

The Effectiveness of Using Computer Assisted Language Learning (CALL) in Developing ESP Learners' Some English Writing Sub-Skills

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Abstract

This study was conducted to explore the effectiveness of Computer Assisted Language Learning (CALL) on the development of some English writing sub-skills (paragraph, grammar, spelling, punctuations) of ESP University students of Engineering. Participants of the current study were 38 students, divided into two groups (experimental and control), with 19 each. Being pre-tested, no significant difference existed between the groups. After the treatment (teaching & learning writing sub-skills) by using the CALL, only to the experimental group, while the regular method was applied to the control one. The findings revealed that the experimental group in post-tests outperformed the control group in 3 CALL writing sub-skills (paragraph grammar and punctuation), whereas in the spelling skill, no considerable difference existed between the two groups. The study suggests that CALL English writing sub-skills could be more functional and beneficial both linguistically and socially if, as much as possible, highly-prepared computer software learning programs as Computer-Assisted Writing (CAW), and well trained English learners are more integrated.

Keywords : *cooperative assisted language learning, computer assisted writing, writing sub-skills, English for specific purposes.*

Introduction:

Technology has become an inseparable part of today's world and this is quite obvious in the field of foreign language instruction. Its use in teaching and learning English has actually dominated the pedagogical debates and discussions and made the luminaries and pedagogues in the area investigate the possible positive outcomes of its application of modern technologies in such a way to bring about interactive, interesting and dynamic outcomes. Obviously, the skill of English writing with the help of modern computer software has been essential in English language instruction especially with the incorporation of computer-assisted language learning (CALL) into the ELT curriculum. Actually CALL is meant to supplement face to face language instruction and not to replace it.

Plainly, English language E-learning laboratories are supposed to be equipped with the most up-to-date hardware and software in addition to availability of internet connection. Testing, dictionaries, sending and receiving from and to lab-learners are available to enable the instructor to control and display what he plans in his instruction. Many studies indicate that CALL provides an innovative and effective alternative for language instructors (Warshauer and Healey, 1998; Stepp Greany, 2002).

Furthermore, CALL would allow learners to progress at their own pace and work individually to

solve learning problems, provide immediate feedback, allow learners to know whether their answers are correct or not, and provide them with the correct answer if they are mistaken. Undoubtedly, English writing plays fundamental intercultural and transnational roles in business, and governmental activities across the world's geography (Parks, 2000; Thatcher, 2000). Writing has been called the core of education and the path of language learning. Kroll (2003) believes that writing is an integral part of the higher education system in the United States, while Leki (2003) is of the opinion that writing plays "a major gate – keeping role in professional advancement " in academic writing. (p. 324). Generally, learning to write a language successfully is viewed as a proof of actual acquiring that language. Nitta (2004) concluded that the concept of fluency includes the components of organization, grammar and vocabulary in communication not simply the number of words produced in a given period of time.

Recently, educators as well as CALL researchers have found out that CALL offers a technology that facilitates all levels of education (Chapelle, 2001; Stepp-Greany, 2002; Perez-Sotelo and Gonzalez-Bueno, 2003).

In fact, many researchers (Nichols; Cobine, 1997; Ho, 2000; Sullivan & Lindgren, 2002) revealed that computer-assisted instruction (CAI) has become one of the aspects that characterizes writing courses in the

last two decades. Furthermore, meaningful texts can be produced by learners as their writing production increases by using computer (Puccio, 1993 & Forman, 1998). They added : “with word processing systems, classroom learners can edit and check written texts. Additionally, CAW[Computer-Assisted Writing], is a word processor program of the CALL implicational methods that help learners to improve FL writing.”

The study of Cunningham (2000) concluded that his students found that his writing class was more productive when he used word processing software with his students. He surveyed 37 EFL students in his writing class to study the students’ attitudes towards using computers in their writing. Eighty eight % of them proved that using a word processor during the writing process helped them to concentrate on certain aspects of their writing sub-skills such as grammar, vocabulary and organization of structure of their text. Similarly, Kasper (2000) reported similar results in his study which highlights the useful role of the computer technology in developing writing skill of EFL students.

Obviously, the benefits of CALL in general and CAW in particular are numerous. Motivation, can be promoted in learners by personalizing information, having animated objects on the screen, and providing practice activities which incorporate challenge, curiosity and providing a context. Additionally, being able to control the pace of learning and making choices in what and how to learn would in turn make learners

feel more competent in learning. CALL also can provide a merit which is authenticity, the opportunity to interact in one or more of the four language skills by using or producing texts for an audience of the target language, not the classroom because surface errors do not matter so much. Critical thinking skills can be developed together with self-concept, mastery of basic skills, better writing communication which may result in higher-order thinking skills and better recall.

To facilitate and fasten writing practice, a variety of techniques, strategies and activities are needed as Brown (2001) argues that written products are often the result of thinking, drafting, and revising procedures that require specialized skills, skills that are developed naturally by every speaker... pedagogy focuses on how to generate ideas, and how to organize them coherently. Again Brown (2001, 339) asserts that producing an English writing requires a mutual exchange of ideas between students themselves instead of a compulsory imposition of the teacher's authoritative ideas. This requires –as the researcher views - a negotiable process of composing ideas development in a logical, argumentative, cause and effect or narrative style. This seems to be practical and in line with Brown (2001) who asserts that one should not “buy into the myth that writing is a solitary activity.”

Clearly, media resources are part of the technology which can be helpful in language instruction. Furthermore, literature on the classroom interaction

has shown a profound impact of the instructional materials in the learning process. Chance and Chance (2002: 165), for instance, assert that communication research proves the saying that 'actions speak louder than words' which means that learners must be involved in hands-on activities in order to learn effectively.

A number of individual strategies were suggested by Brown (2002) in order to encourage EFL learners to improve their English learning output. One of them was the use of the internet which is an amazing source for language practice. Today about 80 percent of all World Wide Web (www) sites around the world are in English - so wherever you are - if you have a computer, you can easily find English on the internet. Similarly, Mupinga and Busby (2011: 94) in their study about online games and simulations as instructional strategies for learning, claimed that "in the future, if children are sheltered from technology, they will be left behind. Thus, the current challenge EFL instructors face is to take advantage of the potentials of the internet and to determine when and how to queer it to match the benefits of the instructional aims".

How to integrate and incorporate the internet language classroom effectively is still incomplete fully the case that needs limitless efforts of researches. According to her study, Beauvois (1998) found that students in the network writing project displayed more

fluidity of conversation, more use of complex sentences, and more self-disclosure. Additionally, she found that the elimination of strong teacher dominance freed students to express themselves, resulting in a larger quantity and better quality of communication. Furthermore, Priemer and Ploog's (2007) research findings verified parts of the hypothesis that writing with external source of information is like the use of internet that has epistemic effects and that students with basic writing skills and little prior knowledge benefited most from writing tasks. Additionally, the internet as Singhal (1997) remarked, can retrieve and access information in addition to the communication benefits. In fact, the World Wide Web is therefore a virtual library at one's fingertips. Virtually, understanding a culture of a society is understanding its language and this is what the internet actually does. Furthermore, the internet can facilitate the acquisition of English language writing skills in general and English for specific purposes (ESP) in particular, which is the focus of the present study, whose participants are students of the Institute of *Technology and Engineering* with the aim of improving their writing sub-skills with the help of the use of the internet as a means of ESP instruction.

Research problem

Being a productive skill, writing requires recalling personal stored background knowledge of all language aspects and then composing and producing a practical relevance of a written piece in order to be read by others again comprehensibly. For ESP Egyptian

students, English learning skills, particularly writing, are given less attention in theory and practice. Further, limited command of vocabulary, paragraph development writing skills and usage of grammar add greater challenges to this dilemma. This led the researcher to tackle this problem. CAW seems to be valuable to help solve the writing sub-skills for ESP students.

Research questions

The purpose of this study was to examine the effectiveness of using the CAW as a means of teaching writing to ESP students. Therefore, the questions of the study could be formulated as follows:

1. Does computer-assisted EFL instruction have a positive impact on Egyptian ESP University students' writing in general and on specific writing sub-skills such as paragraph, spelling and correcting grammar in particular?
2. What are the areas of improvement in the ESP students' writing that could be due to the effect of using the CALL as a means of instruction?

Research hypothesis

The present study investigated the following hypothesis:

There would be no statistically significant differences in the mean scores of the experimental group (taught writing sub-skills: spelling, paragraph

and grammar correction by CALL) and the control group taught conventionally.

Method and procedures

The present study was carried out at *Institute of Technology and Engineering*. Participants were 38 ESP Freshmen students who were randomly assigned to two groups, (experimental and control), 19 each.

The treatment

The treatment consisted of two levels:

- a. Using computers (CALL) alongside the conventional methods for the experimental group for three-3 hours. periods a week for eight week duration in the second term and;
- b. The conventional method alone for the control group. Both groups were pre-tested immediately before starting the experiment and the same test was administered as a post-test immediately after it.

The participants in this study consisted of 38 ESP students chosen randomly through the statistical package SPSS. They were assigned into experimental and control groups of 19 ones each.

In order to answer the study questions, the researcher collected the students' writing responses alongside their writing home-assignment. During the first term, free topics writings were required that appealed to their interest whose writing could be enhanced. Students' benefits would be maximized

positively through sometimes working in groups or pairs to discuss and edit their writing tasks.

Results of the study

Descriptive statistics was used. Table (1) displays the means and standard deviations (SD) of both groups' (experimental & control) achievement in the pre-test.

Table (1): Means and standard deviations in pre-test of both groups

Source of variation	Group	N	Mean	SD	T	Sig.
Pre-test	Experimental	19	10.61	3.11	1.10	0.201
	Control	19	9.38	3.8		

Findings reveal that the two groups were equal in terms of their writing ability on their pre-test. Differences between the two groups in the pre-test and post-test achievements(before and after the treatments) are shown in the following table (2).

Table (2): Means and standard deviations in pre/post-test of both groups

Group	N	Source of variance	Mean	SD
Experimental	19	Pre-test	10.61	3.11
		Post-test	21.03	4.22
Control	19	Pre-test	9.38	3.80
		Post-test	14.21	2.99

The two phases (pre-post testing) are revealed to indicate considerable differences between the two groups. Additionally, the above table (2) displays that both groups' writing skills improved weather they were

taught by CALL method or by the teacher-driven (traditional) method. These considerable differences are most likely due to the instructions of writing received by these groups.

The following five Tables (3, 4, 5, 6 and 7) reveal the four writing sub-skills abilities (paragraph writing, grammar, spelling and punctuation) which the ESP subjects received. The fifth table (7) displays the overall means and standard deviations of the four writing sub-skills of pre/post-tests of both groups.

Table (3): Overall means & standard deviations of writing sub-skills of pre/post tests of both groups

Groups	N	Mean	SD
Experimental	19	20.28	3.01
Control	19	16.71	2.28

Table (4): Means & standard deviations in paragraph writing of both groups

Source of variance	Group	N	Mean	SD
Paragraph writing	Experimental	19	5.20	3.55
	Control	19	4.02	2.61

Table (5): Means and standard deviations in grammar writing for both groups

Source of variance	Group	N	Mean	SD
Grammar	Experimental	19	6.22	3.78
	Control	19	4.41	2.28

Table (6) : Means and standard deviations in spelling of both groups

Source of variance	Group	N	Mean	SD
Spelling	Experimental	19	3.65	2.44
	Control	19	4.37	2.74

Table (7) :Means and standard deviations in punctuations of both groups

Source of variance	Group	N	Mean	SD
Punctuation	Experimental	19	5.21	3.71
	Control	19	3.90	2.82

According to the four above tables, findings can be analyzed as follows:

1. As for paragraph writing, the experimental group achieved higher mean scores than the control group as the mean score was 5.20 for the experimental group, while, it was 4.02 for the control group (Table 4).
2. As for the Grammar skill, the experimental group achieved higher than the other group. The mean score was 6.22, while it was 4.41 for the control group (Table 5)
3. As for the spelling skill in writing, the experimental group achieved almost the same results as the control group did. The mean score of the experimental group was 3.65, while it was 4.37 for the control group, (Table 6).
4. As for the punctuation skill in writing, the experimental group achieved higher than the one of the control group. The mean score was 5.21, while it was 3.90 for the other group.
- 5.

Generally, this reveals that the CALL method of writing of this sample was more effective than the regular method in paragraph writing skill, grammar

skill and punctuation skill whereas in the spelling skill, no considerable difference existed between the two groups. Discussion of these findings are as follows:

Discussion of the results

Findings of this study indicate that CALL writing sub-skills (paragraph, grammar, punctuation) could be more effective than the regular method for teaching English writing. Additionally, spelling skill improvement via computer teaching had the same effect on the regular one and the experimental group seemed to benefit largely from using computers in learning writing sub-skills.

Unlike the regular method in the writing skill learning, CALL enabled the learner to get feedback from linguistic repertoire available in the word processor easily. Clearly, the software is able to give comments on errors made by users and provides suggestions for checking and correcting linguistic errors which occurred in writing.

On the other hand, students of the control group did better in spelling than the experimental group. This could be so because the ESP students were beginners (they were in the first year) of their university education. They preferred checking their misspelled words with the help of their lecturers through the conventional method of instruction which was based on recognizable memorable drills and exercises. These findings seem to be in line with some previous studies

of Cohen and Riel (1989), Cononelos & Oliva (1993), Brock (1995), Alsouki (2001), Cunningham (2002) and Gayle Davidson-Shiever, Nowlin and Lanouette (2002).

It is worth noting that the overall mean score of the four sub-skills on the pre-test was (16.71), while on the post-test was (20.28). Thus, it seems that the computer has a significant role in English learning which, in certain cases could improve the writing sub-skills. This is in agreement with Puccio, (1993), Chapple, (2001), Cohen, (1989) Muir,(2004), and Szendeffy(2008).

In general, the results proved that there were significant differences <0.05 between students' writing sub-skills on all sub skills in favor of post-test except of English spelling. This could be again due to their inexperience in ESP English as they, for the first time, learned it in an Engineering study.

Recommendations and Educational Implications

1. ESP students could benefit more from studying writing sub-skills with the aid of computers CALL.
2. ESP students may be more interested and self-directed to use computers to improve their English writing according to the user's pace, even at home.
3. ESP students should be more encouraged to use recent CALL over checking programs to have an easy access to the most beneficial linguistic

features in the feedback process, checking, evaluating and correcting errors.

4. Appropriate exercises carefully selected in the computer are badly needed to be used which are commensurate with the level of ESP students, so our expectations of benefits may be maximized.

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