Science and Technology**  
**College of Languages**

Name: .....

Class: 1<sup>st</sup> year English

**A Questionnaire For First Year Student At Sudan University Of Science And Technology**

*Please answer the following questions about the vocabulary learning exercises and tests that you completed*

No.	STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1.	It is important to learn vocabulary.				
2.	It is more important to learn grammar than words.				
3.	Glossing is interesting for reading comprehension and vocabulary				
4.	Glossing helps me to understand the passage.				
5.	I prefer Arabic (L1) glossing to English (L2) glossing.				
6.	Glossing helps me to read faster and more smoothly.				
7.	Glossing helps me not to be too dependent on the teacher to give the meaning of unknown words.				
8.	Glossing helps me not to consult the dictionary very often and allows me to follow the text without much interruption.				
9.	Glosses make reading interesting and enhance comprehension.				
10.	I would read more books for pleasure if they used glosses.				

**Appendix (3)**  
**Sudan University of Science and Technology**  
**College of Languages**

Name: ..... Class: 1<sup>st</sup> year English

**Read the passage carefully, then answer the questions below**

1. Most people know how to keep their bodies healthy. They know they should eat a good **diet** and try to get **plenty** of exercise and sleep. They should also avoid smoking, drinking, and such things. However, do you know that we can also take steps to keep our brains healthy? **Experts** recommend the following **tips** to keep your brain in good shape.

2. .... We **exercise** our bodies by walking, swimming, or going to the gym, but we can also do workouts for our brains. For example, we can try quizzes and word puzzles, or solve mathematical problems. **This** will keep the nerve cells sharp. It may also help to create new **cells**.

3. .... This means that we should **socialize** by joining clubs and social groups. We can also mix with other people by travelling to other countries, or learning new skills. For example, we can do courses to learn skiing, dancing, or a new language.

4. .... We know that exercise is **beneficial** for the body. However, it is also good for the brain. It keeps a good glow of blood to the brain, and encourages new cells. Of course, the brain is a very **delicate organ**. **It** is easily **damaged**, so people who like dangerous activities should be very careful. Rock climbers, cyclists, and cricket players should all protect their heads.

5. .... This means we should **avoid** fatty foods. We should also stay away from food that is high in cholesterol. Instead, we should eat **nutritious** food such as green vegetables, fruit, fish, and nuts. Foods which are good for you will protect the brain from disease. Certain foods, however, may actually **improve brainpower**. Research suggests that the nutrient 'choline', which is found in foods such as liver, eggs, and red meat, helps the brain work better.

**Question [1]:**

**Skim the article carefully. Match topic sentences a-e with paragraphs 1-5**

- a. [     ]     Physical activity is also important.
- b. [     ]     Finally, we should eat a 'brain-healthy' diet.
- c. [     ]     Another thing we can do is to be socially active.
- d. [     ]     Most people know how to keep their bodies healthy.
- e. [     ]     First of all, it is important to stay mentally active.

**Question [2]:**

**What do the following words refer to? They are underlined in the passage**

- 1.    their .....
- 2.    this .....

3. it .....

**Question [3]:**

**Answer the following questions:**

1. How can we stay mentally active? Give two examples.  
a. ....  
b. ....
2. How can we meet different people? Give two suggestions.  
a. ....  
b. ....
3. According to the passage; write two ways to keep our body healthy, then add other ideas which are not mentioned here.  
.....  
.....  
.....
4. Write a suitable title for this article.  
.....

**Question [4]:**

**Look at the underlined words and phrases in the article. Find synonyms in the same paragraph.**

1. exercise [paragraph 2] .....
2. socialize [paragraph 3] .....
3. beneficial [paragraph 4] .....
4. nutritious [paragraph 5] .....
5. improve brainpower [paragraph 5] .....

**Question [5]:**

**Match the words with their meaning:**

<b>A</b>	<b>B</b>
1. Plenty	- a small parts that form all living things
2. Experts	- easily damage
3. Cells	- amount of something
4. Delicate	- people who have special skills or knowledge

**Question [6]:**

**Use each word in a sentence.**

1. diet: .....
2. tips .....
3. damage .....
4. organ .....

**Best Wishes**