

# The Effect of CALL on Iranian Beginner EFL Learners' Grammar Learning

Samira Ghorbani<sup>1</sup> & Amir Marzban<sup>2</sup>

<sup>1</sup>Department of English language teaching, Science and Research branch, Islamic Azad University, Mazandaran, Iran

<sup>2</sup> Department of English language teaching, Islamic Azad University, Qaem Shahr, Iran

## Abstract

Using computer programs has recently caused language teaching and learning to undergo influential changes. Computer proved to be an instrument for those who are willing to learn a foreign language. It should be pointed out that CALL programs certainly have helped to educators to develop different types of learning which is based upon these technologies. Computer-Assisted Language Learning (CALL) is among those programs, which has caused this great change. The present study had a quasi-experimental design and involved quantitative data collection procedures. Participants were males and were selected from second grade students of a guidance school in Guilan. The purpose of the present research was to investigate the effect of CALL on improving beginner EFLs' grammar learning. To this aim, a multiple-choice test of grammar namely KET, of which the reliability was 0.79, was administered to 127 EFL beginners out of whom sixty-four of the students were selected as homogeneous and randomly divided into two groups of thirty-two participants. Assigned groups were the control group that were taught with traditional grammar learning methods and an experimental group who underwent the CALL instruction. The results of the study through a posttest revealed that the experimental group outperformed the control group. Therefore, CALL appeared to be useful in developing English grammar of the EFL students. The researcher concluded that integrating technology to curriculum is beneficial for beginners and that the application of computer and its related technologies can facilitate grammar learning both inside and outside the classroom.

**Key words:** CALL, grammar learning, multiple-choice test

## 1. Introduction

Learning English as a foreign language in the recent years has been accompanied with the revolution of changes in the field of technologies. One of these changes is the use of computers in learning English or technically speaking, it is Computer-Assisted Language Learning (CALL). Consequently, CALL is one of the most important technologies used to contribute to language learning. It should be pointed out that the computers have caused significant variation to every aspect of education. Even now, the many innovations of the digital revolution, multimedia (e.g., PowerPoint softwares) videos, etc., have affected on the way educators try to teach language.

CALL in EFL settings has found its place as a facilitative device and it is popular in education. It is suggested that integration of technology can facilitate learning processes

(Warschauer & Healey, 1998). In the recent years there is an increasing interest in the use of computer-assisted language instruction since it proved to be advantageous as summarized by a number of researchers (e.g., Nagata, 1996; Hall, 1998; Nutta, 1998; Toyoda & Harrison, 2002; Wang & Beasley, 2002; Vilmi, 2003; Torlakovic & Deugo, 2004). Recent years have witnessed a growing interest in the use of computers for language teaching and learning.

Traditionally, computers were considered a good fit for grammar instruction (Levy, 1997; Hubbard & Siskin, 2004; Levy & Stockwell, 2006; Pusack & Otto, 1984; Skinner, 1954). One of the wide uses of CALL programs can be in the area of grammar instruction. By using the computer for the presentation, explanation, and application of grammatical structures, more classroom time could be dedicated to real communication that focuses on expressing meaning and using appropriate grammatical structures to express that meaning. It is possible for CALL to provide rich input in the form of integrated multimedia programs and to provide explicit grammar explanations that can be reviewed after a while when needed.

Another special characteristic of CALL-based programs is that it increases the autonomy of the language learner. Using CALL-based programs, the learner is not anymore dependent on other members of the class but can choose the pace at which he or she progresses and controls the degree of difficulty of the task at hand.

Warschauer and Healy (1998) note that CALL can be separated into three main stages: behaviorist CALL, communicative CALL, and integrative CALL. Each stage corresponds to technological and pedagogical theories.

- a. Behaviorist CALL** The first type of computer-assisted language learning included repetitive language drills, the so-called drill-and-practice method used during the 1960s and 1970s. Behavioristic CALL was first designed and realized in the epoch of the mainframe and the best-known tutorial system, PLATO, ran on its own special hardware (Warschauer & Healy, 1998). It was based on a behavioristic learning pattern and as such was regarded as little more than a mechanical tutor that never grew tired. It was primarily programmed for explicit grammar instruction, extensive drills, and translation tests (Ahmad, Corbett, Rogers, & Sussex, 1985).
- b. Communicative CALL** Communicative CALL as a reaction to the behavioral approach to language learning, communicative CALL appeared in the 1970s. Proponents of communicative CALL rejected behavioristic approaches on both the theoretical and pedagogical level. They argued that CALL would best concentrate more on using forms rather than on the forms themselves.

In language acquisition, grammar needs to be taught completely and students need to generate original utterances instead of using prefabricated forms (Jones & Fortescue, 1988). This form of computer-based instruction corresponded to cognitive theories, which propose that learning is an innovative process of discovery, expression, and development (Lee,

---

2000).

- c. **Integrative CALL** The final stage of computer-assisted language learning is known as integrative CALL. Educators have advanced from a cognitive view of communicative language teaching to a socio-cognitive position that stresses real language use within a meaningful, authentic context. Integrative CALL tried to integrate a variety of skills in language learning (listening, speaking, writing, and reading) and tried to incorporate technology more completely into language teaching (Warschauer & Healy, 1998). Kenning & Kenning (1983) discussed the evolution of CALL based on three instructional ideals: individualization, record keeping, and answer judging. Computers are now available for the creation of complex simulations of real life language situations that can bring the world to the classroom. As this historical review illustrates, CALL can be utilized for a wide variety of purpose.

One of the prescribed ways of teaching English grammar in Iran has been traditional ways of teaching grammar since many years ago. To begin with, some of the most important disadvantages of traditional grammar classes must be mentioned. First, in traditional grammar classes the lesson starts with a sudden grammatical presentation, which might be off-putting for some students, especially beginners. Second, language learners may not have sufficient metalanguage (i.e. grammar terminology) to understand the topics and explanations of grammatical points. Third, language learners are unwilling to participate, since the type of input for grammar learning is not persuasive and influential for later recall or for further learning. The fourth problem is the lack of fun factor, unavailability of extra help, needs of immediate feedback out of class adds more complexity to grammar learning process. Generally speaking, the role of chalkboard as a means of grammar presentation is also old-fashioned and new ways of teaching grammar is used in many countries around the world.

To begin with, this research signifies the role of the computer technology in educational setting because computers can produce a piece of information in a multi-faceted style and can, therefore cause a better quality of teaching and acceleration of learning level of the language learners. Another signification of the study was the two-way communication style of the CALL based programs. Many aspects of work with the computer have an interactive (two-way response) element, which is missing in books, tapes, television, and so on. CALL is a helpful environment for student-computer interaction. CALL provides interactive computer activities for language learning which helps learners to interact in a communicative way. The third significance is the reduction of anxieties of computer appliance for the language learners and educators; language learners do not think of computer learning achievements as an unachievable goal and familiarizing the computer applications as an impossible task. Significance of this study was also for the educational setting and its familiarization with the new technological events and gadgets; the educational setting of our country can also benefit from new advances of technology and

---

international methodologies of teaching. Finally, the following study signifies the familiarization of the educational settings with the advantages of integrating technology into English grammar lessons, to allow the teachers to have additional ways to monitor individual student's progress and is able to fulfill their diverse linguistic needs.

## **2. Methodology**

In the present study, 127 twelve year-old male language learners participated in an English grammar proficiency test. Among all of 127 participants, which took the KET test sixty-four students whose scores were around the Mean were selected as homogeneous and they were randomly divided into two groups of 32 participants; one group named as a control group who received traditional grammar ways and one group as an experimental group who underwent the CALL instruction. The test was administered in two public guidance schools in second term of English course. Participants were twelve year-old male language learners at guidance school and their first language is Persian. All of the participants were non-native speakers of English and received English as a course of study at school.

The population of this study comprised all beginning level learners of English in the second grade of the Iranian guidance schools. In this study, 64 male students were selected from one school in Guilan. The sampling method was convenient sampling.

The following procedures were followed: 1) getting the permission of the education office in Guilan, 2) seeking the approval of the school's dean for teaching as a teacher assistant 3) seeking the teacher's permission for cooperation and class handling 4) getting the new teacher in the middle of English course.

The researcher divided the students into two groups of male language learners. The experimental group consists of 32 male participants that were taught grammar with the PowerPoint presentation. In the control group, 32 participants were taught based on traditional methods of teaching grammar. Participants separately attended their classes to receive the treatment of CALL. A structural syllabus was designed based on the teaching materials (verb tenses) in students' workbook. A video projector was brought to treat the experimental group with the PowerPoint slides.

Participants received four weeks of instruction both in traditional and experimental groups. During these sessions grammar in CALL group were taught with PowerPoint software that were introduced to the class instead of the traditional method of grammar teaching. In contrast, participants in the control group were taught through the traditional method of teaching grammar that was based on deductive grammar teaching. The teacher explains each grammatical rule separately and elaborates each with providing different examples regarding rules. In the experimental group the grammar lessons with the inclusion of PowerPoint slides that was made up of colorful learning tips, inspiring pictures, bulleted

---

patterns of highlighted examples, related sounds of the pictures, and their hyperlinks to refer to their original sites for further explanations.

- The first two sessions was dedicated to the presentation of related slides to teaching of present simple tense.
- Second week was related to present continuous tense and its examples and colorful pictures and highlighted patterns of sentence structures.
- Third week was dedicated to teaching of past was and were and its related slides is displayed on the screen to work on its examples and exercises.

Starting the treatment, the teacher talked about the content of grammar and the teacher explained about what we are going to perform during our allotted time. Grammar lessons that they were supposed to receive during this experiment were Present simple, present continuous and past form of “be” namely “was and were.”

The first lesson was dedicated to teaching of simple present, related slides were shown with pictures and sounds which clearly explain grammar tips and many examples were provided with many related pictures or shapes which have helped students in guessing the on-line answers of drills. Changing of slides ranged from fading colors of pictures, floating shapes, moving bodies and etc, Another interesting point is that included pictures in the slides were based on the culture of other countries and had variety in their subject not just restricted to the Iranian culture. Also there were many real photos of people`s faces and their daily chores which can add another dimension to its attractiveness.

The researcher has chosen two groups of EFL learners among all beginner language learners at guidance school and divided them into experimental and control group. Then, a grammar test consist of 20 multiple-choice items were constructed on the basis of the contents of the English book which is taught at the participants' school. A grammar proficiency tests were given to groups to assign their level of grammar knowledge and to statistically control any differences between them at the beginning of the study. After receiving four weeks of instruction a posttest of grammar was given.

### **3. Result**

Based on the descriptive statistics of the pretest, it was revealed that both the control and experimental groups had almost the same mean score on the pretest. Thus, both groups were homogeneous. The experimental group received the mean score of 6.62 and the control group received the mean score of 7.71 The mean scores of both group showed that there was not any significant difference between both groups on the pretest. The data given in table 1

depicts the descriptive statistics of the pretest for both groups. The descriptive statistics tabulated shows that both the experimental group and the control group have performed almost the same on the pretest and there exists no significant difference between the two groups.

**Table 1. Descriptive statistics related to both groups' performances on the pretest**

Groups	N	Mean	SD
Control	30	6.6250	3.0207
Experimental	30	7.7187	2.74977

As for the descriptive statistics of the posttest, it was revealed that the experimental group using computer-based software outperformed control group in learning English grammar. The descriptive statistics provided in table 2 shows that the experimental group outperformed the control group on the posttest and actually there exists a significant difference between the two groups. Thus, this study showed that computer-based software has improved the grammatical ability of the TEFL students in the experimental group.

**Table 2. Descriptive statistics related to both groups' performances on the posttest**

Groups	N	Mean	SD
Control	30	8.3750	2.43297
Experimental	30	15.2813	2.34499

Subsequently the independent sample t-test is run to investigate whether two groups differed significantly from each other. In which the means of both groups on posttest differ significantly as the sig (2-tailed) indicates the value  $p < .041$ .

#### **4. Discussion**

Generally, This study was trying to determine effect of CALL on Iranian beginner EFL's grammar learning. Specifically this study attempted to investigate whether there is a difference between the performance of the experimental group and the control group who received CALL treatment and the control group who underwent the traditional ways of teaching grammar.

**Table 3. Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means			95% Confidence Interval of the Difference			
		F	Sig.	t	df	Sig. (2-tailed)	mean Difference	Std. Error Difference	Lower	Upper
Gained scores	Equal Variances assumed	.806	.373	2.088	62	.041	1.813	.868	.077	3.548

In addition to determine whether the Means of two groups under investigation, were statistically significant. In the present study, the independent variables were the type of CALL treatment, and the dependent variable consisted of scores on the posttests administered after the completion of the treatment.

This study had two variables named as CALL instruction as independent variable and the independent variable, which is the obtained from both groups.

In the present study, the researcher investigated the effect of CALL instruction (PowerPoint) on teaching grammar. Furthermore, the comparison of the Means of control and experimental group on their pretests and posttests was calculated respectively (Table 1, 2). Finally, the homogeneity of variances assumption was checked which its output shows the t-test. In order to measure the participants' grammar learning and to find whether there was any significant grammar achievement after them receiving the CALL treatment, an independent sample t-test was performed. The results, as is shown in Table 3 indicated that there is a statistical significant difference ( $t = 2.088$ ,  $p < .04$ ) between the performance of experimental group before and after receiving treatment. In other words, their grammar learning improved as a result of CALL instruction as a treatment.

The findings of the researcher confirm that the computers have been considered a good fit for grammar instruction (Levy, 1997; Hubbard & Siskin, 2004; Levy & Stockwell, 2006; Pusack & Otto, 1984; Skinner, 1954). Moreover, Torlakovic and Deugo (2004) who investigated whether or not CALL could be used for grammar teaching, hypothesized that L2 learners will show improvement when they were taught English grammar by the use of

---

CALL programs. One of the wide uses of CALL programs can be allotted to grammar instruction. By using the computer for the presentation, explanation, and application of grammatical structures, more classroom time could be dedicated to real communication that focuses on expressing meaning and using appropriate grammatical structures to express that meaning. Because of its capacity of combining text, images, animation, sound, and video in a variety of activities, multimedia offers many exciting opportunities for language learning and helps to integrate the learning of language skills and their sub skills (Davies 2004).

Ewing (2000) also believes that students find chances for improvement in grammar learning in a CALL environment, which is unavailable in traditional L2 classrooms. CALL offers a certain degree of independent and structured learning. It can be used to teach grammar in the way that the students can see the pattern of changes in the rules in a different way. This means including a variety of media including text, graphics, sound, animation, and video that relates to a more authentic learning environment (Underwood, 1984). Moreover, adding more movements and colors for manifesting the grammar tips in the classes can flourish the manifest the dynamic nature of grammar.

## **5. Conclusion**

This research study attempted to launch an investigation into the effects of computer-assisted language learning (CALL) on TEFL students' grammar learning. The experimental group made use of the grammar teaching software to improve their grammar learning. The data obtained from the posttest revealed the fact that students' grammatical ability improved as a result of using the CALL-based grammar teaching softwares on the computers. The control group received traditional ways on teaching the grammatical structures. It must be stated that the findings of the study showed that CALL instruction could also be a suitable tool to teach grammar to students.

As grammar instruction is an important means to help language learner to develop language. What the researcher believes is that colorful visualization of the grammatical points and immediate feedback that can be called one of the unique characteristics of CALL programs is a powerful device for the language learners. Grammar instruction is often regarded as the unattractive component of the language by the language learners. One of the best solutions to change the unattractiveness to attractiveness is creating attractive learning tool that act as a stimuli for language learning (Taylor, 1980). CALL-based programs most of the time seem attractive to language learners especially to beginners. The fun factor is counted as a valuable characteristic of CALL (Warschauer & Healy 1998).

Adding more movements and colors for manifesting the grammar tips in the classes can flourish the manifest the dynamic nature of grammar. It is clear from the studies that using CALL is more beneficial and helpful than using the traditional methods (Kenning & Kenning, 1983; Nagata, 1996; Al-Qomoul, 2005). The use of CALL also as a supplement to traditional, teacher-centered instruction proved to produce achievement effect superior to those obtained with traditional instruction alone. These findings are applicable for students

of different ages and abilities (see, for example, Rupe, 1986; Al-Juhani; Crosby, 1997; Fenfang, 2003). The role of the computer is becoming more appealing to teachers because of their huge capabilities and extensive effectiveness (Dhaif, 2004).

## References

- [1] Al-Qomoul M., (2005) “*The Effect of Using an Instructional Software Program of English Language Functions on the Basic Stage Students’ Achievements,*” PhD Thesis, Amman Arab University for Graduate Studies.
- [2] Al-Juhani, S. (1991). *The Effectiveness of Computer-Assisted Instruction in Teaching English as a Foreign Language in Saudi Secondary School.* Unpublished PhD Dissertation, University of Denver, U.S.A.
- [3] Ahmad K., Corbett G., Rogers M. and Sussex R. (1985). *Computers, Language Learning and Language Teaching*, Cambridge: Cambridge University Press.
- [4] Azar, S. B., & Hagen, A. S. (2007). *Basic English grammar.* Teacher Resource Disc. Pearson education. Longman.
- [5] Crosby, M., (1997). Guest editorial: CALL in L1. *Computer-Assisted Language Learning*, 10(4), 309-319.
- [6] Dhaif H., (2004). “Computer Assisted Language Learning: A Client's View, *Computer Journal Assisted Language Instruction Consortium*, vol.7, no. 2, pp.467-469.
- [7] Davies, G.(2004). ICT4LT Module 2.2: *Overview to multimedia CALL.* Available on: [http://www.ict4lt.org/en/en\\_mod2-2.htm](http://www.ict4lt.org/en/en_mod2-2.htm)
- [8] Ewing, M. (2000). Conversations of Indonesian language students on computer-mediated projects: Linguistic responsibility and control. *Computer Assisted Language Learning*, 13(4), 333–356.
- [9] Fenfang, H. (2003). Learners' behaviors in computer-based input activities elicited through tracking technologies. *Computer-Assisted Language Learning*, 16(1), 5-29.
- [10] Hall, C. (1998). Overcoming the grammar deficit: The role of information technology in teaching German grammar to undergraduates. *Canadian Modern Language Review*, 55(1), 41-60., 4(1), 41-59.
- [11] Hubbard, P & Siskin, C.(2004). *Another look at tutorial CALL.* *ReCALL*, 16(2), 448-461.
- [12] Jones, C. & Fortescue, S. (1988). *Using computers in the language classroom.* New York: Longman.
- [13] Kenning M. and Kenning J. (1983). *An Overview to Computer Assisted Language Teaching*, Oxford University Press, London.

- 
- [14] Lee, K.W. (2000). English teachers' barriers to the use of computer assisted language learning. *The Internet TESL Journal*. Retrieved June, 25, 2006, from <http://www.4english.cn/englishstudy/xz/thesis/barrir>
- [15] Levy, M., (1997). *Computer Assisted Language Learning: Context a Conceptualization*. New York: Oxford.
- [16] Levy, M. & Stockwell, G. (2006). *CALL Dimensions: Options and issues in computer assisted language learning*. Mahwah, NJ: Lawrence Erlbaum.
- [17] Nagata, N. (1996). Computer vs. workbook instruction in second language acquisition. *CALICO Journal*, 14, 53-75.
- [18] Nutta, J. (1998). Is computer-based grammar instruction as effective as teacher- directed grammar instruction for teaching L2 structures? *CALICO Journal*, 16(1), 49-62.
- [19] Pusack, J. P., & Otto, S. K. (1984). Taking control of multimedia. In M. D. Bush & R. M. Terry (Eds.), *Technology-enhanced language learning* (pp. 1-6). Lincolnwood, IL: National Textbook.
- [20] Rupe, V. (1986). *A study of Computer-Assisted Instruction: Its uses, advantages, and limitations*. (ERIC Document Reproduction in service no. ED 282513).
- [21] Skinner, B. F. (1954). The science of learning and the art of teaching. *Harvard Educational Review*, 24, 86-97.
- [22] Taylor, R. (1980). *The computer in the school: Tutor, tool, and tutee*. New York: Teachers College Press.
- [23] Torlakovic, E., & Deugo, D. (2004). Application of a CALL system in the acquisition of adverbs in English. *Computer Assisted Language Learning*, 17(2), 203-235.
- [24] Toyoda, E., & Harrison, R. (2002). Categorization of text chat communication between learners and native speakers of Japanese. *Language Learning & Technology*, 6(1), 82-99.
- [25] Underwood, J. (1984). *Linguistics, Computers, and The Language Teacher: A communicative Approach*. Rowley, MA: Newbury House.
- [26] Vilmi, R. (2003). The international Writing Exchange Project. Retrieved January 5, 2007 from <http://www.ruthvilmi.net/hut/current/iwe.html>
- [27] Wang, L., & Beasley, W. (2002). Effects of learner control and hypermedia preference on cyber-students performance in a Web-based learning environment. *Journal of Educational Multimedia and Hypermedia*, 11(1), 71-29.
- [28] Warschauer, M., Healey, D., (1998). Computers and language learning: an overview. *Language Teaching* 31, 57- 71. <http://www.lll.hawaii.edu/web/faculty/markw/overview.html>

---

[29] Warschauer, M. (2004). Technological change and the future of CALL. In Fotos & Browne (Ed.), *New perspectives on CALL for second language classrooms* (pp. 15-26). Mahwah, NJ: Lawrence Erlbaum Associates.