

Computer-Assisted Language Learning: A Panacea for Grammar Development

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Abstract - A surge of using computers and multimedia programs have recently caused language teaching and learning to undergo sharp changes. The Internet has also proved to be an arena for those who pursue to learn a second/foreign language. It should be pointed out that multimedia programs undoubtedly have contributed to educators to develop the type of learning curriculum which is grounded upon these technologies. Computer-Assisted Language Learning (CALL) is among those programs which has caused this drastic change. The present study investigated the effects of CALL on improving EFL learners' grammatical ability. To this aim, a multiple-choice test of grammar, of which the reliability was 0.79, was administered to 83 available TEFL students out of whom 60 students were selected as homogeneous and randomly divided into two groups of 30: a control group and an experimental group. The experimental group was taught English grammar through CALL and the control group received a non-CALL instruction on grammatical structures. The results of the study through a posttest revealed the fact that the experimental group outperformed the control group. Therefore, CALL appeared to be useful in developing English grammar of the TEFL students.

Keywords - CALL; Second/Foreign Language Acquisition; Grammar Development.

1. Introduction

Learning English as a second/foreign language in the third millennium has been accompanied with some changes in technologies. One of these changes is the use of computers in learning English or, to use the technical term, it is Computer-Assisted Language Learning (CALL). The postmethod era has brought some changes in the realm of language teaching. The use of language learning strategies and techniques employed to improve language macroskills and microskills are just a few which appear conspicuous in postmethod era. Computer-Assisted Language Learning is one of the most important technologies used to contribute to language learning.

Richards and Schmidt ([20], p. 101) define CALL as the use of a computer in the teaching or learning of a second or foreign language. They state that CALL may take the form of activities which parallel learning through other media but which use the facilities of the computer, e.g. using the computer to present a reading text, activities which are extensions or adaptations of print-based or classroom based activities, e.g. computer programs that teach writing skills by helping the student develop a topic and thesis statement and by checking a composition for vocabulary, grammar, and topic development), and activities which are unique to CALL.

The term CALL can also be distinguished from such terms as Network Based Language Teaching [23], which is a broader definition and includes any network use, and online versions of resources, such as online newspapers and other realia. Since it is quite difficult in traditional learning atmospheres for the learners to be exposed to the target language adequately in foreign language acquisition, CALL in which virtual environment is designed in more appropriate way has given rise. Two main paradigms, cognitive model and socio-cultural theory, have also been adopted in CALL. Moreover, rather than applying one theory, combination of these paradigms is unavoidable. However, application of this combination is challenging in practice, as these two theories have different principles. Furthermore, when it comes to online education, it turns into more challenging process.

The present educational models, approaches and opportunities are not adequate for learners' needs as the technology advances. Moreover, advanced technology enables new trends and concepts in foreign language teaching [19]. It should be pointed out that the computers have caused significant changes to almost every aspect of people's lives, including education. There could, after all, be no computer-assisted teaching and learning without the computers. Even now the many innovations of the digital revolution, CDs, DVDs, streaming video, wireless communication, continue to have an impact, both on the

way people conduct their lives and on the way educators endeavor to teach language.

Teachers are required to shift their attitude toward the process of education. This is not to say that they are not open-minded and willing to change. Instructors who make use of Computer-Assisted Language Learning (CALL) in their classrooms are said to be generally enthusiastic proponents of innovation. It can be stated that there are many who have spent years discovering ways in which technologies can be used to make language teaching more effective and motivating for students. Some are hopeful that CALL may well compensate for the inadequacy of the typical fifty-minute time frame for a classroom lesson by extending both instructional and learning activities beyond the normal class period [10].

It is alleged that the simple fact of giving students easy access to the target language and culture through the new technologies is not, in itself, necessarily more effective than simply handing them a foreign-language dictionary. Despite the younger generation's much vaunted love of computers, students are in fact no more prepared to utilize the machine and its ancillary devices in the service of language learning than they are to learn vocabulary and grammar by picking up a dictionary or a textbook.

Different Internet technologies expedite the acquisition of different learning skills. Internet technologies such as email and chat have rather different qualities which have the potential to impact rather differently upon language learning [18]. Along the same line, Blake's [5] study revealed the fact that some students preferred the online option. The study showed that there was some progress in learners' language learning.

Bancheri [2] argues that language teachers must be hectic to establish a situation in which technological resources are afforded to be employed in the classroom. This is a task too often left to programmers with little or no expertise in the field of second-language acquisition. He is of the belief that new technologies for the language classroom should be the fruit of collaboration between an expert programmer, a graphic artist, and a teacher specialized in language pedagogy. He looks at the elements which must be considered in the development, implementation, and evaluation of CALL courseware from the vantage point of each of the parties involved, the teacher, the programmer, and the learner.

Concerning the use of CALL in writing, Darus, Ismail, and Ismail [8] state that applying computer, especially word processor, has been brought to the educational setting from the last thirty to forty years. Students rely on this technology to complete their writing assignments and word processor helps them to revise their composition very easily so that they do not have to rewrite the entire composition to revise it. This millennium has witnessed a great focus of

studies on different perspectives of second/foreign language acquisition and multimedia programs and their benefits and efficiencies in language studies (e.g. [11], [17]).

2. Literature Review

Abdi Kazeroni [1] reports on some rather surprising results growing out of a series of workshops designed to assist experienced instructors in introducing technology into their respective curricula. Abdi Kazeroni examines the process by which many teachers adapt technology to their classroom needs and makes suggestions for change which would better combine teachers' needs in designing computer-assisted tasks with the characteristics of effective CALL programming as identified in research on second language acquisition.

Ghabanchi and Anbarestani [13] conducted a study concerning the effects of CALL program on expanding lexical knowledge of EFL Iranian intermediate learners. It was found that learning via typical system has better short term results, but learning via computerized facilities is more beneficial in long term situation; and the rate of forgetting is much lower in technological vocabulary learning.

Gorjian [14] states that teaching writing is deemed one of the challengeable tasks in English as Foreign Language (EFL) contexts. This is due to the nature of writing which is a productive skill requiring language learners to organize their knowledge into written form. Thus, some language teachers find it challenging to teach this productive skill. Computer-Assisted Language Learning has been utilized in enhancing guided writing skills in the recent years. Computer technology in EFL settings has found its place as a facilitative device and it is popular in educational curricula. It is suggested that integration of technology can facilitate learning processes ([22], [15], [5]). Chatel [7] stated that using appropriate software and websites enhance learning and applying English language.

Bordbar's [6] study explored the reasons and factors behind teachers' use of computer technology in the classroom. His study also explored teachers' attitudes toward computer and information technology and how they apply their practical computer-assisted language learning experience and knowledge to their language teaching. The results of his study showed that the majority of the respondents had positive or highly positive perceptions about the relevance of Information and Communication Technology to Iranian society and schools. Notably, most of the respondents indicated that students need to know how to use computers for their future jobs. Moreover, most of them stated that computers will contribute to improving their standard of living and that knowing about computers earns one the respect of others and ensures privileges not available to others. In addition, the majority of the respondents indicated that computers do not increase their

dependence on foreign countries, dehumanize society, or encourage unethical practices. Soori, Kafipour, and Soury [21] found that applying new technologies has accompanied with some inevitable problems. Their study showed that the presence of a teacher is necessary to act as an experienced advisor and to facilitate learning. In their study, the participants in the experimental groups that enjoyed the help of a teacher yielded a better result. So, the teacher played a key role in CALL.

Jafarian, Soori, and Kafipour [16] state that employing computers in writing classrooms has been common at least for the last three decades. Their study investigated the effect of CALL on EFL students' writing achievement. CALL users' achievement in EFL was significantly higher than nonusers. This significant difference between the two groups favoring CALL users was an indication of the effect of CALL on improving students' knowledge and competency in EFL. Barzegar, Fattahi Bafghi1, and Allami [3] carried a study which showed that the Microsoft word-based computer assisted instruction method caused a statistically significant difference in the scores of the experimental group and improved their language proficiency to a higher degree than the control group meaning that the new method is much more effective in teaching English for the Students of Medicine to medical students compared to the traditional lecturing method. They concluded that although both of the methods were effective in teaching English for General Purposes to the medical students, the new method was much more efficient than the traditional lecturing method.

Fardy, Namdar, Farhadi, Noori Shorabi, and Saboori [12] conducted a study to explore the effect of CALL on the reading comprehension of expository texts of Iranian female senior. The results showed that the students who were taught through CALL were successful and CALL positively affected the reading comprehension of expository texts. Bemani Naeini [4] carried out a survey on 186 Iranian university lecturers and high school teachers, intending to obtain information about their attitudes towards using the Internet for pedagogical purposes and the suggested educational networking. Descriptive analysis revealed that most of the participants had positive attitudes towards the role of the Internet in the quality of learning and teaching as well as interaction between instructor and learner. Iranian instructors were found more optimistic about the role of the Internet in learning than their American counterparts. However, as for practical use of the Internet, Iranian instructors were behind.

3. Method

3.1. Participants

In this study, 83 available TEFL students, both male and female, participated in a test of grammar and finally 60 students whose scores were around the mean were selected

as the homogeneous ones. It should be mentioned that the research population was selected based on a non-random judgment sampling. Then, they were randomly divided into two groups of 30: a control group and an experimental group.

3.2. Instrumentation

A 50 item multiple-choice test of grammar was used a pretest to select homogeneous students. Its reliability was 0.79. Another 50 item multiple-choice test of grammar was used as a posttest to check whether there was any significant difference at the end of instruction period. Its reliability was calculated as 0.78. The KR-21 formula was used to check the reliability of both pretest and posttest. The other instrument was computer software which was employed to teach grammar to the participants in the experimental group.

3.3. Procedure

A multiple-choice test of grammar including 50 items was administered to 83 available TEFL students out of whom 60 students were selected as homogeneous and divided randomly into two groups of 30: a control group and an experimental group. The test was used as a pretest and its reliability was calculated as 0.79 through KR-21. The participants in the experimental group was taken to a language laboratory in which there were 30 computers all equipped with the software to teach and practice grammatical structures. It included some grammatical exercises and gave the students some tests on grammatical points. In the experimental group, the teacher wanted the students to use the grammar software to practice grammatical structures. Then, there were some grammatical exercises to check students' learning. The experimental group received computer-based instruction on grammar in about four hours a week for three months. The control group just received a placebo treatment on grammar for these three months through the non-CALL teaching of grammar. At the end, a multiple-choice test including 50 items was used as a posttest to depict the two groups' performances. Its reliability was .078 through KR-21.

4. Results

Grounded upon 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 29.36 and the control group received the mean score of 23.61. 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. It should be pointed out that the t-observed is 1.486.

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

Groups	N	Mean	SD	Sig.	t
Experimental	30	28.50	4.67	0.194	1.486
Control	30	30.23	5.21		

As for the descriptive statistics of the posttest, it was revealed that the experimental group using computer-based software outperformed its counterpart 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. It should be pointed out that the t-observed is 3.224 and t-critical is 2.

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

Groups	N	Mean	SD	Sig.	t
Experimental	30	35.95	5.95	0.023	3.224
Control	30	28.22	9.82		

5. Discussion

The idea of using computers for teaching purposes in subjects like modern languages arouses mixed feeling and meets with a variety of reactions. The fact that computers are used in the teaching of other subjects and are put to a great many applications in society makes one suspect that no field lays completely outside their scope and that they might indeed be of some use [9]. The present study concerning the effect of computer-assisted language learning on improving TEFL students' grammatical ability revealed the fact that employing CALL is quite effective in the context of Iran, though the results of this study are not conclusive and more studies are required in this regard. The postmethod era depicts some period in which the use of technology in language teaching appears fruitful. One of these technologies which contribute to the teaching and learning of language is the use of CALL. Most of the research studies carried out in Iran revealed the fact that teachers are required to make frequent use of CALL in their language instruction since CALL paves the way for language learners to achieve a high literacy in language learning. Even in language testing, CALL has progressed much in providing some technologies.

6. Conclusion

This research study made attempts to launch an investigation into the effects of computer-assisted language learning (CALL) on TEFL students' grammatical ability. The experimental group made use of the grammar teaching software to improve their grammatical ability. The data

obtained from the posttest revealed the fact that students' grammatical ability improved as a result of using the grammar teaching software on the computers. The control group received a non-CALL instruction on the grammatical structures. It must be stated that the findings of the study do not reject the other ways of teaching grammar, but show that CALL instruction could also be a suitable tool to teach grammar to students. The results of the present study are not conclusive and more research studies on CALL and grammar teaching are required.

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Vitae

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