The impact on English learning software Moodle

N. Feizabadi (MA)
MA of Educational Technology, Iran (Corresponding Author)

Kh. Aliabadi (Ph.D)
Associate Professor of Allameh Tabataba’i University, Iran

M. R. Nili Ahmadabadi (PhD)
Associate Professor of Allameh Tabataba’i University, Iran

Abstract

Despite the vast expansion of Web-based tools is still as good, useful and convenient tool to enhance the learning and teaching English language learners in areas not provided. This study aimed to impact on English learning software Moodle is done. The research method was quasi-experimental with pretest - posttest control group was using. Research in one of the schools in the city of Karaj, with 32 students who were selected by random sampling method to the test and control groups were replaced. Measure the dependent variable (learning) for both groups were at one time and under one condition. The experimental group for 6 weeks was exposed to the independent variable. The results showed no significant difference between the experimental group and the control group and the software Moodle has had an impact on language learning. Moodle as one of the new tools, the ability to change the teaching and learning is significant and can be fair use quality teaching and learning in education systems improved.

Keywords: Learning Management System (LMS), software Moodle, English.
Introduction

For years, people have held classrooms, at least in many cases, without using computers and the Internet: chalk, boards, and markers have been the most common means of teaching, and the physical presence of teachers has been inseparable with the concept of education. However, growth and technological progress have drastically affected teaching methods and experiences of classrooms. Accordingly, old ways and tools can no longer meet the needs of teaching processes, the result of which is the alternative technologies and new educational methods replacing traditional methods (Wang, Shousan, 2000). Due to the increasing expansion of computer, its being inclusive worldwide, and the Internet development, most of the systems have been affected by this technology nowadays. Education has been no exception in this regard. Technological progress has affected various arenas and aspects of human life including language education in the twenty-first century. Language has long been one of the main methods of communication between human beings and human societies. Thus, language teaching professionals and planners have constantly tried to suggest innovative methods and new ways to teach the language to their students. The phenomenon of globalization has played a significant role in this process. Globalization- known as "The fluid flow of ideas, ideologies, persons, goods, images, messages, information, and technologies and techniques" (Appadurai, 2001) - has paved the way for development and piercing of the English language among different nations. This is because English is the language of trade development and global economy, discoveries and inventions, and international relations.

Since the formation of communication skills requires teachers-students interaction and the interaction between students, computer, as a support tool though only in some skills, entered learning-teaching process (Brandle, 2005). Today, with the rapid expansion of information technology facilities, including high-speed internet with wide bandwidth and unlimited storage capacities, the level of the duties assigned to the computer has risen dramatically in the area of language teaching. The list of IT-based facilities is expanding every moment (Son, 2011) and these changes are in line with social-constructivist the theory in the field of educational psychology and communicative methods of language teaching.

Bax (2003) divides Computer-Assisted Language Learning (CALL) into three periods. The first period, he calls Restricted CALL, from the late 1960s to early 1980s, encompassed closed drills and quiz. Learners rebuilt the texts, give short answers to closed questions, and there is actually little interaction with other learners. The kind of feedback teacher offers is limited to learners' right or wrong responses. During this period, the teacher is considered as an observer and views the issue with an exaggerated fear or admiration. In this view, technology is considered as an ancillary and optional issue. In this type of attitude, computers are in a separate computer workshop.

The second period of CALL started from 1980 and can be said to continue to this day. The period, Stephen Bax called Open CALL, simply contains the assignments and activities such as simulation, games, and Computer-Mediated Communication, where students interact with computers and sometimes interact and communicate with other learners as well. Here, teacher feedback focuses on developing language skills and is flexible. During this period, teachers are still perceived as observers and guides, and attitude towards using computers in teaching
continues to be with fear or exaggerated admiration. CALL is not considered as an integrated part of the curriculum and syllabus, and like the first period, technology has priority to syllabus, the needs of learners, and the lesson and the whole classroom is focused on learning with the help of computers. In this period, computers are in a separate location called computer workshop and may only be considered for language training.

Third period that includes the future of CALL is called Integrated CALL (Bax, 2003). Here, assignments are more in form of e-mails and the like; learners often interact with one another and occasionally interact with computers due to lessons. Teacher feedback in this section is more in form of interpretation, evaluation, comment, and motivating learners' thinking and the teacher is considered as the supervisor of learning and the manager. Teacher sees computer and technology as a normal and integral part of language learning, and computer and technology are seen as normal and everyday tools of language learning, included in the curriculum and syllabus based on the needs of learners. In this view, studying needs of learners and the specific learning stratum have precedence over technology and the decisions over using it. Technology is a small part of each lesson and computers are in every classroom, on every desk, and even in students' bags.

**Learning Management System (LMS)**

LMS is software that manages an organization's learning. The system enables access to a series of educational resources. Carol Fallon defines learning management system as a Web-based software that allows managing and doing necessary studies to monitor the use of educational content and its results. Although he believes that different systems have different features, these features can be classified in two general categories:

- Management functions such as adjusting the course, learner registration, allocation of the course and reporting of student progress based on data such as grades, final and interim period facilities, time spent on the course, and the final status upon completion of the course.

- The intersection of learner includes a page where by using ID and password, the learner enters LMS, so that through a menu or specific page have access to educational content that is dedicated to him and understand the status of his progress according to test scores (Falun, Brown, translated by Bagheri, Hossein kuchak, 2004).

Learning Management System should be capable of leading people in a series of courses (virtual and on-line classroom, enrollment management and storage of information, simultaneous managing of various components involved in education, training resources management and providing them, management of permissions and security issues, saving progress of practice of interaction management of student, developing tests and managing a variety of training patterns. Each Learning Management System should provide comprehensive information and training. These facilities are used to support the student (Lee, 2004).

LMS is software that manages learning of people in an organization that by having all the necessary facilities for training supports and controls teaching-learning process. LMS is software that can help faculty members and students in the process of e-learning. In the last decade, the use of learning management systems to teach and disseminate knowledge among the Web has increased significantly (Cuéllar, Delgado, & Pegalajar, 2011). In other words, LMS
is a strategic solution for planning, delivering, and managing all training events, and its focus is on learners' management and tracking their progress and their ability in the set of educational activities.

LMS is an infrastructure for e learning and manages learners' progress and activities (Mirzaee, Shabani Nia, 2013). Nowadays, LMSs enables use further share documents, forum, blogs, bookmarks, and folders (Cuéllar, Delgado, & Pegalajar, 2011).

Other advantages of LMS, the following can be mentioned:

- constant and easier connection of the students with each other and teachers, so that there will be access and communication at any time of the day.
- perpetual access to the contents of textbooks and lecture notes of professors in archived and classified forms.
- the possibility of extension of time of quizzes and assignments for some times out of time and throughout the day.
- having the latest communication technologies and interactivity such as blogs and encyclopedia.
- giving students' grades online and immediately after submission of assignments and quizzes.
- students' perpetual access to the most up to date materials and handouts.
- registering any reports and activity processes of students so that all the hours of entry and exit times and actions of the students are registered in the system.
- using online forums and chat rooms for uploading questions and getting answers

**Moodle**

Moodle is a free learning management system. Open source software for creating Internet-based lessons. Open source software source-code is the software that along with source-code this is the distinctive feature of it is available at no cost. Open-source software brings about changes in the nature of software business and this change is especially effective in education. Access to open source code has changed the method of using the software by schools, institutions, and students, and operating systems for educational purposes (Kamkarhaghighi et al, 2011).

(Modular Object Oriented Dynamic Learning Environment (MOODLE) is considered as one of the famous and free software packages of LMS in universities in Europe and America (Beaty, & Ulasewicz, 2006). Moodle is designed based on a mode of learning knowns as social constructivism. This style of learning is in the form of interaction. Based on the philosophy of this style, people learn better when they are involved with educational content, make new items for others, and communicate with other students about content and teaching materials. The difference between a traditional class and a class that follows the philosophy of social constructivism is the difference between speech and debate (Rice, 2006).

In line with social-communication methods within educational psychology (Jonassen, Peck & Wilson, 1999), which aims to put social interaction in order to grow, Moodle creates an environment for constructive interaction between teacher and students. In this environment,
features such as chat, forum, wiki, glossaries, and workshops can be added to the course. Social activities in a training course strengthen and encourage students to interact with each other. Interaction is one of the most powerful learning tools that Moodle has offered. These capabilities would make courses attractive, because during the period, students can share their knowledge with the help of them that leads to the increase in participation and satisfaction of the students (Rice, 2006). During the course, the performance of students is registered and given for students and teachers by training reports.

In addition, all educational activities of the virtual environment create the possibility to provide qualitative and quantitative feedback, a feature that puts Moodle superior compared to similar packages (Brandle, 2005). Of the characteristics of this system, one can refer to the possibility to manage registration and store personal information of students, administrators access to educational databases, the ability to expand the system by increasing in the number of users, the possibility to support courses produced by manufacturers, assessment, testing and examining students and teachers, training resource management, close supervision on learner while presenting the content, test management, announcing the result, and suggesting the next stage of learning after lessons.

Since September 2007, Moodle is translated into more than seventy languages and by supporting UTF-8 standard, a standard used to display non-Latin characters such as Farsi, Arabic, Chinese, etc., it allows the user to develop systems with different languages. In addition, Moodle guide is very comprehensive and dynamic. In any part of this virtual environment, there are yellow question marks that clicking on them gives guides of the site to the user.

Several studies have been conducted about e learning and ICT in education that often suggest the usefulness of these tools to create learning. In the following, we review the results of the studies that have reflected the effect of technology on learning.

In a study, Ebrahimabadi (2008) showed that according to an additive effect, generally there is no significant difference between mean scores of experimental and control groups in the learning, except in the level of its implementation and higher. At the same time, the results showed that there is a significant relationship between the mean scores of both experimental and control groups in progress motivation, and training via the web has been significantly effective on educational achievement motivation. Karami (2012) conducted a study titled "The Impact of designing in-service Web-based training, communication, and messaging courses in fire department of Karaj on learning and satisfaction levels of employees."

The results showed that employees examined had considerable satisfaction with respect to Web-based training courses and messaging communications. In addition, the course had a positive effect on employees' learning. In a study, Keshavarz, Rahimi, and Ismaili (2013) found that in academic achievement of the students of Isfahan University of Medical Sciences, e learning is more effective than the average. Students of e-learning process learn the content deeper and their personality and self-esteem increase in a positive direction. By studying the effect of Internet and Internet based learning of English, Hilary (2000) concluded that by taking advantage of these features, students earned more academic-achievement, and these tools improved English language skills of students. Using a quasi-experimental research in an academic term with the
help of internet, Dela Cal (2001) taught English to students, and in the end by checking their scores concluded that the tool enhances student learning, cooperation and collaboration, the development of language skills, especially the correct pronunciation of the words. Chaung Kung & Chuo (2002) conducted a study entitled "The impact of the Internet on learning: conversation, reading comprehension and writing." The results showed that the use of the Internet could increase learning English in various parts. Almekhlafi (2006) conducted a study called "The impact of computer-assisted language learning on the development and motivation of school students in English courses as a foreign language in the United Arabic Emirates. The results indicated a significant difference between the two groups in favor of experimental groups. In studying the effect of computer-assisted instruction on the academic achievement of high school students in social studies, Adeyemi (2012) concluded that the use of computer has a significant effect on the academic achievement of students in this course.

Research methodology

The present study is a quasi-experimental study using two experimental and control groups. The population of the study is English language learners of institutes of District 12 of Karaj. Thirty-two students were selected with random-convenience method and randomly assigned into two groups: control and Experimental. In this study, the experimental group was exposed to the independent variable tested in this study (Moodle). The control group participated in previous and common program. Measuring the dependent variable (learning) for both groups was done at one time and under one condition. Before the entry, the independent variable pre-test was done in both groups. Then the experimental group was exposed to the independent variable for six weeks. The practice was thus: after creating the resources and content on Moodle software, to attend the class, the students had to enter username and password to get into the learning environment. Learners studied the resources through this medium, received online training, and debated issues with each other. Assignments were also on the Moodle software and learners performed these tasks electronically and sent them to their master. Moreover, the students attended the class simultaneously using video conferencing and teachers attended classes at the same time via the Internet interface to communicate with students and provide the necessary training. In this environment, students were able to review the tasks and activities of their friends as well. The second group (control group) continued the previous program that was education in a traditional setting.

Measurement instrument included a teacher made test according to course objectives and confirmed by the school administrators. To determine the validity of pre-test post-test, content validity method was used.

Thus, the course instructor prepared the first 30 questions. Then a number of experts in language lessons examined the prepared questions. Inappropriate questions were removed and replaced by proper questions, and finally, the test was designed with 30 questions. For the reliability of the test, the reliability of the editors was used for consistency.

Data were analyzed using SPSS software, in descriptive statistics, mean, percentage, and standard deviation, and in inferential statistical analysis of covariance were used.
Findings

One-way analysis of covariance (ANCOVA) was used to test research hypotheses. The use of this test is because in this research, the researcher has used pretest as a control variable to control the effect of the preparation and adjustment of these variables. To use covariance analysis, a few assumptions must be established, because non-compliance with these assumptions may make the results biased. These assumptions are normal distribution of data, condition of equality of error variances (Levene’s Test), and the condition of homogeneity of regression lines. To be sure, these assumptions were tested and the results showed that the use of this test is accepted.

Table 1 shows the mean, standard deviation in pretest and posttest scores in both experimental and control groups.

Table 1: Descriptive statistics of exam scores separately for groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>English course</td>
<td>Pretest</td>
<td>3.11</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>21</td>
<td>1.52</td>
</tr>
</tbody>
</table>

As can be seen, the mean of learning after the intervention in the students of the experimental group is 22.47±1.28 and in control group, it is 21±1.52. The findings show that the mean of the experimental group increases compared to the control group. To ensure that the control and experimental groups are equivalent, the same in terms of the parameters studied, they were tested using Levene’s Test. The results of the test showed that the value of F (p>0.05) is not significant, so the assumption of the similarity assumptions will be verified and with respect to other assumptions, statistical test can be performed to analyze the data.

After, three assumptions (Normality of the variable, the uniformity of the slope of the regression and homogeneity of variance) were reviewed and approved, the analysis of covariance test can be used to the hypothesis. Results are shown in Table 2.

Table 2: Covariance analysis of posttest in two groups about learning variable

<table>
<thead>
<tr>
<th>Statistical Indicators Variables</th>
<th>Sum of squares</th>
<th>Degree of freedom</th>
<th>F</th>
<th>Significance level</th>
<th>Effect size</th>
<th>Test power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>2.906</td>
<td>1</td>
<td>1.496</td>
<td>0.231</td>
<td>0.049</td>
<td>0.219</td>
</tr>
<tr>
<td>Group</td>
<td>18.347</td>
<td>1</td>
<td>9.446</td>
<td>0.005</td>
<td>0.246</td>
<td>0.844</td>
</tr>
<tr>
<td>Total</td>
<td>56.238</td>
<td>29</td>
<td>5.926</td>
<td>0.022</td>
<td>0.298</td>
<td>0.862</td>
</tr>
<tr>
<td>Total</td>
<td>15192.750</td>
<td>32</td>
<td>2.346</td>
<td>0.025</td>
<td>0.298</td>
<td>0.862</td>
</tr>
</tbody>
</table>
According to Table 2, the results of analysis of covariance between the two groups by reducing the effect of pretest, in learning variable (with a degree of freedom 1, significance level of F=9.446, and significance level 0.005) was approved. Independent variable with size effect of 24 percent explains learning variance and test with the power of 0.844 has rejected the null hypothesis.

Conclusion

The present study was designed to investigate the effect of Moodle software in English language learning. Overall, the findings suggest that Moodle software has a positive impact on the learning of students in English courses. There was no significant difference in the mean scores of learners in pretest (experimental group mean = 2.98 and control group = 3.11). However, after being trained by the Moodle software, the experimental group received better scores than the control group and the mean scores of experimental group was higher than the control group in posttest (Mean scores of experimental group = 22.47, mean scores of the control group = 21). The results of the covariance analysis between two groups in posttest, by excluding the effect of pretest, in learning variable with 1 degree of freedom, F=9.446, and a significance level of 0.005 is approved. Independent variable with effect size of 24 percent explains the variance of learning and test has rejected the null hypothesis with power of 0.844, and the effectiveness of teaching with Moodle software on learning English was confirmed.

The effectiveness of e learning tutorials on learning has been approved some experts and previous research. The results of these hypotheses are consistent with the studies by Ebrahimabadi (2008), Karami (2012); Keshavarzi, Rahimi, Ismaili (2013), Hilary (2000), Dela Col (2001), Chaung Kung & Chuo (2002), Almakhlafi (2006); John Koska and Attlee (2008) and Ademeyi (2012).

It can be said that given the challenges faced by the education system and opportunities created through the development of information and communication technology, and transformations that are taking place globally, the use and development of web-based training will be very useful and effective. LMS as a new tool has a great ability to change teaching and learning, and one can promote the quality of teaching and learning in education systems by proper use of them.

This present research faced limitations: lack of access to a larger sample due to variety of reasons, lack of cooperation and appropriate welcome by the authorities, and lack of computer equipment at the institute to conduct the research. Personality and taste of the teacher assigned to work may be effective on the results. Lack of cooperation and responsiveness of some students in timely sending of the assignments and interaction in LMS, the absence of restrictions on the selection of the sample due to lack of appropriate technical infrastructure for the implementation of e learning, the limited research results to girl students, and caution in generalizing the results to boy students are of other limitations.

As the results showed that language learners using LMS (Moodle software) have better learning compared to language learners using traditional environments, it can be concluded that the
application of learning management system as a new tool promotes English language learning in the language learners. Therefore, for the quality of education, planners of learning in higher education are recommended for trying hard to design web-based programs and integrate program with computers and Internet to the growth and development of this language as a second language.
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