

## The Effects of Computer-assisted Reading Comprehension Texts on Vocabulary Learning

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**Abstract:** *This research aims at helping the language learners to find the equivalents of difficult words when reading or skimming passages on “word format, pdf, and internet environment” using Microsoft Word Office and Online dictionaries. This method not only helps the language learners and other computer users to find the synonym(s) for the required words more quickly, but also, it motivates them to read or translate more technical texts on the net which lead to more vocabulary acquisition. Moreover, one can use this method in cases that they have no access to hard copy dictionaries. In cases the subjects have access to internet; they can look up the words that may not be available in hard copy dictionaries. It’s time to start looking for updated, digital ways to increase students’ lexicons as well as their excitement about expanding their vocabulary. A suitable and encouraging learning environment is provided by CALL. If teachers use computer as part of teaching aid it will be of great help for learners to acquire the taught materials more properly. Using CALL related dictionaries creates a unique example that saves the path on the way language learners to learn more words along with their synonyms, more easily.*

**Key words:** *Reading, Vocabulary, Computer technology, Learning, CALL related dictionaries*

### Introduction

Reinking and Rickman (1990) identify that language learners gained more new words when the text were read by computer than if they were read on printed pages along with a glossary of words.

When reading a context, the students’ focus of attention, is on comprehension of the whole text rather than unfamiliar words, but this does not mean that they eliminate novel words from the context. They only postpone it to a later stage. They want to know its particular sense in the given context. Although definitional knowledge is significant for advanced ESL students to

improve the basic concept of the given word, long term retention of words is achieved through context-based vocabulary exercises (Markham, 1989).

Although it is recommended to put the focus of attention on sentences and phrases, without adequate knowledge of lexical items and vocabularies, negotiation and communication of meaning will be hindered. Different studies (Chinnery, 2006; Prichard, 2008) have been carried out to offer the most practical means of acquiring/ learning L2/ FL vocabulary. In this connection the importance of computer programs such as “Microsoft Word, online and software dictionaries” in enhancing vocabulary knowledge through reading is considered to be essential.

Reading is considered as a fundamental skill through which the reader receives the author’s intended meaning. Put it in another way, it is a process of putting words into mind and a conducting way to increase one’s specific, as well as, general knowledge.

Students usually learn high frequency words in the early stages of language learning. Sometimes the words they are exposed to, don’t meet their requirements so they have to master a wider range of vocabularies.

Since the influence of ALM (Audio Lingual Method) the focus of attention has shifted to memorization of the newly taught words either inside or outside the context. Rote memorization and repetition of words were the frequently used techniques (Brown, 2007; Richards and Rogers, 2001). Learners applied these procedures to learn new items, vocabularies here, in classroom. Positive reward, as the result of correction feedback, was considered to lead to better learning, according to behaviorist viewpoint. Negative or no feedback made the learners not to repeat the patterns (VanPatten et, al, 2007).

During the early stages of language learning/acquisition, students gain a few thousand important high frequent words. As the result, they are acquired with more relative ease. But this range of words is not sufficient, especially for reading a specific text. According to Nation (1990) and Hazenberg and Hulstijn (1996) the minimal level of 5000 words is essential. Similarly, Groot (1994) argues that a higher vocabulary range is required for academic reading. Clearly, it is necessary to acquire a large amount of vocabulary in a given period of time. Isolated repetition of a newly taught word seems to be highly disappointing. Due to the available time and the needs of learners, appropriate selection of the vocabularies and optimal condition provision for acquisition are of great importance. In order to understand an academic text, a vocabulary size of 7000 words is needed (Groot, 1994). It seems to be true, since Nation (1993) argues that for non-specialized texts; at least a vocabulary of 5000 words is required. In order to understand a passage the reader should be familiar with approximately 90% of the used words (Groot, 1994).

Obviously, understanding requires lexical knowledge. In L1 settings most of the words are learnt incidentally because of the exposure to L1 context. But for L2 and foreign language

situation a limited number of words are gained incidentally. One way to overcome the problem is to expose learners to more L2 authentic contexts. What if the context contains a lot of demanding and unknown content words? It is required to know what words should be learnt and how to learn them, then. Context can provide a supreme means of incidental learning of new words both in first and second settings (De Bot, Paribakht, & Wesche, 1997; Nagy & Herman, 1987).

According to Stahl (1985, 1986) there are three levels of word mastery: (a) *association processing* (which involves introducing a synonym for the new word or showing how it relates to a particular text); (b) *comprehension processing* (which helps students demonstrate their understanding of a new word through activities, e.g., finding an antonym, filling in blanks with the appropriate word, classifying the word, in short, demonstrating an understanding beyond rote memorization); and (c) *generation processing* (which involves using a word in a novel way that reflects deep understanding of its meaning). Stahl's believes that the last one is more demanding than the others because language learners have to make use of them in new sentences to consolidate them better.

Gradually, scholars found that repetition, imitation, rote learning and mechanical drills do not have equal effective learning impact. The influence of constructivism theory opened a new window to instructors and educators to achieve the ideal condition; autonomy in the learners.

Nation (1990) emphasizes that learners have to be challenged and use new strategies to acquire vocabularies. The traditional vocabulary instruction of copying definitions, drawing pictures and writing example sentences certainly has its own place. However, it's time to start looking for updated, digital ways to increase students' lexicons as well as their excitement about expanding their vocabulary. That is the time has come to introduce a new technique to language learners to help them acquire new words and vocabularies by the virtue of technology. There may be some main contributing factors in this regard such as the influence of computer-based language corpora, and the research in applied linguists (Nunan, 1999: 103).

The use of computer in classroom and educational setting requires adequate familiarity and training of the instructors. Lack of this knowledge impedes the teacher from taking its advantages and as (Zhao and Zciko, 2001) argue the primary cause of not being involved in using technology in classroom is not being trained. As the result, teachers prefer to adhere to traditional methodologies. In order to increase practice, in the language, educators have to focus on creating and planning learning environments technologically (Hartnell, 2006). Although some researchers may find computer as fun it can lead to learning. According to (Wang, 2005) classroom has to be looked at as a process of teaching what and how. Second language instructors who become educated in the benefits of using technology as a valid and effective teaching tool will find that technology increases students' understanding.

The general value of software programs for improving reading comprehension and vocabulary learning has been assessed (Al Kahtani, 1999; Busch, 2003; McGlenn and Parrish, 2002).

Generally with the influence of computer in the educational programs realm, the need for doing more research in all language areas is necessary. It is believed that computer assists all language learners and teachers to remove the obstacles on the way of language learning / acquisition.

Some argue the conducive function of computer in real life communication (Gilby, 1996; Hoffman, 1996). They talk about it as an important tool for tutorial and problem solving in classrooms. While others mention that computer is not an appropriate means of practicing exercises (Chun & Brandl, 1992). However, nowadays it is believed that technology, especially computer, has changed the world of instruction and learning in educational settings (Wang, 2005). He puts that technology has helped incredibly in the task of language learning, but it is not the end. Some others praised the impact of technology on increasing learners' motivation and achievement (Pitler, Hubbell, Kuhn, & Malenoski, 2007).

As mentioned earlier, there are some obstacles one of them is related to lack of familiarity of instructors with the appropriate use of technology, computer programs here. Sometimes they do not know about computer programs in order to help learners acquire new vocabularies. Technology will become more famous in future in the world of language learning and teaching (Wang, 2005). According to Lu (2010) current development in information technologies has led to a sharp increase in the application of technology in instructional environment. Technology has attracted the interest and attention of many researchers in introducing new ways of learning words and lexicons in language (Groot, 2000). He introduces "Computer Assisted Vocabulary Acquisition" (CAVOCA) as a computer program to learn vocabulary in a foreign context. In this program, a given word to be learnt appears on the screen for a second, and then, definitions, meanings and syntactic functions are given and then exercises along with feedback are provided, too.

In a research study (1991), Kolich found that students learn more unknown words by using CALL software that provides synonyms and definition.

According to Ragan, Boyce, Redwine, Savenye, and McMichael (1993) learning time reduces as the result of using multimedia compared to traditional instruction. So it can be argued that computer can set a situation in which more words are learnt in a shorter period of time.

Iheanacho (1997) found that computer has a direct effect on vocabulary learning of Japanese students. Iheanacho examined the performance of two groups of Japanese language learners; one used motion video and the other used still pictures. The performance and retention of the two groups were similar; both demonstrated the usefulness of the computer in learning vocabulary.

Groot (2000), in his research regarding the use of multimedia computers in learning vocabulary, found that using bilingual lists of words proved to be more efficient than using a computer program for learning academic vocabulary.

The use of technology in instructional environment, as suggested by (Wang, 2005), is a shift from behaviorist viewpoint to a constructivist learning approach. Multimedia can create a better situation for learning vocabulary. Prichard (2008) concluded that new technologies such as handheld electronic dictionaries, online dictionaries, and marginal glosses may affect the efficacy of dictionary use; referring to an unknown word through an electronic link, for example, takes much less time and distracts the reader from the text to a lesser degree.

Baron (2008, 2009) found that online and mobile technologies such as messaging, facebook and blogs affects deeply on one's reading, writing, speaking and listening. She reveals that email doesn't have a considerable effect on writing.

Meli (2009) carried out a research on "Hypermedia and vocabulary acquisition for second language" on Spanish second language learners and found no significant difference on vocabulary scores between control and experimental group, in which hypermedia was used. He argues that students prefer to use technology in acquiring vocabulary.

Dehghani et al (2011) found that homework assignment provides a superior means of learning new vocabulary for beginner language learners. They reported that teachers should create an environment that learners find in which learners find learning and the class pleasurable.

Although a lot of research has been carried out regarding the effects of computer on different aspects of language skills and sub-skills, it seems vital to pay more attention to vocabulary as a fundamental feature of language without which communication will be hindered. The present research study focuses on the learners' motivation and achievement as well as their attitudes in applying technology in classroom.

### **Research Questions**

The following questions focused of the proposed study.

1. What is the role of computer software dictionaries and online dictionaries on vocabulary learning among EFL undergraduate subjects?
2. Does the use of technology contribute to the increase of learners' motivation?
3. Do learners find computer exciting and capable of removing their needs in vocabulary?

### **Methodology**

A group of 60 undergraduate students, 30 in experimental and 30 in control group, took part in this research study. The focus of attention was on reading comprehension of the texts. Subjects

were required to refer to websites offered by instructors and provide the asked texts. They had to prepare the materials before attending the class.

For the control group hard copy dictionaries were used without any form of softwares and online dictionaries. At home they did their homework and took a dictionary with them to class and looked the words up, if necessary. The post test results reveals that both groups were successful in learning newly taught materials, but the experimental group had mastered more synonyms and definitions for the given words.

The researchers found that some students have had difficulties in selecting the proper synonym and definition of a specific word that best fit the sentence in which it has been used. The researchers introduced computer-related dictionaries and softwares such as word office, online dictionaries and the like for the experimental group. The subjects were asked to look the meaning of the new words up in such dictionaries and find their meaning, definition, synonym and sometimes antonym.

The purpose was to introduce another possible means of finding new words' meaning, not to put away the hardcopy dictionaries forever. Students in the experimental group could find the definition and synonym of the words by clicking on them. In the classroom the teacher checked student task to make sure they have done their assignments at home. To make sure that the samples in experimental group have followed the procedure, the researchers asked them to save the words they have looked up along with their definitions, synonyms and antonyms in a separate file for each session and submit them to the researchers. The researchers checked the files at home and noticed that since different subjects have problems with different words, the words in the submitted files were different; the subjects had done their tasks personally.

Subjects in experimental group were more motivated in using computer softwares and looking up the unknown words for their definitions and synonyms. This group showed a little superiority over control group in remembering and identifying the taught words during the semester. The researchers claim that in cases subjects do not have access to hard copy dictionaries, computer softwares dictionaries as well as on line dictionaries are of great help.

## Discussion

The use of music, in suggestopedia era, proved to increase learners' motivation and achievement. So, the researchers found it pleasurable to investigate the possible effect of using computers on improving EFL learners' vocabulary learning and to evaluate its possible outcome.

The implication of this research finding is highly suggested for the following cases:

(a) Motivating the learners to check more and more words in a fun environment which is different from the previous ones.

(b) Saving students' time in finding the required words.

(c) Fitting for all other students, in other fields of study, who do not have hard copy dictionaries and are not familiar with way of using them. As mentioned earlier, this research aimed at suggesting another way of helping learners, educators and even computer users to look new words up, especially while surfing the net. The result of this study is suitable to everyone, not just students, who needs the meaning of some specific words and does not have access to any form of hard copy dictionaries.

Computer programs function as supplementation in classroom teaching and learning, something which is focused on by (Soo & Ngeow, 1996).

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