



Sudan University of Science and Technology

College of Graduate Studies

College of Languages



**Using Dictionaries by EFL Undergraduate Students to Enhance
English Language Learning**

استخدام طلاب الجامعة للقواميس لتعزيز تعلم اللغة الانجليزية لغة أجنبية

A Thesis Submitted in Fulfillment of the Requirements for the Degree
of PhD in English Language (Applied Linguistics)

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DEDICATION

To the soul of my father, may the mercy of Almighty Allah be upon him, to my beloved mother, to my husband who spared no effort to support me, to my daughter, to my far- away two sons and to my kids.

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Abstract

This study sets out to examine the use of dictionary as an indispensable tool of foreign language learning. A number of strategies have been taken to accomplish the goals of this research. Quite a number of hypotheses were proposed namely that undergraduate students hardly use dictionaries to work out the meaning of new words they come across. The population of this study is EFL students, fourth year at the Sudan University of Science and Technology. A number 50 heterogeneous (males/females) students were randomly selected. Their ages range between 19 to 22 years. A carefully designed pre-test was adopted to assess the standards of the students. The very same test was used as a post-test to precisely delineate the progresses and improvements they have achieved. A Questionnaire was also used for the tutor basically on the use of dictionaries by undergraduate students. A logical conclusion has been drawn that an intensive use of dictionary or different types of dictionaries is required that highly motivated students who have had an earlier experience with dictionaries have successfully managed to maximize the learning environment in comparison with their peers who have hardly had encounter with the dictionary. A number of suggestions have been made. In that much research is needed on this particular area especially after the advent of electronic dictionaries.

بسم الله الرحمن الرحيم

الملخص

تقوم هذه الدراسة بفحص استخدام القاموس كأداة لا غني عنها لتعلم اللغات الأجنبية. تم استخدام عدد من الاستراتيجيات في سبيل تحقيق أهداف هذه الدراسة. تم افتراض عدد من الفرضيات منها ان الطلاب الجامعين لا يكادون يستخدمون القاموس لتعلم معاني الكلمات الجديدة التي تصادفهم. المجتمع التي تجري عليها هذه الدراسة هي فئة الطلاب الذين يدرسون اللغة الإنجليزية كلغة أجنبية بالسنة الرابعة بجامعة السودان للعلوم والتكنولوجيا. تم اختيار عينة عشوائية لعدد خمسين من الطلاب غير المتجانسين من كلا الجنسين. تتراوح أعمار الطلاب بالعينة العشوائية ما بين 19 و 20 عاماً. تم بعناية فائقة إعداد و تصميم اختبار مسبق لتقييم مستوى أداء الطلاب بالعينة العشوائية، كما تم استخدام ذات الإختبار المسبق سالف الذكر كإختبار لاحق يمكن من الفحص الدقيق لمراحل التقدم و التحسينات التي حققها الطلبة. تم أيضا استخدام الإستبيان كأداة يستعين بها المعلم لإستقصاء استخدام الطلاب الجامعيون للقاموس. تم التوصل إلي نتيجة منطقية مفادها أن الإستخدام المكثف لقاموس أو أنواع مختلفة من القواميس ضروري وهو ما كان له عظيم الأثر في تهيئة بيئة متعاظمة للتعلم ساهمت في تحفيز الطلبة الذين لديهم خبرة سابقة في التعامل مع القاموس مقارنة مع أقرانهم الذين بالكاد كانوا يستخدمون القاموس. تم تقديم عدد من الإقتراحات مفادها ان المزيد من البحوث مطلوبة في هذا المجال بالأخص بعد ظهور القواميس الإلكترونية.

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CHAPTER ONE

CHAPTER ONE

INTRODUCTION

1.0 Overview

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

Certainly, a dictionary is an indispensable tool for learning a foreign language. However, there are some educators or practitioners who believe that using a dictionary may have the effect of making learners excessively depend on, and thus lose the talent of inference, among others.

1.1 Context of the Study

Some EFL teachers discourage the use of both monolingual and bilingual dictionaries in the belief that dictionaries do not help students to understand vocabulary in context and because students overuse dictionaries at the expense of developing the ability to guess from context and self-confidence (Bensoussan, Sim and Weiss 1984: 262). Yet, there is still a category of practitioners that advocate the use of monolingual dictionaries as bilingual dictionaries used for *word for word* translations will harmfully affect students' comprehension at the sentence and discourse level (Tang 1997:39). According to Snell-Hornby (1984) and Yorkey (1970) reported in Aust, Kelley & Roby (1993: 66),

“...many language educators... believe that bilingual dictionaries are counterproductive because they cultivate the erroneous assumption that there is a one-to-one correspondence between the words of the two languages.”

Advocates of the above notion believe that monolingual dictionaries may be seen as solving some of the problems presented by bilingual dictionaries; most teachers prefer the monolingual dictionary (Koren, 1997:2). Bilingual

dictionaries can sometimes be very misleading. Students of translation sometimes come up with much funny views or translations all attributable to excessive use of monolingual and electronic dictionaries. However, what tips the balance in favor of bilinguals over monolinguals is the fact that it may be difficult for a student with inadequate stock of words to understand a monolingual dictionary entry that contains quite a number of very unfamiliar words making the process of reading a tedious and even frustrating if understanding experience. It is indeed a tiring experience to try to look up words from the entries provided by the dictionary for explaining an unknown word.

Language learners' use of the dictionary has been viewed from a variety of perspectives. For example, studies have paid special attention the accuracy of learners' dictionary use (Nesi and Hail 2002; Gonzales 1999; as cited in Pousi; 2010), the effect of the dictionary use on vocabulary learning and reading comprehension; (Knight ,1994), and on the effect of different types of dictionaries such as bilingual, monolingual and bilingualized dictionaries (Laufer and Hadar 1997; Tomaszczyk 1979). Tomaszczyk (1979) was the pioneer and the first researcher to initiate an investigation into the dictionary use by non-native speakers of English. (Tomaszczyk, 1979, as cited in Ryu, 2005) he conducted a study based on Polish learners at the university level for foreign language instructors, and translators. Although participants expressed their satisfaction with monolingual dictionaries, the majority preferred to use bilingual dictionaries over monolingual dictionaries. But the current study is focused on EFL foundation students not students who are majoring in English language as in the above mentioned study.

A similar study was conducted by Bejoint (1981) on French EFL students' use of monolingual English dictionaries. The results disclose that only 17% of the participants preferred the bilingual dictionary in contrast to Tomaszczyk's study. Moreover, recent studies focus on dictionary use training (Atkins and Varantola, 1998; Li, 1998; Hartmann, 1999; and Sanchez, 2005) as cited in

Ryu; (2005) in all these studies the majority of the students indicates that they never received dictionary use training.

Compared with modern electronic pocket dictionaries can help the students to arrive at the meaning of words 23% faster than conventional dictionaries (Wechsler and Pitts, 2000: 1), however the amplified speed of electronic dictionaries with which meaning are arrived at or provided may be at the expense of deeply sowing the freshly gained meaning into the minds of the learners to such an extent that the very same word if used for a second time after a few moment may need to be looked up. So, the lack of deeper processing of the recently gained meanings of words can possibly result, in the end, in less vocabulary learning (Stirling, 2003: 2-3). Stirling (ibid.) also conducted a small survey of EFL teachers, who listed, as possible disadvantages of electronic dictionaries, the following:

- insufficient examples,
- inaccurate meanings,
- unintelligible pronunciation,
- lack of collocations,
- excess of meanings,
- and the absence of improvements found in other dictionaries

However, Knight (1994:280) includes another concern of educators that may apply to all types of dictionaries *“looking up words frequently interferes with short term memory and thus disrupts the comprehension process”*. This is absolutely true. Simply, having to turn so frequently to look up the meaning of a new word can make the text lose the pleasure or even the information it ought to give.

So far, research has not proved robustly that using the dictionary can improve comprehension. According to a study carried out in Israel Bensoussan, Sim and Weiss (1984) examined the effect of bilingual and monolingual dictionaries and

no dictionary on reading comprehension of Israeli EFL university students with multiple choice questions in a variety of text passages. No significant differences were obtained in reading comprehension or time required between the control groups and the dictionary groups.

With reference to a study carried out in Caledonian College of Engineering in Oman the results revealed that the vast majority of the teachers prefer their students to use monolingual dictionaries because they will help them acquire foreign language more effectively and that the bilingual dictionaries are likely to encourage translation, whereas most of the students would prefer to use bilingual and bilingualized dictionaries because they feel they are practical and easy to use. The study puts forward some recommendations and strategies for the effective use of the dictionary, the basis of a good learner dictionary, challenges of using monolingual dictionaries and possible training strategies for dictionary use.

Dictionaries, as we have already noted that they are an essential instrument for mastering vocabulary and learning a foreign language in general. It provides learners with access to a vast amount of information about words and their usage. Using dictionaries can be seen as an explicit strategy for learning a foreign language vocabulary or as communication strategy. According to Pousi (2010), “*vocabulary acquisition is considered by many to be the single most important aspect of foreign language learning*” (p. 21). Furthermore, Knight (1994) says “not only the majority of students studying foreign language cite vocabulary as their number one priority, but it is often considered a priority by teachers as well” (p. 1).

Despite these apparently conflicting views, vocabulary learning as always linked with dictionary use, remains strongly vital in language acquisition. Therefore, the study of vocabulary is the heart of language learning and teaching in terms of organization of syllabuses in addition to the evaluation of learner performance, and the provision of learning resources.

1.1 Statement of the problem

At undergraduate level, the absence of dictionary use is drastically felt. Very few students if ever, use electronic dictionaries. Printed or conventional dictionaries have totally lost ground and popularity amongst students. Electronic dictionaries are handy and portable. Most students download many types of dictionaries on their laptops. Even conventional dictionaries have been electronized.

The problem with the students in relation to dictionary use, is that they hardly stop to utilize their dictionaries. It goes without saying, that in order to use the dictionary effectively, one must learn the English alphabet by heart. Some students lack this very rudimentary skill. So tutors at university have to pay special attention to this fact of the alphabet. Learning the alphabet is introduced at the earliest stages of education. However, due to the deteriorating standards of learning students come to the university without having good grasp of that essential skill. Students should be encouraged and even trained to use dictionaries, having learnt that it is an important instrument for learning in general. It is not only for reading comprehension, but for other disciplines as well.

1.2 Study Questions

1. To what extent do undergraduate students at Sudanese universities rely on dictionaries to work out the meaning of new words?
2. How can students be encouraged to use dictionary to promote their language levels.
3. What kind of dictionary do students usually use and why?

1.3 Hypotheses of the Study

1. Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.

2. Students can actually be encouraged to use dictionaries to promote their language levels.
3. There are different types of dictionaries, however due to the fact that electronic dictionaries are portable and easy to use, we expect students to prefer them to conventional types of dictionaries.

1.4 Objectives of the Study

One of the important objectives which this study seeks to uptake is introducing and sowing the habits of dictionary use amongst undergraduates at Sudanese universities. It will first be used with students majoring in English as this should be one of the essential skills to develop. Then, the result, having proved useful, can be further extended to the students majoring in scientific disciplines.

1.5 Significance of the study

A Dictionary is considered to be a valuable device for helping learners have access to vocabulary in a second or a foreign language. A good dictionary must have certain characteristics mentioned in Crystal (1987 as cited in Abdullah, 1995) such as having

- paper quality,
- good binding,
- containing encyclopedic information,
- clear definitions,
- giving guidance to usage,
- being easily accessible, and having idioms, synonyms, antonyms and so on.

Furthermore, the dictionary is a vital instructive tool that plays a very important role in a range of processes of language learning including reading comprehension and vocabulary learning and acquisition. However, which kind of a dictionary students should be trained to use has become such a lively debate in the literature. Should the dictionary use be determined by students' level or proficiency or other factors? Underhill (1980 as cited in Hayati &

Akram, 2006) claims that many high frequency words may be given requisite treatment they deserve in monolingual dictionaries rather than other dictionaries because these words are widely used in English textbooks.

Furthermore, Boxer (1980) as cited in Hayati & Akram, (2006) also claims that a monolingual has the merit of accounting for both definitions and other important points. He believes that more emphasis should be put on the use of monolingual dictionary because it develops fluency by offering numerous effective definitions in context; in contrast the bilingual dictionaries which tend to encourage word for word translation equivalents that may not be appropriate in certain situations and might cause confusion and ambiguity. Moreover, Yorio (1971); and Bensoussan et al. (1984, as cited in Hayati, 2006, p. 126) point out that the bilingual dictionaries seem to give students security of concrete answers, while monolingual dictionaries often compel students to rely on guessing and predicting the meaning, hence lead to uncertainty and bewilderment.

1.6 Methodology

This study is investigative in nature in a sense that it attempts to look into and explore students' and teachers' assumptions and perceptions about dictionary practices at the Sudan University of Science and Technology, College of Languages to know which dictionary the students would prefer to use and why and to lay the foundation for a training course for students to use dictionary in the most proper ways.

The target participants were 30 teachers and 150 students from the Sudan University of Science and Technology. The vast majority of the students are Sudanese Only recently due to the unstable political situation in the Arab World, some Iraqi and Syrian students have joined Sudanese universities quite remarkably. Students age ranges from (18-23) and they have many things in common such as language, culture, schooling etc. All of them had an average of 11 years of formal instruction, 5 years in studying English as a foreign language and were about to complete their foundation courses. Most of them

have been educated under the same educational system. They are both males and females receiving knowledge in same classroom setting.

Questionnaires were used to collect data from 30 teachers and 150 students from the Sudan University of Science and Technology, College of Languages. The questionnaires follow Likert- 5 points scale. A list of statements were constructed on both students' and teachers' perspectives, regarding such issues as students' ideas about what kind of dictionary they are using, which dictionary they would prefer and the possible ways for helping students to use dictionaries in the best way and teachers and students were asked to choose and select the appropriate statement that they fit their thought. Students were also subjected to a pre and post tests. The data will be analyzed through using frequencies and percentages.

1.7 Summary of the chapter

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.

CHAPTER TWO
LITERATURE REVIEW

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter reviews relevant literature on the issue of using dictionaries in classroom settings and outside to boost the learning and other related topics with some emphasis on the nature of reading comprehension. 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.

2.1 Theoretical Framework

Principled dictionary-making is, by definition, guided by a series of principles, mostly involving the notions of generality (of entries) and specificity (of audience).

A dictionary must specify the general case when possible, and must address its audience. Thus a definition of the English word 'chair' would not immediately make reference to the ability to rock back and forth, since this is a property of a subset of chairs, and not chairs in general. Similarly a dictionary entry for 'thong' will include radically different primary senses depending on whether the dictionary has been written for Australian release ('item of open footwear') or for North American ('skimpy underwear').

While these guiding principles have been established and followed for good reasons in the creation and publication of all major dictionaries, there are some cases when it makes good sense to follow another route. The desire for a dictionary of a language is as strong for speakers of non-national languages as it is for national languages, and in some cases clearly stronger. There are frequently very different social pressures on the dictionary, and a very different type of audience. These differences allow for a lack of generality and a degree of assumed shared knowledge, that is quite different from that found in

dictionaries of larger languages, and which can be exploited to make some otherwise verbose entries more reasonably sized, and to give a greater sense of community ownership to a dictionary.

According to Wikipedia, *an online encyclopedia*, a **dictionary** is a collection of words in one or more specific languages, often arranged alphabetically (or by *radical and stroke* for ideographic languages), which may include information on definitions, usage, etymologies, phonetics, pronunciations, translation, etc. or a book of words in one language with their equivalents in another, sometimes known as a lexicon. It is a lexicographical product which shows inter-relationships among the data.

Radical-and-stroke sorting is another form of collation, used for non-alphabetic writing systems such as the hanzi of Chinese and the kanji of Japanese, whose thousands of symbols defy ordering by convention. In this system, common components of characters are identified; these are called radicals in Chinese and logographic systems derived from Chinese. Characters are then grouped by their primary radical, and then ordered by number of pen strokes within radicals. When there is no obvious radical or more than one radical, convention governs which is used for collation. For example, the Chinese character 妈 (meaning "mother") is sorted as a six-stroke character under the three-stroke primary radical 女.

The radical-and-stroke system is cumbersome compared to an alphabetical system in which there are a few characters, all unambiguous. The choice of which components of a logograph comprise separate radicals and which radical is primary is not clear-cut. As a result, logographic languages often supplement radical-and-stroke ordering with alphabetic sorting of a phonetic conversion of the logographs. For example, the kanji word [Tōkyō](#) (東京) can be sorted as if it were spelled out in the Japanese characters of the [hiragana](#) syllabary as "to-u-ki-yo-u" (とうきょう), using the conventional sorting order for these

characteristics. In addition, in Greater China, surname stroke ordering is a convention in some official documents where people's names are listed without hierarchy. The radical-and-stroke system, or some similar pattern-matching and stroke-counting method, was traditionally the only practical method for constructing dictionaries that someone could use to look up a logograph whose pronunciation was unknown. With the advent of computers, dictionary programs are now available that allow one to handwrite a character using a mouse or stylus.

A broad distinction is made between general and specialized dictionaries. Specialized dictionaries include words in specialist fields, rather than a complete range of words in the language. Lexical items that describe concepts in specific fields are usually called terms instead of words, although there is no consensus whether lexicology and terminology are two different fields of study. In theory, general dictionaries are supposed¹ to be semasiological, mapping word to definition, while specialized dictionaries are supposed to be onomasiological, first identifying concepts and then establishing the terms used to designate them. In practice, the two approaches are used for both types.^[3] There are other types of dictionaries that do not fit neatly into the above distinction, for instance bilingual (translation) dictionaries, dictionaries of synonyms (thesauri), and rhyming dictionaries. The word dictionary (unqualified) is usually understood to refer to a general purpose monolingual dictionary.

There is also a contrast between *prescriptive* or *descriptive* dictionaries; the former reflects what is seen as correct use of the language while the latter reflect recorded actual use. Stylistic indications (e.g. "informal" or "vulgar") in many modern dictionaries are also considered by some to be less than objectively descriptive.

Although the first recorded dictionaries date back to Sumerian times (these were bilingual dictionaries), the systematic study of dictionaries as objects of scientific interest themselves is a 20th-century enterprise, called lexicography, and largely initiated by Ladislav Zgusta. The birth of the new discipline was not without controversy, the practical dictionary-makers being sometimes accused by others of "astonishing" lack of method and critical-self reflection.

2.1.1 English Dictionaries in Britain

The earliest dictionaries in the English language were glossaries of French, Spanish or Latin words along with their definitions in English. The word "dictionary" was invented by an Englishman called John of Garland in 1220 — he had written a book *Dictionarius* to help with Latin "diction". An early non-alphabetical list of 8000 English words was the *Elementarie*, created by Richard Mulcaster in 1582.

The first purely English alphabetical dictionary was *A Table Alphabetical*, written by English schoolteacher Robert Cawdrey in 1604. The only surviving copy is found at the Bodleian Library in Oxford. This dictionary, and the many imitators which followed it, was seen as unreliable and nowhere near definitive. Philip Stanhope, 4th Earl of Chesterfield was still lamenting in 1754, 150 years after Cawdrey's publication, that it is "a sort of disgrace to our nation, that hitherto we have had no... standard of our language; our dictionaries at present being more properly what our neighbors the Dutch and the Germans call theirs, word-books, than dictionaries in the superior sense of that title." ^[16]

In 1616, John Bullokar described the history of the dictionary with his "English Expositor". *Glossographia* by Thomas Blount, published in 1656, contains more than 10,000 words along with their etymologies or histories. Edward Phillips wrote another dictionary in 1658, entitled "The New World of English Words: Or a General Dictionary" which boldly plagiarized Blount's work, and the two renounced ^[clarification needed] each other. This created more interest in the

dictionaries. [John Wilkins'](#) 1668 [essay on philosophical language](#) contains a list of 11,500 words with careful distinctions, compiled by [William Lloyd](#).^[17] [Elisha Coles](#) published his "English Dictionary" in 1676.

It was not until [Samuel Johnson's](#) [A Dictionary of the English Language](#) (1755) that a more reliable English dictionary was produced. Many people today mistakenly believe that Johnson wrote the first English dictionary: a testimony to this legacy.^[18] By this stage, dictionaries had evolved to contain textual references for most words, and were arranged alphabetically, rather than by topic (a previously popular form of arrangement, which meant all animals would be grouped together, etc.). Johnson's masterwork could be judged as the first to bring all these elements together, creating the first "modern" dictionary.^[18]

Johnson's dictionary remained the English-language standard for over 150 years, until the Oxford University Press began writing and releasing the *Oxford English Dictionary* in short fascicles from 1884 onwards. It took nearly 50 years to complete this huge work, and they finally released the complete *OED* in twelve volumes in 1928. It remains the most comprehensive and trusted English language dictionary to this day, with revisions and updates added by a dedicated team every three months. One of the main contributors to this modern dictionary was an ex-army surgeon, William Chester Minor, a convicted murderer who was confined to an asylum for the criminally insane.

2.1.2 American English Dictionaries

In 1806, American Noah Webster published his first dictionary, *A Compendious Dictionary of the English Language*. In 1807 Webster began compiling an expanded and fully comprehensive dictionary, *An American Dictionary of the English Language*; it took twenty-seven years to complete. To evaluate the etymology of words, Webster learned twenty-six languages, including Old

English (Anglo-Saxon), German, Greek, Latin, Italian, Spanish, French, Hebrew, Arabic, and Sanskrit.

Webster completed his dictionary during his year abroad in 1825 in Paris, France, and at the University of Cambridge. His book contained seventy thousand words, of which twelve thousand had never appeared in a published dictionary before. As a spelling reformer, Webster believed that English spelling rules were unnecessarily complex, so his dictionary introduced American English spellings, replacing "colour" with "color", substituting "wagon" for "waggon", and printing "center" instead of "centre". He also added American words, like "skunk" and "squash" that did not appear in British dictionaries. At the age of seventy, Webster published his dictionary in 1828; it sold 2500 copies. In 1840, the second edition was published in two volumes.

2.1.3 General Dictionaries

In a general dictionary, each word may have multiple meanings. Some dictionaries include each separate meaning in the order of most common usage while others list definitions in historical order, with the oldest usage first.

In many languages, words can appear in many different forms, but only the undeclined or unconjugated form appears as the headword in most dictionaries. Dictionaries are most commonly found in the form of a book, but some newer dictionaries, like StarDict and the *New Oxford American Dictionary* are dictionary software running on PDAs or computers. There are also many online dictionaries accessible via the Internet.

2.1.4 Specialized Dictionaries

According to the *Manual of Specialized Lexicographies* a specialized dictionary (also referred to as a technical dictionary) is a dictionary that focuses upon a specific subject field. Following the description in *The Bilingual LSP Dictionary*, lexicographers categorize specialized dictionaries into three types. A multi-field dictionary broadly covers several subject fields (e.g. a business dictionary), a single-field dictionary narrowly covers one particular subject field

(e.g. law), and a sub-field dictionary covers a more specialized field (e.g. constitutional law). For example, the 23-language Inter-Active Terminology for Europe is a multi-field dictionary, the American National Biography is a single-field, and the African American National Biography Project is a sub-field dictionary. In terms of the above coverage distinction between "minimizing dictionaries" and "maximizing dictionaries", multi-field dictionaries tend to minimize coverage across subject fields (for instance, *Oxford Dictionary of World Religions* and *Yadgar Dictionary of Computer and Internet Terms*)^[21] whereas single-field and sub-field dictionaries tend to maximize coverage within a limited subject field (*The Oxford Dictionary of English Etymology*). A [phonetic dictionary is one] that allows the reader to locate words by the "way they sound", i.e. a dictionary that matches common or phonetic misspellings with the correct spelling of a word; such a dictionary uses pronunciation respelling to aid the search for or recognition of a word, and differs from a pronouncing dictionary, such as the CMU Pronouncing Dictionary, which maps from a written word to its pronunciation in a chosen dialect.

Another variant is the glossary, an alphabetical list of defined terms in a specialized field, such as medicine (medical dictionary).

2.1.5 Prescriptive vs. Descriptive

Lexicographers apply two basic philosophies to the defining of words: *prescriptive* or *descriptive*. Noah Webster, intent on forging a distinct identity for the American language, altered spellings and accentuated differences in meaning and pronunciation of some words. This is why American English now uses the spelling *color* while the rest of the English-speaking world prefers *colour*. (Similarly, British English subsequently underwent a few spelling changes that did not affect American English; see further at American and British English spelling differences.)

Large 20th-century dictionaries such as the *Oxford English Dictionary* (OED) and *Webster's Third* are descriptive, and attempt to describe the actual use of words. Most dictionaries of English now apply the descriptive method to a word's definition, and then, outside of the definition itself, add information alerting readers to attitudes which may influence their choices on words often considered vulgar, offensive, erroneous, or easily confused. *Merriam-Webster* is subtle, only adding italicized notations such as, *sometimes offensive* or *nonstand* (nonstandard). *American Heritage* goes further, discussing issues separately in numerous "usage notes." *Encarta* provides similar notes, but is more prescriptive, offering warnings and admonitions against the use of certain words considered by many to be offensive or illiterate, such as, "an offensive term for..." or "a taboo term meaning...".

Because of the widespread use of dictionaries in schools, and their acceptance by many as language authorities, their treatment of the language does affect usage to some degree, with even the most descriptive dictionaries providing conservative continuity. In the long run, however, the meanings of words in English are primarily determined by usage, and the language is being changed and created every day. As Jorge Luis Borges says in the prologue to "El otro, el mismo": "*It is often forgotten that (dictionaries) are artificial repositories, put together well after the languages they define. The roots of language are irrational and of a magical nature.*"

Sometimes the same dictionary can be descriptive in some domains and prescriptive in others. For example, according to Ghil'ad Zuckermann, the *Oxford English-Hebrew Dictionary* is "at war with itself": whereas its coverage (lexical items) and glosses (definitions) are descriptive and colloquial, its vocalization is prescriptive. This internal conflict results in absurd sentences such as *hi taharóg otí kshetiré me asíti lamkhonít* (she'll tear me apart when she sees what I've done to the car). Whereas *hi taharóg otí*, literally 'she will kill

me', is colloquial, me (a variant of ma 'what') is archaic, resulting in a combination that is unutterable in real life.

2.1.6 Other types

- a. Bilingual dictionary
- b. Electronic dictionary
- c. Encyclopedic dictionary
- d. Monolingual learner's dictionary
- e. Advanced learner's dictionary

a. Bilingual Dictionary

A **bilingual dictionary** or **translation dictionary** is a specialized dictionary used to translate words or phrases from one language to another. Bilingual dictionaries can be *unidirectional*, meaning that they list the meanings of words of one language in another, or can be *bidirectional*, allowing translation to and from both languages. Bidirectional bilingual dictionaries usually consist of two sections, each listing words and phrases of one language alphabetically along with their translation. In addition to the translation, a bilingual dictionary usually indicates the part of speech, gender, verb type, declension model and other grammatical clues to help a non-native speaker use the word. Other features sometimes present in bilingual dictionaries are lists of phrases, usage and style guides, verb tables, maps and grammar references. In contrast to the bilingual dictionary, a monolingual dictionary defines words and phrases.

The most important challenge for practical and theoretical lexicographers is to define the functions of a bilingual dictionary. A bilingual dictionary works to help users translate texts from one language into another or to help users understand foreign-language texts. In such situations users will require the dictionary to contain different types of data that have been specifically selected for the function in question. If the function is understanding foreign-language texts the dictionary will contain foreign-language entry words and native-

language definitions, which have been written so that they can be understood by the intended user groups. If the dictionary is intended to help translate texts, it will need to include not only equivalents but also collocations and phrases translated into the relevant target language. It has also been shown that specialized translation dictionaries for learners should include data that help users translate difficult syntactical structures as well as language-specific genre conventions.

In standard lexicographic terminology, a bilingual dictionary definition provides a "translation equivalent" – "An expression from a language which has the same meaning as, or can be used in a similar context to, one from another language, and can therefore be used to translate it." The British lexicographer Robert Ilson gives example definitions from the *Collins-Robert French-English English-French Dictionary*. Since French *chien* = English *dog* and *dog* = *chien*, *chien* and *dog* are translation equivalents; but since *garde champêtre* = *rural policeman* and *rural policeman* is not included in the English-French dictionary, they are not culturally equivalent.

Perhaps the most difficult aspect of creating a bilingual dictionary is the fact that lexemes or words cover more than one area of meaning, but these multiple meanings don't correspond to a single word in the target language. For example, in English, a **ticket** can provide entrance to a movie theater, authorize a bus or train ride, or can be given to you by a police officer for exceeding the posted speed limit. In Spanish these three meanings are not covered by one word as in English, but rather there are several options: **boleto** or **entrada** and **infracción/multa**, and in French with **billet** or **ticket** and **procès-verbal**, or in German by **Eintrittskarte** or **Fahrkarte** and **Mahnung/Bußgeldbescheid**.

Recently, an automatic method for the disambiguation of the entries of bilingual dictionaries has been proposed that makes use of specific kinds of graphs. As a result, translations in each entry of the dictionary are assigned the specific sense (i.e., meaning) they refer to

Bilingual dictionaries are available in a number of formats, and often include a grammar reference and usage examples.(For instance Yadgar Sindhi to English Dictionary)

- **Printed dictionaries** – Printed dictionaries range from small pocket-sized editions to large, comprehensive multi-volume works.
- **Handheld electronic dictionaries** (also: **Pocket electronic dictionaries** or **PEDs**) – Electronic dictionaries are small devices that receive input via a miniature keyboard, speech recognition or a scanning device that reads printed text, and outputs the translation on a small LCD screen or speaks the translation audibly.
- **Dictionary programs** – software that allows words or phrases to be input and translated on computers and smart phones.
- **Online dictionaries** – Online dictionaries similar to dictionary programs, these are often easy to search, but not always free to use, and in some cases lack the accuracy (particularly in open collaborative dictionaries), or scope of printed and electronic dictionaries.
- **Visual dictionaries** – A visual dictionary is a printed dictionary that relies primarily on illustrations to provide the user with a reliable way of identifying the correct translation. Visual dictionaries are often multi-lingual rather than bilingual—instead of containing translations between two languages they often cover four or more languages.

b. Electronic Dictionaries

An **electronic dictionary** is a dictionary whose data exists in digital form and can be accessed through a number of different media.^[1] Electronic dictionaries can be found in several forms, including:

- as dedicated handheld devices
- as apps on Smartphones and tablet computers or computer software

- as a function built into an E-reader
- as CD-ROMs and DVD-ROMs, typically packaged with a printed dictionary, to be installed on the user's own computer
- as free or paid-for online products

Most of the early electronic dictionaries were, in effect, print dictionaries made available in digital form: the content was identical, but the electronic editions provided users with more powerful search functions. But soon the opportunities offered by digital media began to be exploited. Two obvious advantages are that limitations of space (and the need to optimize its use) become less pressing, so additional content can be provided; and the possibility arises of including multimedia content, such as audio pronunciations and video clips.

Electronic dictionary databases, especially those included with software dictionaries are often extensive and can contain up to 500,000 headwords and definitions, verb conjugation tables, and a grammar reference section. Bilingual electronic dictionaries and monolingual dictionaries of inflected languages often include an interactive verb conjugator, and are capable of word stemming and lemmatization.

Publishers and developers of electronic dictionaries may offer native content from their own lexicographers, licensed data from print publications, or both, as in the case of Babylon offering premium content from Merriam Webster, and Ultralingua offering additional premium content from Collins, Masson, and Simon & Schuster, and Paragon Software offering original content from Duden, Britannica, Harrap, Merriam-Webster and Oxford.

C. Handheld dictionaries or PEDs

Handheld electronic dictionaries, also known as "pocket electronic dictionaries" or PEDs, resemble miniature clamshell laptop computers, complete with full keyboards and LCD screens. Because they are intended to be fully portable, the

dictionaries are battery-powered and made with durable casing material. Although produced all over the world, handheld dictionaries are especially popular in Japan, Korea, China, and neighbouring countries, where they are the dictionary of choice for many users learning English as a second language.^[5] Some of the features of hand held dictionaries include stroke order animations, voice output, handwriting recognition for Kanji and Kana, language-learning programs, a calculator, PDA-like organizer functions, encyclopedias, time zone and currency converters, and crossword puzzle solvers. Dictionaries that contain data for several languages may have a "jump" or "skip-search" feature that allows users to move between the dictionaries when looking up words, and a reverse translation action that allows further look-ups of words displayed in the results. Many manufacturers produce hand held dictionaries that use licensed dictionary content^[6] that use a database such as the Merriam Webster Dictionary and Thesaurus while others may use a proprietary database from their own lexicographers.^[7] Many devices can be expanded for several languages with the purchase of additional memory cards. Manufacturers include AlfaLink, Atree, Besta, Casio, Canon, Instant Dict, Ectaco, Franklin, Iriver, Lingo, Maliang Cyber Technology, Compagnia Lingua Ltd., Nurian, Seiko, and Sharp.

D. Online dictionaries

There are several types of online dictionary, including:

- Aggregator sites, which give access to data licensed from various reference publishers. They typically offer monolingual and bilingual dictionaries, one or more thesauruses, and technical or specialized dictionaries. Examples include TheFreeDictionary.com and Dictionary.com

- 'Premium' dictionaries available on subscription, such as the *Oxford English Dictionary*
- Dictionaries from a single publisher, free to the user and supported by advertising. Examples include *Collins Online Dictionary*, Duden Online, Larousse bilingual dictionaries, the *Macmillan English Dictionary*, and the *Merriam-Webster Learner's Dictionary*.
- Dictionaries available free from non-commercial publishers (often institutions with government funding). Examples include the *Algemeen Nederlands Woordenboek* (nl) (ANW), and *Den Danske Ordbog* (da).

Some online dictionaries are regularly updated, keeping abreast of language change. Many have additional content, such as blogs and features on new words. Some are collaborative projects, most notably Wiktionary and the Collins Online Dictionary. And some, like the Urban Dictionary, consist of entries (sometimes self-contradictory) supplied by users. Many dictionaries for special purposes, especially for professional and trade terminology, and regional dialects and language variations, are published on the websites of organizations and individual authors. Although they may often be presented in list form without a search function, because of the way in which the information is stored and transmitted, they are nevertheless electronic dictionaries.

There are differences in quality of hardware (hand held devices), software (presentation and performance), and dictionary content. Some hand helds are more robustly constructed than others, and the keyboards or touch screen input systems should be physically compared before purchase. The information on the GUI of computer based dictionary software ranges from complex and cluttered, to clear and easy-to-use with user definable preferences including font size and colour.

A major consideration is the quality of the lexical database. Dictionaries intended for collegiate and professional use generally include most or all of the

lexical information to be expected in a quality printed dictionary. The content of electronic dictionaries developed in association with leading publishers of printed dictionaries is more reliable than those aimed at the traveler or casual user, while bilingual dictionaries that have not been authored by teams of native speaker lexicographers for each language, will not be suitable for academic work. Some developers opt to have their products evaluated by an independent academic body such as the CALICO.

Another major consideration is that the devices themselves and the dictionaries in them are generally designed for a particular market. As an example, almost all handheld Japanese-English electronic dictionaries are designed for people with native fluency in Japanese who are learning and using English; thus, Japanese words do not generally include furigana pronunciation glosses, since it is assumed that the reader is literate in Japanese (headwords of entries do have pronunciation, however). Further, the primary manner to look up words is by pronunciation, which makes looking up a word with unknown pronunciation difficult (for example, one would need to know that 網羅 "comprehensive" is pronounced もうら, *moura* to look it up directly). However, higher end Japanese dictionaries include character recognition, so users (native speakers of Japanese or not) can look up words by writing the kanji.

Similar limitations exist in most two or multi-language dictionaries and can be especially crippling when the languages are not written in the same script or alphabet; it's important to find a dictionary optimized for the user's native language

2.2 Arabic Dictionaries

The Arabic language has enjoyed a greater degree of interest and care than any other language. Scholars of linguistics have studied every aspect of this language since the pre-Islam period and have been meticulous in conveying their findings without alteration or compromise. In the Ignorance Period poets

and the orators competed with each other for the most eloquent narration and interpretation and their interest in and devotion to the Arabic language were greatly increased by the birth of Islam. The language became an indispensable element in the fulfillment of religious obligations and especially for the understanding and preservation of the Koran. However, we notice that besides its role in religion, Arabic became a language to serve as a vehicle for other humanities and civilizations, in that a great number of writers were using it to produce innumerable works. Those who devoted their scholarship to the dictionary were undoubtedly far ahead of the others. They presented their works much like general-purpose encyclopaedias, from the point of view of understanding meaning and reaching far into the depth of things; discerning eloquent (*fasih*), rare (*navddir*) and foreign (*gharib*) words from each other. On the other hand the fact that the dictionary scholars were one step ahead of the others is attributable also to their compilation of items contained in books dealing with various topics. Despite all this, works in the Arabic dictionary field are very rare. A fair amount of attention has been given to questions such as the method and the development of lexicography, especially in the Arabic language. This work is being elaborated in order to assist learners of Arabic to cope with the difficulties they may encounter in this field.

Dictionary (Vocabulary): This is a book containing a rather detailed inventory of the language by explaining, giving meaning(s) with a particular, sui generis disposition. In general the arrangement of such kind of books is either in alphabetical order or according to the topic (systematic). The denomination of dictionary we have given to these books has its counterpart in the Arabic معجم *Mu'djam* « or *Kdmus* قاموس . However the sources do not supply a clear knowledge of the time periods in which these expressions were used for the first time.

Nevertheless we understand that the first users of the expression *Mu'djam* were the *hadiths* scholars and that this started in the early III. Century of Hegira.

Bukhari has an alphabetical order system and in the *Mu'djam* style the names of the *hadith* scholars are mentioned in its work entitled *al-Tdrih al-Kabir*.

2.2.1 Al- Mu'djam المعجم

The first work titled *Mu'djam* was *Mu'djam al-Sahdbah* معجم الصحابة written by Abu Yaia b. 'Ali al- Tamimi (died 307/919), followed by the works edited under the titles of *al-Mu 'djam al-Kabir* المعجم الكبير and *al-Mu'djam al-sagir* المعجم الصغير by Abu'l-Kasim 'Abdullah b. Muhammed al-Baghavi (died 315/ 927). We can determine from the above that the expression *Mu 'djam* was used by the *hadith* scholars and that it was borrowed by the linguists in its actual meaning. As concerns the use of the expression *Kamus* with the same meaning; according to our investigations it was first used by Firuzabadi الفيروزبادي (died 817/1414). Being an illiterate community, Arabs were therefore unaware of the dictionary and consequently of its importance. Compelled to learn the meaning of some words and expressions by the birth of Islam, they undertook the task of editing on their own initiative.

As generally acknowledged, not all languages were collected and edited as a book when they first appeared and they subsisted for a while solely a means of speech, with some parts collected and edited later on. Some other parts disappeared altogether because they were not recorded.

In response, with the aim of preserving their language, each community started to reassemble the materials of their respective languages and to keep them within the form of a book we now know as a dictionary (vocabulary).

2.2.2 Kitab al-'Ayn كتاب العين

The author of this treatise is Abu 'Abd al-Rahman al-Khalil b. Ahmad al-Farahidi (100-170/ 718-786). He was an Arabic linguist and grammarian who was bom in Oman. He received his education in Basra and became renowned

there. He received lessons from Abu 'Amr b. al-'Ala and had many individual pupils. The most famous of them was *Sibawayh*.

Al-Khalil led the life of an ascetic who refused all worldly offerings. He made a pilgrimage to Mecca almost every year. Al-Khalil was not only the first to present the science of "prosody ('*Artid*)" but he also prepared the first dictionary arranged according to the utterance of the letters.

In the preface of his work, al-Khalil explains mainly how he wrote and arranged his work according to the sounds and the utterance points of the letters; the dictionary is arranged as per the sources of the characters, beginning with the letter '*ayn* =ع one of the guttural sounds and leading in alphabetical order up to the labial sounds. That is why his dictionary was called *Kitab al-'Ayn* .

An arrangement in alphabetical order was followed in *Kitab al-'Ayn*, beginning with the guttural sounds and directed toward the labial ones.

ع ح ه خ غ / ق ك / ج ش ض / ص س ز
ط د ت / ظ ذ ث / ر ل ن / ف ب م / و ي

Al-Khalil followed a further arrangement, according to the distance of the utterance point of the letters, putting aside the characters added onto the word and taking into consideration only the root letters (radicals). The rearrangement meant that words obtained by displacing the letters were also located in the same place. For example, he placed the words obtained by the displacement of the letters such as:

ع ب د / ع د ب / د ع ب / ب ع د / ب د ع

At the same place as the word "ع ب د", and explained the fact. Al-Khalil considered each and every letter of the alphabet as a section, calling them *Kitdb*. He divided the book into sections equal to the total number of letters and gave the name *Kitdb al-'Ayn* to the first section where the dictionary begins with the letter 'ayn, for the second section; Kitab al-ha, and the third section; Kitab al-kha. He also arranged the sections he named "Kitab" as follows: sound word composed by two letters, as in:

قد لو قد

-a trilateral word composed by three sound letters forming the basis of the word *بحر جعل*

- defective trilateral word either *mithal*, hollow or defective *وعد قال جرى*

- assimilated words *وشى شوى*

- quadrilateral words *دحرج*

- five letter words *سفرجل*

Nevertheless al-Khalil assembled trilateral and quadrilateral words in one single section because there were so few of them. On the other hand, when giving the meaning of the words, the author supported and substantiated the meaning with extracts from the Koran, works from the *hadith*, and proverbs and poems. In addition al-Khalil also cited some of his contemporaries in related articles in his book, especially his pupils al-Asma'i (216/831), Abu 'Ubayda (209/824) and Sibavayh (180/796).

Being the first work in the dictionary field, it is to be expected that some missing points, errors and difficulties might exist in the *Kitab al-'Ayn*. There have been many publications dealing with this aspect of the book and criticizing *Kitab al-'Ayn*. We may mention, among others, the two works, namely Abu Bakr al-Zabidi's (379/989) *Istidrdk al-ghalat al-vdki' fi al-'ayn* and al-Khatib al-

Iskafi's (420/1029) *Ghalat al-'ayn*. If we wish to find a word in the *Kitdb al-'Ayn* there is a certain procedure to be followed:

- to determine the basic root letters of the word
- to open the *idgham* if the word is *mudaaf*
- to be familiar with the utterance point of the word's first letter and consequently the rearrangement of the utterance points
- to pay attention to the words obtained by means of transposition of the letters;
- to determine if the word is dual, trilateral, quadrilateral, five-lettered or six-lettered.

2.2.3 Kitab al-Djamharah كتاب الجمهرة

This is one of the most noteworthy dictionaries of the Arabic language. It is also known as *al-Djamharah ji al-lugha* and *Djamharah allughah*. Ibn Durayd dedicated this work to 'Abd Allah b. Muhammed Mikali. Being in the style of *Kitdb al-'Ayn*, it followed a different method of arranging chapters.

Unlike al-Khalil, Ibn Durayd included words of common and frequent use in the Arabic language. That is why his work was called *al-Djamharah* (major part, majority).

In the preface, the author gives information about its arrangement, the particularities of the letters, their varieties and utterance points and the rhythm of the words. He divided the materials of his dictionary not according to the utterance points of the letters but by taking into consideration the alphabetical order and the creation of words by interchanging the place of the letters.

The structure of the word (*bind*) is as follows for Ibn Durayd:

- Dual, quadrilateral, *mudaaf* and assimilated
- being strong trilateral, the ones whose *'ayn* (medium letter of the radicals) and *Idm* (last letter of the radicals), are defective rare (*nddir*) words

- Strong quadrilateral
- Strong five-lettered

The above structures are also divided into chapters according to alphabetical order. For

instance: Words beginning with the letter *bd* are arranged as *bdb bd* and as *bdb td* with the addition of the following letter *td*, as *bdb tha* with the subsequent character *tha*, and with the next letter *cm* for other words without returning to the preceding letters. As for the words obtained by compiling the letters preceding the letter with the *bdb* title, there will be naturally other *bdbs* since the book follows the *kalb* method.

Still in Ibn Durayd's work, we note that the *hamzah* { ء) does not follow a single pattern and that he considered it as a sometimes defective letter. This view is consistent with that of earlier linguists, while sometimes it is recognized as a real letter amongst recent linguists.

He accepted the *hamzah* as a real letter in the chapter of *mudaaf* words and as a defective one in other chapters. Nevertheless he added a section called *al-navddir fi al-hamzah* containing rare words beginning with the letter *hamzah*, as an attachment to the end of trilateral words section. There is a great resemblance between this work of Ibn Durayd and al-Khalil's *Kitdb al-Ayn* from the angle of style, explanation and substantiation.

However since the *al-Djamharah*, having an important place in the development of the Arabic lexicography, has a rather jumbled classification system, it is not always easy to find words required.

Being an important work, *al-Djamharah* was published in four volumes, including an index, (Haidarabad, 1344-1351). Further to this publication were two undated offset printings, one in Baghdad and one in Beirut.

2.2.4 Makayis al – Lughah مقاييس اللغة

The author of this dictionary is Ahmad b. Paris b. Zakariya al-Kazvini al-Razi (died 395/1004). Originating from Kazvin, he was a linguist and a man of letters connected to the *Kufe* school. After spending a part of his life in Hamadan, he went to the Ray city and lived there till his last days. Personalities like Badi' al-Zaman al-Hamadani and al-Sahib b. 'Imad were among his pupils. He wrote on a great many subjects. One of them is *Makayis al-Lughah* which is of great interest for us.

In this dictionary, Ibn Faris's basic objective was to convey the original and common meaning of the roots of each and every word. By using the word *Makayis*, he endeavored to give the meaning of letters forming any word within the limits of a rule.

The author began his work with a short preface where he explained his objective and the method he used in explaining the words, then went on to describe the sources he would draw upon while writing this book. The method he used in creating his work is as follows:

He divided his dictionary into a section called a *kitdb* for each letter, beginning with the letter *hamzah* and concluding with the letter {ي). Every section or *kitdb* was divided into three parts or chapters (*babs*). He assigned double *mudaaf* words to the first chapter, trilateral to the second chapter and words with more than three radical letters to the third chapter. He also arranged the words forming the chapter in alphabetical order by taking their radicals as a basis. This arrangement is also applied according to the first and subsequent letters. For instance he began the first letter *ghayn* غ for the section with the word having as its second letter *fa* ف

The letters placed before the letter *ghayn* and not taken into consideration are handled once more at the end of the section. Let us focus on the double *mudaaf* chapter of the *Kitdb al-Djim* with the aim of seeing the situation more clearly. Also after:

جج/جخ/جد جر جز جس جش جص
جض جظ جع جف جل جم جن جه جو

he completes the section by adding the جت جأ ب entries composed by the letters preceding ء *djim*.

It means that correct use of the dictionary will be only possible by paying attention to the alphabetical arrangement followed by the author in the division of *kitab*, and to chapters structured according to the structure of the words.

2.2.5 Lisan al-'Arab لسان العرب

The author of this dictionary is Djamal al-Din AbuT-Fadl Muhammed b. Mukarram b. 'Ali b. Manzur al-Khazradji (711/ 1311) was an Arab linguist scholar bom in Egypt. He worked in Diwan-i insha, Cairo. He was Kadi of Tripoli for some time, returning to Egypt after completing this duty. In the last years of his life he became blind.

To briefly describe his written works, Ibn Manzur is the author of five hundred books written by his hand. Beside *Lisdn al- 'Arab*, the main topic of our work, he wrote many more works.

The author created his work by combining and arranging al-Azhari's *al-Tahzib*, Ibn Sidah's *al-Muhkam*, al-Djavhari's *al-Sihdh*, Ibn Durayd's *al-Djamharah*, and Ibn al-Asir's *al- Nihdyah*, where he deals with the rare words in the Koran and of the hadiths.

When we start examining the *Lisan al- 'Arab*, it appears clearly that, beside its being one of the largest dictionaries of Arabic, it is also, even nowadays, an

immense source of Arabic poetry. It gives access to innumerable poems by various poets practically impossible to locate in currently existing Diwans or other sources. Consequently, this work was not considered to be solely a dictionary, but was also considered to be a book of grammar, syntax, literature, *hadith* commentary and a book of *fiqh*.

Ibn Manzur begins his work with a long introduction where he ruminates on the superiority of the Arabic language and its links with the Koran. He proceeds to criticise dictionaries such as *al-Tazhib*, *al-Muhkam*, and *al-Sihdh*, then explains the purpose of his own work, provides explanations for both *huruf al- mukatta 'a* (broken letters) of the Koran and for the letters of the alphabet.

Ibn Manzur adopted the form of this school and arranged his materials in accordance with the last letter of the words, dividing his work into twenty-eight chapters, each having twenty-eight sections. He also explained the verses, hadiths and couplets mentioned in order to support the exactitude of the meaning given to a word. However, contrary to the first edition cited above, the *Lisdn al-'Arab* has since been re-published in the alphabetical order observed by contemporary dictionaries. Finding the meaning of a given word in this dictionary is a matter of following the procedure of *al-Sihah*; by determining first the origin; i.e. the root letters of the word. For instance, the original of the word وثق is ميثاق

Consequently the meaning of this word may be determined by referring to the chapter ق and to the section *waw* و.

2.2.6 **Kamus al-Muhit** القاموس المحيط

The author of the current dictionary is Abu Tahir Madjd al-Din Muhammed b. Ya'kub al-Shirazi, al-Firuzabadi (815/1412), one of the leading scholars of Arabic language and literature, was born in the city of Kazvin in Shiraz.

Al-Firuzabadi, who completed his elementary education in Kazerun, learnt the Koran by heart at an early age. He went to Shiraz at age eight and received language and literature instruction from various scholars. Later on, he settled

in Iraq. He undertook a number of journeys to Egypt and Damascus. After his time in Iraq, he settled in Zabid, where he was appointed as a judge. Al-Firuzabadi died in the year 815/1412, leaving many valuable works.

In the preface of this work, a very well-known dictionary in the academic world with several reprints, al-Firuzabadi describes *al-Kdmus al-Muhit* as a summary of two thousand books. He establishes links between language and the Koran to emphasize its importance, and describes his aim in writing this work, the method he applied and the reason for the chosen title.

The author also arranged his materials in the rhyme order, a system adopted by al-Djavhari. The justification for this is the level of popular interest in al-Djawahari's *al-Sihdh*.

In the arrangement of the materials, the author inscribed the *mudjarrad* words before the augmented ones, and cited references such as *hadith* and *fiqh* scholars at the end of respective articles. When mentioning the names of cities, places or plants, he provided medical information by referring to its uses or applications. Nothing concerning people or society was mentioned in the dictionaries. Furthermore, when giving the meaning of words, details such as the opinion of linguist scholars on topics of *shavdhid*, the Koran, *hadith*, poetry, grammar and syntax were omitted.

Anticipating copy staffs errors in transcription, al-Firuzabadi declares explicitly that he added vowels to all words with the exception of those currently knovra, and the vowel of *fathah*. Without giving details, al-Firuzabadi used symbols instead of frequently repeating words. For instance:

- country, city د
- village ه
- place ع
- *djam' al-djam'* ج↔
- famous , م

- *hadith* ث

- mountain ل

djam' djam' al-djam ججج

Although al-Firuzabadi declares in the preface of his work that his work is the summary of two thousand books, the reader notes that, for the most part, it is based almost exclusively on Ibn Sidah's *al-Muhkam* and al-Saghani's *al- ubab*.

Al-Kdmiis al-muhit, one of the most famous dictionaries in the Arabic language, has, among other books, attracted the attention of the academic world. Some academics have commented on and translated it, others summarized and some others criticized it.

Al-Okyaniis al-basit known as Mutercim Asim Efendi's *Kdmus* translation is not only a translation but also carries commentary and even corrections. It is an extremely valuable work in the Turkish language. This book is an incomparable and unique source for compilers of Arabic-Turkish dictionaries.

2.2.7 Tadj al-Arus تاج العروس

Abu'l-Fayd Muhammed al-Murtada al-Husayni al-Zabidi (died 1205/1791) is one of the rare personalities of his times. He was born in the year 1145/1732 in Belgram, five leagues away from Kannevdj at the south of the river Ganges in the north of India. At seventeen, in the year 1162/1748, al- Zabidi went to Zabid, a town in Yemen, to study. Although he left the city after completing his study, experiences gained there left their mark on his personality.

He moved to Egypt in 1167/1754, set off on pilgrimages to Mecca several times, receiving occasional lessons from local scholars while giving lessons to many of his own students. His reputation increased during his time in Egypt.

He was deeply shocked in the year 1196/1781 by the death of his wife Zubeide. Al-Zabidi, by then very famous and extremely wealthy, left all his friends to lead a cloistered life at home.

This life of solitude continued until 1205/1791 when al-Zabidi returned home in the Arabic month of Shaban. He observed the holy Friday prayer in the al-Kurdi mosque opposite his house before suffering an attack of leprosy.

He had lost the ability to speak by evening and the savage course of his illness brought about his death the following Sunday. Beside his interest in the *hadith* and the dictionary, he had applied himself successfully to other branches of inquiry. The wealth of his scholarly legacy, his compiling, classifying and presenting of a great many reference works reflected the nature and the style of ancient scholars representing the glorious periods of the Islamic world.

Beside more than a hundred works we could list to illustrate his distinction, he also created a majestic work worthy of special interest. It is in fact *Tddj al-'ariis*, the commentary on al-Firuzabadi's famous work *al-Kdmiis al-Muhit*. Al-Zabidi completed this work within a few years thanks to the encouragement of Muhammed b. al-Tayyib al-Fasi al-Lughavi (died 1170/1756), one of his teachers. This teacher had provided a lengthy two-volume commentary on the work of al-Firuzabadi's *al-Kdmiis*. Unsatisfied with the commentary of his teacher, al-Zabidi expanded on it, and while remaining faithful to its main sources, added explanatory texts and comments. Al-Zabidi began writing *Tddj al-'ariis* seven years later upon his return to Egypt, completing it in the year 1188/1774. It was written entirely by the author's own hand. Being one of the largest and the most valuable dictionaries of the Arabic language, this work was published first in Cairo (1306-1307).

While preparing his work, he used as sources al-Djavhari's *al-Sihdh*, al-Azhari's *al-Tazhib*, Ibn Sidah's *al-Muhkam*, Ibn Manzur's *Lisdn al-'arab*, al-Saghani's *al-'Ubdb* and *al-Takmilah*, *al-ZamakhsharV s Asds al-baldghah*, Ibn Durayd's *al-Djamharah* and Ibn Paris *Makdyis al-lughah*. When we examine *Tddj al-'arus* independently of the works mentioned above, we are made aware of the author's

knowledge of a great many works dealing with *amsdl*, syntax, grammar, history, etymology, literature, the Koran and its interpretation, geography, medicine, places, plants and animals.

He adopted the order of *Kdmiis al-muhit* while arranging the *Tddj al-'arus* and beginning with the *hamzah* chapter and the *hamzah* section. The same order was followed throughout the alphabet. To look up a word in this dictionary, it is necessary to identify its root letters; i.e. after first sorting out the extra characters, and then to search for the word in question by taking its last letter as chapter and its first as section.

2.2.8 MukhtarAl-Sihah

Having a special place in the Arabic language, it is a dictionary thoroughly studied and taught by all scholars. It has been subject to a great deal of criticism and commentary. Al-Djawhari created his work without referring to written sources and based it solely on materials he collected while strolling among Bedouin Arabs. Because of this he named his work *al-Sihdh*. At the beginning of the work, there is there is a preface in which the author explains how he created the work and the method he applied to it. Al-Djawhari arranged his book in alphabetical order taking the last of the root letters (radicals) of the word as a basis.

The work was divided into twenty-eight chapters, each one headed by one letter of the alphabet and beginning with *hamzah* ending with the letter *ya* forming thus twenty eight sections. Words ending with the letter *v d v j* are found in one single chapter. Those words without the *hamzah* and ending with the soft *alif* (*alif al-layyinah*), the origin of which is not a *waw* or a *ye*, are compiled in the subsequent chapter.

Words contained in each section were all inscribed in the same place without considering their structure (double, trilateral, quadrilateral or five-lettered). When giving the meaning of the words, al-Djawhari points out whether the verbs are in the past or future tenses, infinitive form or adjective derivatives thereof. The transitive or intransitive nature of verbs is also indicated, as is the singular or plural form of substantives. Besides, in each chapter, and where appropriate, he deals with the numerous language problems related to syntax and grammar.

We notice that the sections of some chapters number fewer than twenty-eight; the number of alphabet letters. The reason for this is that words beginning with some of the letters may not end with certain letters of the Arabic alphabet. For instance a word ending with *ra* ر and beginning with a *lam* does not exist in the Arabic language. That is why the chapter with the least sections of all the chapters is the one called *za* ز. It has sixteen sections.

In order to find the word مكتبة in this work we have to first determine its root letters كتب and then go to ك the section in the chapter "ب", which is the last letter of the word

2.3 Editing a Dictionary

One of the primordial reasons for editing a dictionary is the fear of making an error while reading, commenting or when endeavoring to understand the Koran. A further reason is to avoid the intrusion of foreign words into the original language. Furthermore, when deemed necessary to learn the meaning of a certain word, it is customary to refer to the scholars of the period. There was also the fear of losing knowledge in this field with the death of the scholars; this consideration underscores of the reasons above. We understand that the first person who planted the seeds of the editorial undertaking was Ibn'Abbas. He

was succeeded later by Abu Umaymah b. Taghlib Rabah al-Djariri (Died 141/758) who imitated the method of the former. Although they were presented as two of the most eminent scholars in the field for their having planted the first seeds of Arabic dictionaries, the first edition of a methodically arranged dictionary in its basic definition started with al-Khalil b. Ahmad al-Farahidi (died 170/786). Scholars post Ibn 'Abbas and Abu Umaymah compiled and gathered words independently of the notions of meaning and details. The works carried out in this field appeared first within books containing words pertaining to one distinct topic. We may call them books of subjects (of reference).

Works such as Abu Hanifah al-Dinavari's *Kitab al-nabdt*, al-Asma'i's *Kitab al-ibil*, *Kitab al-khayl*, *Kitab asmd al-vuhush*, *Kitab al-nakhil* and Abu Zayd's *Kitab al-laban* and *Kitab al-matar*, together with Ibn Kirkirah's (died 182/798) *Khalk al-insdn* are the best examples of topic books.

The movements of editing the Arabic language and literature reached an apex coinciding with the first editions of dictionaries giving meanings of words according to their own methods. A natural result of this development, as it progressed through a series of steps, and eventually acquired today's dictionary form, was the classification of a word according to its sound as an utterance (vocal), arrangement of a word by rearranging its letters, arrangement of words according to their last letter and accepting that letter as *bab* (chapter), and the first letter as *fasil* (section), and finally an arrangement in alphabetical order.

The names of the dictionaries can be listed as shown here below important dictionaries of the dictionary editing movements in chronological order - and swift succession:

- *Kitdb al- 'ayn*, al-Khalil (died 170/786)
- *al-Djlm* (= al-Huruf), Abu ' Amr al-Shaybani (died 206/821)
- *al-Gharib al-musannaf*, Abu 'Ubayd

Kasim b. Sallam al-Haravi (died 223/837)
 - *al-Alfdz*, ibn al-Sikkit (died 244/858)
 - *al-Mundjid*, Kurra' al-Naml (died 309/921)
 - *al-Djamharah*, Ibn Durayd (died 321/933)
 - *Divan al-adab*(=mizan al-lughah wa mi'yar al-kalam), Farabi (died 350/961)
 - *al-Bdri* \ al-Kali (died 358/967)
 - *Tahzib al-lughah*, al-Azhari
 (died 370/981)
 - *Mukhtasar al- 'ayn*, al-**Zubaydi**
 (died 379/989)
al-Muhit, al-Sahib b. 'Abbad
 (died 385/995)
al-Sihdh, al-Djavhari (died 394/1003)
Makayis al-lughah wa al-mudjmal, Ibn
 Paris (died 395/1004)
al-Muhkam and *al-Mukhassas*, Ibn Sidah
 (died 459/1066)
Asas al-baldghah, al-Zamakhshari (died
 538/1143)
al- 'Udb (= *madjma' al-bahrayn*), al-
 Saghani(died 650/1252)
Mukhtdr al-sihdh, al-Razi (died 666/1268)
Lisdn al- 'arab, ibn Manzur
 (died 711/1311)
al-Misbdh al-munir, al-Fayyumi
 (died 770/1368)
al-Kdmus al-muhit, al-Firuzabadi
 (died 817/1414)

Tddj al- 'arus, al-Zabidi (died 1205/1790)

The dictionaries were intended to help students of language to carry out their language work quite efficiently in identifying Arabic dictionaries and to benefit from them, we will not identify and analyze each and every one of these dictionaries, which are worthy as independent texts when studied individually. But we will consider the evolution of the principal Arabic dictionaries that formed a school. It is our belief that the review of one or two of such books will suffice since they resemble each other so strongly in their respective arrangement and structure.

We can maintain that, in the following schools, the dictionary movement developed over three centuries between the end of the II. Century of the Hegira and the end of the IV Century, in accordance with their respective leaders and their works:

2.3.1 Madrasah al-Taklibat:

A school established by al-Khalil, in which the order is affected by interchanging the letters composing the word. The school is divided into two sections:

a) Taklibat al-savtiyyah: The group composed of al-Khalil's *Kitab al-'ayn*, Djavhari's *al-Tahzib*, Abu 'All al-Kafi's *al-BarV* and Ibn Sidah's *al-Muhkam*.

The arrangement in this type of dictionaries is in accordance with the utterance point of the letters. The method used here starts from the guttural sounds " ع ه ح " toward " غ خ " toward Labial sounds " و ا ي " .

b) Taklibat al-hicaiyyah الهجائية: The best example for that kind of dictionary is Ibn Durayd's *al-Djamharah*. As a basis, the order is arranged by using the alphabetical composition set out by al-Khalil.

2.3.2 Madrasah al-Kafiyyah

A school born out of the expansion of the poetry under the dominance of the *saci* (rhymed prose). Following from this arrangement, the school took as a basis the last letter of the word naming it as *hdb* (chapter), and the first one as *fasil* (section).

Al-Djawhari with his *al-Sihdh*, Firuzabadi with his *al-Kdmus* and Ibn Manzur with his *Lisdn al-'arab* were the pioneers of this school.

This school adopted the system which consisted of isolating the word from its surplus and arranging it alphabetically within itself, then nominating the last letter as *bdb* and the first one as *fasil*. However there are some difficulties in picking up words ending with a "و waw" or a "ي ya".

2.3.3 Al-Madrasah al-Abjadiyyah المدرسة الأبجدية

This describes the group of today's dictionaries edited according to the alphabetical order. The pioneer of the group is Abu ' Amr, founder of this school, and contemporary of al-Khalil, although he did not imitate the latter in his book *Kitab al-djim* (= *al-Huruf* = the letters). In his work the author arranged the words in alpha-betical order by taking only the first letter thereof. However, Barmaki is the linguist who, for the first time, applied today's system of an alphabetical order within the word itself; effected by taking into consideration the first character. If the word is "triliteral"; it is the second letter, if the word is "quadriliteral"; the third letter and in the case of "five-lettered words (*khumdsi*)"; the fourth letter thereof.

The representatives of this school were Ibn Faris with his *al-Makdyis* and *Mudjmal*, al-Zamakhshari with his *Asds al-Baldghah*, al- Bustani with his *Muhit al-muhit*, al-Fayyumi with his *al-Misbdh al-munir*, al-Ab Luis al- Ma'luf with his *al-Mundjid*, and finally Sa'id al-Sharnuti with his *Akrab al-mavarid*. These types of dictionary activities, which give precedence to the facility of consulting a dictionary, continue today.

Further to this, with the birth of the Islamic religion and the event of the expansion of the Arabic language among non-Arabic communities, the Arabic dictionary movement impacted on the vocabulary of other communities, instigating the preparation of numerous dictionaries. The Arabic-Turkish-Persian dictionary of Minisky is worthy of mention the first books in this field.

2.3.4 Madrasah al-Kafiyah المدرسة الكافية

The author of this school is Isma'il b. Hammad al-Djavhari (died 400/ 1003), being one of the pioneers of *Madrasah al-kdfiyah*, is a linguist of Farab origin. He came to Baghdad in his early youth and spent a while there. Afterwards he went to Hijaz where he strolled among Arab Bedouins, gathering materials for his book. He then returned to Khorassan and to Nishabour. He died while trying to fly with wings.

2.4 Studies of Dictionaries and Vocabulary Learning

There is a tendency for dictionary studies to show that dictionary use leads to vocabulary gains. Luppescu and Day (1993) studied 293 Japanese EFL university students using no dictionaries or printed bilingual dictionaries and compared vocabulary acquisition and time taken to read a five page narrative edited to contain enhanced content and multiple occurrences of target words to assist students in guessing. The dictionary group took twice as long to read but only acquired a 50% greater mean score on a multiple choice vocabulary quiz. However, for some items with multiple dictionary definitions, the no dictionary group performed better than the students using dictionaries.

In Knight (1994) students read texts for meaning and wrote summaries without being informed about immediate post-reading vocabulary tests. The first vocabulary task was supplying equivalent L1 words or definitions for target words. The second task required selecting L2 definitions from multiple choice items for each L2 target word. The vocabulary tests were subsequently administered again two weeks later unannounced. Although the direction of the first task is from L2 to L1, Knight considers this task to be productive. However, because of the L2 to L1 direction of the task, it might more appropriately be considered a test of receptive knowledge with a recall component (See Nation, 2001:29-30). Analysis was conducted for no exposure to text or dictionary, exposure to text without the dictionary, and exposure to the text with access to the computer dictionary. Students using the computer dictionary attained statistically significant higher scores on both the immediate and delayed vocabulary measures of both vocabulary tasks. Furthermore, high ability students learned more words than low ability students. Low correlations were found between number of look ups and the supply definition scores but the number of words looked up correlated highly with the select definition scores. Looking up a larger number of words does not appear to have interfered with vocabulary acquisition and helped in the case of the supply definition questions. Finally, the percentage gains of the low ability students on the immediate and delayed vocabulary tests for both vocabulary tasks exceeded the learning attributable to the 42% increased time on task from dictionary use. In contrast, the percentage gains of high ability students were less than or roughly equal to the percentage increase in time on all measures except the immediate supply task. Thus, low ability students benefited more from the time spent looking up words.

Nist and Olejnik (1995) studied 186 U.S university students who were given 20 minutes to study 10 artificial words presented in short contexts of a couple sentences followed by dictionary definitions. The quality of the contexts and

definitions was manipulated to create strong and weak conditions. Participants were tested on receptive and productive vocabulary measures. The primary finding was that students performed significantly better when they were exposed to strong definitions regardless of whether they were exposed to the word in strong or weak contexts. This suggests that more will be learned from a dictionary with good definitions than from context alone.

In Koyama and Takeuchi (2004a), 18 Japanese EFL university students read an English text without dictionaries and used ED or PD to look up and write four word definitions and four usage examples for eight target words. There were no significant differences in the search.

2.5 Lexicography

Lexicography is divided into two separate but equally important groups:

(i) Practical lexicography is the art or craft of compiling, writing and editing dictionaries.

(ii) Theoretical lexicography is the scholarly discipline of analyzing and describing the semantic, syntagmatic and paradigmatic relationships within the lexicon (vocabulary) of a language, developing theories of dictionary components and structures linking the data in dictionaries, the needs for information by users in specific types of situations, and how users may best access the data incorporated in printed and electronic dictionaries. This is sometimes referred to as 'metalexicography'.

There is some disagreement on the definition of lexicology, as distinct from lexicography. Some use "lexicology" as a synonym for theoretical lexicography; others use it to mean a branch of linguistics pertaining to the inventory of words in a particular language. A person devoted to lexicography is called a **lexicographer**.

General lexicography focuses on the design, compilation, use and evaluation of general dictionaries, i.e. dictionaries that provide a description of the language in general use. Such a dictionary is usually called a general dictionary or LGP dictionary (Language for General Purpose). Specialized lexicography focuses on the design, compilation, use and evaluation of specialized dictionaries, i.e. dictionaries that are devoted to a (relatively restricted) set of linguistic and factual elements of one or more specialist subject fields, e.g. legal lexicography. Such a dictionary is usually called a specialized dictionary or Language for specific purposes dictionary and following Nielsen 1994, specialized dictionaries are either multi-field, single-field or sub-field dictionaries.

It is now widely accepted that lexicography is a scholarly discipline in its own right and not a sub-branch of applied linguistics, as the chief object of study in lexicography is the dictionary (see e.g. Bergenholtz/Nielsen/Tarp 2009)

2.5.1 History of Lexicography

The oldest known dictionaries were Akkadian Empire cuneiform tablets with bilingual Sumerian–Akkadian wordlists, discovered in Ebla (modern Syria) and dated roughly 2300 BCE.^[7] The early 2nd millennium BCE *Urra=hubullu* glossary is the canonical Babylonian version of such bilingual Sumerian wordlists. A Chinese dictionary, the c. 3rd century BCE *Erya*, was the earliest surviving monolingual dictionary; although some sources cite the c. 800 BCE *Shizhoupan* as a "dictionary", modern scholarship considers it a calligraphic compendium of Chinese characters from Zhou dynasty bronzes. Philotas of Cos (fl. 4th century BCE) wrote a pioneering vocabulary *Disorderly Words* (Ἄτακτοι γλῶσσαι, *Átaktoi glôssai*) which explained the meanings of rare Homeric and other literary words, words from local dialects, and technical terms.^[8] Apollonius the Sophist (fl. 1st century CE) wrote the oldest surviving Homeric lexicon.^[7] The first Sanskrit dictionary, the *Amarakośa*, was written by Amara Sinha c. 4th century CE. Written in verse, it listed around 10,000 words.

According to the *Nihon Shoki*, the first Japanese dictionary was the long-lost 682 CE *Niina* glossary of Chinese characters. The oldest existing Japanese dictionary, the c. 835 CE *Tenrei Banshō Meigi*, was also a glossary of written Chinese. In *Frahang-i Pahlavig*, Aramaic heterograms are listed together with their translation in Middle Persian language and phonetic transcription in Pazand alphabet. A 9th-century CE Irish dictionary, *Sanas Cormaic*, contained etymologies and explanations of over 1,400 Irish words. In India around 1320, Amir Khusro compiled the *Khaliq-e-bari* which mainly dealt with Hindustani and Persian words

Arabic dictionaries were compiled between the 8th and 14th centuries CE, organizing words in rhyme order (by the last syllable), by alphabetical order of the radicals, or according to the alphabetical order of the first letter (the system used in modern European language dictionaries). The modern system was mainly used in specialist dictionaries, such as those of terms from the Qur'an and hadith, while most general use dictionaries, such as the *Lisan al-'Arab* (13th century, still the best-known large-scale dictionary of Arabic) and *al-Qamus al-Muhit* (14th century) listed words in the alphabetical order of the radicals. The *Qamus al-Muhit* is the first handy dictionary in Arabic, which includes only words and their definitions, eliminating the supporting examples used in such dictionaries as the *Lisan* and the *Oxford English Dictionary*.

In medieval Europe, glossaries with equivalents for Latin words in vernacular or simpler Latin were in use (e.g. the *Leiden Glossary*). The *Catholicon* (1287) by Johannes Balbus, a large grammatical work with an alphabetical lexicon, was widely adopted. It served as the basis for several bilingual dictionaries and was one of the earliest books (in 1460) to be printed. In 1502 Ambrogio Calepino's *Dictionary* was published, originally a monolingual Latin dictionary, which over the course of the 16th century was enlarged to become a multilingual glossary. In 1532 Robert Estienne published the *Thesaurus linguae*

latinae and in 1572 his son Henri Estienne published the *Thesaurus linguae graecae*, which served up to the 19th century as the basis of Greek lexicography. The first monolingual dictionary written in Europe was the Spanish, written by Sebastián Covarrubias' *Tesoro de la lengua castellana o española*, published in 1611 in Madrid, Spain.^[11] In 1612 the first edition of the *Vocabolario dell'Accademia della Crusca*, for Italian, was published. It served as the model for similar works in French and English. In 1690 in Rotterdam was published, posthumously, the *Dictionnaire Universel* by Antoine Furetière for French. In 1694 appeared the first edition of the *Dictionnaire de l'Académie française*. Between 1712 and 1721 was published the *Vocabulario portugez e latino* written by Raphael Bluteau. The Real Academia Española published the first edition of the *Diccionario de la lengua española* in 1780, but their *Diccionario de Autoridades*, which included quotes taken from literary works, was published in 1726. The *Totius Latinitatis lexicon* by Egidio Forcellini was firstly published in 1777; it has formed the basis of all similar works that have since been published.

The first edition of *A Greek-English Lexicon* by Henry George Liddell and Robert Scott appeared in 1843; this work remained the basic dictionary of Greek until the end of the 20th century. And in 1858 was published the first volume of the *Deutsches Wörterbuch* by the Brothers Grimm; the work was completed in 1961. Between 1861 and 1874 was published the *Dizionario della lingua italiana* by Niccolò Tommaseo. Between 1862 and 1874 was published the six volumes of *A magyar nyelv szótára* (Dictionary of Hungarian Language) by Gergely Czuczor and János Fogarasi. Émile Littré published the *Dictionnaire de la langue française* between 1863 and 1872. In the same year 1863 appeared the first volume of the *Woordenboek der Nederlandsche Taal* which was completed in 1998. Also in 1863 Vladimir Ivanovich Dahl published the *Explanatory Dictionary of the Living Great Russian Language*. The Duden

dictionary dates back to 1880, and is currently the prescriptive source for the spelling of German. The decision to start work on the *Svenska Akademiens ordbok* was taken in 1787.

2.5.2 Aspects of Lexicography

Practical lexicographic work involves several activities, and the compilation of well-crafted dictionaries requires careful consideration of all or some of the following aspects:

- profiling the intended users (i.e. linguistic and non-linguistic competences) and identifying their needs
- defining the communicative and cognitive functions of the dictionary
- selecting and organizing the components of the dictionary
- choosing the appropriate structures for presenting the data in the dictionary (i.e. frame structure, distribution structure, macro structure, micro-structure and cross-reference structure)
- selecting words and affixes for systematization as entries
- selecting collocations, phrases and examples
- choosing lemma forms for each word or part of word to be lemmatized
- defining words
- organizing definitions
- specifying pronunciations of words
- labeling definitions and pronunciations for register and dialect, where appropriate
- selecting equivalents in bi- and multi-lingual dictionaries
- translating collocations, phrases and examples in bi- and multilingual dictionaries
- designing the best way in which users can access the data in printed and electronic dictionaries

One important goal of lexicography is to keep the lexicographic information costs incurred by dictionary users as low as possible. Nielsen (2008) suggests relevant aspects for lexicographers to consider when making dictionaries as they all affect the users' impression and actual use of specific dictionaries. Theoretical lexicography concerns the same aspects as lexicography, but aims to develop principles that can improve the quality of future dictionaries, for instance in terms of access to data and lexicographic information costs. Several perspectives or branches of such academic dictionary research have been distinguished: 'dictionary criticism' (or evaluating the quality of one or more dictionaries, e.g. by means of reviews (see Nielsen 1999)), 'dictionary history' (or tracing the traditions of a type of dictionary or of lexicography in a particular country or language), 'dictionary typology' (or classifying the various genres of reference works, such as dictionary versus encyclopedia, monolingual versus bilingual dictionary, general versus technical or pedagogical dictionary), 'dictionary structure' (or formatting the various ways in which the information is presented in a dictionary), 'dictionary use' (or observing the reference acts and skills of dictionary users), and 'dictionary IT' (or applying computer aids to the process of dictionary compilation). One important consideration is the status of 'bilingual lexicography', or the compilation and use of the bilingual dictionary in all its aspects (see e.g. Nielsen 1894). In spite of a relatively long history of this type of dictionary, it is often said to be less developed in a number of respects than its unilingual counterpart, especially in cases where one of the languages involved is not a major language. Not all genres of reference works are available in interlingual versions, e.g. LSP, learners' and encyclopedic types, although sometimes these challenges produce new subtypes, e.g. 'semi-bilingual' or 'bilingualised' dictionaries such as Hornby's (*Oxford*) *Advanced Learner's Dictionary English-Chinese*, which have been developed by translating existing monolingual dictionaries (see Marengo 1998).

2.5.3 Studies of Dictionaries and Reading Comprehension

Studies have not been able to establish that using a dictionary consistently improves reading comprehension. Bensoussan, Sim and Weiss (1984) examined the effect of bilingual and monolingual dictionaries and no dictionary on reading comprehension of Israeli EFL university students with multiple choice questions in a variety of text passages. No significant differences were found in reading comprehension or time required between the control groups and the dictionary groups. Most students did not look up very many words. One conclusion was that, “less proficient students lack the language skills to benefit from a dictionary, whereas more proficient students know enough to do without it (ibid.: 271).

Koyama and Takeuchi (2004b) compared handheld electronic dictionaries (ED) and printed bilingual dictionaries (PD) on reading tasks with 72 Japanese EFL university students. Two texts were read while using dictionaries. PD users spent 16% more time reading than the ED group but depending on which text was read, the ED users looked up anywhere from 5.5 times to 1.7 times as many words. Both results were statistically significant. However, on six-question multiple choice comprehension test scores, there was no statistically significant difference. Unfortunately, the study does not provide the texts or the quiz questions used and there was no comparison to a group not using dictionaries. The types and the small number of questions used may not have adequately measured differences in comprehension.

Albus, Thurlow, Liu, and Bielinski (2005) used a simplified monolingual English dictionary and compared the effects on comprehension of a newspaper article for Hmong ESL learners and native speaker Junior High Students. Overall, they did not find any significant difference in scores between no dictionary control and dictionary groups but reported that 59% of students in the ESL group did not use their dictionary or used it only for a few words. Of the high, intermediate, and low level students in the dictionary group.

2.6 Lexicology

Lexicology is the part of linguistics which studies words. This may include their nature and function as symbols, their meaning, the relationship of their meaning to epistemology in general, and the rules of their composition from smaller elements (morphemes such as the English *-ed* marker for past or *un-* for negation; and phonemes as basic sound units). Lexicology also involves relations between words, which may involve semantics (for example, *love* vs. *affection*), derivation (for example, *fathom* vs. *unfathomably*), use and sociolinguistic distinctions (for example, *flesh* vs. *meat*), and any other issues involved in analyzing the whole lexicon of a language.

The term first appeared in the 1970s, though there were lexicologists in essence before the term was coined. Computational lexicology is a related field (in the same way that computational linguistics is related to linguistics) that deals with the computational study of dictionaries and their contents.

An allied science to lexicology is lexicography, which also studies words, but primarily in relation with dictionaries – it is concerned with the inclusion of words in dictionaries and from that perspective with the whole lexicon. Sometimes lexicography is considered to be a part or a branch of lexicology, but properly speaking, only lexicologists who actually write dictionaries are lexicographers. Some consider this a distinction of theory vs. practice.

2.6.1 Lexical Semantics

Semantic relations between words are of many kinds, for example homonymy, antonymy, meronymy, and paronymy. Semantics as specifically involved in lexicological work is called **lexical semantics**. Lexical semantics is somewhat different from the semantics of larger units such as phrases, sentences, and complete texts (or discourses), because it does not involve the same degree of compositional semantics complexities; however, the notion of "word" can be extremely complex, particularly in agglutinative languages.

Outside but related to linguistics, other forms of semantics are studied, such as cultural semantics and computational semantics (the latter may refer either to computational lexicology or mathematical logic).

2.6.2 Prestructuralist Semantics

Semantics as a linguistic discipline has its beginning in the middle of the 19th century, and because linguistics at the time was predominantly diachronic, thus lexical semantics was diachronic too – it dominated the scene between the years of 1870 and 1930.^[6] Diachronic lexical semantics was interested without a doubt in the change of meaning with predominantly semasiological approach, taking the notion of meaning in a psychological aspect: lexical meanings were considered to be psychological entities), thoughts and ideas, and meaning changes are explained as resulting from psychological processes.

2.6.3 Structuralist and Neostructuralist Semantics

With the rise of new ideas after the ground break of Saussure's work, prestructuralist diachronic semantics was considerably criticized for the atomic study of words, the diachronic approach and the mingle of nonlinguistics spheres of investigation. The study became synchronic, concerned with semantic structures and narrowly linguistic structures.

Semantic structural relations of lexical entities can be seen in three ways:

- semantic similarity
- lexical relations such as synonymy, antonymy, and hyponymy
- syntagmatic lexical relations were identified

2.6.4 Generative Semantics

Generative semantics is the name of a research program within linguistics, initiated by the work of various early students of Noam Chomsky: John R.

Ross, Paul Postal, and later James McCawley. George Lakoff and Pieter Seuren were also instrumental in developing and advocating the theory.

The approach developed out of transformational generative grammar in the mid-1960s, but stood largely apart from, and in opposition to, work by Noam Chomsky and his later students. This move led to a more abstract framework and lately to the abandonment of the notion of the CFG formal grammar induced deep structure.

A number of ideas from later work in generative semantics have been incorporated into cognitive linguistics, head-driven phrase structure grammar (HPSG), construction grammar, and into mainstream Chomskyan linguistics.

2.6.5 History of Semantics

The nature and genesis of the program are a matter of some controversy and have been extensively debated. Generative semanticists took Chomsky's concept of deep structure and ran with it, assuming (contrary to later work by Chomsky and Ray Jackendoff) that deep structures were the sole input to semantic interpretation. This assumption, combined with a tendency to consider a wider range of empirical evidence than Chomskyan linguists, led generative semanticists to develop considerably more abstract and complex theories of deep structure than those advocated by Chomsky and his students—and indeed to abandon altogether the notion of "deep structure" as a locus of lexical insertion.

Throughout the late 1960s and 1970s, there were heated debates between generative semanticists and more orthodox Chomskyans. Neither side can be accurately said to have "won" those debates, as positions and theories shifted considerably along with each bit of new data that was examined. By the end of the 1970s, there were few linguists who would call themselves generative semanticists, while Chomsky's program continued to produce able students dedicated to advancing Chomsky's evolving theories.

2.6.7 "Interpretive" vs. "Generative" Semantics

The controversy surrounding generative semantics stemmed in part from the competition between two fundamentally different approaches to semantics within transformational generative syntax. The first semantic theories designed to be compatible with transformational syntax were *interpretive*. Syntactic rules enumerated a set of well-formed sentences paired with syntactic structures, each of which was assigned an *interpretation* by the rules of a separate semantic theory. This left syntax relatively (though by no means entirely) "autonomous" with respect to semantics, and was the approach preferred by Chomsky.

In contrast, generative semanticists argued that interpretations were generated directly by the grammar as deep structures, and were subsequently transformed into recognizable sentences by transformations. This approach necessitated more complex underlying structures than those proposed by Chomsky, and more complex transformations as a consequence. Despite this additional complexity, the approach was appealing in several respects. First, it offered a powerful mechanism for explaining synonymy. In his initial work in generative syntax, Chomsky motivated transformations using active/passive pairs such as "I hit John" and "John was hit by me", which despite their identical meanings have quite different surface forms. Generative semanticists wanted to account for *all* cases of synonymy in a similar fashion—an impressively ambitious goal before the advent of more sophisticated interpretive theories in the 1970s. Second, the theory had a pleasingly intuitive structure: the form of a sentence was quite literally *derived* from its meaning via transformations. To some, interpretive semantics seemed rather "clunky" and *ad hoc* in comparison. This was especially so before the development of trace theory.

2.7 Cognitive Revolution

The **cognitive revolution** is the name for an intellectual movement in the 1950s that began what are known collectively as the cognitive sciences. It began in the modern context of greater interdisciplinary communication and research. The relevant areas of interchange were the combination of psychology, anthropology, and linguistics with approaches developed within the then-nascent fields of artificial intelligence, computer science, and neuroscience.

A key idea in cognitive psychology was that by studying and developing successful functions in artificial intelligence and computer science, it becomes possible to make testable inferences about human mental processes. This has been called the reverse-engineering approach.

Important publications in setting off the cognitive revolution include George A. Miller's 1956 *Psychological Review* article "The Magical Number Seven, Plus or Minus Two" (one of the most frequently cited papers in psychology), Donald Broadbent's 1958 book *Perception and Communication*, Noam Chomsky's 1959 "Review of *Verbal Behavior*, by B.F. Skinner", and "Elements of a Theory of Human Problem Solving" by Newell, Shaw, and Simon. Ulric Neisser's 1967 book *Cognitive Psychology* was a landmark contribution. Starting in the 1960s the Harvard *Center for Cognitive Studies* and the *Center for Human Information Processing* at the University of California San Diego became influential in the development of cognitive studies.

By the early 1970s according to some accounts, the cognitive movement had all but "routed" behaviorism as a psychological paradigm, and by the early 1980s the cognitive approach had become the dominant research line of inquiry in most psychology research fields.

2.7.1. Five Major Ideas from the Cognitive Revolution

In his book *The Blank Slate* (2002), psychologist Steven Pinker identified five key ideas that made up the cognitive revolution:

1. "The mental world can be grounded in the physical world by the concepts of information, computation, and feedback."
2. "The mind cannot be a blank slate because blank slates don't do anything."
3. "An infinite range of behavior can be generated by finite combinatorial programs in the mind."
4. "Universal mental mechanisms can underlie superficial variation across cultures."
5. "The mind is a complex system composed of many interacting parts"

2.7.2 Response to Behaviorism

The cognitive revolution in psychology took form as cognitive psychology, an approach in large part a response to behaviorism, the predominant school in scientific psychology at the time. Behaviorism was heavily influenced by Ivan Pavlov and E. L. Thorndike, and its most notable early practitioner was John B. Watson, who proposed that psychology could only become an objective science were it based on observable behavior in test subjects. Methodological behaviorists argued that because mental events are not publicly observable, psychologists should avoid description of mental processes or the mind in their theories. However, B. F. Skinner and other radical behaviorists objected to this approach, arguing that a science of psychology must include the study of internal events.^[17] As such, behaviorists at this time did not reject cognition (private behaviors), but simply argued against the concept of the mind being used as an explanatory fiction (rather than rejecting the concept of mind itself).^[18] Cognitive psychologists extended on this philosophy through the experimental investigation of mental states that allow scientists to produce theories that more reliably predict outcomes.

The traditional account of the "cognitive revolution", which posits a conflict between behaviorism and the study of mental events, was challenged by Jerome Bruner who characterized it as:

...an all-out effort to establish meaning as the central concept of psychology [...]. It was not a revolution against behaviorism with the aim of transforming behaviorism into a better way of pursuing psychology by adding a little mentalism to it. [...] Its aim was to discover and to describe formally the meanings that human beings created out of their encounters with the world, and then to propose hypotheses about what meaning-making processes were implicated. (Bruner, 1990, Acts of Meaning, p. 2)

It should be noted however that behaviorism was to a large extent restricted to North America and the cognitive reactions were in large part a reimportation of European psychologies. George Mandler has described that evolutionary history.

2.8 The Origin of Language

The **origin of language** in the human species has been the topic of scholarly discussions for several centuries. There is no consensus on the origin or age of human language. The topic is difficult to study because of the lack of direct evidence. Consequently, scholars wishing to study the origins of language must draw inferences from other kinds of evidence such as the fossil record, archaeological evidence, contemporary language diversity, studies of language acquisition, and comparisons between human language and systems of communication existing among other animals (particularly other primates). Many argue that the origins of language probably relate closely to the origins of modern human behavior, but there is little agreement about the implications and directionality of this connection.

This shortage of empirical evidence has led many scholars to regard the entire topic as unsuitable for serious study. In 1866, the Linguistic Society of Paris

banned any existing or future debates on the subject, a prohibition which remained influential across much of the western world until late in the twentieth century.^[1] Today, there are various hypotheses about how, why, when, and where language might have emerged.^[2] Despite this, there is scarcely more agreement today than a hundred years ago, when Charles Darwin's theory of evolution by natural selection provoked a rash of armchair speculation on the topic.^[3] Since the early 1990s, however, a number of linguists, archaeologists, psychologists, anthropologists, and others have attempted to address with new methods what some consider one of the hardest problems in science.

2.8.1 Approaches to Language Origin

One can sub-divide approaches to the origin of language according to some underlying assumptions:

- "Continuity theories" build on the idea that language exhibits so much complexity that one cannot imagine it simply appearing from nothing in its final form; therefore it must have evolved from earlier pre-linguistic systems among our primate ancestors.
- "Discontinuity theories" take the opposite approach—that language, as a unique trait which cannot be compared to anything found among non-humans, must have appeared fairly suddenly during the course of human evolution.
- Some theories see language mostly as an innate faculty—largely genetically encoded.
- Other theories regard language as a mainly cultural system—learned through social interaction

Noam Chomsky, a prominent proponent of discontinuity theory, argues that a single chance mutation occurred in one individual in the order of 100,000 years ago, installing the language faculty (a component of the mind–brain) in "perfect" or "near-perfect" form.^[6] According to this view, emergence of

language resembled the formation of a crystal; with digital infinity as the seed crystal in a super-saturated primate brain, on the verge of blossoming into the human mind, by physical law, once evolution added a single small but crucial keystone.^{[7][8]} Whilst some suggest it follows from this theory that language appeared rather suddenly within the history of human evolution, Chomsky, writing with computational linguist and computer scientist Robert C. Berwick, suggests it is completely compatible with modern biology. They note "none of the recent accounts of human language evolution seem to have completely grasped the shift from conventional Darwinism to its fully stochastic modern version—specifically, that there are stochastic effects not only due to sampling like directionless drift, but also due to directed stochastic variation in fitness, migration, and heritability—indeed, all the "forces" that affect individual or gene frequencies. ... All this can affect evolutionary outcomes—outcomes that as far as we can make out are not brought out in recent books on the evolution of language, yet would arise immediately in the case of any new genetic or individual innovation, precisely the kind of scenario likely to be in play when talking about language's emergence."

2.8.2 Early Hypotheses to Language Origin

I cannot doubt that language owes its origin to the imitation and modification, aided by signs and gestures, of various natural sounds, the voices of other animals, and man's own instinctive cries.

— *Charles Darwin, 1871. The Descent of Man, and Selection in Relation to Sex*".

In 1861, historical linguist Max Müller published a list of speculative theories concerning the origins of spoken language:

- **Bow-wow.** The *bow-wow* or *cuckoo* theory, which Müller attributed to the German philosopher Johann Gottfried Herder, saw early words as imitations of the cries of beasts and birds.
- **Pooh-pooh.** The *Pooh-Pooh* theory saw the first words as emotional interjections and exclamations triggered by pain, pleasure, surprise, etc.
- **Ding-dong.** Müller suggested what he called the *Ding-Dong* theory, which states that all things have a vibrating natural resonance, echoed somehow by man in his earliest words.
- **Yo-he-ho.** The *yo-he-ho* theory claims language emerged from collective rhythmic labor, the attempt to synchronize muscular effort resulting in sounds such as *heave* alternating with sounds such as *ho*.
- **Ta-ta.** This did not feature in Max Müller's list, having been proposed in 1930 by Sir Richard Paget. According to the *ta-ta* theory, humans made the earliest words by tongue movements that mimicked manual gestures, rendering them audible.

Most scholars today consider all such theories not so much wrong—they occasionally offer peripheral insights—as comically naïve and irrelevant. The problem with these theories is that they are so narrowly mechanistic. They assume that once our ancestors had stumbled upon the appropriate ingenious *mechanism* for linking sounds with meanings, language automatically evolved and changed.

2.8.3 Problems of Reliability and Deception

From the perspective of modern science, the main obstacle to the evolution of language-like communication in nature is not a mechanistic one. Rather, it is the fact that symbols—arbitrary associations of sounds or other perceptible forms with corresponding meanings—are unreliable and may well be false. As the

saying goes, 'words are cheap.' The problem of reliability was not recognized at all by Darwin, Müller or the other early evolutionary theorists.

Animal vocal signals are, for the most part, intrinsically reliable. When a cat purrs, the signal constitutes direct evidence of the animal's contented state. We trust the signal, not because the cat is inclined to be honest, but because it just can't fake that sound. Primate vocal calls may be slightly more manipulable, but they remain reliable for the same reason—because they are hard to fake. Primate social intelligence is *Machiavellian*—self-serving and unconstrained by moral scruples. Monkeys and apes often attempt to deceive each other, while at the same time remaining constantly on guard against falling victim to deception themselves. Paradoxically, it is theorized that primates' resistance to deception is what blocks the evolution of their signalling systems along language-like lines. Language is ruled out because the best way to guard against being deceived is to ignore all signals except those that are instantly verifiable. Words automatically fail this test.

Words are easy to fake. Should they turn out to be lies, listeners will adapt by ignoring them in favor of hard-to-fake indices or cues. For language to work, then, listeners must be confident that those with whom they are on speaking terms are generally likely to be honest. A peculiar feature of language is 'displaced reference,' which means reference to topics outside the currently perceptible situation. This property prevents utterances from being corroborated in the immediate 'here' and 'now.' For this reason, language presupposes relatively high levels of mutual trust in order to become established over time as an evolutionarily stable strategy. This stability is born of a longstanding mutual trust and is what grants language its authority. A theory of the origins of language must therefore explain why humans could begin trusting cheap signals in ways that other animals apparently cannot.

2.9 Previous Related Work

This part will view works from across the globe, Arab World and local studies carried in the same area. Nist and Olejnik (1995: 172) ask the question, “where has this idea come from that looking up words in the dictionary is the worst way for students to learn vocabulary?” Some EFL teachers discourage use of both monolingual and bilingual dictionaries in the belief that dictionaries do not help students to understand vocabulary in context and because students overuse dictionaries at the expense of developing the ability to guess from context and self-confidence (Bensoussan, Sim and Weiss 1984: 262) while others advocate only using the target language and are concerned that bilingual dictionaries used for word for word translations will adversely affect student comprehension at the sentence and discourse level (Tang 1997:39). According to Snell-Hornby (1984) and Yorkey (1970) reported in Aust, Kelley & Roby (1993: 66), “...many language educators... believe that bilingual dictionaries are counter productive because they cultivate the erroneous assumption that there is a one-to-one correspondence between the words of the two languages.” Because monolingual dictionaries may be seen as solving some of the problems presented by bilingual dictionaries, most teachers prefer the monolingual dictionary (Koren, 1997:2). However, it may be difficult for a student with insufficient vocabulary to understand a monolingual dictionary entry that contains unknown words and time-consuming or even frustrating if understanding the entry requires looking up other entries with still more unknown words. Learners can also misinterpret monolingual dictionary entries and the entries can be misleading (Nesi and Maera, 1994 in Koren, 1997: 2-3). Modern electronic pocket dictionaries (ED) can enable students to look up words 23% faster than conventional dictionaries (Weschler and Pitts, 2000: 1), but the increased speed of ED lookup may be at the expense of engagement and deeper processing of the words possibly resulting ultimately in less vocabulary

learning (Stirling, 2003: 2-3). Stirling (ibid.) also conducted a small survey of EFL teachers who listed, “insufficient examples, inaccurate meanings, unintelligible pronunciation, lack of collocations, excess of meanings, and the absence of improvements found in other dictionaries” as possible disadvantages of ED. Knight (1994: 285) includes another concern of educators that may apply to all types of dictionaries, “looking up words frequently interferes with short term memory and thus disrupts the comprehension process”.

- **First Study: Digital Technologies in Sudanese EFL Classes:** by Rehab Abdelsalam Elsanousi

This study sets out to investigate the using of digital technologies in Sudanese University EFL undergraduate students in order to shed light on EFL students of English self-efficacy and active learning opportunities. The study also aimed at finding out if using digital technologies played a role in sustaining EFL self-directed learning and learning autonomy. Moreover, the study intended to examine Sudanese University teachers’ attitudes towards using digital technologies as part of their EFL instruction. In this study the researcher hypothesized that there is a great possibility that digital technologies would provide active learning opportunities to Sudanese University undergraduates. Digital technologies provide more challenges to EFL students to become more independent learners. There is a great tendency that Sudanese EFL teachers have positive attitudes towards using technologies to enrich their instruction and course delivery method.

To examine the set hypotheses, the researcher adapted the descriptive and analytical method. Data were collected from many resources including questionnaires. The research reached the conclusion that using digital technologies at our universities will provide our students with much rich opportunities to practice and acquire English. Moreover, the study found that using technology has a positive impact on students’ direct learning and learning autonomy. Also the research shows that EFL faculties were more likely to use

digital technologies and have positive attitudes towards using digital technologies in their instruction.

Consequently, the use of digital technology is so strongly recommended for EFL learners and that classes should build and prepared in a way to allow for incorporating technological devices. It was also found that almost all students are capable of possessing the right of mobile phones that will help them cope with their classes. Digital technology is available, cheap and every student can have access to. Classrooms can easily be furnished with the desired types of technologies.

- **The Second Study**

Ahmad, A. (2014) Towards Mobile learning Deployment in Higher Education in Brunel University London. Published Ph.D. Thesis.

The aims of this research work are to study students' readiness for M-learning, investigate the factors that affect students' acceptance and analyze M-learning literature in order to propose and evaluate a model which can be used to foster the sustainable deployment of M-learning within teaching and learning strategies in higher education institutions.

The research was conducted at Brunel University, West London. Data were collected from Students from different undergraduate levels. Data were reported from 174 participants (125 males, 49 female students using three surveys. The outcome of this research leads to a conceptual model that gives a wide overview of all elements that need to be addressed in the mobile -learning the environment and bridges the gap between the pre- and post-implementation phases in order to ensure sustainability. Furthermore, the model provides university educators with a planned approach to incorporate Mobile -learning in higher education curriculums with the aim of improving teaching and learning.

- **Third Study**

Mohamad, M. (2012) Mobile learning in the English vocabulary acquisition: Toward the implementation in Malaysian secondary schools. Unpublished Ph.D. Thesis

This thesis explores the use of mobile phones to support English vocabulary learning in Malaysian schools with the interview as the main research tool. The methodology consists of rigorous steps in developing, evaluating and disseminating the implementation strategy as well as exploring other issues associated with mobile learning implementation in Malaysian schools. It has been established that the implementation strategy developed in this study would have the potential to provide guidance in the implementation of mobile learning in Malaysian schools. The findings revealed the opportunities and the challenges in embracing mobile phones as a learning tool.

- **The Fourth Study**

Osman, M. (2013) Evaluation of mobile and communication technologies for language learning. Unpublished Master Thesis.

This master's thesis explores the use of mobile and communication technologies in English Language learning. Specifically, the use of mobile phone and wiki in language learning is investigated among the undergraduate student in a higher education institution. By applying both quantitative and qualitative methods, three themes are derived in the study; accessing, communication and usability. This finding suggests that although the use of mobile phone and wiki in language learning is feasible, further studies are needed to enhance the possibility. This study is important in providing alternative learning tools in the area of English Language learning.

- **The Fifth Study**

Baharom, S.S. (2012) Designing mobile learning activities in the Malaysian Higher Education Context: A Social Constructivist Approach. Unpublished Ph.D. Thesis

This thesis explores how mobile learning activities, developed using social constructivist learning principles have the potential to support an undergraduate in English Language learning. The methodology applied in the study is a design-based research with two stages of data collection. The research tools include questionnaires, students' blog posts, and online interviews. The findings indicate that students have a positive attitude toward the use of mobile learning in their learning activities. The study also highlighted several types of mobile learning activities which should be introduced; contextual, reflective, and collaborative, multiple media, communication and learning management.

- **The Sixth study**

Maria B. Cruz (2012) Student and Teacher Perceptions of a Mobile-Based Biology Vocabulary Study Tool for English Language Learners published Ph.D. Thesis.

This study investigated biology students' perceptions of their experience independently using an iPod Touch-based mobile study tool to complement classroom learning. Interviews with the students' biology teacher, an educator with a strong background in language acquisition teaching and learning, were also used to supplement student testimony.

- **The Seventh Study**

Al-Fahad (2009) investigated students' attitudes and perceptions towards the effectiveness of M-learning. The author conducted a survey of 186 undergraduate students from different colleges in order to understand how they used mobile technologies in their learning environments. The results illustrated

that M-learning is widely accepted by the student community. Students agree that wireless networks increase the flexibility of access to learning resources. Also, students are interested in using mobile learning tools via laptops, mobile phones, and PDAs to be able to access the information anytime, anywhere. The results of the study indicated that M-learning activities can engage students in the learning process and transfer them from passive learners to behaviorally and intellectually active learners.

2.10. Summary of the Chapter

In this chapter, brief accounts of literature concerning dictionaries, lexicography and lexicology. Other aspects related to these components have been discussed from theoretical and practical perspectives.

CHAPTER THREE
RESEARCH METHODOLOGY

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RESEARCH METHODOLOGY

3.0 Introduction

This study primarily involved a survey, comprised of one set of questionnaire for the tutors at different Sudanese University concerning dictionaries, their compilation and exploitation by students of translation and language learning in general. Moreover, in order to discover more deeply the relationships and among learners' beliefs about dictionaries and language learning and translation, strategy use, and individual demographic variables, interviews were conducted with students as well. Sampling, tools for collecting and analyzing data will be described and discussed in details.

3.1 Study Design

The subjects are EFL students, fourth year at the Sudan University of Science and Technology. A number of 50 of EFL students (males/females) have been selected randomly out of 100 students who represent the target population. The subject's ages range between (19 - 22) years.

3.2 Tools of Data Collection

The tools that have been used in the experimental study are pre- and post- test. The later was given after teaching the program. The pre-test "diagnostic" is designed to find out the students' ability to translate English to Arabic and vice versa. The course aims at investigating how to use translation as a means to develop the students' competence and comprehension in English language. The course items included how to introduce yourself, describing peoples, places¹ (countries, cities, towns, etc.), places² (streets and houses), describing a day and describing a scene.

The subjects are exposed to a pre-test to measure the candidates' previous knowledge, then a post-test takes place after teaching course in which the

researcher uses the translation techniques and activities to teach language course, extended for three weeks during which three lectures per week were taught(15 hours). In the end, the researcher co-relates the pre- and post-tests results to see whether there is a difference in students' performance or not. If the scores of the post-test are higher than that of the pre-test then progress has taken place.

The test has been designed in a way that suits the teaching and testing purposes. The aim of this test is to help the researcher to find out the weakness and strength of the candidates; and to evaluate their performance. The researcher also uses what is so called "*dicto – comp*" methodology which uses dictation as means of testing students skills in translation and interpretation. Dictation is quite useful as part of dictionary learning is translation. In a translation classroom, to test the receptive skills of listening and recognition and use of terminology. After students are familiar to the text to be translated or read parallel texts, they can benefit from dictation taken from one or more of the texts.

A special course for extensive reading and writing skills was taught. The materials for reading are extracted from *Practical Faster Reading, A course in Reading and Vocabulary for Upper Intermediate and More Advance Students*, Coauthored by Gerald Mossback and Vivienne Mossback. The reading text is basically intended to train students to use their dictionaries to get acquainted with the meanings of the new or unfamiliar words. Some of the reading material was also obtained from another reading course, *Natural English Reading and Writing Skills* by Theresa Clementson. It has four separate parts that correspond to four important aspects of proficient reading: part 1: extensive reading; part 2: vocabulary building; part 3: comprehension skills; part 4: thinking skills. During this course the students are provided with carefully selected materials which enable them to practice reading and writing skills as a preface to translation study. Different modern techniques are used in the class

such as audio-visual aids such as projectors, smart board and CDs to enhance the students' performance. On the other hand, the materials for writing course are extracted from the course draws the students' attention to handwriting, beside language items are pointed out and briefly explained where necessary. In addition to, train the students on how to use dictionaries effectively and how to select the appropriate words when translating.

To evaluate the students' performance in communicative skills, pre- and post-tests were used. The pre-test measure the students' previous knowledge, whereas post-test evaluates the change that takes place after the course.

3.2.1 Validity of the Tools

Validity refers to '*the extent to which an indicator or variable adequately measures the theoretical concept it purports to measure*' (Jupp, 2006:314). Correspondingly, it indicates that '*the tools should measure what are supposed to measure*' Creswell (2009, p.141). Therefore, to ensure the validity of the tools for the current study, some considerations suggested by Mackey and Gass' (2005) were taken into account. According to them, the tools should be simply designed, reviewed by several experts and their questions should be unambiguous, answerable besides being piloted. In doing so, the questionnaire and the test were given to a number of experts to authenticate their construct validity. The experts who assisted in constructing these tools were the supervisor of the study in addition to other experts at Al-Mughtaribeen University. The experts made some modifications by adding and deleting some items. After that, the tools were given to some participants for piloting. Piloting tests had provided some benefits for the researcher. For examples, some students did not understand the English version of the questionnaire. Thus, it was translated into their mother tongue language (Arabic) while being administered. Finally, the results of the piloting tests were statistically analyzed to guarantee their reliability

3.2.2 Reliability of the Test

The reliability of the test is calculated by the use of ranks:

$$\text{Reliability} = 1 - \frac{6 \sum D^2}{N(N-1)} = .98$$

The calculation resulted in (1.3) for the reliability of linguistic knowledge element test. Thus, (1.3) emphasizes that the test is reliable. The calculation resulted in (1.2) for the reliability of translating skills test, and also emphasizes that the test is reliable.

3.2.3 Reliability of the Questionnaire

Reliability refers to the reliability of any test, to obtaining the same results if the same measurement is used more than one time under the same conditions. In addition, the reliability means when a certain test was applied on a number of individuals and the marks of every one were counted; then the same test applied another time on the same group and the same marks were obtained; then we can describe this test as reliable. In addition, reliability is defined as the degree of the accuracy of the data that the test measures. Here are some of the most used methods for calculating the reliability:

On the other hand, validity also is a measure used to identify the validity degree among the respondents according to their answers on certain criterion. The validity is counted by a number of methods, among them is the validity using the square root of the (reliability coefficient). The value of the reliability and the validity lies in the range between (0-1). The validity of the questionnaire is that the tool should measure the exact aim, which it has been designed for.

In this study the validity calculated by using the following equation:

$$\text{Validity} = \sqrt{\text{Reliability}}$$

The reliability coefficient was calculated for the measurement, which was used in the questionnaire using Alpha-Cronbach coefficient Equation as the following:

For calculating the validity and the reliability of the questionnaire from the above equation, the researcher distributed the questionnaire forms to 30 respondents to calculate the reliability coefficient using the Alpha-Cronbach coefficient; the results have been showed in the following table:

Table 3.1: Alpha-Cronbach coefficient

Cronbach's Alpha	N of Items
0.88	18

3.3 Procedures of Data Collection

In the first semester of 2016-2017 academic year, the experiment was carried out. At the first stage (Week 1), an examination paper was distributed to all the participants. The main task of this stage is to compare and analyze the pre-test scores of the class in order to know their standard of English skills and grammatical competence. The second stage (Week 2) is the experimental time. Special course for extensive reading and writing skills were taught during this period. The third stage (week 3), a post-test was conducted to all participants. Scores of the students were collected then to test the effectiveness of the learner development program on their grammar performance. Analysis of data was done with (SPSS). The primary aim of this trial course is to find out the impact of teaching and learning translation as a helping factor to develop the students' performance in English language skills.

A number of 35 of EFL students have been selected randomly out of 40 students who represent the whole number of the study population. The subjects' ages range between (19 - 22) years. A lecture of one hour and a half was taught three times a week during the period which lasted for three weeks. The material of the course was chosen from Natural English Reading and Writing Skills by Theresa Clementson. The students first read the texts, and then they answer some questions about what have read about. The students have a chance to

listen to the same material. Each lesson contains a short educational video which covers language functions and expressions the students have learned in the lesson.

This method helps basically to increase the students' motivation and change their attitudes towards language in general and translation in particular.

3.4 Data Analysis

For calculation of data analysis the researcher uses the following procedures:

$$A\text{- Mean} = \frac{\sum \times f}{N}$$

For the standard deviation:

$$S.D = \frac{\sqrt{\sum d^2}}{N}$$

For the testing significance:

$$t. \text{ Value} = \frac{X_1 - X_2}{\sqrt{\frac{\delta_1^2}{n_1} + \frac{\delta_2^2}{n_2}}}$$

δ = population standard déviation

δ^2 =population variance

\sum = the sum of

X = the random variable X

f =function of

d = standard deviation

Table (3-2) Students' marks in pre-and post-test

1	Post-test	Pre-test
2	2	17
3	11	26
4	5.5	9
5	7	21
6	3	16
7	zero	12
8	11	24
9	14	13
10	zero	9
11	1.5	27

12	6	12
13	7	17
14	13	20
15	4	25
16	29	30
17	21	33
18	7	29
19	17	28
20	Zero	1
21	7	27
22	22	14
23	17	46
24	10	40
25	20	20
26	13	37
27	9	28
28	13	30
29	24	30
30	12	20
31	21	34
32	18	25
33	15	29
34	25	29
35	20	37

3.5. Summary of the Chapter

This chapter has described the methodology followed in the present study. A rationale has been provided for adopting mixed method design. In this chapter, the targeted population and the sampling have also been discussed. In addition, Data collection tools, their validity and reliability have been discussed. Furthermore, the procedures that were followed in collecting and analyzing the data have been described in detail. The following chapters will focus on data analysis, research results and discussion.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND

DISCUSSION

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Overview

This chapter presents the analysis of data obtained from experiment, pre-test, post-test and teachers' questionnaire.

4.1 Analysis of the Experiment

The analysis of the experiment will focus on answering vital questions on the use of dictionary and its effects on classroom interaction, particularly in understanding written as well as spoken texts. To answer these questions, 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. The following three hypotheses will be verified or confirmed in view of the analysis of the diagnostic test, Discourse Completion Test (DCT) as well as the questionnaire for the tutors and students.

4.2 Test of the Study Hypotheses

To answer the study's questions and hence verify its hypotheses, the median will be computed for each question from the diagnostic test, Discourse Completion Test (DCT) as well as the questionnaire that shows the opinions of the study respondents about the problem in question, namely expanding classroom interaction to reinforce interlanguage and pragmatic or what is known as pragmalinguistic communicative competence. To accomplish this task, five degrees for each answer "strongly agree", four degrees for each answer "agree", three degrees for each answer "neutral", two degrees with each answer "disagree", and one degree for each answer with "strongly disagree" will be given. This means, in accordance with the statistical analysis requirements, transformation of nominal variables to quantitative variables. After that, we will use the non-parametric chi-square test to know if there are

statistical differences amongst the respondents' answers about hypotheses questions. The hypotheses to be tested are as follows:

4. *Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.*
5. *Students can actually be encouraged to use dictionaries to promote their language levels.*
6. *There are different types of dictionaries, however due to the fact that electronic dictionaries are portable and easy to use, we expect students to prefer them to conventional types of dictionaries.*

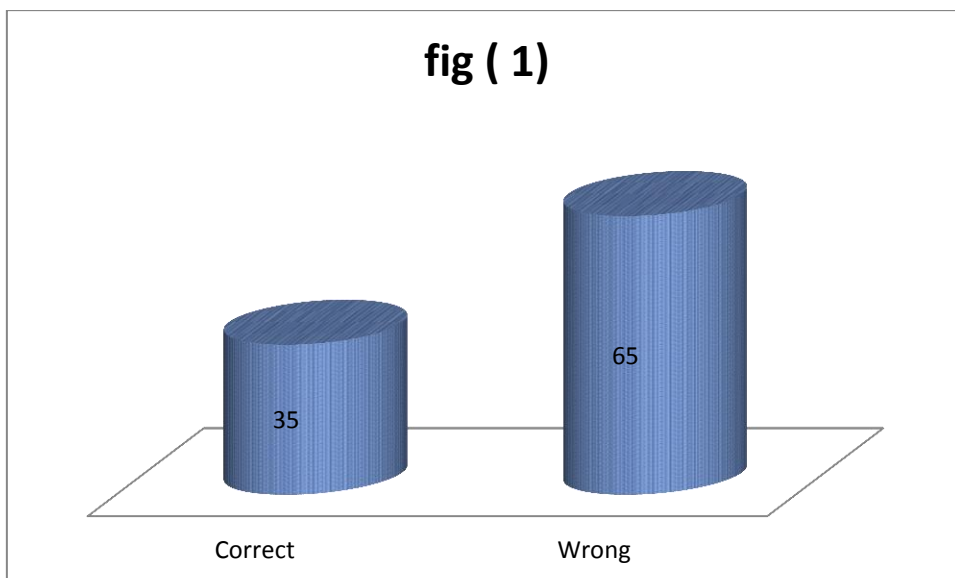
4.3 Analysis of the Test

Table No (4. 1) The Frequency Distribution for the Respondents' Answers of question number (1 (A and B) : *(Read the following sentences carefully , use your dictionary and then fill in the bracket with an appropriate word from the box below to describe the underlined WORDS and expressions in each sentence.)*

Answers	Frequencies	Percentage
Correct	15	35
Wrong	25	65
Total	40	100

from the above table No.(1) and figure No (1) it is shown that there are only (11) students in the study's sample with percentage (22%) passed question number (1), and There was (39) students with percentage (78 %) was failed to pass the question.

Figure 4.1: The Frequency Distribution for the Respondents' Answers of question number (1 (A and B)



This poor result of the students' performance in question one indicates that almost all the students (78%) have relatively shaky grasp the dictionary. This confirms the first hypothesis which stipulates that **Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.**

Table (4.2) The Frequency Distribution for the Respondents' Answers of question number (1)

Answers	Frequencies	Percentage
Correct	11	27.5
Wrong	29	72.5
Total	40	100

from the above table No.(2) and figure No (2) its shown that there are (11) students in the study's sample with percentage (27.5%) have the correct answer to the question ,There are (29) persons with percentage (72.5 %) have the wrong answer.

Figure 4.2: The Frequency Distribution for the Respondents' Answers of question number (1)

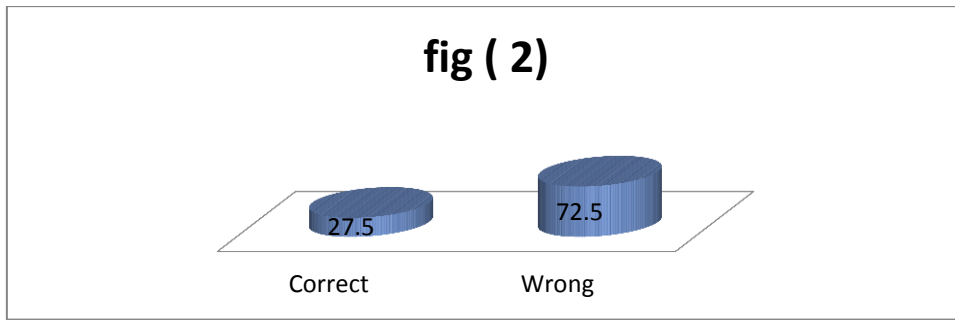


Table (4.3) The Frequency Distribution for the Respondents' Answers of question number (1)

Answers	Frequencies	Percentage
Correct	10	25
Wrong	30	75
Total	40	100

from the above table No.(3) and figure No (3) its shown that there are (10) students in the study's sample with percentage (25%) have the correct answer to the question ,There are (30) persons with percentage (75 %) have the wrong answer.

Figure 4.3: The Frequency Distribution for the Respondents' Answers of question number (1)

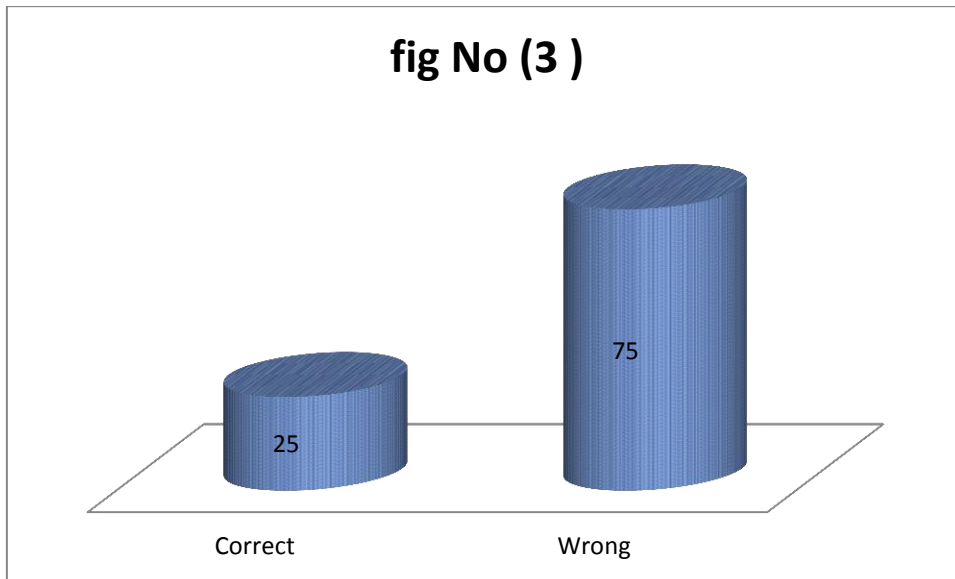


Table No (4.4) The Frequency Distribution and decisions for the Respondents' Answers of all questions

Questions	Correct		wrong		Decision
	<i>frequency</i>	<i>Percentage</i>	<i>frequency</i>	<i>Percentage</i>	
Question 1	14	35	26	65	Accept
Question 2	11	27.5	29	72.5	Accept
Question 3	10	25	30	75	Accept

This table No.(4.4) has shown the summary of the results . As for the **Part (1) and its** clear that the number of students who scored the wrong answers are greater than the number of correct answers with percent (65%) so we accept our first hypothesis of the study. In connection with for the **part (2)** it's clear that the number of students who having the wrong answers is greater than the number of students who having the correct answers with percent (72.5%) so the second hypothesis of the study is accepted .

Table (4.5) one sample T-TEST for the questions of the study

Question s	N	SD	t-value	DF	p-value
1	40	0.6	12.0	39	0.00
2	40	1.86	7.7	39	0.00
3	40	2.47	8.5	39	0.00
For all	40	4.7	15.6	39	0.00

The calculated value of T – TEST for the significance of the differences for the respondents’ answers in the question No (1) was (12.0) which is greater than the tabulated value of T – TEST at the degree of freedom (39) and the significant value level (0.05%) which was (2.54). this indicates that, there is no statistically significant differences at the level (0.05 %) among the answers of the respondents .

The calculated value of T – TEST for the significance of the differences for the respondents’ answers in the question No (1) was (7.7) which is greater than the tabulated value of T – TEST at the degree of freedom (39) and the significant value level (0.05%) which was (2.54). This indicates that, there are statistically significant differences at the level (0.05 %) among the answers of the respondents. this mean that our hypothesis is accepted.

The calculated value of T – TEST for the significance of the differences for the respondents’ answers in the question No (3) was (8.5) which is greater than the tabulated value of T – TEST at the degree of freedom (39) and the significant value level (0.05%) which was (2.54). This indicates that, there are statistically significant differences at the level (0.05 %) among the answers of the respondents. This mean that our hypothesis is accepted.

4.4 Analysis of the Questionnaire

The responses to the questionnaire of the 70 teachers were tabulated and computed. The following is an analytical interpretation and discussion of the findings regarding different points related to the objectives and hypotheses of

the study. Each item in the questionnaire is analyzed statistically and discussed. The following tables will support the discussion.

The researcher distributed the questionnaire on determined study sample (70), and constructed the required tables for collected data. This step consists transformation of the qualitative (nominal) variables (strongly disagree, disagree, Undetermined, agree, and strongly agree) to quantitative variables (1, 2, 3, 4, 5) respectively, also the graphical representations were used for this purpose.

Table No (4.6) The Frequency Distribution for the Respondents' Answers of according to their Academic status.

Valid	Frequency	Percentage
Lecture	34	48.5%
Assistant Processor	18	25.7%
Associates Processor	13	18.6%
Processor	5	7.2%
Total	70	100

Percentage (48.5%) and the number of Assistant Processor was (18) with percentage (25.7%) and the number of Associate Professors was (13) person with (18.6) percent, and the number of Processors was (5) with percent (7.2%).

Figure 4.4: The Frequency Distribution for the Respondents' Answers of according to their Academic status.

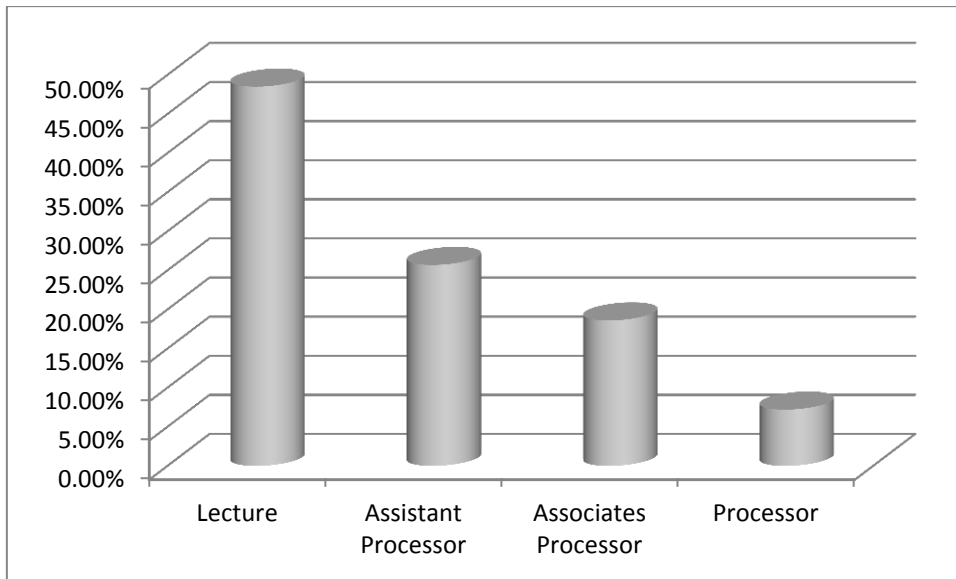


Table No (4.7) The Frequency Distribution for the Respondent' s Answers of gender

Valid	Frequency	Percentage
Male	38	54.3%
Female	32	45.7%
Total	70	100

From the above table and figure its clear that the number of male is (38) with percentage (54.3%) and the number of female was (32) with percentage (45.7%)

Figure 4.5: The Frequency Distribution for the Respondent' s Answers of gender

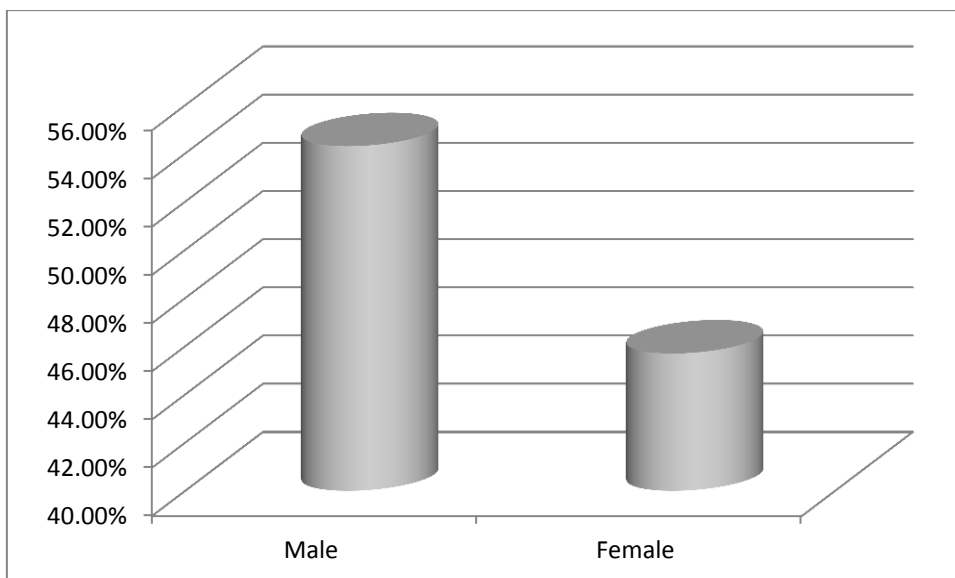
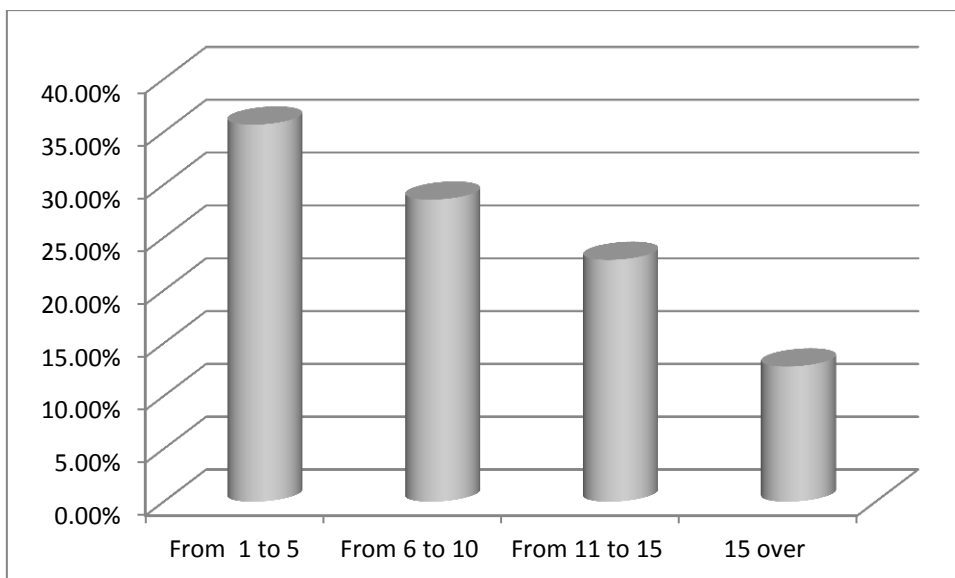


Table No (4.8) The Frequency Distribution for the Respondents' Answers of according to their Years of Experience

Valid	Frequency	Percentage
From 1 to 5	25	35.7%
From 6 to 10	20	28.6%
From 11 to 15	16	22.9%
15 over	9	12.8%
Total	70	100

From the above table and figure its clear that the number of teachers with years of experience from 1 to 5 was is (25) with percentage (35.7%) of teachers with years of experience from 6 to 10 was (20) with percentage (28.6%) of teachers with years of experience from 11 to 15 was (16) person with (22.9) percent , of teachers with years of experience above 15 years was (9) with percent (12.8%).

Figure 4.6: The Frequency Distribution for the Respondent' s Answers of according to their Years of Experience



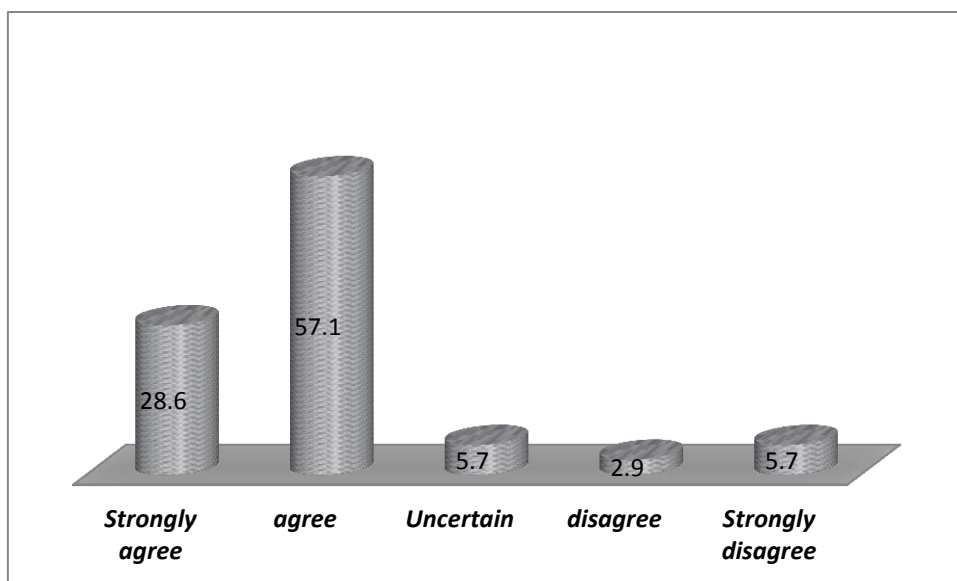
Statement No. (1): *Good Knowledge of using dictionaries is essential for student s of different disciplines*

Table No (4.9) The Frequency Distribution for the Respondents' Answers of Question No. (1)

Valid	Frequency	Percentage
Strongly agree	20	28.6
agree	40	57.1
Uncertain	4	5.7
disagree	2	2.9
Strongly disagree	4	5.7
Total	70	100

Judging by the table above table No.(12) and figure No (10)It is clear that there are (20) persons in the study's sample with percentage (28.6%) strongly agreed with " *Good Knowledge of using dictionaries is essential for students of different disciplines* ". There are (40) persons with percentage (57.1%) agreed with that, and (4) persons with percentage (5.7%) were not sure that, and (2) persons with percentage (2.9%) disagreed. and (7) persons with 5.7% are strongly disagree.

Figure 4.7: The Frequency Distribution for the Respondents' Answers of Question No. (1)



A **dictionary**, sometimes known as a **wordbook**, is a collection of words in one or more specific languages, often arranged alphabetically (or by radical and stroke for ideographic languages), which may include information on definitions, usage, etymologies, pronunciations, translation, etc or a book of words in one language with their equivalents in another, sometimes known as a lexicon. It is a lexicographical product which shows inter-relationships among the data. Therefore, good knowledge of how to make the possible use of a dictionary will help the learner get acquainted with all the above cited items as relating to such areas of syntax, morphology and phonetics. This variable confirms the second hypothesis of this study which states that ***Students can actually be encouraged to use dictionaries to promote their language levels.***

Statement (2): *Students of languages particularly should befriend a dictionary*

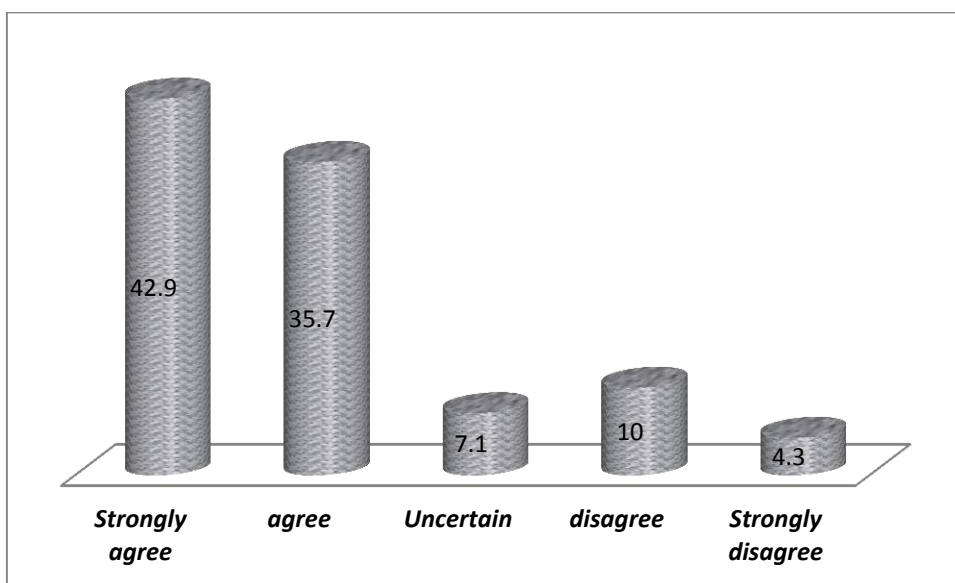
Table No (4.10) The Frequency Distribution for the Respondent' s Answers of Question No.(2)

Valid	Frequency	Percentage
Strongly agree	30	42.9
agree	25	35.7

Uncertain	5	7.1
disagree	7	10
Strongly disagree	3	4.3
Total	70	100

From the above table No.(13) and figure No (11) It is clear that there are (30) persons in the study's sample with percentage (42.9%) strongly agreed with " *Students of languages particularly should befriend dictionary* ". There are (25) persons with percentage (35.7%) agreed with that, and (5) persons with percentage (7.1%) were not sure that, and (7) persons with percentage (10.0%) disagreed. and (3) persons with 3.4% are strongly disagree.

Figure 4.8: The Frequency Distribution for the Respondent' s Answers of Question No.(2)



To help learners fully understand a word and thus develop their vocabulary, to help them be more autonomous and to enhance good learner habits, as language teachers, we should all be aware of the **importance** of using a **dictionary** in language learning. Students of languages are particularly called upon to make the maximum use of dictionaries. Dictionaries for such kind of students are

indispensable tools as they help them learn lots of language items in a single sitting.

Students of languages should have good knowledge of the different types of dictionaries.

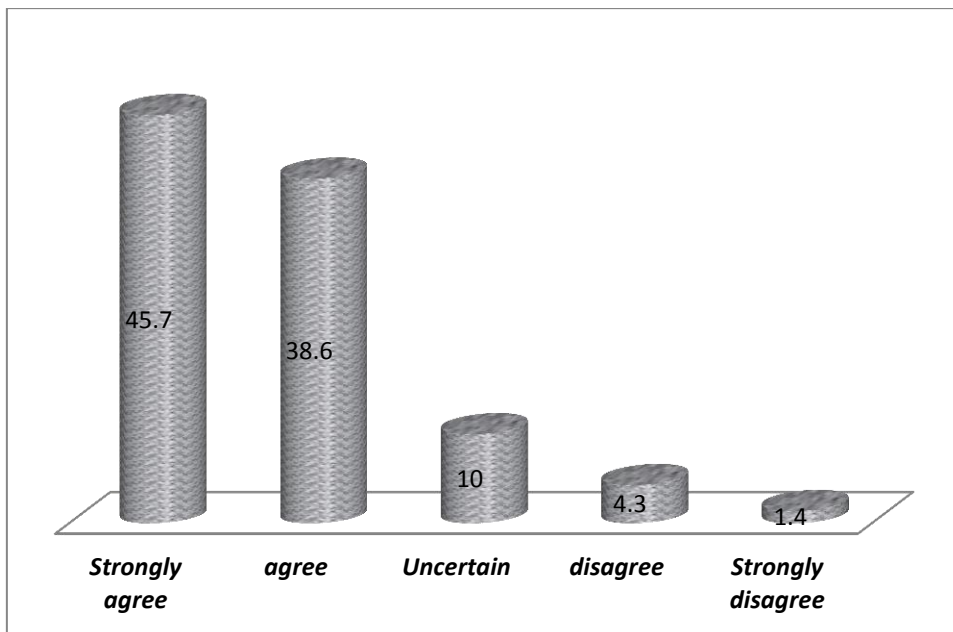
Statement No.(3): Students should be acquainted with the different types of dictionaries.

Table No (4.11) The Frequency Distribution for the Respondents' Answers of Question No.(3)

Valid	Frequency	Percentage
Strongly agree	32	45.7
agree	27	38.6
Uncertain	7	10
disagree	3	4.3
Strongly disagree	1	1.4
Total	70	100

It is clear from the above table No.(14) and figure No (12) that there are (32) persons in the study's sample with percentage (45.7%) strongly agreed with " *Students should be acquainted with the different types of dictionaries.*". There are (27) persons with percentage (38.6%) agreed with that, and (7) persons with percentage (10.0%) were not sure that, and (3) persons with percentage (3.4%) disagreed. and (1) persons with 1.4% are strongly disagree.

Figure 4.9: The Frequency Distribution for the Respondents' Answers of Question No.(3)



A broad distinction is made between general and specialized dictionaries. Specialized dictionaries include words in specialist fields, rather than a complete range of words in the language. Lexical items that describe concepts in specific fields are usually called terms instead of words, although there is no consensus whether lexicology and terminology are two different fields of study. In theory, general dictionaries are supposed to be semasiological, mapping word to definition, while specialized dictionaries are supposed to be onomasiological, first identifying concepts and then establishing the terms used to designate them. In practice, the two approaches are used for both types. There are other types of dictionaries that do not fit neatly into the above distinction, for instance bilingual (translation) dictionaries, dictionaries of synonyms (thesauri), and rhyming dictionaries. The word dictionary (unqualified) is usually understood to refer to a general purpose monolingual dictionary.

There is also a contrast between prescriptive or descriptive dictionaries; the former reflect what is seen as correct use of the language while the latter reflect recorded actual use. Stylistic indications (e.g. "informal" or "vulgar") in many

modern dictionaries are also considered by some to be less than objectively descriptive.

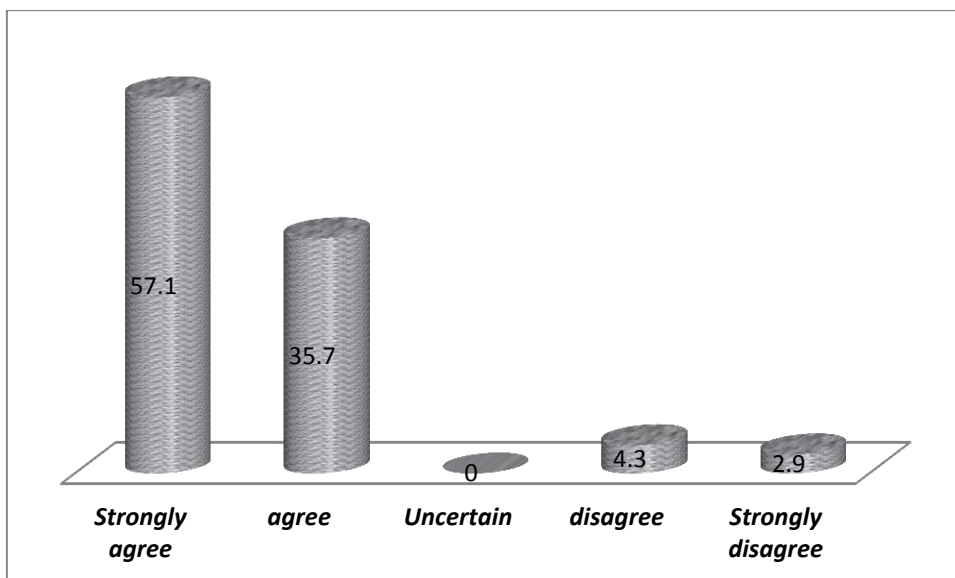
Statement No. (4): *A dictionary is an indispensable tool for learning a foreign language*

Table No (4.12) The Frequency Distribution for the Respondents' Answers of Question No. (13).

Valid	Frequency	Percentage
Strongly agree	40	57.1
agree	25	35.7
Uncertain	0	0
disagree	3	4.3
Strongly disagree	2	2.9
Total	70	100

It is clear from the above table No.(15) and figure No (13) that there are (40) persons in the study's sample with percentage (57.1%) strongly agreed with " *A dictionary is an indispensable tool for learning a foreign language* ". There are (25) persons with percentage (35.7%) agreed with that, and (0) persons with percentage (00.0%) were not sure that, and (3) persons with percentage (3.4%) disagreed. and (2) persons with 2.9% are strongly disagree.

Figure 4.10: The Frequency Distribution for the Respondents' Answers of Question No. (13).



This is a self-evident fact that no one in the realm of academic study can manage without having one or two different types of dictionaries. Dictionaries are not only intended to furnish learners with the meanings of the different lexical items they may come across. They are like encyclopedias provide the learners with host of useful information which they desire to proceed with their study.

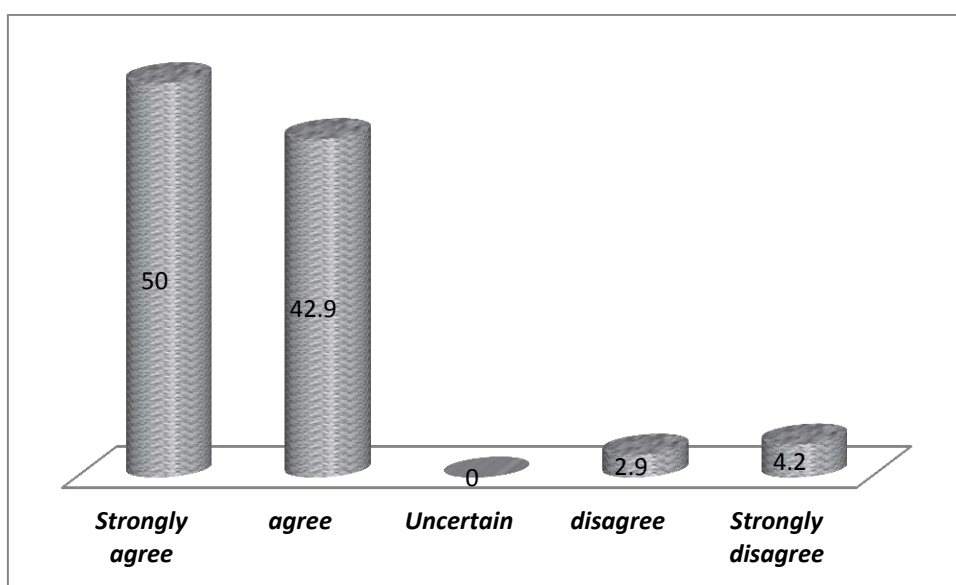
Statement No. (5): *Some educators believe that dictionaries can make students dependent*

Table No (4.13) The Frequency Distribution for the Respondents' Answers of Question No. (5)

Valid	Frequency	Percentage
Strongly agree	35	50
agree	30	42.9
Uncertain	0	0
disagree	2	2.9
Strongly disagree	3	4.2
Total	70	100

It is clear from the above table No. (16) and figure No (14) that there are (35) persons in the study's sample with percentage (50.0%) strongly agreed with " *Some educators believe that dictionaries can make students dependent* ". There are (30) persons with percentage (42.9%) agreed with that, and (0) persons with percentage (00.0%) were not sure that, and (2) persons with percentage (2.9%) disagreed. and (3) persons with 4.2% are strongly disagree.

Figure 4.11: The Frequency Distribution for the Respondents' Answers of Question No. (5)



Some educators prefer the developing of strategies that help inferring the meaning of words rather than heavily depending on a dictionary. Inference is one of the recommended strategies for any foreign learner; however, it will not substitute the use of the dictionary. A dictionary is not only required for learning the meaning of words. There are a number of useful merits which can be attached to using a dictionary.

One of the most important goals every student should have is to become an autonomous, self-sufficient learner, who can continue learning and improving for their whole life. As a result, a teacher is to help my students to learn independently, taking advantage of the many wonderful resources

available. A fantastic example of these resources is the humble dictionary. So a dictionary can help you to develop good learning habits for your future.

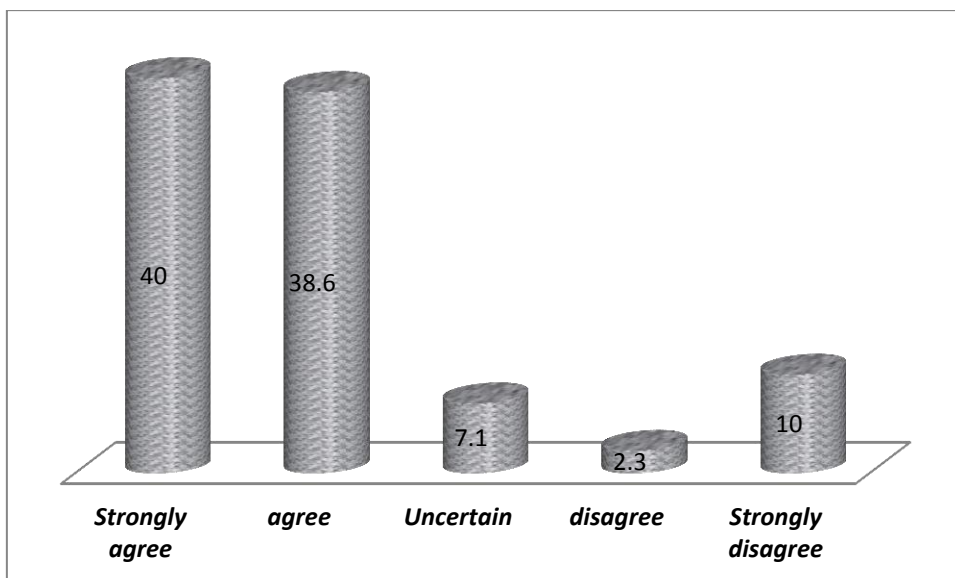
Statement No.(6): *Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.*

Table No (4.14) The Frequency Distribution for the Respondent' s Answers of Question No.(6)

Valid	Frequency	Percentage
Strongly agree	28	40
agree	27	38.6
Uncertain	5	7.1
disagree	3	2.3
Strongly disagree	7	10
Total	70	100

It is clear from the above table No.(17) and figure No (15) that there are (28) persons in the study's sample with percentage (40.0%) strongly agreed with " *Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.* ". There are (27) persons with percentage (38.6%) agreed with that, and (5) persons with percentage (7.2%) were not sure that, and (3) persons with percentage (2.3%) disagreed. and (7) persons with 10.0% are strongly disagree.

Figure 4.12: The Frequency Distribution for the Respondent' s Answers of Question No.(6)



It is a very sad and unpleasant fact that quite a big number of undergraduate students hardly resort to using a dictionary to learn the meanings of unknown words or do they simply ignore them if they failed to guess their meanings. Using a dictionary is a skill which has to be instilled as earlier as basic level of education in order to germinate at upper levels of education. This further confirms the first hypothesis which demonstrates that **Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.**

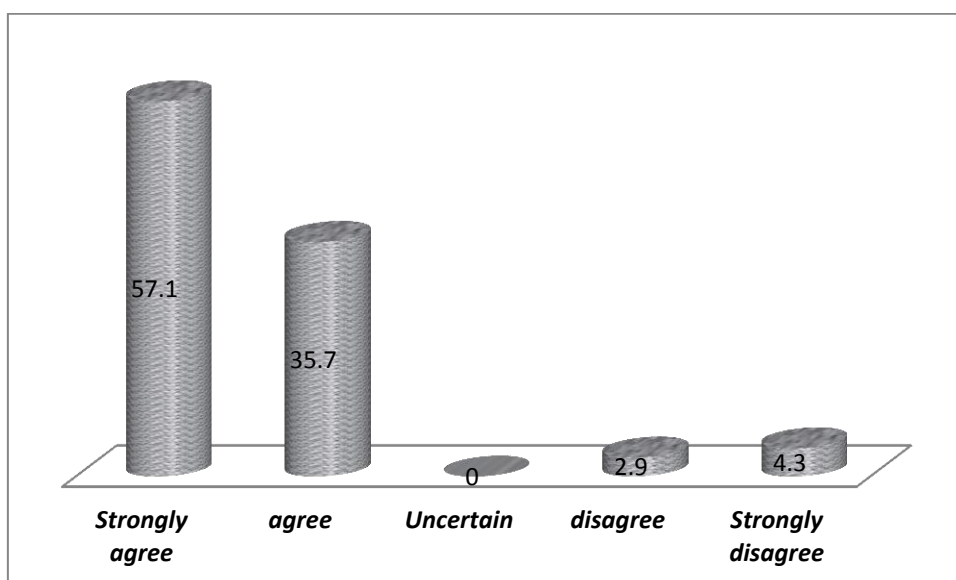
Statement No.(7): *Students can actually be encouraged to use dictionaries to promote their language levels.*

Table No (4.15) The Frequency Distribution for the Respondents' Answers of Question No. (7)

Valid	Frequency	Percentage
Strongly agree	40	57.1
agree	25	35.7
Uncertain	0	0
disagree	2	2.9
Strongly disagree	3	4.3
Total	70	100

It is clear from the above table No.(18) and figure No (16) that there are (40) persons in the study's sample with percentage (57.1%) strongly agreed with " *Students can actually be encouraged to use dictionaries to promote their language levels.*". There are (25) persons with percentage (35.7%) agreed with that, and (0) persons with percentage (0.00%) were not sure that, and (2) persons with percentage (2.9%) disagreed. and (3) persons with 3.4% are strongly disagree.

Figure 4.13: The Frequency Distribution for the Respondents' Answers of Question No. (7)



Students should be guided and encouraged to use the dictionary. As they become more confident with English, using a good English-English dictionary can give them even more detailed information, and can help them think in English instead of always translating in their minds. They can also use it with a bilingual dictionary to deepen your understanding. Again, they can buy a hard copy, download an app, or use a good online dictionary such as **dictionary.cambridge.org** or **oxforddictionaries.com**. These dictionaries also have learner versions, with simpler language. Such kind of coaching can

undoubtedly encourage students to use the dictionary and instill the skills of dictionary using.

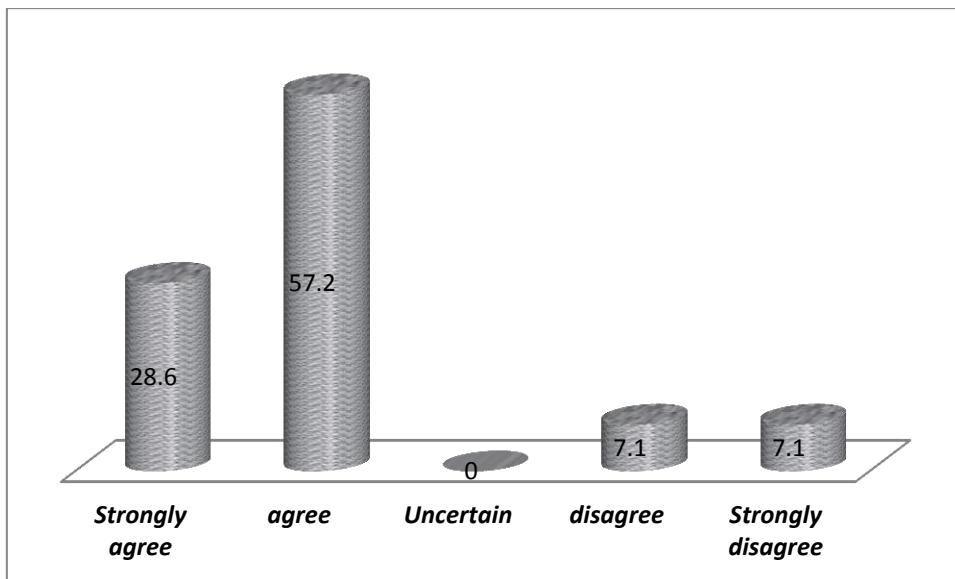
Statement No.(8): *Electronic dictionaries are portable and easy to use. Consequently, students to prefer them to conventional types of dictionaries.*

Table No (4.16) The Frequency Distribution for the Respondent' s Answers of Question No.(8)

Valid	Frequency	Percentage
Strongly agree	20	28.6
agree	40	57.2
Uncertain	0	0
disagree	5	7.1
Strongly disagree	5	7.1
Total	70	100

It is clear from the above table No.(19) and figure No (17) that there are (20) persons in the study's sample with percentage (28.6%) strongly agreed with " *Electronic dictionaries are portable and easy to use. Consequently, students prefer them to conventional types of dictionaries.* ". There are (40) persons with percentage (57.2%) agreed with that, and (0) persons with percentage (0.00%) were not sure that, and (5) persons with percentage (7.1%) disagreed. and (5) persons with 7.1% are strongly disagree.

Figure 4.14: The Frequency Distribution for the Respondent' s Answers of Question No.(8)



The most important advantage of an electronic dictionary is that it's very convenient to use. Whenever you meet new words or expressions, you can know the meaning quickly. You don't need to waste much time turning the page seeking for the new words. What's more, electronic dictionaries are becoming more and more advanced: they can pronounce the words clearly, provide sample sentences to illustrate word usage and store difficult words for special memorization. That's special function may help a student remember some new words with high efficiency .Last but not least, the designing of electronic dictionaries are more and more portable, and they are easy for students carrying. However, the negative effects are also obvious. First of all, students may rely too much on the electronic dictionary—they never put their heart into learning new words and expressions. Secondly, some explanations are neither complete nor accurate, which are quite misleading. Finally, the convenient ways do not necessarily lead to progress in learning. Diligence is always the decisive factor, because "there is no royal road to learning". This confirms the third hypothesis in this study which indicates that **There are different types of dictionaries, however due to the fact that electronic dictionaries are portable and easy to use, we expect students to prefer them to conventional types of dictionaries.**

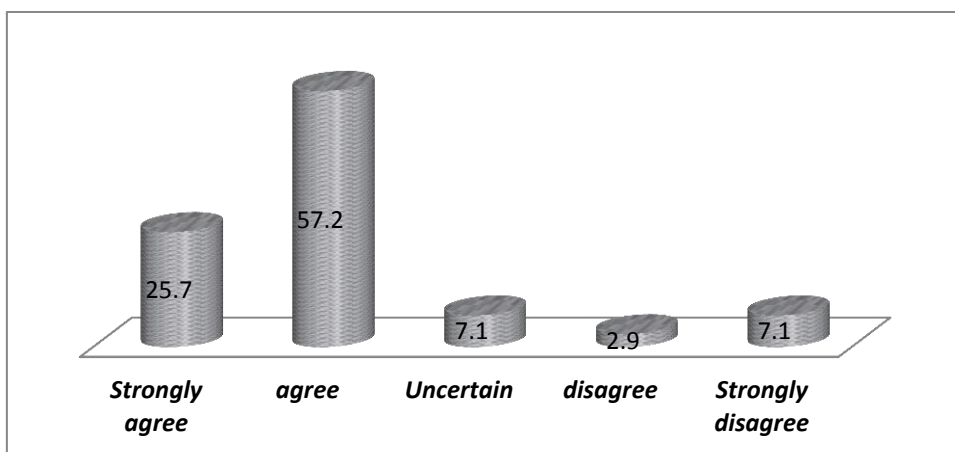
Statement No.(9): *Reading comprehension and vocabulary learning require excessive use of dictionaries*

Table No (4.17) The Frequency Distribution for the Respondent' s Answers of Question No.(9)

Valid	Frequency	Percentage
Strongly agree	18	25.7
agree	40	57.2
Uncertain	5	7.1
disagree	2	2.9
Strongly disagree	5	7.1
Total	70	100

It is clear from the above table No. (20) and figure No (18) that there are (18) persons in the study's sample with percentage (25.7%) strongly agreed with " *Reading comprehension and vocabulary learning require excessive use of dictionaries* ". There are (40) persons with percentage (57.2%) agreed with that, and (5) persons with percentage (7.1%) were not sure that, and (2) persons with percentage (2.9%) disagreed. and (5) persons with 7.1% are strongly disagree.

Figure 4.15: The Frequency Distribution for the Respondent' s Answers of Question No.(9)



Extensive reading is one of a range of activities that can be used in a language learning course. Ideally, the choice of activities to go into a course should be guided by principles which are well supported by research. Similarly, the way

each of those activities is used should be guided by well-justified principles. In this article, we look at the principles justifying the inclusion of extensive reading in a course, and then look in detail at a set of principles guiding how extensive reading can best be carried out to result in substantial vocabulary learning.

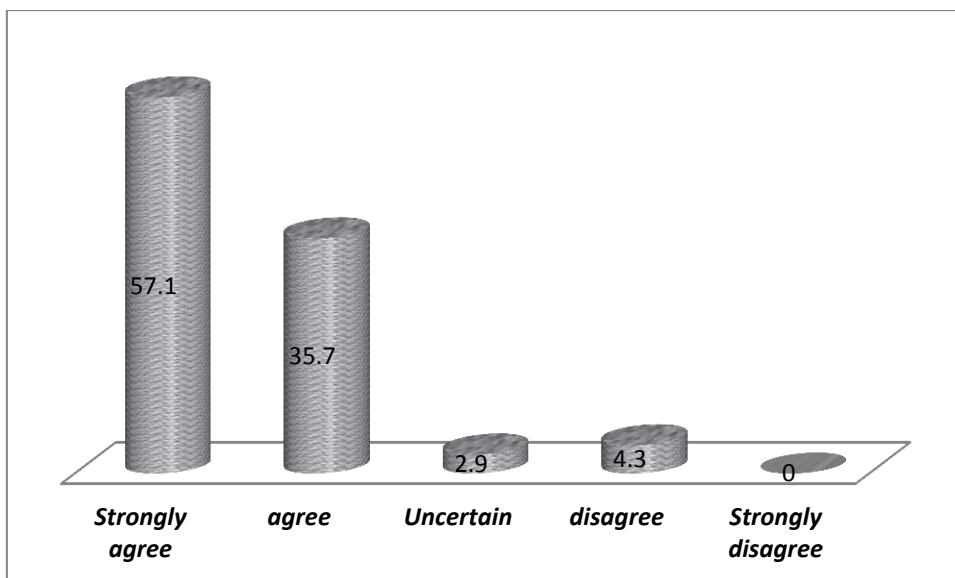
Statement No.(10): *Arab lexicographers played a pioneering role in dictionary making*

Table No (4.18) The Frequency Distribution for the Respondent' s Answers of Question No.(10)

Valid	Frequency	Percentage
Strongly agree	40	57.1
agree	25	35.7
Uncertain	2	2.9
disagree	3	4.3
Strongly disagree	0	0
Total	70	100

It is clear from the above table No.(21) and figure No (19) that there are (40) persons in the study's sample with percentage (57.1%) strongly agreed with *Arab lexicographers played a pioneering role in dictionary making "*. There are (25) persons with percentage (35.7%) agreed with that, and (2) persons with percentage (2.9%) were not sure that, and (3) persons with percentage (3.4%) disagreed. and (0) persons with 0.0% are strongly disagree.

Figure 4.16: The Frequency Distribution for the Respondent' s Answers of Question No.(10)



The Arabic language has enjoyed a greater degree of interest and care than any other language. Scholars of linguistics have studied every aspect of this language since the pre-Islam period and have been meticulous in conveying their findings without alteration or compromise. In the Ignorance Period poets and the orators competed with each other for the most eloquent narration and interpretation and their interest in and devotion to the Arabic language were greatly increased by the birth of Islam. The language became an indispensable element in the fulfillment of religious obligations and especially for the understanding and preservation of the Koran. However, we notice that beside its role in religion, Arabic became a language to serve as a vehicle for other humanities and civilizations, in that a great number of writers were using it to produce innumerable works.

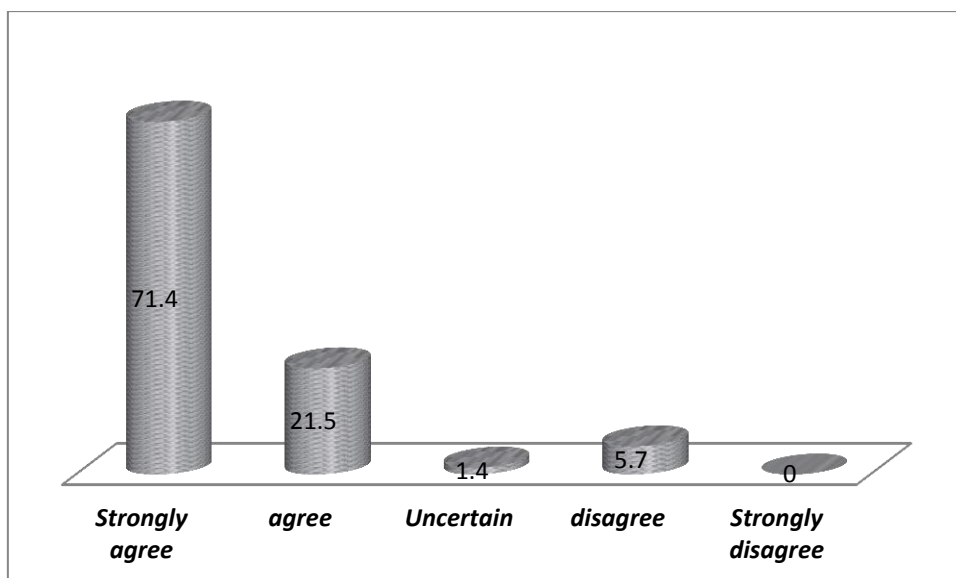
Statement No.(11): *Bilingual dictionaries are useful for students of translation*

Table No (4.19) The Frequency Distribution for the Respondents' Answers of Question No.(11)

Valid	Frequency	Percentage
Strongly agree	50	71.4
agree	15	21.5
Uncertain	1	1.4
disagree	4	5.7
Strongly disagree	0	0
Total	70	100

It is clear from the above table No.(22) and figure No (20) that there are (50) persons in the study's sample with percentage (71.4%) strongly agreed with " *Bilingual dictionaries are useful for students of translation* ". There are (15) persons with percentage (21.5%) agreed with that, and (1) persons with percentage (1.4%) were not sure that, and (4) persons with percentage (5.7%) disagreed. and (0) persons with 0.0% are strongly disagree.

Figure 4.17: The Frequency Distribution for the Respondent' s Answers of Question No.(11)



Bilingual dictionaries are useful tools for translators particularly. However, they can sometimes be misleading. The problem arises out of the fact that translators often don't know the meaning of the word and hence they are unable to produce

the exact or proper equivalence. When translators do not understand a word or an expression, or do not know it at all, they will face problems in finding the appropriate equivalent (Ghazala, 1995). Hence, the main lexical problems that may face translators are: Synonymy: Translators may not differentiate between words that have similar meanings but they are not the same. Polysemy and monosemy: Translators do not distinguish between the two and they give one meaning in all cases. Other problems may occur in the translation of collocations, idioms, proverbs, metaphors and technical translation. In addition, translators may face problems in translating proper names, titles, political establishments, geographical terms and acronyms (Ghazala, 1995).

Statement No. (12): *Monolingual dictionary develop fluency by offering numerous effective definitions in context*

Table No (4.20) The Frequency Distribution for the Respondents' Answers of Question No. (12)

Valid	Frequency	Percentage
Strongly agree	30	42.9
agree	29	41.4
Uncertain	3	4.3
disagree	4	5.7
Strongly disagree	4	5.7
Total	70	100

It is clear from the above table No.(22) and figure No (20) that there are (30) persons in the study's sample with percentage (42.9%) strongly agreed with " *Monolingual dictionary develops fluency by offering numerous effective definitions in context* ". There are (29) persons with percentage (41.4%) agreed with that, and (3) persons with percentage (4.5%) were not sure that, and (4) persons with percentage (5.7%) disagreed. and (4) persons with 5.7% are strongly disagree.

In offering varied number of entries a monolingual dictionary can be effective in developing fluency particularly oral language. However, having numerous terms can in turn be problematic as they may cause stylistic problems in relation to the degree of formality. Since each language has its degrees of formality, the translator may face problems because of lack of awareness about formal and informal language. Ambiguity poses a great problem in translation. The translator cannot get the intended meanings because of the style of ambiguity. This leads to the disturbance of the real message of the source text.

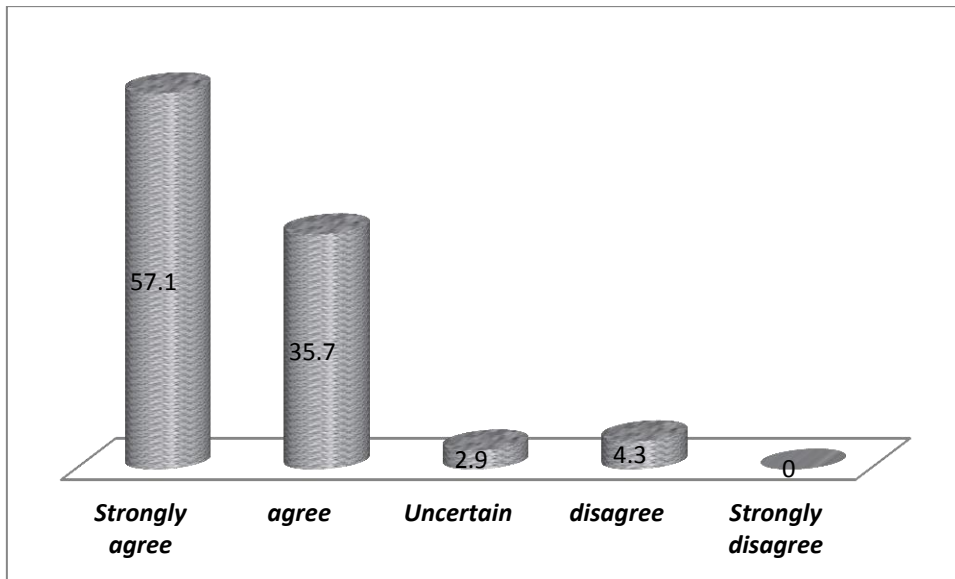
Statement No. (13): As they encourage word for word translation, bilingual dictionaries may cause ambiguity

Table No (4.21) The Frequency Distribution for the Respondents' Answers of Question No.(13)

Valid	Frequency	Percentage
Strongly agree	40	57.1
agree	25	35.7
Uncertain	2	2.9
disagree	3	4.3
Strongly disagree	0	0
Total	70	100

It is clear from the above table No.(23) and figure No (21) that there are (40) persons in the study's sample with percentage (57.1%) strongly agreed with " *As they encourage word for word translation, bilingual dictionaries may cause ambiguity* ". There are (25) persons with percentage (35.7%) agreed with that, and (2) persons with percentage (2.9%) were not sure that, and (3) persons with percentage (4.3%) disagreed. and (0) persons with 0.0% are strongly disagree.

Figure 4.18: The Frequency Distribution for the Respondents' Answers of Question No.(13)



Bilinguals are often confronted with the situation in which translation equivalents do not align in a one-to-one fashion across languages, and instead exhibit ‘translation ambiguity’ in that more than one translation is possible for a given word (e.g., Tokowicz, Kroll, de Groot, & van Hell, 2002).

Statement No.(14): *bilingual dictionaries seem to give students security of concrete answers*

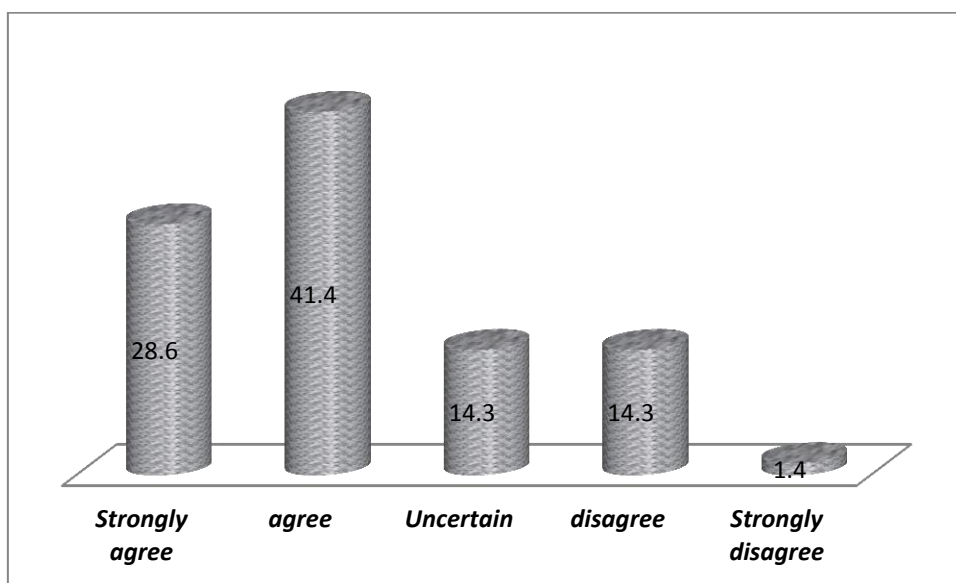
Table No (4.22) The Frequency Distribution for the Respondents’ Answers of Question No.(14)

Valid	Frequency	Percentage
Strongly agree	20	28.6
agree	29	41.4
Uncertain	10	14.3
disagree	10	14.3
Strongly disagree	1	1.4
Total	70	100

From the above table No.(24) and figure No (22) It is clear that there are (20) persons in the study's sample with percentage (28.6%) strongly agreed with "

bilingual dictionaries seem to give students security of concrete answers ". There are (29) persons with percentage (41.4%) agreed with that, and (10) persons with percentage (14.3%) were not sure that, and (10) persons with percentage (14.3%) disagreed. and (1) persons with 1.4% are strongly disagree.

Figure 4.19: The Frequency Distribution for the Respondents' Answers of Question No.(14)



Bilingual dictionaries can be extremely useful for EAL learners, because using dictionaries will enhance their bilingual competency. This is an important skill that they need to develop and which requires guidance and practice. Bilingual dictionaries and translation software are essential language learning tools, if used properly, and it is worth devoting time and energy to ensuring that learners are supported to build up their skills in using bilingual dictionaries and translation software as learning tools.

For learners who are literate in their first language it is a useful strategy to ask them to do any extended pieces of writing in their first language, particularly if no scaffolding such as cloze procedures or writing frames are available. Then you could use translation software to get a rough idea of what the learner wants to say, which helps you to model a correct English text. This tends to be much

more effective than asking the learner to use translation software to help them to do a piece of extended writing in English.

Table 4.23: Chi-Square Test Results for Respondents' Answers of the Questions of the Hypothesis:

No.	Statement	mean	SD	Chi square	p-value
1.	Good Knowledge of using dictionaries is essential for students of different disciplines	2.6	0.8	27	0.000
2	Students of languages particularly should befriend dictionary	2.4	0.5	25.7	0.000
3	Students should be acquainted with the different types of dictionaries.	2.3	0.7	23	0.000
4.	A dictionary is an indispensable tool for learning a foreign language	2.9	0.6	26	0.000
5	Some educators believe that dictionaries can make students dependent	2.5	0.5	32	0.000
6	Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.	2.7	2	25	0.000
7	Students can actually be encouraged to use dictionaries to promote their language levels.	2.5	0.6	28	0.00
8	Electronic dictionaries are portable and easy to use. Consequently, students to prefer them to conventional types of dictionaries.	2.6	0.8	27.7	0.00
9	Reading comprehension and vocabulary learning require excessive use of dictionaries	2.4	0.9	25.7	0.001

10	Arab lexicographers played a pioneering role in dictionary making	2.4	0.5	35	0.008
11	Bilingual dictionaries are useful for students of translation	2.5	0.8	33	0.00
12	Monolingual dictionary develop fluency by offering numerous effective definitions in context	2.6	0.8	27.7	0.00
13	As they encourage word for word translation, bilingual dictionaries may cause ambiguity	2.7	0.4	25.6	0.00
14	bilingual dictionaries seem to give students security of concrete answers	3.0	0.7	27.5	0.00
15	monolingual dictionaries often compel students to rely on guessing and predicting the meaning	2.7	0.6	24	0.00

The calculated value of chi-square for the significance of the differences for the respondents' answers in the No (1) question was (27) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement "Good Knowledge of using dictionaries is essential for students of different disciplines

The calculated value of chi-square for the significance of the differences for the respondents' answers in the No (2) question was (25.7) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement "Students of languages particularly should befriend dictionary.

The calculated value of chi-square for the significance of the differences for the respondents' answers in the No (3) question was (23) which is greater than the

tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Students should be acquainted with the different types of dictionaries.

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (4) question was (26) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “A dictionary is an indispensable tool for learning a foreign language

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (5) question was (32) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “ Some educators believe that dictionaries can make students dependent.

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (6) question was (25) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (7) question was (28) which is greater than the

tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Students can actually be encouraged to use dictionaries to promote their language levels.

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (8) question was (27.7) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Electronic dictionaries are portable and easy to use. Consequently, students to prefer them to conventional types of dictionaries.

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (9) question was (25.7) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Reading comprehension and vocabulary learning require excessive use of dictionaries

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (10) question was (35) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Arab lexicographers played a pioneering role in dictionary making

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (11) question was (33) which is greater than the

tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Bilingual dictionaries are useful for students of translation

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (12) question was (27.7) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “Monolingual dictionary develop fluency by offering numerous effective definitions in context

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (13) question was (25.6) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “As they encourage word for word translation, bilingual dictionaries may cause ambiguity

The calculated value of chi-square for the significance of the differences for the respondents’ answers in the No (14) question was (27.5) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). this indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement “bilingual dictionaries seem to give students security of concrete answers

The calculated value of chi-square for the significance of the differences for the respondents' answers in the No (15) question was (24) which is greater than the tabulated value of chi-square at the degree of freedom (4) and the significant value level (5%) which was (12.4). This indicates that, there are statistically significant differences at the level (5%) among the answers of the respondents, which support the respondent who agreed with the statement "monolingual dictionaries often compel students to rely on guessing and predicting the meaning.

4.5 Summary Of The Chapter

This chapter as apparent from its title: Data analysis and discussion, has analyzed the collected data through the test and the questionnaire to confirm the hypotheses of the study and find answers for the questions posed in chapter one.

CHAPTER FIVE
SUMMARY, CONCLUSION AND
RECOMENDATION

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Overview

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

5.1 Summary and Conclusion

This study is an attempt to explore the use of dictionaries to enhance reading comprehension and writing in classroom interaction and learning English in general as reflected in the writing and speaking of the Sudanese EFL undergraduate students at the University of Sudan of Science and Technology. The aim is to find out whether excessive training and exercise in using dictionaries can help improve the standards of our students at universities in learning English. To find answer to the posed questions, the study surveyed the teachers' viewpoints in relation to the issue in question.

Basically, the study sets out to examine the questions:

- 4. To what extent do undergraduate students at Sudanese universities rely on dictionaries to work out the meaning of new words?**
- 5. How can students be encouraged to use dictionary to promote their language levels.**
- 6. What kind of dictionary do students usually use and why?**

To achieve the set objectives, the study adopted a mixed- methods approach: the descriptive analytical and experimental methods. This allowed the research instruments to complement each other. Hence, an experiment, questionnaires, and a diagnostic test were used to address the research questions and objectives. The (SPSS) program version 20 was used for data analysis.100 undergraduate students participated in the study experiment, 70 tutors completed questionnaires, and 2 undergraduate classes were observed.

Statistically, the study found out that the excessive use of dictionaries can help undergraduate students improve their understanding of both spoken and written language. A substantial dose of exposure to excessive teaching using their mobile phones that was equipped with electronic dictionaries. The findings were in conformity with lots of works and research carried out across the globe, particularly in Arab countries. Again the findings further have been in commensurate with the set questions and hypotheses.

It was found out those highly motivated students who have had an earlier experience with dictionaries have managed successfully to maximize that learning environment, compared with their peers who were barely introduced to dictionaries. However, all students picked up and speedily got along with learning after good introduction to the subject.

Two thirds of the respondents supported the idea that an enhanced cultural background can help students perform properly in English in general and the targeted category, in particular. Encyclopedic dictionaries with varied texts taken from the internet can actually help reduce the cultural gap through the different materials to be drawn on from across the globe.

On the other hand, teachers expressed a variety of views about the advantages and disadvantages of having using dictionaries particularly the electronic ones. However, a greater variety of tutors do believe in the usefulness of electronic dictionaries particularly if they were to be introduced at an early level of education such as the basic school.

5.2 Recommendations

Based on the findings of this study, the following recommendations are suggested:

1. Tutors should seek to emphasize the use of dictionaries in each reading comprehension class in order to inculcate this skill of dictionary using.
2. Tutors should encourage their students to browse the internet for original interesting material that suits their likes and inform them on different

topics with special emphasis the use of dictionary to help them surmount the lexical difficulties they are likely to encounter. .

3. Through mainly browsing the net for good authentic texts tutors should do all in their power to inculcate the importance of dictionary use for enhancing or improving understanding.
4. Special attention should be given to the fact that all students actually have slight knowledge of dictionary use and its importance in promoting their knowledge in general.
5. Feedback should not be neglected in relation to the students' progress in using dictionaries.

5.3 Suggestions for Further Studies

This study put forward the following suggestions for future researchers:

1. More evidence is required to substantiate the insights provided by the current study on the use of dictionaries and different types of meaning encyclopedias.
2. Much research is needed on this issue of dictionary particularly after the advent of electronic dictionaries which call for the attention of educators and experts. A comparative study in the field is needed to show the advantages of both types of dictionaries.
3. A research is needed to explore fitness of the entire syllabuses we have and to further develop them along web-based material drawn material on the use of dictionary.

5.4. Summary of the Chapter

This chapter has presented the key findings of the study. It has also arrived at some recommendations and suggestion for future research.

REFERENCES

- Atkins, B.T. S., & A. Zampolli (1994), *Computational Approaches to the Lexicon*, Oxford: Oxford University Press.
- Atkins, B.T. Sue, & Michael Rundell(2008). *The Oxford Guide to Practical Lexicography*, New York: Oxford University Press.
- Brewer, Charlotte (2007) .*Treasure-House of the Language: The Living OED*, New Haven & London: Yale University Press.
- Béjoint, Henri,(2000) . *Modern Lexicography: an introduction*, Oxford: Oxford University Press.
- Béjoint, Henri,(2010) . *The lexicography of English: from origins to present*, Oxford: Oxford University Press.
- Béjoint, Henri (1994) *Tradition and Innovation in Modern English Dictionaries*, Oxford: Clarendon Press.
- Bergenholtz, Henning & Sven Tarp (1995) .*Manual of Specialised Lexicography: the preparation of specialised dictionaries, lexicographical tools tomorrow*, Amsterdam: John Benjamins.
- Berg, Donna Lee (1993). *A Guide to theOxford English Dictionary*, Oxford: Oxford University Press.
- Bergenholtz, Henning, Sandro Nielsen & Sven Tarp (2009). *Lexicography at a Crossroads: Dictionaries and Encyclopedias Today*, Lexicographical Tools Tomorrow, Berne: Peter Lang.
- Burchfield, Robert (1987), *Studies in Lexicography*, Oxford: Clarendon Press.

Cowie, A. P. (ed.) (2009), *The Oxford History of English Lexicography*, 2 vols, Oxford: Clarendon Press.

Considine, John (2008) *Dictionaries in Early Modern Europe: Lexicography and the Making of Heritage*, New York: Cambridge University Press.

de Schryver, Gilles-Maurice (ed.) (2010). *A way with words: recent advances in lexical theory and analysis: a festschrift for Patrick Hanks*, Kampala: Menha Publishers.

Fontenle, Thierry (2008) *Practical Lexicography: a reader*, Oxford: Oxford University Press.

Gilliver, Peter, (2016) *The Making of the Oxford English Dictionary*, Oxford: Oxford University Press.

Granger, Sylviane & Magali Paquot (2010) *Lexicography in the 21st Century: New challenges, new applications*, Press university.

Green, Jonathon (1996). *Chasing the Sun: dictionary makers and the dictionaries they made*, London: Jonathan Cape.

Hartmann, R.R.K. (1983). *Lexicography: principles and practice*, London: Academic Press.

Hartmann, R.R.K. & G. James (1998) *Dictionary of Lexicography*, London: Routledge.

Hartmann, R.R.K. & G. James, (2001). *Dictionary of Lexicography*, London: Routledge.

Hartmann, R.R.K.(**2001**) .*Teaching and Researching Lexicography*, Harlow: Pearson Education.

Hartmann, R.R.K., (**2003**) .*Lexicography: Critical Concepts*, 3 vols, London: Routledge (Taylor & Francis).

Jackson, Howard(**2002**) . *Lexicography: an introduction*, London: Routledge.

Jackson, Howard (ed.), (**2013**) .*The Bloomsbury Companion to Lexicography*, London: Bloomsbury.

Landau, Sidney I.(**2001**) . *Dictionaries: The Art and Craft of Lexicography*, 2nd edn, Cambridge: Cambridge University Press.

Ogilvie, Sarah, (**2013**) . *Words of the World: A Global History of the Oxford English Dictionary*, Cambridge, Cambridge University Press.

Mugglestone, Lynda (ed.), (**2000**) .*Lexicography and the OED: Pioneers in the Untrodden Forest*, Oxford: Oxford iversity Press.

Murray, K. M. Elisabeth(**1977**) . *Caught in the Web of Words: James A. H. Murray and the Oxford English Dictionary*, New Haven: Yale University Press.

Nielsen, Sandro & Sven Tarp(**2009**) . *Lexicography in the 21st century: in honour of Henning Bergenholtz*, Amsterdam: John Benjamins.

Reddick, Allen (**1990**) .*The Making of Johnson's Dictionary 1746–1773*, Cambridge: Cambridge University Press.

Simpson, John(2016) . *The Word Detective: A Life in Words: from Serendipity to Selfie*, London: Little, Brown.

Svensén, Bo (2009). *A Handbook of Lexicography: the theory and practice of dictionary-making*, Cambridge: Cambridge University Press.

Zgusta, Ladislav(2006). *Lexicography, Then and Now: Selected Essays*, (Lexicographica 129, Fredric F. M. Dolezal & Thomas B. I. Creamer ed)Tübingen: Max Niemeyer.

Mugglestone, Lynda(2005) *Lost for Words: the hidden history of the Oxford English Dictionary*, New Haven: Yale University Press.

Willinsky, John,(1994). *Empire of Words: The Reign of the OED*, Princeton: Princeton University Press.

Wierzbicka, Anna(1985) *Lexicography and conceptual analysis*, Karoma: Ann Arbor.

Zgusta, Ladislav(1971). *Manual of Lexicography*, The Hague: Mouton.

Zgusta, Ladislav (ed.),(1980). *Theory and method in lexicography: western and non-western perspectives*, Columbia: Hornbeam Press.

APPENDICES

Appendix One

Sudan University of Science and Technology

College of Languages

English Department

Test

Third year (2018) Date: \5\2015

Name:

Class:

Instruction: Answer All the Questions

Time Allowed: 1:30 hrs

Choose the correct answer by putting a circle around it

(1)

- a. This is a blue big cotton shirt.
- b. This is a big blue cotton shirt.
- c. This is a cotton big blue shirt.

(2)

- a. He is late for work always.
- b. He is late always for work .
- c. He is always late for work .

(3)

- a. Mona gave a book Sara.
- b. Mona gave a book to Sara.
- c. Mona gave Sara book.

(4)

- a. Did have you a party in your house yesterday?
- b. Have you did a party in your house yesterday?
- c. Did you have a party in your house yesterday?

(5)

- a. When do your *parents* get back?
- b. When your *parents* do get back?

c. When your *parents get do back?*

(6)

a. Is being the new secretary given her own laptop ?

b. Is the new secretary given being her own laptop ?

c. Is the new secretary being given her own laptop ?

(7)

a. Why we can't have a second chance?

b. Why can't we have a second chance?

c. Why can't have we a second chance?

(8)

a. Will your grandfather to go Tokyo?

b. Will go your grandfather to Tokyo?

c. Will your grandfather go to Tokyo?

9. One of Omar's pencil sketches in the art classroom.

a. hangs b. hang

10. Here the books I borrowed last month.

a. are b. is

11. Somebody been playing my record.

a. have b. has

12. Either the restaurant manager or his assistants to be fired for the spoiled meat.

a. deserve b. deserves

13. Mohammed is one of those people whovery private.

a. is b. are

14. The bridge over 300 years ago.

a. built b. has been built c. have built

15. The window is broken Rania.

a. by b. with c. from

16. A letter to Ahmed yesterday.

- a. is sent b. sent c. was sent

17. Drinksinto the art gallery.

- a. Should not be taken b. Should not take c. Should not taken

18. The woman was in the arm.

- a. bite b. bites c. bitten

(19)

- a. My brother ,who a teacher, is older than me.
b. My brother, who he is a teacher, is older than me.
c. My brother, who is a teacher, is older than me.

(20)

- a. The mountain which we climbed yesterday was the highest mountain in Britain.
b. The mountain which climbed yesterday was the highest mountain in Britain.
c. The mountain which we climbed it yesterday was the highest mountain in Britain.

(21)

- a. The camera that bought yesterday does not work.
b. The camera that Omer bought yesterday does not work.
c. The camera that Omer bought it yesterday does not work.

(22)

- a. I have just come back from London, where **lives**.
b. I have just come back from London where **John live**.
c. I have just come back from London, where **John lives**.

(23)

- a. Yesterday I met a woman named Susan, whose **husband works in Khartoum**.
b. Yesterday I met a woman named Susan, whose **works in Khartoum**.
c. Yesterday I met a woman named Susan, whose **husband work in Khartoum**.

(24)

- a. Yesterday was a day when went wrong!
- b. Yesterday was a day when everything went wrong!
- c. Yesterday was when everything went wron

Appendix Two
Sudan University of Science and Technology
College of Graduate Studies
Teachers' Questionnaire

Dear teachers,

You are invited to fill in the following questionnaire that is designed to support a study entitled “**Investigating the Use of Dictionaries by Sudanese Undergraduate Students**”, for the Degree of PhD in English Language (Applied Linguistics). Your assistance in completing this survey questionnaire is highly appreciated. There are five options for each statement as follow: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD). You are requested to tick the ones you consider.

Researcher: Maysa Bakri

Part 1: Personal Information

1. Name of the participant (optional)-----
2. Academic status:
Associate Professor () Assistant Professor () Lecturer ()
3. Gender: Male () Female ()
4. Years of Experience: 1-5 () 5-10 () 10-15 ()

No.	Statement	Strongly agree	Agree	Neutral	Strongly disagree	Disagree
1.	Good Knowledge of using dictionaries is essential for students of different disciplines					
2	Students of languages particularly should befriend dictionary					
3	Students should be acquainted with the different types of dictionaries.					
4.	A dictionary is an indispensable tool for learning a foreign language					
5	Some educators believe that dictionaries can make students dependent					
6	Undergraduate students at Sudanese universities hardly rely on dictionaries to work out the meanings of new words.					
7	Students can actually be encouraged to use dictionaries to promote their language levels.					
8	Electronic dictionaries are portable and easy to use. Consequently, students to prefer them to conventional types of dictionaries.					
9	Reading comprehension and vocabulary learning require excessive use of dictionaries					

10	Arab lexicographers played a pioneering role in dictionary making					
11	Bilingual dictionaries are useful for students of translation					
12	Monolingual dictionary develop fluency by offering numerous effective definitions in context					
13	As they encourage word for word translation, bilingual dictionaries may cause ambiguity					
14	bilingual dictionaries seem to give students security of concrete answers					
15	monolingual dictionaries often compel students to rely on guessing and predicting the meaning					