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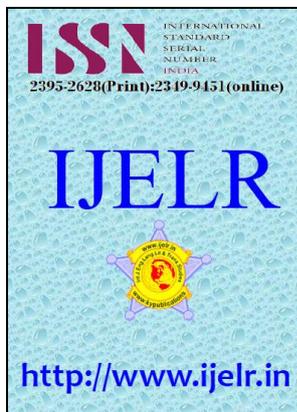
THE EFFECTS OF CALL AND ONLINE RESOURCES ON COLLOCATION LEARNING OF  
IRANIAN EFL LEARNERS

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ABSTRACT

Collocations are units of words that are more than single words, a natural combination of words, or the way words combine in a language to produce natural sounding speech and writing. Effective learning of new collocation items seems to be one of the major aims to be gained by very beginners of English speakers. It might be impossible to conduct a message or communicate in English by those who may know some grammar, but their vocabulary knowledge is poor. Considering the importance of collocations, this study tried to investigate the effect of CALL and online materials on collocation learning of Iranian intermediate EFL learners. To this end, 52 EFL learners aged from 17 to 23 were chosen through convenience sampling. Thirty-eight of them were considered as homogeneous members after administering Oxford Placement Test. Then, they were randomly assigned into two groups of experimental (n=19) and control groups (n=19). The comparison of the means of the pretests showed that they were homogeneous in terms of general language proficiency and knowledge of collocation prior to the treatment ( $p>0.05$ ). The experimental group received the treatment; computerized dictionary, and online materials through [www.englishclub.com](http://www.englishclub.com) website. The website contained online test practice and sample sentences, so participants could practice the online activities. The control group received conventional classroom instruction and no special technology was used. After the treatment, by pre-test/post-test comparison, the findings showed that participants of experimental group, who were exposed to CALL and online materials, performed significantly better on the test of collocations ( $p<0.05$ ), but males and females did equally well on the test without any significant difference. The results can have some implications for teaching and learning of L2 collocation learning and classroom motivation.

**Keywords:** CALL, collocation, EFL learners, online materials

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**INTRODUCTION**

The world of language teaching undergoes many changes and experiences with new methods and approaches coming into existence every day. Technology has had its share and effect on language teaching/learning, too. Within the world of technology, computer and its software opened a new horizon to language teaching/learning (Maftoon, Hamidi, & Sarem, 2012). In the realm of second/foreign language acquisition, the most recent effort to improve the process of language learning has involved computer technology. In connection with this fact, Garrett (1989, p. 104) points out that applying computer technology in foreign language education is part of a larger phenomenon known as the 'new humanism' and "portrays one of the most exciting developments coming out of the incorporation of advanced technology in education." Garrett contends that 'new humanism' is an attitude whereby technology helps to integrate the efforts of researchers from different fields. Technology enables the humanists to investigate traditional concerns in novel approaches, exploiting technology potential to build on the values of a given sphere and to create 'principled connections' among the discipline of the humanities.

Computer-assisted language learning (CALL), especially in the recent decade has been actively applied to second language (L2) and foreign language (FL) reading with courseware (computer software intended for educational use) which provides a range of on-screen activities (Warschauer & Healy, 1998). Along with this, researchers have tried to examine the effect or role of computer-assisted reading activities in various ways.

Effective learning of new English vocabularies seems to be one of the major aims to be gained by very beginners of English speakers (Nunan, 1988). The present research is thus significant in several respects. First, although most teachers might be aware of the importance of technology and in this particular aspect computer, a few try to use it within their classrooms (Maftoon, et al., 2012). Second, most studies of CALL-based language teaching/learning have been conducted in foreign countries in an ESL situation. This study is targeted at Iranian EFL learners. Third, this research would be of special importance for those students who want to self-study the materials and be autonomous as much as possible.

By doing this study the researcher aims to make contributions to the learning/teaching process concerning the use of CALL and available online resources to English learners in terms of general English proficiency in general and collocation learning in particular.

***Review of the Related Literature******Aims of CALL***

At the beginning of 1980s, technology came into use in the language classrooms with films, television, and language labs having video tapes and audio cassettes. Also, some computer-assisted language (CALL) software applications were introduced in the form of drill-and-practice (Cunningham, 1998). There is a general consensus that computer mediated language learning aids students to develop both their receptive and productive skills. Warschauer (1997) contends that CALL helps learners use language in different authentic situations. In the same line, Furstenberg (1997) asserts that CALL is a tool which enhances interaction among learners. Kelm (1998) mentions that CALL can help language learners use language in authentic situations, promotes learner interaction, provides them with feedback on their mistakes and errors, and allows communication and socialization between them.

As to research studies on reading skill development, great attention has been given to vocabulary learning in the realm of CALL (Conrad, 1996). Therefore, computer assisted language learning is a factor which may affect vocabulary learning of EFL students. Considering the importance of the role of CALL in second language acquisition and in this particular case vocabulary learning, the present study was an attempt to investigate the role of CALL on the vocabulary learning of Iranian intermediate EFL learners.

CALL can offer many potential advantages for both learners and teachers in the process of second language acquisition, because they offer learners the chance to practice extra learning material at their appropriate time in a stress-free environment (Zinovjeva, 2005). There has been also a significant interest in the development of CALL systems recently. Many research studies have been conducted for improvement of such systems particularly in the field of second language learning (Abdou et al., 2006). Computer-Aided Instruction (CAI), from the very first days of its introduction, began to improve and became one of the highly

important educational tools used by teachers and practitioners of different educational fields. In the past two decades, computer assisted language learning (CALL), which is one of the branches of Computer-Aided Instruction (CAI), was used in many schools in different parts of Europe (Davies, 2005). CALL is an approach which focuses on using any kind of computer technology in learning or teaching a foreign language to students. Davis believes that such a technology, which is now available at homes, has important impact on education and has been more and more integrated into language classrooms.

#### *Internet and Language Learning*

CALL is supported by another fast and reliable technology that is the Internet. According to Vallance (1998), although the Internet is regarded as a useful source in language work, the achievement of methodological and pedagogical goals depend on teachers' preparation to incorporate computers into the classroom. Such a role seems to be relevant, and that is why teachers should be trained how to achieve it. Timucin (2006) believes that the awareness of the role of the teacher is not often raised, and a growing disparity between technology and effective classroom implementation can be noticed. Teachers need clearly estimate curricula objectives to be gained and procedures used during lessons.

According to Warschauer and Healey (1998), it is the rise of computer-mediated communication and the Internet, more than anything else, which has reshaped the uses of computers for language learning at the end of the 20<sup>th</sup> century. With the advent of the Internet, the computer – both in society and in the classroom – has been transformed from a tool for information processing and display to a tool for information processing and communication. According to Warschauer and Healey (1998), for the first time, learners of a language could communicate inexpensively and quickly with other learners or speakers of the target language all over the world. This communication can be either synchronous (with all users logged on and chatting at the same time) or asynchronous (with a delayed message system such as electronic mail). Finally, with the World Wide Web, learners of many languages have access to an unprecedented amount of authentic target-language information, as well as possibilities to publish and distribute their own multimedia information for an international audience.

#### *Collocation*

According to Gyllstad (2007), collocation are units of words that are more than single words, a natural combination of words, or the way words combine in a language to produce natural sounding speech and writing. Collocation is approached, based on Nesselhauf (2005), from a frequency perspective. On the whole, collocations are seen as units consisting of co-occurring words at a certain distance from each other, and a distinction is often made between frequently and infrequently co-occurring words.

Cowie (as cited in Gyllstad, 2007) sees collocations as associations of two or more lexemes occurring in a specific range of grammatical constructions. The last part of the definition is a clear example of how the phraseological approach differs from the frequency-based approach. In the latter, any two words can form a collocation, irrespective of word class and syntactic relation. What is also interesting is that Cowie (as cited in Gyllstad, 2007) talks about collocations as abstract composites which can be realized in patterns, e.g. *heavy rain* and *rain heavily*. Therefore, it seems as if Cowie (1998) sees collocations both as abstractions and as some sort of instantiations, or patterns as he words it. Stubbs (2001) sees collocation as a relationship of habitual co-occurrence of words, either lemmas or word-forms. To Altenberg (1993), collocation is the recurrent verb-complement constructions and recurrent word-combination meaning any continuous string of words occurring more than once in identical form in a corpus.

#### **Research Questions**

This study aims to answer the following questions considering the effect of computer-assisted language learning and online resources on the learners' collocation learning.

RQ1: Do CALL and online resources have any effect on learning collocations by Iranian EFL learners?

RQ2: Do CALL and online resources have similar effects on learning collocations by male and female learners?

#### **Methodology**

##### **Participants**

For the purpose of this study, four intermediate classes from a language institute were randomly chosen. Participants were taken from these four different classes as the samples after the homogeneity test, male and female, aging from 17-23.

**Materials**

The materials which were used in this research included:

**Computerized dictionary:** The Longman Exam's Coach English Dictionary (2010) was provided for the students of the experimental group. This dictionary had both British and American pronunciation. Pronunciation of the words could be played for the students by typing or simply clicking on the words.

**Paper dictionary:** All the students of the control group were allowed to have permanent access to different paper dictionaries such as Oxford Advanced and Cambridge both at home and at the institute.

**Proficiency Test:** in order to measure and determine the participants' level of general English language proficiency and to ensure their homogeneity, they were required to do the standard OPT test. Thus, OPT was used as the language proficiency test in this study. This test consists of 60 items in the form of multiple choice questions and students were supposed to choose the correct answer from among the alternatives. The required time to complete the test was 55 minutes.

**Instrumentation**

**Pre-test/Posttest:** a pretest and posttest of collocation consisting of 30 items was designed. The reliability of this test was calculated to be 0.84 in a pilot study with students at intermediate level through the KR-21 formula. Two Ph.D. holders in TEFL controlled the validity of the test. This test was once given to the students at the beginning of the course and once at the end of the treatment in order to find out whether there has been any significant change in students' knowledge of collocations.

**Procedure**

As it has already been mentioned, in order to make an experimental and a control group, fifty-two students were chosen from the intermediate level. The first thing to consider was that these participants should be homogenized and then those whose marks were closer to the mean should be chosen for the two experimental and control groups. This was done by calculating the descriptive statistics of the data. It means that the mean, mode, median, and standard deviation of the OPT test scores were computed and then the subtraction of the mean from standard deviation and once again the addition of these two were calculated (mean+/-standard deviation). Scores which were below and also above it were discarded and those scores which were between them were chosen. The chosen scores which belonged to somehow homogeneous students were randomly divided into two groups, one as a control group and one as an experimental group. In this research the whole number of students was about fifty-two. After homogenization, two groups of 19 participants were ready.

In both groups new collocations were taught. In the control group the conventional method that teachers used in their classes was used. In the experimental group, the introduced technique in the research was used. The procedure was as follows: first of all, the thirty students of the experimental group were given a CD containing Longman computerized dictionary (Longman Exam's Coach Version 2010) and Babylon English to Persian and Persian to English dictionary. All the participants were instructed how to work with these two dictionaries in one session. The next step was to teach participants how to work with the online available resource which is the [www.englishclub.com](http://www.englishclub.com) website. To this end, the website was introduced to the class and explained to the participants. They were then instructed how to use it online. But there existed a problem here and that was the researcher was not completely sure whether all the students could in fact use internet, e.g. they were internet literate or not. Having or not having access to the internet at home remains a major problem, since participants can go to internet cafes and work with the application. However, to make sure that all the students would use the Internet or not the researcher first asked them to send him emails from their own email addresses. He then asked the students to make a passage with the collocations which were sent to their email addresses by their teacher. After making sure that all the participants were Internet literate, the experiment started.

Right after the training was over, a piloted collocation test consisting of 30 items was given to the students as a pretest at the beginning of the course. The reliability of this test was calculated a pilot study with students at intermediate level through the KR-21 formula. This test was once given to the students at the beginning of the course and once at the end of the treatment in order to find out whether there was any significant change in students' knowledge of collocation.

## RESULTS

### Result of the OPT proficiency test

In order to have homogenized participants in terms of their general English language proficiency, the OPT Test was administered. The descriptive statistics for the OPT test are displayed in following table. It should be mentioned that the scores were calculated out of 60 (total mark).

Table 1: *The Descriptive Statistics of the OPT Test*

Statistics		
OPT		
N	Valid	52
	Missing	0
Mean		35.4038
Median		36.5000
Mode		40.00
Std. Deviation		5.61601
Variance		31.540
Minimum		24.00
Maximum		44.00

Table 1 above shows the descriptive statistics of the proficiency test. As it can be seen in table 1 above, the mean and standard deviation of the participants were 35.40 and 5.6 respectively. Out of 52 participants, 38 were considered as homogenous members based on one SD above and one SD below the mean. Table 2 below shows the descriptive statistics of the homogenized participants.

Table 2: *Descriptive Statistics of the Homogenized Participants*

Statistics		
OPTHomogenized		
N	Valid	38
	Missing	14
Mean		36.1053
Median		37.0000
Mode		40.00
Std. Deviation		3.93040
Variance		15.448
Minimum		29.00
Maximum		42.00
Sum		1372.00

As it can be seen in table 2 above, the mean and SD of the homogenized participants were 36.10 and 3.93, respectively. These 38 participants were randomly put in two 19-member groups, one experimental and one control.

**Result of the First Research Question**

Since both sets of data were of an interval type, to answer the first research question the independent t-test was run. Table 4.3 below shows the result of the group statistics for the posttest of control and experimental groups.

Table 3: *Group Statistics for the Posttest of Control and Experimental Groups*

Group Statistics			N	Mean	Std. Deviation	Std. Error Mean
ConExpPost	dimension1	1.00	18	40.0000	2.58957	.61037
		2.00	18	61.0556	10.02040	2.36183

As it can be seen in table 3 above, the mean scores of the control and experimental groups are 40 and 61.05, respectively. The next table shows the actual result of the independent t-test.

Table 4: *Result of the Independent T-test for the Comparison of the Posttests*

Independent Samples Test		Levene's Test for Equality of Variances t-test for Equality of Means						
ConExpPost	Equal variances assumed	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
			Equal variances not assumed			8.631	19.261	.000

The independent t-test was run to compare the mean scores of the control and experimental groups. As table 4 above shows, it can be concluded that the experimental group performed better on the posttest of collocation test than the control group did, and there was a statistically significant difference ( $t(34) = 8.63, p = .000 < 0.05$ ). Therefore, the first null hypothesis "CALL and online resources do not have any effect on learning collocation by Iranian EFL learners" is rejected, putting emphasis on the superiority of the experimental group.

**Result of the Second Research Question**

Before choosing the appropriate test, the test of normality should be run. Table 5 below shows the result of the Kolmogorov-Smirnov normality test.

Table 5: *Result of the Normality Test*

Tests of Normality		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
PostExp	Male Female	Statistic	df	Sig.	Statistic	df	Sig.
dimension1	male	.255	8	.136	.912	8	.370
	female	.205	10	.200*	.916	10	.328

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

As it can be seen in table 5 above, the Sig value of the Kolmogorov-Smirnov test is higher than 0.05 for both male and female scores on the posttest of collocation. It means that the data does enjoy normal distribution for the two sets of scores. Therefore, the appropriate correlation test would be the independent t-test. Table 6 below shows the group statistics for scores of males and females.

Table 6: Group Statistics for the Male and Female Scores

Group Statistics			N	Mean	Std. Deviation	Std. Error Mean
PostExp	Male	Female				
dimension1	Male	Female	8	59.8750	9.97765	3.52763
			10	62.0000	10.48809	3.31662

As it can be seen in table 6 above, the mean of the males and females are 59.87 and 62.00, respectively. Table 7 below shows the result of the independent t-test for the comparison of the scores of males and females in for their collocation test.

Table 7: Result of the Independent T-test for Male and Female Participants

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	(2-Mean Difference)	Std. Error Difference
PostExp	Equal variances assumed	.156	.698	.436	16	.668	-2.12500	4.87049
	Equal variances not assumed			.439	15.453	.667	-2.12500	4.84192

The Leven’s test of equality of variances had the Sig of .698 which was higher than .05, meaning that the assumption of equality of variances has been met. Therefore, we look at the first row to analyze the difference. The independent t-test was run to compare the mean scores of the males and females on their collocation test. As it can be seen in table 4.7 above,  $t(16) = .436$ ,  $p = 0.668 > 0.05$ . Accordingly, the null hypothesis “CALL and online resources do not have similar effects on male and female participants’ collocation learning.” was accepted, concluding that males and females did not differ in their collocation scores in this particular study.

**DISCUSSION**

The first research question of the study aimed at investigating the effect of CALL and online resources on collocation learning of Iranian intermediate EFL learners. Result of the data analysis showed that the experimental group who received the treatment (computerized dictionary and online materials from www.englishclub.com) performed better on the posttest of collocation than the control group did. Maftoon et al. (2012) found the same result when they used CALL on the vocabulary learning of Iranian intermediate EFL learners. In line with this study, Shahrestani and Khodareza (2013) found that those students who were exposed to CALL and educational software showed much more progress than the group which had no access to computer technology. The results of studies by Abdolmanafi-Rokni and Hamidi (2015), Dunkel (1987), Lambacher (1999), and Murray (1999) all show the positive effect of computer assisted language learning.

Although Russel (1999) compared the paper and the computer versions of reading tests and found out that paper versus computer administration did not significantly affect the test taker’s performance, in the present study the result showed significant difference between the two groups, showing the priority of the experimental group. The second research question of the study aimed at finding the gender difference within the experimental group which was exposed to computer technology. The result showed that there was no statistically significant difference between the males and females who participated in this study.

**Conclusion**

Computer assisted language learning is considered a sub-category of technology enhanced language learning. CALL is believed to be an approach to language teaching and learning in which computer technology is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element (Davies, 2010; Hamidi & Montazeri, 2014). CALL contains a wide range of new technologies, especially multimedia and communication technology (Warschauer, 2002; Yang,

2006). CALL can be used to teach the four main language skills and related components (listening, reading, writing, speaking, grammar, idiom, pronunciation, vocabulary, etc.). In this particular study; however, the effect of CALL and online materials were investigated on collocation learning by Iranian EFL learners.

The research results rejected the first research hypothesis which was "CALL and online resources do not have any effect on learning collocation by Iranian EFL learners" meaning that there actually is a significant difference between CALL-based collocation learning and the conventional one. But surprisingly, the researchers found that the use of online resources and computerized dictionaries actually had positive effects on participants' autonomy in learning the collocations, though autonomy was not under study here.

As to the second research questions, the independent t-test was run to compare the mean scores of the males and females on their collocation test ( $t(16) = .436, p = 0.668 > 0.05$ ). Consequently, the null hypothesis "CALL and online resources do not have similar effects on male and female participants' collocation learning." was accepted, concluding that males and females did not differ in their collocation scores in this particular study.

Davis (2004) claims that computer technology, which has become a fixture in many homes nowadays, has significant impact on education and has been more and more integrated into classrooms. It completely changed the approach how language is presented to learners; they can share, learn or work with each other in a way that was not possible a few years ago.

Interpretations of the findings of this research also led to several suggestions for further researches.

1. It is recommended that this study be replicated with a larger sample or number of participants from the same background.

2. The present study may be replicated with other dependent variables such as grammar, idiom, or vocabulary.

3. It is recommended that a mobile assisted language learning (MALL) study be conducted on Iranian EFL learners' collocation learning.

4. It would be interesting to compare the results of using online resources across levels of proficiency, from intermediate to advanced levels.

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