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The Role of a Computerized Package on EFL Students' Writing Skills

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ABSTRACT

There is support for the use of technology, such as the computer and internet, in teaching and learning in general and in teaching languages in particular. The twentieth century witnessed the evolution of computer assisted language learning, CALL, as a result of developments through studies related to the use of computers for linguistic purposes and for creating viable language learning conditions.

This quasi experimental study investigated the effect of using a language learning computerized package on EFL students' achievement in writing. The researchers took the Petra 5 textbook being used in Jordanian schools and created a computerized version. The control group was instructed in the traditional textbook based teaching style and the experimental group was instructed using the computer program and internet resources. The sample of the study consisted of 140 male and female ninth grade students chosen purposefully from two schools (one for boys and one for girls) in Irbid First Directorate of Education. Both groups from the study sat for a pretest and posttest to produce writing samples that could be evaluated and compared in this study. The findings of the study revealed significant differences on the students' achievement in writing in favor of the experimental group who were taught using computerized materials regardless of gender.

Keywords : computer, technology, Intel, teaching and technology, English and technology

1. Introduction

Writing is an essential skill in foreign language learning that aims to give the learners the skills to develop the proficiency they need to communicate their own ideas in writing in any number of formal and informal formats such as emails, personal letters, academic essays and research papers. Writing skills also benefit the learner through enhanced cognitive and linguistic awareness. Writing skills are complex and sometimes difficult to teach as well as develop especially in a foreign language learning situation because of the numerous syntactic, lexical and literary forms that combine to constitute writing skills. Warner (1985) emphasized that writing with a communicative nature, purports the shifting from teaching formal structures to the important levels of structures beyond the sentence. He believes that, in writing, we are more interested in the organization of social interaction rather than any principles of formal linguistic structures. He also argued that writing is not only a set of sentences that reflects a learner's ability to produce grammatically correct composition, but that the learner's logical interaction with the text is the key factor in communicative writing.

Models of writing stress basic cognitive processes such as planning, on-line processing, and evaluation (Flower and Hayes, 1981). In addition, they include "content resources" (Kellogg, 1994) and draw attention to two different concepts; knowledge telling and knowledge transforming (Bereiter and Scardamalia, 1987). Both of these focus on the restructuring of knowledge in which the development of expertise is essential to the writing skill.

Despite decades of writing research and changes in pedagogical methods for teaching writing, school students continue to struggle with writing. In recent years, there has been support for the use of technology, such as the computer and internet, in teaching and learning in general, and in teaching languages in particular because the asynchronous communication features and support features such as dictionaries and glosses which allow students to learn at their own pace and

access learning resources often and on their own time (cf., among others, Robert, 2002; Fenfang, 2003; Linder, 2004; Almekhlaf, 2006; Baniabdelrahman, Bataineh, and bataineh, 2007). Computer assisted language learning, (CALL) emerged in the 1960s and became popular in the 1970s as a result of development in studies related to the use of computers for linguistic purposes and for creating viable language learning conditions (Medina and Mario 2002).

The learning environment can be enhanced through computer technologies because computers augment the learning process, make education more widely available and produce cost effective solutions to the dissemination of knowledge (Medina and Mario, 2002). The capabilities of computer programs present new teaching methodologies and help teachers achieve new goals. However, it is crucial for teachers to set their overall goals for a writing course before considering how computers can help achieve these goals, otherwise teachers run the risk of confusing the use of computers with teaching writing.

CALL is gaining popularity in foreign language teaching as more educators and learners are embracing it (Kokkas, 2000). Roberts (2000) points out that all students deserve well-trained teachers, computer access, and appropriate educational technology in order to help them at college, and succeed in the chosen careers. She claims that to achieve this goal means to work hard to provide equal access to a quality education.

Often the explanation of difficult concepts can be facilitated by the use of computers and other educational technologies. (Heinrich, Molenda, Russell, and Smaldino, 1996). Unfortunately, however, many teachers do not benefit from using educational technologies in their classrooms (Lee, 2004; Colby, 2006; Tallman, 2004; Shudooh, 2003).

The use of authentic computerized packages for writing instruc-

tion is a challenge for public schools in Jordan. One reason for this is that educators remain convinced of the pedagogical efficacy of using computers to teach writing (Baniabdelrahman, 2005). It is important therefore that teachers be made aware of the advantages of these packages in facilitating the clarification of difficult ideas that cannot be explained to students who find it difficult to comprehend through lectures alone.

Many companies are developing computerized packages for language instruction. One example of a computerized package is the Intel® Teach to the Future program, a worldwide initiative that brings together resources from leading high-tech companies to improve technology integration in the classroom. The program was designed to address the challenges teachers face in effectively applying computer technology to enhance student learning. The program provides teacher-led lessons that incorporate use of the Internet, web page design and multimedia software. This particular program includes a workshop where teachers are trained to use the well-documented Unit Portfolio that assists students in the use of technology (Karzar, Doharty, Boust & Kouni, 2002).

1.2 The Teach to the Future Program

The Intel program contains ten training modules and as Jordanian teachers' progress through these they have the opportunity to collaborate with other Jordanian teachers and discuss ideas for both introducing and then using technology in their classrooms. They also have the opportunity to develop a specific unit based either upon material they are currently teaching or material they would like to teach in the future. The goal is for teachers to have a technology product they can take back to their school, one that allows them to raise the level of excellence in their classroom. Each teacher participating in the program has to complete a teaching unit portfolio (Unit Package) that consists of a unit plan with student learning objectives aligned to Jordanian standards, student samples, and evaluation tools (Karzar, Doharty, Boust & Kouni, 2002). The program provides writing packages designed according to the Intel program; these are powerful tools in helping English language learners improve their language skills. These packages also play an important role in providing English as a second or foreign language (ESL/EFL) instruction to students in the classroom as well as self directed study. However, regardless of the quality and sophistication of packages, when they are used in a classroom, in distance learning, or in combination of the two settings, guidance from the teacher remains a key component in facilitating this medium to improve English language learners' communication skills.

1.1 Problem Statement

There remains a significant gap between developed nations and developing countries in the use of educational technologies. Middle Eastern countries are still using traditional methods of teaching in which teachers and textbooks remain the only significant sources of knowledge. This may be due to the lack of educational technologies themselves or the lack of training to use them. Many teachers in these countries remain resistant to change due to the limited training they have received about the advantages of technology or the use thereof. Despite spending hundreds of millions of Jordanian dinars on technology, few teachers use these resources effectively in Jordan (Baniabdelrahman, 2005).

2. Hypothesis

This study aimed at investigating the role of a computerized package on EFL students' writing skills development. We hypothesize that there will be no statistically significant differences at (α ≤ .05) in the achievement in writing due to the method of teach for these 9th grade students. The control group will be taught from Petra 5 textbooks while the experimental group will be taught using a computerized version of the textbook. The experimental group will also have computer and internet resources available to search information and learn from these at their own pace. We will be assessing any differences based on their gender, and the interaction between method of teaching.

This study would provide EFL teachers with new techniques of teaching writing skills through the use of computer packages. Instead of continuous lectures and assessment of a final assignment, the use of the computer package and the internet will allow teachers to present lessons that students can revisit and review on their own time through the computer software. Additionally, teachers may give feedback to students over the process of completing an assignment via emails. These are examples of how such packages can be implemented and also highlights of the benefits of using computers in the teaching and learning process. This study also aims to bridge the gap in the shortage of studies on the effect of using computerized packages on EFL students' achievement in writing skills in Jordan.

3. Definition of Terms

For the purpose of the study, the researchers offered the following definitions of the terms used in the study:

- Writing skill: a productive skill that promotes both critical thinking and learning. It is used to accomplish something, to inform, or persuade on paper (Flower and Hayes, 1981).
- Achievement: what each student gains as a score after the completion of the program in both the experimental and control groups.
- Computerized Package: instructional package that involves visual and audio computerized stimuli that provides context for learning (De Ridder, 2000).

4. Theoretical Framework

There is a significant body of research on the effect of augmenting language learning with computer technologies, although these technologies are not widely utilized. One of the main obstacles preventing the implementation of CALL programs are unfortunate misconceptions, namely, the resistance among teachers toward using computers because they fear that computer technologies may eventually replace live teachers(Sergeant, 2001; Baniabdelrahman, 2006; Malkawi, 2007; Jones and Fortescue, 1987; Desberg, 1994).

Providing schools with computer technology yields few improvements in educational outcomes unless it is coupled with changes in pedagogy, curriculum, assessment and school organization (Dede, 1998). In other words, the real power of interactive learning to improve achievement and performance may only be realized when people actively use computers as cognitive tools rather than simply interact with them as tutors (Reeves, 1999). Computer technologies can be a competent means of conveying instructions to students. Additionally, students can use computers as support tools for additional learning and instruction as well as, a research tool in which the vast stores of information on the internet can be accessed to find answers to questions and further self-learning.

Computer-mediated writing enables the user to go through an ongoing process of modification, including editing, error checking, and formatting. Furthermore, modern language checkers are linked with utilities for converting writing style from non-standard English into more formal styles. For example, WordPerfect 2000 is equipped with a utility to change the language style into ‹›Formal››, ‹›Strict formal›› ‹›Scientific›› and ‹›Informal›› (WordPerfect Office 2000).

5. Studies on the Use of the Computers as Learning Tools

Studies have been conducted on the effect using computers has on students' attitudes and language learning. Baniabdelrahman (2005) investigated Jordanian EFL teachers' attitudes towards the use of computers in language teaching. The results revealed that Jordanian EFL teachers had positive attitudes towards using computers in language teaching. Another study of perceptions of EFL Jordanian undergraduate students by Bataineh and Baniabdelrahman (2006) revealed that the majority of students reported being fairly proficient to proficient in basic computer skills while most reported being

not or a little proficient in more advanced skills. The results further revealed no significant effect for gender but a significant effect for year of study on students' perceptions of their computer literacy.

A study by Al-No'man (2002) on the availability of educational technology devices and the degree of utilization by EFL teachers in schools in Irbid, Jordan, revealed a shortage in the availability of educational technologies at schools and a low degree of utilization of these by EFL teachers when they were available. The study did not reveal significant differences in EFL teachers' utilization due to gender, qualification, and teaching experience.

De Ridder (2000) evaluated some of the additional features of CALL materials designed to enhance second-language reading comprehension. The findings from the De Ridder study demonstrated that randomly highlighting words in a text on screen influenced the amount of vocabulary learned by the reader. DeRidder's study indicated that this CALL feature, reading in a highlighted setting, is fundamentally different from reading a text in an unmarked condition and may lead to increased vocabulary recall. This calls for reflection on how to present the learner with the benefits of CALL. These features were highlighted in the program.

Greenfield (1999) conducted a qualitative study to examine changes in students' attitude about computers and language learning in Hong Kong. The study examined the effect of computer background on student attitude, interest, and motivation and also student perception of acquired reading, writing, speaking, and listening skills. Student attitudes towards cooperative learning during the study were also examined. The study lasted for 12 weeks. The class met 3 days a week for 1.5 hours each day. Data were collected primarily from pre- and post-model surveys and personal interviews. The results showed that a majority of participants enjoyed the exchange, gained confidence in English and computer skills, and felt that they made significant progress in writing, critical thinking, and speaking. They were, however, ambivalent as to whether it improved standardized exam-related skills such as grammar usage and discrete language functions. As the project progressed, students with stronger computer skills indicated less satisfaction than those with weaker computer skill because the teachers had to devote more time to assisting the students with weaker computer skills while those with stronger skills were left to work independently and therefore, felt neglected by the teacher.

Lyman-Hager and Davis (1996) examined vocabulary choices for intermediate-level students studying French under two separate conditions, computerized reading and non-computerized reading. Both groups had access to glosses; the computer group had access to multimedia annotations, while the text group could consult a printed text with the same glosses. Subjects were asked to perform a written recall protocol immediately after reading the text. A week later, an in-class vocabulary quiz of "critical" words from the story was distributed following a class discussion. They concluded that students who worked with a multimedia program based on an excerpt from the story by F. Oyono, Une Vie de Boy, were better able to retain vocabulary items than students who worked with non-computerized text. The theory behind the improved retention is that the ease of access to the glosses on the computer program encouraged students to look up unfamiliar words; thus, the exposure led to retention of new words.

Na'amneh (1994) investigated the level of utilization of educational technology in EFL teachers' training programs of Petra textbooks in Jordan. The study found that there was a positive effect on the students' English writing skills through the use of educational technology on EFL teachers' performance in teaching English language. Moreover, the study found that the use of educational technology improved EFL teachers planning and teaching skills, and evaluation techniques because teacher with good computer skills were able to utilize

lesson planning materials on software and also search the internet for resources.

Blake (1992) created a Spanish Hyper Card program consisting of several components including the main text, cultural notes and background information, grammar tutorials, and a dictionary. While reading, students had the option of clicking on any of the above for assistance or additional learning. A log record showed every card opened, every button clicked, every word searched, every question answered, and the time when each action was undertaken. Overall, Blake found that first semester students relied more on native-language glossing of words than more advanced students. Less advanced students were also not able to take advantage of the vast number of cognates that exist between English and Spanish across all lexical categories. While Blake's study was not designed to advocate the computer as a methodological advancement over other traditional formats, he advocated the use of the computer as a unique means of tracking second language reading behavior and strategies.

6. Using Computers in Teaching Writing Skills

Although a number of research studies have been undertaken on the effect of using computers in foreign language teaching, there is still a shortage of studies about the use of computers with respect to students' writing. Lee (2004) described a classroom inquiry which investigated the teaching of coherence as a writing skill using CALL in his study. Coherence was defined in terms of a number of coherence-creating devices, and pedagogical materials were designed accordingly to teach the concept to a group of 16 English as second Language high school students in Hong Kong. Data were collected from their pre- and post-revision drafts, think aloud protocols during revisions, as well as post-study questionnaires and interviews. The findings suggest that at the end of the explicit teaching of coherence, students improved the coherence of their writing and directed their attention to the discourse level of texts while revising. They also felt that the teaching of coherence had enhanced their awareness of what effective writing should entail.

Colby (2006) examined the technology and teaching histories of composition instructors to provide context and future avenues of research in addressing their educational technology needs. The study revealed that the teaching of writing and the use of technology was remarkably uniform across many contexts, even as the specific technologies employed were different based mostly on an individual's own educational history; therefore, it can be assumed that if teachers are trained to use computer technology then they will incorporate it into their lessons. Tallman (2004) employed a qualitative methodology to investigate the ways in which 9th and 10th grade students took up literacy learning during the second semester of a public urban charter high school's first year. Students spent the better part of each Tuesday and Thursday at one of seven experiential learning sites within the larger community. In addition to assignments for their 'regular' courses, and work at their site, the students were to complete an end of semester research project related to the site on a topic of interest to them. The study revealed a significant effect of context on students' literacy learning, particularly with regard to appropriation of writing and computer technologies for school related purposes. The students' previous and current levels positioned them and thus affected the literacy practices students could take up. Students' placement further shaped these students' sense of identity as evidenced by their discourse about writing and technology as well as through the writing students produced and the technology they were able to appropriate across activity settings; e.g., school courses and experiential learning sites.

Samuels (2003) investigated the use of web conferencing software as a medium for student-teacher writing conferences. He conducted out-of-class web conferences with three first-year writing students about their performance on the first major writing project of the spring 2006 semester.

Following the web conferences, he used in depth interviews to discuss the students' experiences. Data from the recorded web conferences and transcripts of the post-conference interviews were analyzed. The results of the study indicated that it is possible to replicate a face-to-face student-teacher conference with web conferencing technologies. Some of the benefits of web conferencing include the constant availability for students and instructors to have conferences outside classrooms and the ability to have an oral discussion in place of a text-based discussion, where it is often difficult for instructors to encapsulate their overall response. This study had important implications for conferencing in the first-year writing classroom and opens the door for future web conferencing studies to be conducted on a larger scale with different population samples.

To conclude, the previous research studies support the idea that computer-based instruction facilitates students' writing skills. This conclusion is supported by the results of the preceding studies and a series of other studies conducted by Kulik, Bangert, and Williams (1983) who found that computer-based instruction positively affected language learning.

7. Methodology
6.1 Research design
This is a quasi-experimental study with two independent variables and one dependent. The two independent variables are the method of teaching and the students' gender. The independent variable was the students' achievement in writing.

The sample is a purposeful one. There was a pre-test to check the equivalence of the two groups and a post-test to examine the effect of the intervention.

6.2 Participants
In this quasi-experimental study, a purposeful sample was chosen from 9th grade students in Irbid First Directorate of Education. The decision for the choice of the classes of the experimental and control group was based on the availability of computer labs and EFL teachers who had received the ICDL, International Computer Driving License, and (INTEL) certificates. Two ninth-grade sections were chosen from an all female and an all male school creating a sample consisting of two female classes and two male classes. Then one male and one female section were assigned as control groups which were instructed in the traditional, textbook method and the remaining two sections were assigned as the experimental groups which were instructed using computers and internet resources. The number of students in each section was around 35.
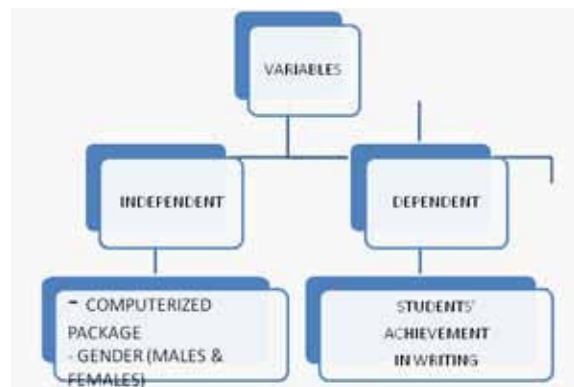
6.3 Measurement
The program was designed to fulfill the following objectives:

1. Utilize strategies to explore and generate new ideas.

2. To organize ideas, write effective topic sentences and concluding sentences, and order and limit information in a paragraph.

3. To transform notes, figures or diagrams into reasonably lengthy texts.

4. To e-mail others on topics related to their academic and non-academic needs.

This program consisted of two instructional computerized packages of the English textbook for 9th grade, Petra 5. The writing lessons that helped students in the experimental group achieved the aforementioned writing objectives through learning different writing strategies and the activities of each lesson were focused. These strategies might have an effect on the improvement of writing skills. The strategies that the program followed were as follows:

- Accessing background knowledge about the writing topic.
- Paraphrasing, summarizing units, and writing sentences and paragraphs dealing with the authors' ideas.
- Asking essential, unit, and content questions and answering them.
- Evaluating learners' writing system.

The EFL teachers were advised to follow the instructions for using the instructional packages and students were asked to do a variety of activities and worksheets at the end of the lessons to test whether they could demonstrate improvement in their writing skills.

6.4 Procedures
A pretest was administered to measure the students' writing skills before applying the program and to establish the equivalence of the two control and experimental groups. Then the same test was repeated as a posttest to uncover any significant differences among the groups after the intervention. The pre- and post-tests were not compared; the point of the pretest was to establish equivalency across the sample. The results of the post-tests of the control and experimental groups were compared to assess any differences in achievement and determine whether this can be attributed to the different teaching methods.

To achieve the aims of the study, the researchers used a computerized writing package for two units from PETRA 5 textbook (units 23 and 24) taught over six weeks, from the beginning of March, 2006 to the middle of April 2006 and a writing achievement test applied as pre- and post-test. The tests consisted of writing skills questions.

As there was no reliable and validated computerized writing package for the ninth grade class, the researchers reproduced the material to be used based on PETRA 5, a compulsory course taught at Jordanian schools. The validity of the program was established by a jury of 3 specialists in EFL methodology and 3 computer experts. The researchers gave the program to them after it was built. They read it and gave some comments. Their comments were taken into consideration. Some changes and modifications were made based on their comments and recommendations. Then the program was given to them again for a second check. All of them approved it.

To ensure that the input in both cases was the same, the program was submitted to 3 TEFL specialists whose views and comments were taken into consideration. They also helped in choosing tasks, activities and items for evaluation tools.

The technology used to make the Instructional Computerized Packages was INTEL (Teach for the future). The use of this program was consistent with the plan to establish an authentic writing environment within the laboratory itself. The students in the experimental group were expected to make use of the tools offered in the program such as clicking the evaluation tools to get evaluation models for brochures, presentations, and websites.

The researchers designed a writing achievement test to

measure the students' writing skills before and after applying the program. The writing topics were related to the subjects discussed in the program units. The questions covered paragraph writing and sequence. The test was given to a number of professors of EFL to check its suitability. All their recommendations were taken into consideration. To ensure its reliability, the test was applied to 25 ninth grade students who were not involved in the instructional computerized packages and was repeated 15 days later. Person correlation coefficient was calculated and found to be 83.2%.

7   Results and Findings

To ensure the equivalency of the groups in the study, a pre-test was applied to all groups in the study. The results were as follows:

Table 1: Means and Standard Deviations for the Students' Grades in the Achievement Writing Pre-test according to their Gender and the Method Variables

Std. Dev.	Mean	No.	Method	Gender
10.9	56.99	36	traditional method	
13.33	57.20	35	computerized package method	Male
11.25	56.92	71	Total	
11.25	57.22	36	traditional method	Female
13.00	55.60	35	computerized package method	
12.70	56.42	71	Total	
12.53	57.07	72	traditional method	
14.43	57.15	70	computerized package method	Total
13.47	57.11	142	Total	

*Means are out of 100

Table 1 shows that the mean scores of the students in the two groups on the achievement writing pre-test according to their gender and the method variables are almost the same. The mean of the traditional group is (57.07) and that of the computerized group is (57.15). In order to test the significance of differences between the two groups a Two Way ANOVA test was used.

Table 2: Results of the Two Way ANOVA test for the Students' Grades on the Achievement Writing Pre-test according to their Gender and the Method Variables

Source	DF	Type III SS	MS	F-value	Sig
Method	1	9.68	9.68	0.05	0.768
Gender	1	37.6	37.6	0.20	0.6733
Method*Gender	1	0.64	0.64	0.00	0.9455
Error	138	25068.57	181.66		
Total	141	25116.55			

The results show that there are no significant differences between the students' mean scores on the achievement writing pre-test due to their gender, the method or the interaction between the method of teaching and the students' gender.

The pretest was administered again as a posttest to students immediately following the completion of the program to establish any significant differences between the participants' mean scores in the posttest that could be attributed to the use of computerized packages in writing.

In this section, the findings are presented and discussed according to the research question posed in the study. To answer the question of the study which investigated the effect of using a computerized package on male and female EFL students writing, means and standard deviations of the students' scores in the achievement writing test according to their gender and the method variables were computed, as shown in table 3.

Table 3: Means and Standard Deviations for the Students' Scores in the Achievement Writing Test According to their Gender and Method of Teaching

Std. Dev.	Mean	No.	Method	Gender
10.14	61.18	35	traditional method	
11.80	66.93	36	computerized package method	Male
11.41	64.10	71	Total	
12.32	63.45	35	traditional method	Female
10.89	66.96	36	computerized package method	
10.75	65.23	71	Total	
11.86	62.32	70	traditional method	
11.81	65.55	72	computerized package method	Total
11.43	63.96	142	Total	

*Means are out of 100

The results show that there are observed differences between the means of the student's scores on the achievement writing test according to their gender and the method of teaching. The mean score of the traditional group was 62.32 with a standard deviation of 11.86 while the mean score of the experimental group was 65.55 with a standard deviation of 11.81. To test the significance of these differences a Two-Way – ANOVA test was used, as shown in table 4 below.

Table 4: Results of Two Way – ANOVA Test for the Differences between the Student's Scores in the Achievement Writing Test according to their Gender and the Method of Teaching

Source	DF	SS	MS	F-value	Sig
Method	1	650.39	650.39	4.25	0.0408
Gender	1	24.17	24.17	0.16	0.6911
Method*Gender	1	22.81	22.81	0.15	0.7010
Error	138	20818.19	150.86		
Total	141	21518.57			

*. Significant at (□ = 0.05).

The results show that there is no significant interaction between the students' gender and method of teaching (F= 0.15, P= 0.7001). The results also show that there is no significant difference due to the students' gender (F= 0.16, P= 0.6911). On the other hand, the results show that there is a significant difference between the mean score of the control group and that of the experimental group due to the teaching method in favor of the computerized package method (F= 4.25, P= 0.0408). The computerized package developed as independent variable for this study appeared beneficial to EFL students in developing their writing skills. This result is inconsistent with the results of other research (Tone and Winchester, 1988; Lee, 2004; Colby, 2006; and Tallman, 2004).

8   Discussion

The computerized package method which was used in teaching the experimental groups concentrated on individualized learning and giving each student the opportunity to learn how to write well according to their ability and extra time and allowed them to rewrite it multiple times before submitting.

The researchers attributed the significant difference to the efficiency of the method used, because the computerized package method gives the students an immediate reference to correct their mistakes through the attractive colored screens, which makes learning more effective and enjoyable. To maximize the advantages of using computers in teaching writing, EFL teachers need to be able to adapt because the environment calls for certain kinds of change, teachers who reflect less on their teaching methods may be unprepared for the changes they must make in their teaching styles (Palmquist, 1998). Teachers who taught using the computerized program learned new methods of preparing for lessons, presenting lessons thought the computer programs and conferencing with students through email. Technology in teaching should be a means not an aim by itself. Research in the field of computers and composition, "strongly suggested that sound pedagogy should always begin with what teachers already hold to be true about teaching writing: that the technology should be

secondary and used as a means to achieve their primary goal of facilitating student learning" (Wilferth, 2003:69). This requires more training for EFL teachers to adapt and then accept change. Successful teachers embrace the pedagogical changes that technology opens up for them.

10. Conclusion

This study confirms that computerized programs are neither superior nor inferior to conventional instruction. But the computerized package developed as an independent variable for this study appears to benefit EFL students with their writing.

The computerized package method can assist EFL teachers in developing a truly individualized writing program that can better meet the different needs of students. Also it can allow students to apply what they have learnt to meaningful writing activities that meet their individual needs. This method has the potential to actively engage students in the writing process because of its ability to stimulate interest and increase motivation. But this does not mean that these packages can replace the EFL classroom or the interaction between the EFL teacher and students.

10.1 Implications and Recommendations

The implications of the results of this study point to three things, first, the technology is not gender biased since there were similar advancements in achievement in both the male and female experimental groups; second, although the comparison between the final results of the control and experimental groups show only slight differences, they do favor the computerized programs as a supplement to conventional instruction; third, teachers who were trained to use this computerized program learned new methods of teaching that according to this experiment, improved the students' writing skills beyond the traditional, text only instruction.

Both male and female experimental groups showed some improvement through the use of the computerized program. These students likely benefit from the individualized

nature of the writing programs as well as the instant feedback the writing programs offer when mistakes are made during the writing process. When words are misspelled or sentence fragments are written or there are grammatical mistakes the writing program identifies these and can make suggestions to the learner as to how to fix their mistakes. This instant feedback has the ability to stimulate interest and motivation in the student because he or she is learning as they are producing original writing. Additionally, the ability for the teacher and the learners to communicate asynchronously through email also helps the student to stay motivated because the teacher feedback is given in print, so it can be referred back to when needed and students can access the teacher outside the allotted class time.

The teachers who participated in this project learned how to use the computer programs to meet the individual needs of students and give feedback according to the pace of the individual student. Students were able to email drafts to the teacher when they were finished. Some students took longer than others and this staggered submission allowed the teachers to focus more on the student submissions as they came in and give authentic, personalized feedback. Students benefit from the open dialogue with the teacher as the composition develops with each draft. Additionally, the computer package is equipped with grammatical and structural exercises that the teacher could suggest to the students and the students could complete the practice on their own.

The researchers recommend that more inquiry be done into the achievement of male and female classes in relation to their use of computerized packages. The results of this study suggest that since the development of the two gender specific control groups is similar the possibility of combining the two groups, if not in the same classroom, but in an online writing course, could be possible. Secondly, even though computer based programs do not significantly improve student achievement beyond that of textbook based teaching, there is evidence of computerized teaching / learning packages are more efficient and generate student motivation. More research is needed to determine the validity of these ideas.

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