The Effect of CALL on the Vocabulary Learning of Iranian pre-intermediate EFL Learners

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ABSTRACT

This study aimed to see if Computer-Assisted Language Learning is effective in improving learners' vocabulary learning. For this purpose, 70 English students from a language institute in Khodaafarin, Iran, were chosen. To ensure the homogeneity of the participants, the Oxford Quick Placement Test (2004) was administered to all the participants and 60 students who were proven to be in pre-intermediate level were selected for the study and were assigned into two groups of 30. Then, the vocabulary knowledge scale was administered as a measure of pre-exposure to the target items. According to the results of the VKS, 50 words from the book Interchange 2 which were proven to be unfamiliar to the participants were selected. After the treatment phase, the same teacher-made vocabulary test was administered as the post test of the learners' vocabulary learning. The results of the post-test indicated that this method could positively influence the vocabulary learning of the participants in the experimental group. The overall findings of independent sample t-test and paired sample t-tests could reject the null hypothesis of this study predicting no effect for CALL instruction on the vocabulary learning of Iranian EFL students.

KEYWORDS: CALL; Vocabulary Learning; Vocabulary Knowledge Scale

INTRODUCTION

There is a universal agreement that a deeply entrenched objective in foreign language acquisition is the capability to communicate successfully in that language or communicative competence; lots of SLA experts believe that one of the essential parts of communicative competence is lexical competence (Richards & Renandya, 2002).

According to Dilek and Yuruk (2013), in recent years, the importance of vocabulary learning has been the most important focus in teaching language. The value of vocabulary teaching and learning cannot be ignored any way in learning the language. This means that learning a foreign language cannot occur without learning the vocabulary. Without knowing the words, people cannot express their idea and communicate, also cannot use language. So achieving high proficiency in a foreign language is related to knowing the vocabulary (Dilek&Yuruk, 2013).

During the past few years, using computers in educational setting has augmented noticeably from the blending of educational needs and technological tools (Warschauer, 1999). Using computers has affected the

achievement levels of language learners recently. Utilizing computers with the aim of assisting language students to learn words is one way of using CALL in language teaching. Unfortunately, in the context of Iran, materials developers and syllabus designers have not paid enough attention to CALL in English classes and instruction is not enhanced with CALL. The classes are usually teacher-centered. Therefore, teachers use traditional methods (Abdollahi-Guilani, Subakir Mohdyasin, & Hua, 2011). The present study investigated the effect of CALL on Iranian pre-intermediate EFL learners' vocabulary learning.

Ciftci and Uster (2009) presented the hypothesis in their research that teaching vocabulary through context is comparatively more meaningful and effective than teaching by providing the dictionary definitions of words. However, the result of study showed that there is no significance difference between them. The different kinds of techniques that teachers use in their classes for teaching vocabulary might positively or negatively affect learning. Considering that there is some lack of consistency among researchers on the effectiveness of using computer in language learning, this study intends to examine whether or not CALL can affect Iranian students' vocabulary learning.

Pulido and Hambrick (2008) asserted that an excellent stock of vocabulary knowledge is a fundamental part of learning a second or foreign language without which it would be quite unachievable either to decode the message uttered by others or to communicate one's own feelings and opinions through language. Bearing in mind the massive repertoire of vocabulary in a language and the inadequate exposure of L2 learners to foreign language situation, one can securely say that learning new vocabulary is a difficult job for a second or foreign language learner. As a result, language learners and teachers have constantly been fascinated a great deal in discovering the most prominent traditions to learn and instruct words so that different sorts of techniques and strategies have been scrutinized as to discover the most useful way for teaching them.

Computer Assisted Language Learning (CALL) has given much versatility in many areas, and seems the paramount representation of technology for today. Utilizing computers has demonstrated significant effects on the achievement levels of language learners in recent years. This study shines light on the application of CALL in the area of English language vocabulary. The main purpose of the study is to determine which method of vocabulary learning, (i.e., a CALL-based versus the traditional method) yields in better results in teaching /learning English language vocabulary or not.

Learning vocabulary in a foreign language is not an easy task, especially for elementary and pre-intermediate level learners. The present research, however, provided detailed and practical information about utilizing technology, in particular CALL, in the area of English language vocabulary teaching/learning. Lately there has been a rehabilitated concentration on the requirement of the integration of Computer Assisted Language Learning in SLAsituations. The present study is aimed at scrutinizing and contrasting the relative effectiveness of Computer Assisted Language

Learning on vocabulary learning by Iranian EFL students. The purpose of this study was to see if Computer Assisted Language Learning is effective in improving learners' vocabulary learning. This study can shed light on the effect of Computer Assisted Language Learning on vocabulary learning and teaching.

As far as the researcher has investigated there is a paucity of research in the educational context in Iran in the field of vocabulary learning especially through Computer Assisted Language Learning. This study was aimed at analyzing English teaching and learning in the context of education in Iran from practical perspectives. In other words, it seeks to reveal whether Computer Assisted Language Learning has any significant effects on the vocabulary learning of learners. Many of the similar previous studies have selected their participants form advanced and intermediate level students. The significance of the present study lies in the fact that it focuses on Iranian pre-intermediate EFL students, a case which has been dealt with not much. To this end, this study is implemented in order to understand the amount of vocabulary development after treatment phase.

For achieving high degrees of mastery in a given language, both grammar and comprehensible input are required. What is needed is a combination of both. What may reduce the burden on the learner, according to many scholars, is, therefore, a needs-based, well-planned and interactive pedagogical program that can address various aspects of the complex process of learning making it manageable (Ellis, 2000). Integrating technology, for example computers and the internet, into the learning process might help learners improve their English language learning, in general, and vocabulary learning, in particular. One means of vocabulary learning, which might be relevant to language teachers and students, is CALL (Davis, 2002). Therefore, this study elaborated on the use of CALL in the field of English language vocabulary especially in Iran with participants in pre-intermediate level.

METHODOLOGY

PARTICIPANTS

The participants of this study were 70 students all studying at a language institute in Khodaafarin, Iran. Students ranged between 12-20 years of age. They were all males from different cultural backgrounds who were studying English at the school. After administrating the Oxford Quick Placement Test (2004), to extract the outliers, the researcher included only those subjects whose scores were at pre-intermediate proficiency level. The 60 students were determined to be at pre-intermediate level and as the subjects for the treatment phase. After ensuring the homogeneity of the participants, they were assigned to two groups: one experimental group and one control group (30 participants each).

INSTRUMENTATION

In order to investigate the effects of CALL on vocabulary learning, the Oxford Quick Placement Test (2004) as the proficiency test (Appendix A), the original format of the Vocabulary Knowledge Scale (VKS) (Appendix B) and a forty-item vocabulary multiple-choice test used as the posttest (Appendix C) were used.

OXFORD QUICK PLACEMENT TEST (2004)

This test consisted of 60 items which was developed by Oxford University Press and University of Cambridge Local Examinations Syndicate (Appendix A). The students were required to answer the test during a 30-minute session. The following cut-off scores were used to score the results of this test:

Table 3.1

Scoring Criteria of Oxford Quick Placement Test

Proficiency Level	Cut-off Points
Breakthrough	1-18
Elementary	19-25
Lower-intermediate	26-35
Upper-intermediate	36-45
Lower-advanced	46-55
Upper-advanced	56-60

VOCABULARY KNOWLEDGE SCALE (VKS)

In order to ensure that the participants are not familiar with the words used in the treatment period, the original format of the Vocabulary Knowledge Scale (VKS) (Appendix B), developed by Paribakht and Wesche (1993, 1997), was utilized.

VOCABULARY TEST USED AS POST-TEST

The researcher prepared a vocabulary test consisting of the fifty target words based on VKS to be used as the post-test (Appendix C). To check validity, the test was given to four experienced language teachers. Their comments were implemented in the final draft of the test. Since it was a researcher-made test, to check reliability, it was subjected to a pilot study. The reliability of the test was proved to be 0.70. Then it was administered to participants as the post vocabulary test. The final form of the test was composed of forty multiple-choice items.

MATERIAL

INTERCHANGE 2

The book Interchange 2was used as the materials to be taught in the treatment phase. Interchange is a multi-level series for adult and young-adult learners of English from the beginning to the high-intermediate level. The Level 2 Student's Book expands on the establishments created in the Intro and book 1 for precise and familiar correspondence,

expanding syntactic, lexical, and utilitarian aptitudes. Lovely shading photos and outlines encourage the instructing of new vocabulary.

The Interchange arrangement instructs pupils to utilize English for regular circumstances and purposes identified with school, work, social life, and relaxation. Similarly, as with alternate levels of Interchange, a complete arrangement of ancillaries, including a feature project, is accessible to make classes intriguing and gainful. Every part in Interchange has a decent mixture of aptitudes to learn and practice. Pupils are always occupied with perusing, composition, tuning in, talking, adapting new vocabulary and honing new language structure rules. The substance isn't too overwhelming, and the book makes great utilization of shading and white space so as not to overpower the learner.

TARGET WORDS

The target words to be taught in treatment phase were 80 words chosen from the book Interchange 2. Based on the results of the VKS, 50 words which were proven to be unfamiliar to the participants were selected. In each session, 5 words were the focus of attention, and overall the participants were provided with 50 words (from the four important syntactic categories: nouns, verbs, adjectives, and adverbs). An important concern of the researcher for choosing the items was their unfamiliarity to the participants.

PROCEDURE

Before carrying out the treatment, the Oxford Quick Placement Test (2004) was administered to ensure the participants' homogeneity with regard to their general English language proficiency. Then, the VKS was given to the participants as a measure of their pre-exposure to the target items. According to the results of the VKS, 50 words from the book Interchange 2 which were proven to be unfamiliar to the participants were selected. Afterwards, participants were randomly assigned to two groups.

The treatment phase took ten 90-minute sessions which were held twice a week. In each session, five words were taught. The experimental group received the treatment, which comprised of teaching vocabulary with computer. In the experimental group, the teacher used a computer, a projector, and a board; the students were given a few minutes in order to take a look at the new words within the passages of their book while they had simultaneous access to the computers. The teacher provided the students with the PowerPoint of the reading in which the target words were highlighted. The teacher asked some questions based on the words taught in the class, if they had some difficulties remembering the meanings the teacher asked their classmates to help. Each student received a copy of the CD of the book, so they had the opportunity to practice over and over at home. The CD included some vocabulary exercises. But in the control group, the students were given neither the opportunity to use CALL in the classroom nor the chance to play the CD at home. The control received teaching the vocabulary, in the conventional and traditional way, through the printed text. They were taught as if there were no technology. The words were taught directly by the teacher. The teacher told them the meaning, provided some synonyms, antonyms, and examples as in traditional methods.

Furthermore, in occurrence of any error or mistake the teacher was the mere source of correction for the control group, whereas, the experimental group received both researcher and computer feedback. For instance, in doing the exercises the experimental group answered the exercises through their keyboards. The students were not given the right answer directly, but through problem solving activities, and trying more to find out the right answer.

Immediately after finishing the treatment phase (10 sessions, each session one reading passage covered) in the two classes, a researcher-made posttest was administered to the participants, which provided the opportunity for the researcher to reflect on the participants' vocabulary learning gain.

DESIGN

The study used a quasi-experimental design with two intact classes of Iranian pre-intermediate EFL students. The independent variable was the treatment (computer-assisted language teaching vs. traditional vocabulary teaching) and the dependent variable was the groups' performances on the vocabulary test. The design can be schematically shown as follows:

Experimental Group   ⟶T_1 $\chi1$ T_2

Control Group   ⟶T_1 T_2 —
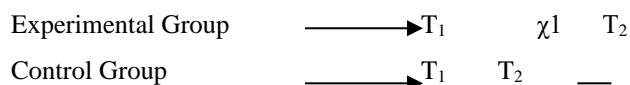
DATA ANALYSIS AND RESULTS

THE PROFICIENCY TEST

Oxford Placement test was adminsitered to homogenize the proficiency level of the participants. As determined by the results of this test, the proficiency of the slected participants was pre-intermediate. The results of the test are shown in Table 4.1, indicateing that the score of the students ranged between 26-35. This is the cut-off score for the lower-intermediate proficiency level.

Table 4.1

Descriptive statistics for scores on Oxford Placement test (OPT)

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
OPT	60	9.00	26.00	35.00	30.68	2.34	5.50

THE POST-TEST

The data obtained from post-test were analyzed using parametric statistics. In order to compare the two means from two different groups i.e., control and experimental groups, an Independent Sample t-test was run. The descriptive statistics and values of t-test are summarized in Table 4.2. Before running the t-test, a K-S test was used to find out whether the distribution of scores was normal or not. The test approved the normality of the posttest scores.

As Table 4.2shows, the mean score of the two groups were different (19.30 for control group and 31.06 for experimental group).

Table 4.2

Descriptive statistics of the two groups' performances on the posttest

Groups	N	Mean	Std Deviation	Std Error Mean
Control	30	19.30	2.38	.43
experimental	30	31.06	2.06	.37

However, in order to find out whether the difference between the groups was statistically significant, a t-test was run, the results of which are reported in Table 4.3.

Table 4.3

Independent Samples t-tests results for the two groups' performances on the posttest

		F	Sig.	t	df	Sig.
Pretest	Equal variances assumed	.34	.55	-20.44	58	.000*
	Equal variances not assumed			-20.44	56.88	.000*

*: Significant at the .001 level

As shown in Table 4.3, the results of Independent Sample t-test reported value of .18 for the Levene's Test, which means that the assumption of equal variances has been met ($p > .05$). Also, as the Table shows, the experimental group has significantly outperformed the control group ($t = 20.44$, $df = 58$, $p = .000$), indicating that computer-assisted

vocabulary teaching was a significantly more effective technique of vocabulary teaching then the traditional techniques. In this way, the null hypothesis that 'there is no significant difference between the CALL and traditional teaching in vocabulary learning' was rejected.

DISCUSSION

This study made an attempt to investigate the effect of CALL instruction on the vocabulary learning of Iranian pre-intermediate EFL students. The results of the post-test indicated that this method could positively influence the vocabulary learning of the participants in the experimental group. The overall findings of independent sample t-test could reject the null hypothesis of this study predicting no effect for CALL instruction on the vocabulary retention of Iranian EFL students. The overall findings of this study lend support to the effective and positive influence for CALL instruction on language learning in general, and vocabulary learning in particular. According to Souleyman (2009), learning is a function of memory that can be defined as involving more intricate functions as memorizing or learning, retention, recall, and recognition. He asserts that there are processes going before retention which are noticing, intake, and storage in the short-term memory and later in the long-term memory. The results thus showed that using CALL can help the learners to recall the meaning of words better than when conventional methods are used. Moreover, instruction which involves the use of computer, projector and other relevant tools, can assist the language learners in noticing, acquiring and storing the new words.

In fact, it can be interpreted that since CALL involves the use multimodality, learners are exposed to the target words in different modes or modalities such as images, audio-visual tools, and songs, they learn the new words better than the other traditional methods in which only one mode might be used. With the appearance of modern technologies by which the students engage in complex interactive tools and social networks, the old and conventional methods for instruction seem inappropriate. Instead, the use of CALL which resembles the new media which is used by the students can be a good replacement for the past teacher-dominated methods.

The results of this study are in line with previous theoretical and empirical studies. Eyraud et al. (2000), for instance, believe that teachers can arouse students' vocabulary enlargement and retention by rethinking instructional priorities and taking the following steps. Firstly, teachers should engage their students in a vocabulary rich setting to endorse the incidental learning of vocabulary. Secondly, they ought to amplify the quantity of reading handed over to their students. Thirdly, they ought to set aside time for explicit/direct vocabulary instruction in which teachers do not merely teach word meanings but also offer opportunities for (a) vocabulary reusing in different meaningful contexts, (b) connections between new and known vocabulary, and (c) active student involvement. In other words, the use CALL can resemble the incidental type of vocabulary learning in which the attention of the students is not directly focused on learning new words, but engage in some other meaning-focused tasks using CALL where they are simultaneously achieving a goal and learning the new target words.

Nation (2001) also pointed out that there are three significant processes that may be influential in remembering or recalling vocabulary. These contain noticing, retrieval, and creative (generative) use. Noticing is paying attention to the vocabulary and be conscious of it. This noticing has two important conditions which are motivation and interest of the learners. It can be arguing that the use of CALL provides the required motivation and interest in the learners to learn and recall the new words. The reason may lie behind the similarities between the CALL and the students' regular use of technology. In other words, they may be more interested in methods which are more modern and connect them to the real-life where many new audio-visual tools are used. Retrieval means being able to remember the vocabulary from the memory during the task. Retrieval might be receptive as in listening and reading or productive as in speaking and writing. Generative use is to employ the vocabulary in new context with different meanings. It can be receptive or productive too. The use of CALL also involves learning and using the new words in a more interactive way. To put it simply, it helps the learners to engage in both receptive and productive aspects of the learning.

In another theoretical study, Gu and Johnson (1996) mentioned that vocabulary learning strategies are metacognitive, cognitive, memory and activation strategies. They propose that metacognitive strategies are composed of selective attention and self-initiation strategies. Learners who utilize selective attention strategies discern which words are vital for them to learn and are indispensable for sufficient understanding of a text. The metacognitive strategies are more accessible in CALL instruction as the learners have more autonomy in the learning process.

Memory strategies are categorized into rehearsal and encoding strategies. Rehearsal strategies are word lists and repetition (oral and visual). The audio-visual modes available in the CALL instruction can help the learners to use the memory strategies more often and in a more appropriate way. In other words, CALL facilitates the memory strategies for language learners. Encoding strategies involve strategies like association/elaboration, imagery, visual, auditory, semantic, and contextual encoding and also word structure (i.e., analyzing a word in terms of prefixes, stems, and suffixes). CALL is also beneficial for learners as it provides them with more modalities to use and employ in the encoding process. When a range of modes are used in the teaching/learning process, learners who have different learning strategies may gain more than when only one or two modes are used. The use of CALL can thus be suitable based on the theory of multiple intelligences.

The results also support Al-Seghayer (2001) which examined the use of multimodality in vocabulary learning. The author used the image modalities - dynamic video or still picture to find out which one was more successful in helping vocabulary acquirement. The inquiry had yielded the ending that a video clip is more effectual in instruction of unfamiliar vocabulary words than a still picture. In other words, the mode in which a variety of audio-visual modes were used, could help the learners over and above the other modes. The study actually used a method akin to CALL and provided evidence for its positive effect.

The results also support Sildus (2006) which used video projects, coursework in which teams performed in particular spoken situations captured by video. The students in the experimental groups prepared video fashion shows, whereas the students in the control groups did worksheet coursework. The results discovered that even though both groups enhanced their performance, the experimental group demonstrated a higher growth in scores over time. Sadeghi and Dousti (2012) found that presentation to CALL positively affected youthful EFL learners' vocabulary and language structure pick up. Cubillos (1998) reports further advantages of CALL including: Facilitating vocabulary learning; expanding understudies' attention to language structure by more muddled blunder criticism programs; supporting improvement of perusing and composing; offering educators some assistance with having data about understudies' preparing of language; encouraging understudies' revelation of the objective culture; and upgrading inspiration.

CONCLUSION AND PEDAGOGICAL IMPLICATIONS

The research question of this study addressed the effect of CALL instruction on the vocabulary learning of Iranian pre-intermediate EFL learners. Sixty pre-intermediate students were selected for the purpose of this study. They were then assigned into two experimental and control groups. The experimental group was given a treatment in which CALL was used while the same conventional method was used for the control one. Then, a post-test was administered for both groups to find how using CALL has affected the vocabulary learning of Iranian pre-intermediate EFL learners.

This study made an attempt to investigate the effect of CALL instruction on the vocabulary learning of Iranian pre-intermediate EFL students. The results of the post-test indicated that this method could positively influence the vocabulary learning of the participants in the experimental group. The overall findings of independent sample t-test could reject the null hypothesis of this study predicting no effect for CALL instruction on the vocabulary learning of Iranian EFL students.

The overall findings of this study lend support to the effective and positive influence for CALL instruction on language learning in general, and vocabulary learning in particular. Learning is a function of memory that can be defined as involving more intricate functions as memorizing or learning, retention, recall, and recognition (Souleyman, 2009). He asserts that there are processes going before retention which are noticing, intake, and storage in the short-term memory and later in the long-term memory. The results thus showed that using CALL can help the learners to recall the meaning of words better than when conventional methods are used. Moreover, instruction which involves the use of computer, projector and other relevant tools, can assist the language learners in noticing, acquiring and storing the new words.

In fact, it can be interpreted that since CALL involves the use multimodality, learners are exposed to the target words in different modes or modalities such as images, audio-visual tools, and songs, they learn the new words better than the other traditional methods in which only one mode might be used. With the appearance of modern

technologies by which the students engage in complex interactive tools and social networks, the old and conventional methods for instruction seem inappropriate. Instead, the use of CALL which resembles the new media which is used by the students can be a good replacement for the past teacher-dominated methods.

PEDAGOGICAL IMPLICATIONS

According to the findings of this study, it was indicated that using CALL has a significant effect on vocabulary learning of pre-intermediate Iranian EFL students. Therefore, it requires teachers' devotion to introduce new words through CALL for their students. Based on the results, it might be suggested that language teachers ought to bear in mind the fact that students need to be cognizant of what knowing a word means. They ought to know that just knowing the definition or mother tongue equivalent of a word does not mean that they know that word.

Concerning practice, a better understanding of the effect of CALL on vocabulary learning can help teachers and syllabus designers and material developers make more knowledgeable decisions regarding how to cope with words at the level of text book development in addition to classroom presentation. Material developers may decide to allot a larger space in their text books to the pictorial presentation of the lexical items, or design special vocabulary text books for teaching new words.

Previously, there was a time period when vocabulary was abandoned. With the new trends, vocabulary began to gain more weight. Therefore, students ought to be cognizant of the different vocabulary learning strategies. The conventional memorization techniques, bilingual vocabulary lists or other traditional vocabulary learning techniques are supposed to be given up because they generate a type of reluctance on the part of the students. Language institutes ought to be adapted to the modern vocabulary teaching techniques and ask their teachers to utilize them in the class. This study employed quantitative methods in search of determining the effects of CALL as a strategy on EFL pupils' vocabulary learning. Per se, it is a distinctive direction in research on CALL. Nevertheless, this can be considered as a starting point, and supplementary research in this field unquestionably will be crucial. Numerous suggestions are presented here for future research. This study was done with students learning English at one of the many English institutes in Iran, Khodaafarin. It would be appealing to replicate this study with other groups of pupils and different nationalities and at different proficiency levels.

This study indicated that teaching vocabulary through CALL enhanced the vocabulary learning more than classical techniques. Consequently, teachers of English could be encouraged to spend some more classroom time for this kind of teaching in their classes and to allocate more importance to the application of certain learning strategies in vocabulary development in order to make vocabulary learning process more effectual and more significant for the students. Likewise, Deveci (2004) asserts that in recent years, English teachers and theorists assign more importance to vocabulary teaching in the sense that grammar could aid pupils adequately only with a wide range of vocabulary.

A suggestion to other researchers in this field can be to study with a larger group of students in a longer period of time. Since extended contact to the CALL is an essential factor. It is thought that longer time period will assist a lot to have a better result particularly for the younger pupils.

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