International Conference on Current Trends in ELT

The Effectiveness of Computer-assisted Language Learning (CALL) on Learning Grammar by Iranian EFL Learners

Parvin Pirasteh*

Science and Research Branch, Islamic Azad University, Arak, Iran

Abstract

Despite the enormous potential of computer assisted language learning (CALL) in teaching and learning foreign language, no serious action has been taken to develop this phase of education at schools and universities in Iran. A group of 52 students were divided into two experimental and control groups. During the study, both groups were trained 15 grammar points and related examples. The result of data analysis showed that experimental group outperformed the control group. The result of study can have pedagogical implication for language teachers, in that they can use e-mail as a useful way of teaching large numbers of grammar points.

Keywords: Computer assisted language learning; e-mail; foreign language; grammar learning; grammar teaching

1. Introduction

Computer assisted language learning (CALL) is both exciting and frustrating as a field of research and practice. It is exciting because it is complex, dynamic and quickly changing — and it is frustrating for the same reasons (Hubbard, 2009). Computer Assisted Language Learning is succinctly defined in a seminal work by Levy (1997) as “the search for and study of applications of the computer in language teaching and learning” (p.1). Chapelle (2001) suggests that “This term is widely used to refer to the area of technology and second language teaching and learning despite the fact that revisions for the term are suggested regularly”. Beatty (2003) offers the following

* Corresponding author. Tel.: +98-255-422-388 45
E-mail address: pirastehp@gmail.com
characterization: “a definition of CALL that accommodates its changing nature is any process in which a learner uses a computer and, as a result, improves his or her language” (p.7).

CALL programs/materials include:

- CALL-specific software: applications designed to develop and facilitate language learning, such as CD-ROMs, web-based interactive language learning exercises/quizzes.
- Generic software: applications designed for general purposes, such as word-processors (Word), presentation software (PowerPoint), and spreadsheet (Excel), that can be used to support language learning.
- Web-based learning programs: online dictionaries, online encyclopedias, news/magazine sites, e-texts, web-quests, web publishing, blog, wiki, etc.
- Computer-mediated communication (CMC) programs: synchronous - online chat; asynchronous - e-mail, discussion forum, message board.

Though CALL has developed gradually over the last 30 years, this development can be categorized in terms of three somewhat distinct phases (Warschauer, 1996):

- The first phase of CALL, conceived in the 1950s and implemented in the 1960s and ’70s, was based on the then-dominant behaviorist theories of learning. Programs of this phase entailed repetitive language drills and can be referred to as "drill and practice" (or, more pejoratively, as "drill and kill").
- The second phase of CALL was based on the communicative approach to teaching which became prominent in the 1970s and 80s. Proponents of this approach felt that the drill and practice programs of the previous decade did not allow enough authentic communication to be of much value.
- Integrative approaches to CALL are based on two important technological developments of the last decade: Multimedia and Internet.

Multimedia technology exemplified today by the CD-ROM, allows a variety of media (text, graphics, sound, animation, and video) to be accessed on a single machine. What makes multimedia even more powerful is that it also entailshypermedia, which means that the multimedia resources are all linked together and that learners can navigate their own path simply by pointing and clicking a mouse.

Computer Mediated Communication (CMC), which has existed in primitive form since the 1960s but has only become wide-spread in the last years, is probably the single computer application to date with the greatest impact on language teaching. The emergence of the World Wide Web now known simply as "the Web" in the early 1990s marked a significant change in the use of communications technology for all computer users. e-mail, a form of asynchronous Computer-Mediated Communication, has been called “the mother of all Internet applications” (Warschauer, Shetzer, & Meloni, 2000, p.3).

1.1. Advantages of e-mail in education

Tao and Boulware (2002) suggest that e-mail communication benefits teachers by “identifying instructional focus and taking advantage of instructional moments to fit the developmental needs of their students in authentic situations” (p. 288). They also find that e-mail motivates learners, encourages authentic communication, and creates new learning opportunities. Smith, Whiteley and Smith (1999), over the course of three studies, conclude that e-mail is a “viable alternative means of course delivery” (p.24). Debard and Guidara (2000) extol the need for better and more frequent use of asynchronous communication in the higher education classroom. They find that asynchronous communication, such as e-mail, can be adopted to meet Chickering and Reisser’s seven principals of effective teaching. Debard and Guidara (2000) also point to e-mail as a source of more intensive student interaction that can lead to deeper, more active, and more engaged learning (p. 225).
1.2. Advantages of e-mail in FL learning

As many scholars have pointed out, the development of e-mail learning can turn the traditional classroom to the new and exciting place for FL learners to communicate more useful in their foreign language and continue it outside of the class. On the other hand “Because of the nature of e-mail, FL learners do not have to be in a specific classroom at a particular time of day in order to communicate with others in the foreign language” (Ganglewski, Meloni, & Brant, 2001). Other pedagogical benefits of e-mail include:

- E-mail expands topics beyond classroom-based ones.
- E-mail promotes student-centered language learning.
- E-mail encourages equal opportunity participation.
- E-mail connects speakers quickly and cheaply.

1.2. Statement of the problem

The lack of change and reform in the conventional approaches to English language education is perhaps one of the reasons for the lack of interest among Iranian students toward learning English. Materials used by English language teachers and students are mostly confined to blackboard, the course book and maybe some pictures. This is why the use of technologies such as e-mail might increase Iranian students’ motivation in learning English as a foreign language.

1.3. Purpose of the study

The purpose of this paper is to examine the potential of the computer and in particular e-mail in helping Iranian students to learn English grammar more easily and how to use it correctly. The study is designed to use e-mail to motivate students to learn English grammar more effectively.

1.4. Research question and Hypothesis

To achieve the purpose of the present study, the following research question was posed:

Q1: Does e-mail have any effect on grammar learning ability of Iranian EFL learners?

The following null hypothesis was proposed:

H1: e-mail does not have any effect on grammar learning ability of Iranian EFL learners.

2. Methodology

2.1. Participants

The participants were selected from 70 students who studied English as a general course in Islamic Azad University of Saveh. The participants’ age ranged from 18 to 23. Both male and female students participated in this project. Having administered a test of homogeneity, the researcher could finally select 52 students for the purpose of this study. The participants were randomly assigned to two experimental and control groups.

2.2. Materials

To collect the required data, several materials were employed in this study:

- Nelson Test. In order to make sure that all participants were homogenous and truly at the same level of language proficiency, the Nelson Test (100A) developed by Fowler and Coe (1976) was administered. The test contained 50 items. The reliability index of this test which was estimated through KR-21 formula turned out to be .82.
• Researcher-Made Test. In order to assess the participants' level of achievement throughout the study, an English proficiency test was developed by the researcher including 30 grammar items. The participants took the test before and after the treatment as the study pretest and posttest. By Using KR-21 formula, it was estimated that the test reliability was 0.71.

• The book "English Grammar in use" to teach English grammar and related examples.

2.3. Procedure

To ensure the homogeneity of the participants at the outset of the study, a Nelson Test was administered to 70 male and female students studying at different majors at Islamic Azad University of Saveh. They had studied English as a general course at university. Having analyzed the data, the researcher selected fifty-two participants (N=52) for the purpose of this study. They were randomly assigned into the experimental (N=26) and control (N=26) groups.

In the next phase of the study, the participants in both groups took a pretest. During five weeks of treatment (3 treatments in a week), 15 grammar points and related examples selected from the book "English Grammar in Use" were presented to both groups, to Experimental group via e-mail and control group through printed paper. Both groups were assigned to make sentences including the trained grammar points for the next session. Both groups received feedback. Control group received it orally and experimental group received feedback by e-mail. Having finished the treatment, the participants in both groups took a posttest.

3. Results and Discussion

Having collected the required data based on the mentioned data collection instruments and procedures, the researcher conducted the analysis of data and tested the hypothesis formulated for the present study.

3.1. Results of Nelson Test

To check the homogeneity of the total participants (N=70), the Nelson test, version (100A) was administered. Table 1 illustrates the descriptive statistics of participants' scores.

Table 1. Results of descriptive statistics for Nelson as homogenizing Test

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nelson</td>
<td>31.79</td>
<td>6.65</td>
<td>52</td>
</tr>
</tbody>
</table>

As the result in table1 show, mean is 31.79 and standard deviation is 6.65. Here, only participants (N=52) whose scores fall within one standard deviation below and above the mean, i.e. between 25.14 and 38.44 were found valid to be included as the subjects of this study in control and experimental groups. The other participants (N=18) were found missing and were excluded from the study. Meanwhile, to ensure true homogeneity of the participants (N=52) in control and experimental groups, an independent-samples t-test was conducted. (Table2).
As the results in Table 2 show, there is no statistically significant difference between control (M=33.09, SD=7.31) and experimental (M=33.14, SD=6.45) groups with regard to language proficiency which confirms the homogeneity of the participants at the outset of the study.

### 3.2. Result of study pretest

To compare the participants’ performance on the researcher-made test in control and experimental groups at the outset of the study, an independent-samples t-test was conducted.

As Table 3 shows, participants in both experimental (e-mail) group (M=16.07, SD=3.80) and control (paper) group (M=15.04, SD=4.07) are similar before the treatment begins.

### 3.3. Result of study posttest

As mentioned in materials, participants in control and experimental groups took the same pretest as the study posttest. A t-test analysis was conducted to compare their scores. Table 4 shows the results for this analysis.
As table 4 reveals, participants in experimental (e-mail) group (M= 20.82, SD=2.82) significantly outperformed (p=0.00) those in control (paper) group (M=18.03, SD=3.56) in learning grammar points and their performance in posttest. As can be seen, the results of this study are in agreement with the result of the studies with similar and related issues that cited in this paper. The results of this study might be helpful to prove the positive effectiveness of CALL in learning grammar by Iranian EFL learners, but more research is needed in order to determine CALL effectiveness in other area of English learning.

4. Conclusion

As the findings of this study demonstrate, computer as a tool and e-mail as an application can help students to increase their grammar learning. Since the e-mail can be sent easily in specified times and intervals, they can be stored for later retrievals. The findings also showed that acquiring grammar point sent through e-mail can be effective in improving learners’ grammar scores.

Since the use of computers and consequently internet is expanding rapidly in Iran, EFL teachers can be encouraged to employ e-mail as an available supporting learning tool to facilitate language teaching. It can be happened because of increasing interest and motivation of students due to use of technology such as e-mail as a new material for learning English. In case e-mail is used properly, teachers can devote the constrained class time to other productive skills.

References