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SECTION 24. Sociological research.

COMPUTER-ASSISTED LANGUAGE LEARNING: THE EFFECT OF CALL ON IRANIAN EFL LEARNERS WRITING PERFORMANCE

Abstract: *It should be borne in mind that CALL does not refer to the use of a computer by a teacher to type out a worksheet or a class list or preparing his/her own teaching alone. The field of computer-assisted language learning (CALL) is, by the very nature of its dependence on technology, one that is in a constant state of change. Given the centrality of technology in CALL, any discussions of theory, research or practice must take into the consideration the impact that technology has, not only on the learning process, but also on the reasons for and the focus of research undertaken in the field, and the range of factors which may contribute to how and why technology is employed in a given context. The purpose of this study was to investigate attitudes toward computer-assisted language learning among 60 Iranian secondary school students. The methodology employed a replication design and questionnaire approach. T-test analysis of variance procedures were used to evaluate relationships among the independent variables and the attitude survey responses. Findings indicated that Iranian college students hold positive attitudes toward learning English, using computers, and using computers when learning English. Moreover, male Iranian college students held more favorable attitudes than females toward the use of computers when learning English.*

Key words: *computer, attitudes, computer-assisted language learning, technology.*

Language: *English*

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Introduction

During the past few years, computer-assisted language learning software (CALL) has gained an ever more prominent role in foreign language instruction. With an increasing amount of software available in the market, language teachers need to be able to identify good software, which is suitable for their students. The best way to identify the most suitable software is to undertake software evaluation both to compare software and to identify useful features. The expression 'computer-assisted language learning' (CALL) refers to a variety of technology uses for language learning including CD-ROMs containing interactive multimedia and other language exercises, electronic reference materials such as online dictionaries and grammar checkers, and electronic communication in the target language through email, blogs, and wikis. These varied technologies used by language learners have spread over the past several years across many language classrooms and beyond. The main aim of CALL is to find ways for using computers for the purpose of teaching and learning the language. CALL is variously known as Computer-Aided Language Learning (CALL), Computer-Assisted Language Instruction (CALI) and Computer-Enhanced Language Learning (CELL). The first two terms generally refer to computer applications in language learning and teaching, while CELL implies using CALL in a self-access environment (Hoven, 1999).

Review of the Related Literature

Computers in Language Acquisition

Despite its brief history, computer-assisted language learning (CALL) has been informed by a wide variety of theories, and that variety appears to be growing. In the first section of this chapter, we describe the concept of theory in this field and discuss its role in illuminating what happens when

humans interact with materials and one another through the mediation of digital devices, programs, networks and tools in the pursuit of language learning objectives. In the late 1970s and early 1980s, language teachers with access to the new desktop 'microcomputers' and an urge to tinker began creating their own simple programs to support their students' learning. In time, a critical mass of these language teachers and their institutional support staff would converge at language teaching conferences and create an embryonic field, widely, though not universally, known as computer-assisted language learning (CALL). 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). Learning English as a second language is a great challenge for students from a non-English speaking background. It is not the natural language acquisition seen in first language learning. Learners have to depend on various learning resources to ensure success. These resources include interacting with native English speakers, effective teaching methods, appropriate technology and the ability of the learners to manage their learning. Computer technology has permeated society in general and education in particular. While computer technology has created an impact in education, the debate on its role in teaching and learning has not settled comfortably. The abbreviation CALL stands for Computer Assisted Language Learning. It is a term used by teachers and students to describe the use of computers as part of a language course. (Hardisty & Windeatt: 1989). It is traditionally described as a means of 'presenting, reinforcing and testing' particular language items. The learner is first presented with a rule and some examples, and then answers a series of questions which test her/his knowledge of the rule and the computer gives appropriate feedback and awards a mark, which may be stored for later inspection for the teacher. According to Pusack and Otto (1997), one type of CALL is multimedia which can be very valuable to students during the process of language acquisition. Through multimedia simulations, students have the chance to join in activities as if they are in the target culture (Pusack & Otto); they may become effective participants in a situation and play a role in its outcome. These programs have been shown to be very effective because learners think that they are actually using their language skills to complete something, rather than simply practicing grammatical features (Chiquito, Messkill, & Renjilian- Burgy, 1997).

Anxiety in Computer-Assisted Language Learning

Previous studies have also suggested that one of the benefits of computer-mediated interaction is the potential to reduce learners' anxiety levels (Chun, 1994; Kelm, 1992; Kern, 1995; Sullivan & Pratt, 1996; Warschauer, 1996; Abrams, 2003). As Beauvois (1992) points out, the reduced sense of immediacy in SCMC, when compared to F2F, provides learners with additional time to process input and produce output. This added time is typically going to be beneficial to some learners with greater levels of anxiety or for learners with lower proficiency levels. In addition, Kern (1995) found that introverted learners may be more likely to participate in SCMC contexts, with students reporting that they felt 'freer' to take part in the interaction. According to Beauvois (1997), computer-mediated contexts provide 'an anonymous, less pressured environment that tends to lower the affective filter' (p.171), potentially providing anxious or introverted students with additional interactional opportunities. Furthermore, due to the additional processing and planning time in computer-mediated interaction, which provides learners with opportunities to reflect on what was said before responding (Beauvois, 1992), SCMC interaction, particularly text-based modalities, may place lower social demands on learners, thereby reducing their levels of anxiety (Baralt & Gurzynski-Weiss, 2011). For some students, this type of classroom environment might lead to not only reduced learner opportunities, but also negative effects on learner motivation (Yang et al., 2012).

Attitudes and CALL

Baker (1992) outlined the importance of attitudes as a fundamental variable because of its close connection to a person's construct system and its value as an indicator of public opinions and viewpoints. Just as positive attitudes toward restoration of health are important, similarly positive attitudinal orientation toward a language (Mian, 1998) and CALL (Min, 1998) is also important. A positive and healthy attitude feeds into the language's restoration and preservation while negative and unhealthy attitudes cause decay and death of the language. Language consensus provides us with a measure on the health of the language; it reveals possibilities, problems, improvements, and changes in first, second, and/or foreign languages.

Statement of the Problem

The teaching context often determines the role of CALL. In an English as a Second Language (ESL) environment, the communicative CALL program often supplements and augments the classroom activities by providing games for practice or word

processing for composition (Nutta, 1996). Introduction of new pedagogical tools does not reject, but includes programs and methods of the previous phase, representing inevitable innovation that gains acceptance slowly and unevenly. Multimedia computing, the Internet, and the World Wide Web have provided an incredible boost to Computer Assisted Language Learning (CALL) applications, offering a wide variety of educational, programs, resources, software, journals, organizations, software tutorials including all types of exercises for grammar drills, vocabulary, listening and pronunciation exercises, games, etc. After giving a general picture of CALL development, this article focuses on exploitation of the language resources and learning materials that are accessible on CD-ROMs and on the Internet, presents two CALL projects, and reports experiences in partner universities. In terms of theoretical approach, practice, computer and communication technology, CALL represents a challenge for the teacher and for students as a new medium of exploration.

Significance of the Study

Learning English as a second language is a great challenge for students from a non-English background. It is not the natural language acquisition seen in first language learning. Learners have to depend on various learning resources to ensure success. These resources include interacting with native English speakers, effective teaching methods, appropriate technology and the ability of the learners to manage their learning. This is an interventionist approach to literacy education. The role of computers in second language teaching is now being discussed by foreign language teachers, educators and psychologists. Computers have been considered as tools, teachers by themselves or threats, depending on the different approaches to the matter. The essence of CALL is to determine how technology may play a role in the teaching and learning of a second language. How exactly technology may be used to achieve this will depend very heavily on what technologies are used, as this will necessarily have an effect on when, where and how the technology can be applied to the language learning context. As the use of CALL grew over time, a variety of second language acquisition theories came to inform pedagogical practice and innovation as well as research on the effectiveness and outcomes of technology mediated practice and communication. In a CALL context, the application of distributed cognition is immediately obvious. For instance, if we look at the process of learning vocabulary, it is evident that there are several ways in which the learning process may be somewhat different than learning through non-technological means. Learners may be able to input the vocabulary that they wish to learn into software that can automatically create questions for them, be they in context or using other tools.

Research Questions

In the interdisciplinary field of Instructional Technology (IT) and Second Language Acquisition (SLA), numerous studies have been conducted to examine the following two issues:

RQ: Does CALL have any positive effect on Iranian EFL learners writing performance or not?

Methodology

This study was conducted using *an experimental research* design and was comprised of two experiments. The independent variable was the method of grammar instruction, i.e., the traditional classroom teacher-directed grammar instruction and the CALL grammar instruction. The dependent variables were scores on three separate criterion-referenced measures of passive grammatical forms. In addition, one of the features of the *Azar Interactive* online program is that it records the number of hours learners spent using the program. Also, to address experimental mortality, it was determined that students who spent less than two hours on the practice exercises and activities on the *Azar Interactive* online courseware would be excluded from the data analysis processes.

Participants

The participants of the present study consisted of 45 intermediate EFL learners aged within the range of 21 to 24 years. The sample was comprised of male learners at the intermediate level of English language proficiency studying at Islamic Azad University of Tabriz in Iran. In the present study, the sample selection was done in a larger sample of 60 intermediate EFL learners were selected randomly and a piloted language proficiency test, OPT Test was administered to them. Following the administration of OPT, 46 intermediate EFL learners whose scores fell within the range of one standard deviation above and below the sample mean were chosen as the participants to take part in this study.

Instrument

In order to compare the effect of treatment on students' writing performance, two IELTS writing tasks were adapted from samples of IELTS writing tests (pre-intermediate) as pre- posttest. Moreover, due to the level of the students, the researcher selected the descriptive essay writing. The test was

submitted to a panel of five experts who were instructors in the English language and another panel of 10 individuals who majored in English education. The majority of these individuals possessed academic credentials at the level of a master's degree or above. The instrument had a Cronbach alpha of .91 for overall attitude measurement. The students were asked to write about the following topics: "Describe a memorable trip you took ", as a pre-test. And for a posttest, "Describe the first time you met one of your friends". To achieve the purpose of the study in controlled and guided writing classes, the students practiced Jack c. Richards and Chuck Sandy's (1998) book titled *Passages –pre-intermediate.* The most emphasized parts of the book for the class were the grammar, discussion, and writing sections.

Findings &Results

The research question was "Does CALL have any positive effect on Iranian EFL learners writing performance or not?" Table (1) shows the descriptive analysis for the pretest and posttest of general English in the experimental group of the study:

Table 1

Descriptive results of the experimental group of the study.

	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	23	15.2343	1.52120	0.40024
Post-test	23	17.6011	1.02150	0.34773

As it is indicated in table (1) the number of participants has been 23 in each experiment (N=23). There has been no missing value which shows all selected students took part in the experiments of the study. The mean for the pretest scores of general English exam in the experimental group was shown to be 15.2343, as compared to the mean for posttest scores in the same group which was 17.6011.As for the standard deviations obtained for the experimental group, there seems to be more variability among the pretest scores than the posttest. This confirms that group work learning led to better achievement and was effective in better learning. This may demonstrate the participant's posttest scores are more homogenous after conducting the treatment of the study. The same descriptive analysis has been done for the pretest and posttest of general English in the control group of the study. As you can see in table (2) below:

Table 2

Descriptive results of the control group of the study.

	N	Mean	Std. Deviation	Std. Error Mean
Pre-test Cont	23	15.0333	1.09807	0. 2415
Post-test Cont	23	15.0542	1.07425	0.1961

Table (2) shows that the number of participants has been 23 in each experiment (N=23), and there has been no missing value. The mean for the pretest scores of general English in control group was shown to be 15.0333 as compared to the mean for the posttest scores of the same group which was shown to be 15.0542.As for the standard deviation obtained for the control group, there seems to be more variability among the pretest scores in the poet test.

Table3

Independent Samples T-test results of the study t-test for Equality of Means.

	Levene's Test for Equality Variance		T-Test for Equality of Mean						
	F	Sig.	T	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence interval of the Difference	
								Lower	Upper
Writing Equal									

Variances comprehension assumed	0.000	0.756	0.079	58	0.0093	0.5556	.69923	-1.36545	1.47657
Equal Variances not assumed					0.0093	0.5556	.69923	-1.36555	1.47666

Table (3) shows that the observe T-value of the study was calculated as to be (3, 2) and the degree of freedom was (58). The level of significance was calculated as to be 0.000. In each group of the study, the results have been illustrated in the table (4).

Table 4

Paired Sample results of the study.

	Observed T	**Critical T**	**df**	**Sig. (2-tailed)**
Pre-test Ex- Post-test Exp	3.541	4.045	33	0.089
Pre-test Cont Post-test Cont	0.817	2.045	29	0.042

According to table (4), the covariance between the two sets of pretest and posttest scores in the experimental group is 3.541 while it is 0.817 in the control group of the study. The critical T in two groups is different. The hypothesis of the study which aimed the effect of CALL devices on Iranian EFL learners ' writing performance was rejected. Because observe T is less than the critical T. And the level of significant is 0.05.

Discussion

Information and communication technologies have never been more interesting due in large part to their intimate integration into everyday life. The role of computers in second language teaching is now being discussed by foreign language teachers, educators and psychologists. Computers have been considered as tools, teachers by themselves or threats, depending on the different approaches to the matter. Two different groups of criticism were formed at the beginning: on the one hand, those who thought that computers would usher language learners and teachers into a new era and that all learning problems could be solved by using computers in the classroom; on the other hand, those led by Ludite prejudices, worried about their jobs and always afraid of machines who thought, and still think, that computers are not only useless but dangerous from all points of view. As the use of CALL grew over time, a variety of second language acquisition theories came to inform pedagogical practice and innovation as well as research on the effectiveness and outcomes of technology mediated practice and communication. However, it is also the case that many CALL specialists have exhibited the understandable tendency to become focused on the technology while perhaps attending less assiduously to emerging trends and current findings in second language acquisition, and more broadly, from research on human development. However, the attitudes of learners toward CALL could play an important role in language acquisition. Unfortunately, researchers and scholars within Iran lack important information in this area. For this reason, a research study which investigates learners' attitudes toward CALL in Taiwan may provide an empirical base for future studies on EFL learners' attitudes toward CALL. Evaluation of CALL in relation to SLA is addressed in this part of the essay. It is a fact that teachers and students use computers for many different purposes and in many different ways. Therefore, language teachers and researchers need to have a clear idea of what kinds of CALL tasks promote and are beneficial for SLA. It is also true that software developers not always have a clear idea of what is needed in terms of successfully enhancing SLA. That is why an important degree of responsibility relies on teachers and their ability to determine some criteria for what can be considered effective CALL. According to Chapelle (2001), three aspects must be taken into consideration: findings and theory-based speculation about ideal conditions for SLA, a theory of articulation needs to be articulated, and criteria and theory need to apply to software and the task learners will carry out. More than a checklist to evaluate CALL, teachers and administrators need to establish solid criteria for CALL task appropriateness. Chapelle (2001) establishes some basic principles. These elements are language learning potential, learner fit, meaning focus, authenticity, positive impact, and practicality. These are important ideas on the evaluation of CALL in relation to SLA.

Conclusion

The role of computers in language teaching has changed significantly in the last three decades. Previously, computers used in language teaching were limited to text. Simple simulations and exercises, primarily gap-filling and multiple-choice

drills, abounded. Technological and pedagogical developments now allow us to integrate computer technology into the language learning process. Multimedia programs incorporating speech-recognition software can immerse students into rich environments for language practice. Since the computer is capable of playing so many different roles in and out of class, it is believed to be the most exciting and potentially useful aid so far available to language teachers and learners. By the way, the computer is a mechanical device which can be used well or badly. Without careful choice and preparation of materials, careful lesson planning and classroom management, and training of both learners and teachers, the computer is useless. Therefore, the teacher plays a significant role in implementing the computer into the lesson plan.

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