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THE EFFECTS OF TECHNOLOGY-BASED TEACHING ON THE WRITING SKILLS OF EFL LEARNERS AT SSC LEVEL

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Abstract

Using computer technology in teaching L2 writing functions is not only a tool but also a part and parcel in generating and regenerating of knowledge. There is a developing need to examine different aspects involved in the use of technology. The impact of using technology in traditional pedagogical approaches especially of L2 writing learning seems a significant one. This research addresses the difficulties that EFL learners at SSC level face while writing. It also aims to shed light on the effect of using technology tools on students' motivation and attitudes when they learn a second language. According to the nature of research purposive sampling is selected. The sample of the study consists of 40 EFL learners at SSC level of a private school Aziz Fatima Educational Complex in Faisalabad, Punjab, Pakistan. Mixed ability EFL learners of equal writing proficiency are divided into two equal groups: a control group and an experimental group with 20 students each. Two research instruments are utilized in this research: Writing Performance Test and Writing Apprehension Test as pretest and posttest. Collected data is computed and analyzed via paired sample and independent sample t-tests through the Statistical Package for the Social Sciences software (SPSS). The findings revealed the clear difference between the performances of the both groups. By integrating the modern technology into the ELT classrooms writing performance of the experimental group was significantly improved however their writing apprehension was considerably reduced. In the light of findings and experiences gained during this study some recommendations are offered for the new researchers. This quasi-experimental research is significant for the teachers also, as it explored new methods of developing writing skills that is always a challenge for the EFL learners.

Keywords: *Pedagogical, Technology, EFL, ELT, SSC, L2, Apprehension*

1. INTRODUCTION

Technology plays an important role in our daily routine of life. Technology facilitates and improves education in many ways including the use of e-learning and computers. Through the internet and computers anyone can share his thoughts and experiences with the entire world. Additionally the individual can take charge of his continuous learning, as it can eliminate barriers of time, distance, and socioeconomic status (Hairston & Nafukho, 2011).

Technology and English language education have a deep connection to each other (Singhal, 1997). For the last few decades, the interest in using technology for foreign language teaching has been growing. Language classrooms have become more effective through the application of these technological tools than it used to be. Technology has become an essential part of the teaching and learning environment through which teachers facilitate learners‟ learning (Eady & Lockyer, 2013). Additionally, Eady and Lockyer (2013) say that the word „integration‟ is important to note when we talk about technology in teaching and learning. As technology is a crucial part of our daily lives, so this term should be redefined and should embed technology into teaching and learning to support the learning process.

Writing is one of the four language skills that require a special attention. Living in a text oriented society, all students need to be proficient writers, but this is difficult to achieve for ESL students. In language production writing has a significant importance, (Fareed, Ashraf, & Bilal, 2016) as its adeptness plays a major role in communication and its purpose is to deliver the message effectually and accurately (Bancha, 2013). There are several methods to teach writing. A successful piece of writing demands that one has complete control on language systems (Kroll, 2001). At that point, (Hinkel, 2006) suggests that for full command in L2 writing, learners need to learn grammar in explicit ways, and have knowledge of lexicon. So, L2 writing teaching programs should consist of grammar and vocabulary.

Technology is science of dexterities that is the combination of techniques, processes and methods used in the production of outcomes to accomplish the objectives especially in scientific investigation. Technology can be embedded in machines and devices it requires practical knowledge rather than detailed knowledge for their workings. The simplest form of technology is the use and development of basic tools. (Britannica, T. Editors of Encyclopaedia, 2021)

In recent researches, it showed that integrating of technology into classrooms, such as the internet and other resources, improved and enhanced overall writing abilities of students. Warschauer (2000) presented new pedagogical ways of language learning using computers in the classrooms: cognitive approach and socio-cognitive approach. Baytak, Tarman, and Ayas

(2011) carried a research to explore the experiences of learners using technologies in their education. The results obtained from this research revealed that students improved in learning through integrating technologies in their education. Moreover, Peregoy, Boyle, and Martinez (2011) also made a study on using technology in improving learners‟ language skills. The results of this study indicated as technology tools are more convenient to use so students enhanced in language skills effectively and fast as compared to traditional learning methods.

Ghahri, Hashamdar, and Mohamadi (2015) investigated the effect English correcting websites in prompting the accuracy of the writing performance of 60 EFL learners at intermediate level. Kara- Soteriou, Zawilinski, and Henry (2007) performed a research to investigate the students‟ abilities as independent writer; they provide teachers with a list of resources on the internet to boost students to become better writers by completing their work. Li (2006) examined the influence of word processing on the writing assessment of ESL learners. Pennington (2004) performed a research on using word processing for developing writing skills results showed positive effects in cases of writer attitudes, text quality and quantity. Saito (1994) and Ferris (1995) got similar conclusions while surveying on student‟s attitudes towards feedback in an ESL context. The results of their surveys indicated that apparent correction in writing was proved to be effective in decreasing the errors in writing. Boch (2007) used an effective tool to teach writing to non-native English speaker leaners that such as blog. There are many opportunities of using blogs because they are easily printed and shared in a convenient way. Lin and Yang (2011) performed a study to explore whether Wiki technology would develop learners‟ writing skills. Purcell, Buchanan, and Friedrich (2013), conducted a survey on 2,462 national writing project teachers. They found that digital technologies are finely shaping students‟ writing and have also become helping hand for teaching writing to school going learners.

Khan, Ayaz, and Faheem (2016), investigated the role of social media in English language vocabulary development at university level. The researchers suggested that the technical texts and unlimited exposure to academic, social media provides opportunities to increase learners' fluency and comprehension. Text-to speech software can be used as an enhancement to special purpose programs. In a study done by Alsaleem (2013) on using WhatsApp applications for improving learners‟ writing, vocabulary, word choice and speaking ability. The results of this research showed that WhatsApp assisted learners in improving their language skills as writing skills, speaking skill, vocabulary, and word choice. Youtube is one of the common websites that provide jumble of videos. It makes students enable to share their videos (Badal, 2008). Pratiwi (2011) performed a research with two main objectives to identify the implementation of YouTube videos for improving the students‟ writing skill and to describe the situation when

YouTube Videos are implemented in the writing class. Chuo (2007) investigated the effects of the Web Quest Writing Instruction (WQWI) program on Taiwanese EFL learners' writing performance, writing apprehension, and perception of web-resource integrated language learning. Gilmore, A. (2009) explored the benefits of using large corpora such as the British National Corpus and the COBUILD Corpus and Collocations Sampler for developing students' writing skills.

After studying the previous researches regarding use of technology for improving writing skills, the researcher found that a number of studies have been done using single technology. In this digital era multiple technologies are being used at a time we cannot isolate single technology from others. So, in the current research multiple technologies have been used to observe the effects of technology on the writing skills of EFL learners at SSC level.

Statement of the Problem

Certain analysis on the educational situation in Pakistan emphasize on the integration of technology is the need of the hour. In Pakistan, mostly high school students take great interest in the use of digital technology for entertainment rather than for education. In learning the second language, writing is the most challenging area (Dar & Khan, 2015). To make this challenge easy it is necessary to solve the problem according to learners' interests. Learners can get an advantage by integrating technology into language teaching, they can self-confidently gain a competitive edge in the age of information and communication technology. To what extent does technology-based teaching affect EFL learners to learn English writing skills and improve their performance as solutions for the unsatisfied achievement in the writing skill is the focus of this research.

Research Questions

This research attempts to answer the following questions:

1. What are the difficulties that EFL learners face in learning writing skills at SSC level?
2. What are the effects of the use of technology on the writing skills of EFL learners at SSC level?

Objectives

The objectives of this research are:

1. To identify the difficulties that EFL learners face while writing.
2. To evaluate the effects of technology-based teaching on the writing skill of EFL learners.
3. To analyze the difference in writing skill proficiency between the experimental group and the control group.

4. To explore new methods for developing writing skills.

Significance of the Research

The use of technology in education is still in its infancy in developing countries like Pakistan. This research addressed the challenges and difficulties that EFL learners at SSC level face while writing. It also aimed to shed light on the effect of using technology tools on students' motivation and attitudes when they learn a second language. Another goal of this research was to enhance students' linguistic proficiency and competence by bearing in mind the powerful role of modern technology in developing writing skills. This research is significant for teachers also, as it explored new methods of developing writing skills which have always been a challenge for the EFL learners.

Delimitation

This study was delimited to 40 students of a private school at the SSC level and analyzed the effect of using technology for developing writing skills. Furthermore, for this research two instruments: Writing Performance Test and Daly- Miller Writing Apprehension Test (WAT) are used. Finally, research duration is three months, based on 10 effective sessions.

3. RESEARCH METHODOLOGY

Researcher reviewed the available literature related to the problem and designed the present study. A suitable research design was selected. Details with respect to the research design, population, sample, tools, and nature of data, data analysis techniques and procedure followed in this study are described here in this chapter.

Research Design

This chapter presents design of present research. It was a mixed method research as the area of this research was language education and educational technology. This research was concerned with the application of modern technology in the teaching- learning process; therefore the present study was applied research. Additionally in the context of data collection and the method of analysis this was quantitative as well as qualitative research. Moreover, this research was aimed to analyze the effectiveness of the treatment in the experimental group so, the results of pretest and posttest of the experimental group are compared to that of the control group thus, and it could also be called quasi-experimental research with pretest and posttest design. The major variables in this research included writing instruction, student writing performance and student writing apprehension. Writing instruction was an independent variable while student writing performance and student writing apprehension were dependent variables.

Population

The population of the research consisted of EFL learners at SSC level of a private school Aziz Fatima Educational Complex, Faisalabad, Punjab, Pakistan. This school is offering Matriculation Certificate as 95 percent students in Pakistan opt for Matriculation (Malik & Courtney, 2011) as well as today, one-fifth of children or one- third of all students go to private schools in Pakistan (Raju & Nguyen, 2014). That is why this private school was preferred for this research so that the findings of this research could be generalized to other EFL learners at SSC level in Pakistan.

Sample and Sampling Techniques

According to the nature of research purposive sampling is selected. The sample of the study consisted of 40 EFL learners at SSC level of a private school Aziz Fatima Educational Complex in Faisalabad, Punjab, Pakistan. The students were divided into two groups: a control group and an experimental group with 20 students each. At the beginning of the experiment both groups needed equal writing proficiency. For checking the equal level of writing competence a pretest was taken from both groups. Each group was categorized with three kinds of ability EFL learners: Good (who got above 70% marks), Average (who got above 40% marks) and Below Average (who got marks less than 40%). These categories helped to give credibility to this quasi-experimental research. Afterwards the control group was treated with the traditional language teaching method, but the experimental group was given the intervention to get answers of the research questions.

Research Instruments

To achieve the objectives of the research two instruments were utilized in this

research: Writing Performance Test and Writing Apprehension Test.

Pretest

A group of forty mixed ability EFL learners were tested through a pretest. Students were given a writing task to check their prior knowledge of writing skills. In the pretest students were given a topic of expository writing to write about it.

Posttest

At the end of the experiment the researcher designed a posttest for the control group and the experimental group. In the posttest the EFL learners were given a topic to write about it in their own words to check their performance after application of the intervention.

Daly-Miller Writing Apprehension Test (WAT)

The Daly-Miller Writing Apprehension Test adapted by Gungle and Taylor (1989) for ESL writers, was also used as pretest and posttest to measure

participants' writing apprehension level. It is a self-reporting tool on a 5-point Likert scale, containing 26 items dealing with anxiety about writing. This test was applied to the experimental group only so that their anxiety about writing could be checked before and after the experimental treatment.

Data Collection

The required data was collected through the tools that were used for the implementation of the experiment. A pretest was applied to forty EFL learners after evaluation of their tests they were divided into two equal groups: the Control group and the Experimental group. The intervention was applied to the experimental group only. A pre writing apprehension test was applied to the experimental group to check the writing anxiety of students. After taking the Writing Apprehension Test and pretest, difficulties and challenges of the EFL learners of the experimental group were analyzed. After evaluation of both pretests of the experimental group the researcher designed ten lesson plans using modern technology so that EFL learners could be improved in their writing deficiencies and reduced their writing apprehension after these lessons were applied on the experimental group to teach them different writing sub-skills at two stages

a. Initial Stage
b. Secondary Stage

According to the need analysis different activities for developing writing skills were applied via technology. At the beginning of the experiment with the permission of the institute a WhatsApp group was created joining all twenty EFL learners and the researcher. The purpose of creating this WhatsApp group was an easy and accessible interaction with the learners. According to the plan, to improve the writing sub-skills of the experimental group the following technology was used.

Initial Stage

Keeping in mind the famous saying of Mercier “What we learn with pleasure we never forget.” the researcher searched for vocabulary and spelling games for the EFL learners so, different games for improving vocabulary and spelling as Word find, Ultimate English Spelling Quiz, Word Search Games in English etc. from Play Store were shared with the students and were asked to install these vocabulary and spelling games according to their interest in their Andriod mobiles and asked to complete all the levels of the games and send their scores in the WhatsApp group. Students showed great interest in these games and with a sense of competition with their friends they completed all levels within a week. For teaching grammar, sentence structure, punctuation and sentence linker researcher provided short and comprehensive lectures via Youtube videos. These Youtube lectures were shared via WhatsApp group from time to time. These videos were a complete package of teaching and assessment. In classroom environment students were also evaluated on the

basis of these lectures either they watched and understand or not. During evaluation students exhibited positive attitude as youtube Videos proved the best audio video aid especially for auditory and visual learners.

Secondary Stage

At the secondary stage, EFL learners were taught writing format, style and presentation of logical function using technology. For that purpose the researcher used power point presentations in the classroom to teach different writing formats, paragraphing, writing styles and method of using Microsoft Word. Later on learners were also taught how to get help from online material to get an easy and quick stuff as Wikipedia, Dictionary Application, E-brary, online Self-testing of grammar and writing. Students were given time to practice themselves in the school computer lab. They were given writing tasks to complete in Microsoft Word using online material as well. They were also taught e-mail writing and were asked to write formal and informal writing and send to your instructor. They were also given discussion topics in WhatsApp Group and asked to write their views, at this stage the researcher‟s role was a facilitator, a guide and a motivator. This activity helped EFL learners in self-learning specially in vocabulary, spellings with auto spelling correction and sentence structure in formal and informal writing. Thus, with the infusion of technology in teaching writing skills EFL learners showed great interest and eagerness towards learning such a dull and problematic skill as writing.

After ten sessions a period of thirty days a duration decided for the intervention, the researcher conducted a posttest from the experimental group as well as from the control group. An additional writing apprehension test was also conducted from the experimental group to check the difference between pre and post writing apprehension of the experimental group.

Assessment of the Pretest and Posttest

The researcher took two combined approaches for grading composition writing of pretests and posttests: Impression Method and Analytic Method. For impression method nine piles technique is used. It worked like this:

1. Went through all the compositions fairly quickly and on general impression, place them into three piles- good, fair and bad.
2. Tackled those in the “good” pile and read them again more carefully and once more put them into three piles-excellent, very good and good.
3. Dealt with those in the “bad” pile and did the same thing by classifying them further weak, really bad and dreadful.
4. The middle category was classified as fairly good, satisfactory and not too bad.

Table 1: *Marking Criteria*

	1	2
Grammar		
Vocabulary		
Mechanics (Spelling &Punctuation)		
Fluency (General communicative ability)		
Relevance		

(This model has been taken from Heaton (1975) Writing English Language Tests)

Assessment of the Pre Apprehension Test and Post Apprehension Test

The Writing Apprehension Test was administered as pre and posttest to the Experimental Group only to check their anxiety level before and after the treatment. To determine their score, firstly, added together all point values for positive statements (PSV) only. Secondly, added together all point values for negative statements (NSV) only. After that those scores were inserted into the following formula to discover their Writing Apprehension (WA) scores:

WA = 78 + PSV-NSV

PSV questions = 1; 4; 5; 7; 8; 13; 16; 18; 21; 22; 24; 25; 26

NSV questions = 2; 3; 6; 9; 10; 11; 12; 14; 15; 17; 19; 20; 23

Writing Apprehension scores may range from 26 to 130. WA = 78 + PSV-NSV

WA=78+_____-_____=

Your Score=_____

Data Arrangement

Data collected from pretests and posttests of control group and experimental group were arranged in the tabular form. So that it can be calculated and compared in a sequence. Data in numerical value calculated using Paired Sample t-test and Independent Sample t-test through the Statistical Package for the Social Sciences software (SPSS). For other calculation Microsoft Excel was also used. Results were shown in numerical form and graphics also for clear representation. Results were also discussed and compared rationally in detail. After concluding this research the researcher also gave suggestions for the educators and coming researchers keeping in view the experiences gained from the present study.

4. RESULTS AND DISCUSSION

This section deals with details of analysis and interpretation of the collected data. Data gained by the experiment was in quantitative form. Different statistical soft wares were used for analyzing and interpreting the data more

precisely. Through SPSS statistical tests i.e. paired sample t-test and independent sample t-test was performed. For simple calculations and graphs Microsoft Excel was used. So, collected data was computed, analyzed and graphed for clear representation to achieve the objectives and to answer the questions of the present research.

Prior Proficiency Level of the Groups

Data gained by pretest results of the control group and the experimental group were collected and presented in bar-graph (see figure 1). EFL learners of the control group were indicated by capital alphabets while the EFL learners of the experimental group were indicated by capital alphabet with stars. Pretest marks percentage of the both groups was drawn using Microsoft Excel and arranged accordingly. To check the difference between the means of the pretests of the both groups independent sample t test was applied on the data through SPSS. Results of independent sample t-test are presented in table 3.1.

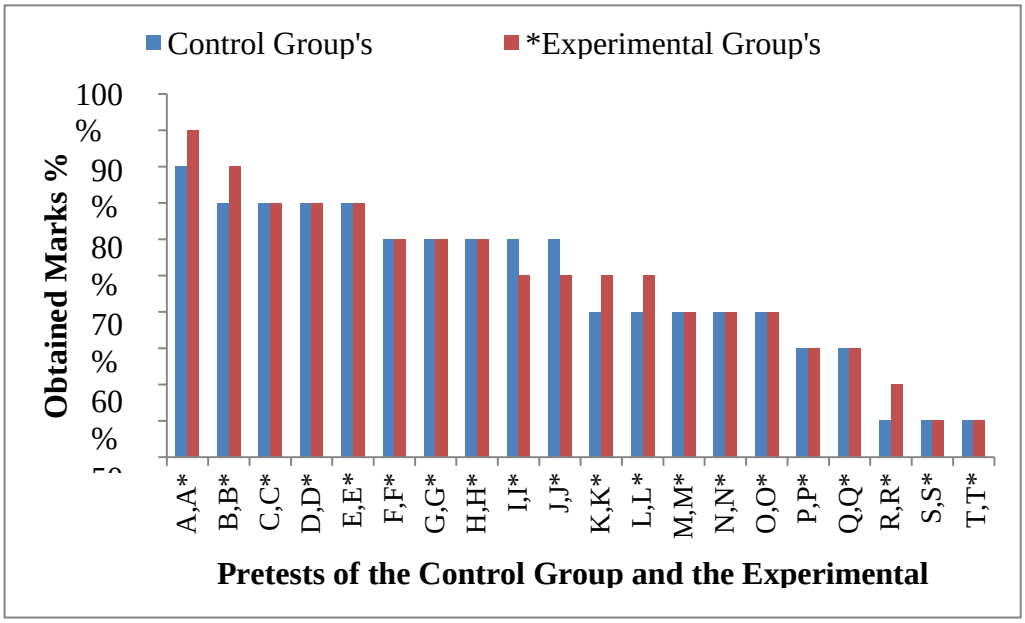

Figure 1: *Difference between Pretests of the Control Group (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T) and the Experimental Group (A*, B*, C*, D*, E*, F*, G*, H*, I*, J*, K*, L*, M*, N*, O*, P*, Q*, R*, S*, T*)*

The above graph is presenting pretests results of the control group and the experimental group. On x-axis pretests of the control group and experimental group are given while on y-axis marks percentage is aligned. On x-axis capital alphabets shows EFL learners belong to the control group whereas capital alphabets with stars shows EFL learners of the experimental group. The EFL learners of the control group are showed by blue bars and the EFL learners of the experimental group are showed by the red bars. This graph clearly shows that there is no significant difference of the prior proficiency level between the two groups.

For calculating the difference between prior proficiency levels of the both groups independent sample t-test was applied on the data. This test compared the differences between the pretests of the both groups. The following hypothesis was made:

H_0: $\mu_{1=} \mu_2$ H_1: $\mu_1 \neq \mu_2$

If $p<0.05$ reject H_0 and accept H_1. The variances are significantly different. So we cannot assume they are equal.

If $p>0.05$, accept H_0. This means variances are not significantly different. So we assume they equal.

Table 2: *Independent sample t-test results of pre writing tests of the control group and the experimental group*

Groups	*N*	*M*	*SD*	*SEM*	*t*	*df*	*p*
Control Group	20	4.90	2.20	0.49	0.217	38	0.829
Marks							
Experimental Group	20	4.75	2.17	0.49			

The pre-test marks of the control group (N = 20) and the experimental group (N = 20) were compared. To test the hypothesis that pretest marks of both groups are equal, an independent t test was performed (see table 3.1). On average pretest marks of the control group (M = 4.90, SD = 2.20) and pre-test marks of the experimental group (M = 4.75, SD = 2.17) are equal. The results of an independent t test showed that this difference is not significant, t (38) = 0.22, p = .83. Results of the pretests drawn from the independent sample t test showed that prior writing proficiency level of the both groups is almost equal. Before the beginning of the experiment it was necessary that the proficiency level of the both groups should be equal. This comparison was made to check the difference between the both groups statistically. There was no significant difference between the two groups.

Post Proficiency Level of Groups

In the present experimental research planned intervention comprised on ten sessions was applied on the experimental group only. After that its comparison was done with the control group which was taught through conventional teaching during that period. In other words comparison of technology based teaching with conventional teaching was made through this research. Data gained by posttest results of the control group and the experimental group were collected and arranged in bar graph (see figure 2). To check the difference in writing proficiency between the experimental group and the control group the results of posttests of the both groups were analyzed comparatively via t-test through SPSS.

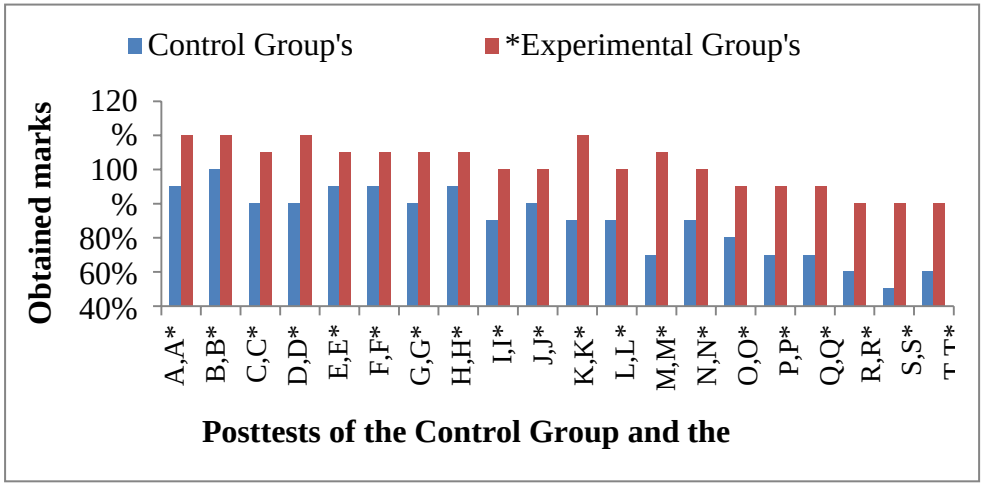

Figure 2: *Difference between Posttests of the Control Group (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T) and the Experimental Group (A*, B*, C*, D*,E*, F*, G*, H*, I*, J*, K*, L*, M*, N*, O*, P*, Q*, R*, S*, T*)*

The above graph 2 is presenting posttests results of the control group and the experimental group. On x-axis posttests of the control group and experimental group are given while on y-axis marks percentage is given. On x-axis capital alphabets shows EFL learners belong to the control group whereas capital alphabets with stars shows EFL learners of the experimental group. The EFL learners of the control group are showed by blue bars and the EFL learners of the experimental group are showed by the red bars. This graph clearly shows that there is significant difference in the post proficiency level between the two groups.

For calculating the difference between post proficiency level of the both groups independent sample t-test was applied on the data. This test compared the differences between the posttests of the both groups. The following hypothesis was made:

H_o: $\mu_1 \neq \mu_2$ H_1: $\mu_1 = \mu_2$

If $p<0.05$ accept H_0 and reject H_1. The variances are significantly different. So we cannot assume they are equal.

If $p>0.05$, reject H_0. This means variances are not significantly different. So we assume they equal.

Table 3: *Independent sample t-test results of post writing tests of the control group and the experimental group*

	Groups	*N*	*M*	*SD*	*SEM*	*t*	*df*	*P*
Marks	Control Group	20	4.90	1.99	.447	6.183	38	.000
	Experimental Group	20	8.25	1.37	.31			

Posttest marks of the control group (N = 20) and the experimental group (N = 20) were compared. To test the hypothesis that posttest marks of the experimental group are higher than the posttest marks of the control group, an independent t test was performed (see table 3.2). On average posttest marks of the control group (M = 4.90, SD = 1.99) and posttest marks of the experimental group (M = 8.25, SD = 1.37) were not equal. The results of an independent t test showed that this difference was significant, t (38) = -6.18, p = .00. p value was less than 0.05 so the null hypothesis was accepted.

The posttest results of the experimental and the control group showed significant difference. It revealed that intervention had positive effect on the experimental group. In the beginning of the experiment prior proficiency of the both groups were equal (see table 4.1) but after teaching the experimental group with technology their writing performance was much improved (see table 4.3) and they showed remarkable results as compared to the control group. This research discovered that technology-based teaching effects positively on the writing skills of the young EFL learners.

Difference between Pre and Post Test Results of the Control Group

The control group was given the traditional teaching method. Pretest and posttest were conducted by the control group to check the difference between their pretests and posttests. Data gained by the pretest and the posttest results of the control group were collected and arranged in bar graph (see figure 3). Percentage of the results was drawn out for clear presentation. A paired sample t test was applied on the data using SPSS to check the difference between the means of the pretests and posttest of the control group.

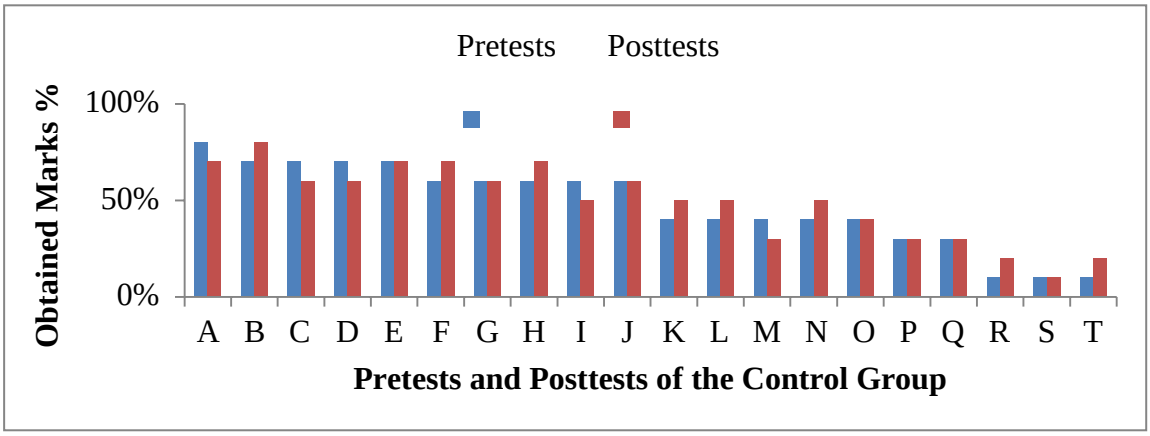

Figure 3: *Difference between pretests and posttests results of the Control Group (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T)*

The above graph 3.3 shows pre and posttest results of the control group. On x-axis pre and posttests of the control group are given while on y-axis marks percentage is given. On x-axis capital alphabets shows EFL learners belong to the control group. Pretest marks are showed by blue bars and the posttest marks are showed by the red bars. This graph clearly shows that there is no significant difference in the pre and posttest results of the control group.

For calculating the difference between the pre and post proficiency level of the control group a paired sample t test was applied on the data. This test statistically calculated either they improved significantly or not by teaching through conventional method. Through this test comparison between the pre and posttest of each EFL learner belongs to the control group was made. The following hypothesis was made:

H_o: $\mu_{1=} \mu_2$

H_1: $\mu_1 \neq \mu_2$

If $p<0.001$ reject H_0 and accept H_1. The variances are significantly different. So we cannot assume they are equal.

If $p>0.001$, accept H_0. This means variances are not significantly different. So we assume they equal.

Table 4: *Paired sample t-test results of pre and post writing tests of the control group*

Marks Before Intervention			Marks After Intervention					
Variable	*M*	*SD*	*M*	*SD*	*t* (19)	*p*	*R*	Cohen"s *d*
Marks	4.75	2.17	4.90	1.99	-.82	.42	.93***	0.07

****p* > .001

Table 4 revealed the means comparison of pre and posttest results of the control group. Findings indicated that there is no significant difference between the both results of the control group with t (19) = 0.82, p >.001. Results showed that there is no noteworthy difference in pretest results (M = 4.75, S = 2.17) and posttest results (M = 4.90, S = 1.99) of the control group. Two sets score were not significantly correlated (r = .93, p > .001). The value of Cohen"s *d was 0.07 (< 0.50)* which indicated very small effect size. The results of pretests and posttest drawn from paired sample t-test showed that there was no significant difference between the pretest and the posttest of the control group that was given traditional teaching method. Test results revealed that in traditional teaching method the EFL learners did not show significant difference between the pre and posttests results rather their results were remained constant. The above results revealed that EFL learners belong to the control group did not show very good results after teaching through conventional method they did not develop their writing habit of their own rather they were relied on cramming system for succeeding their tests that is why there were consistently mistakes in their writing tests.

Difference between the Pre and Post Test Results of the Experimental Group

This section answers the second question of the present research that what are the effects of using technology for improving writing skills. As mentioned above, for this purpose treatment was applied to the experimental group only and a post-test was administered. The comparison of the pre and posttest results of the experimental group illustrated the effects of treatment that the experimental group received (see figure 4).

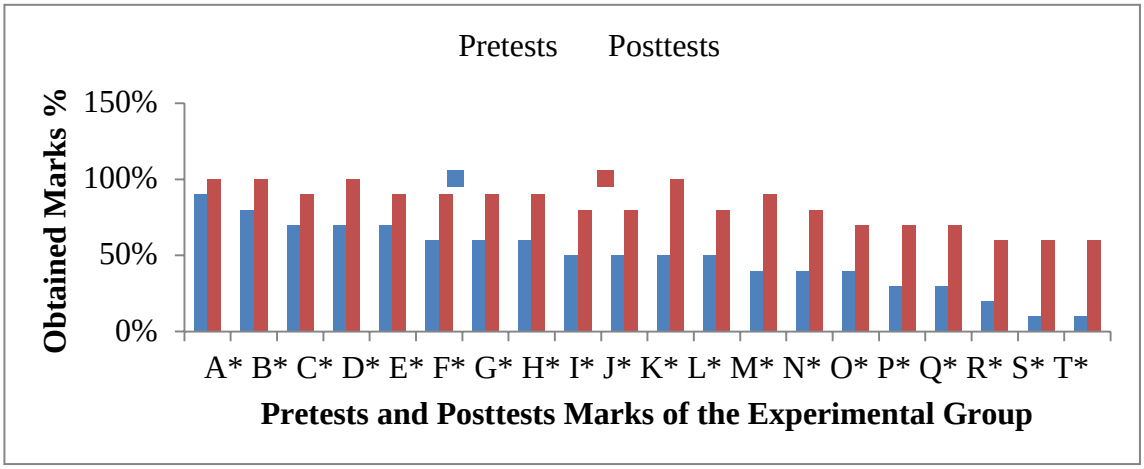

Figure 4: *Difference between the pretests and posttests of the Experimental Group(A*, B*, C*, D*, E*, F*, G*, H*, I*, J*, K*, L*, M*, N*, O*, P*, Q*, R*, S*, T*)*

The above graph 3.4 shows pre and posttest results of the experimental group. On x- axis pre and posttests of the experimental group are given while on y-axis marks percentage is given. On x-axis capital alphabets with stars shows EFL learners belong to the experimental group. Pretest marks are showed by

blue bars and the posttest marks are showed by the red bars. This graph clearly shows that there is significant difference in the pre and posttest results of the experimental group.

For calculating the difference between the pre and post proficiency level of the experimental group a paired sample t test was applied on the data. This test statistically calculated, either they improved significantly or not by technology-based teaching. Through this test comparison between the pre and posttest of each EFL learner belongs to the experimental group was made. The following hypothesis was made:

H_o: $\mu_1 \neq \mu_2$ H_1: $\mu_{1=} \mu_2$

If p<0.001 accept H_0 and reject H_1. The variances are significantly different. So we

cannot assume they are equal.

If p>0.001, reject H_0. This means variances are not significantly different. So we assume they equal.

Table 5. *Paired sample t-test results of pre and post writing tests of the control group*

	Marks Before Intervention		Marks After Intervention					
Variable	*M*	*SD*	*M*	*SD*	*t* (19)	*p*	*r*	Cohen‟s *d*
Marks	4.75	2.17	4.90	1.99	-.82	.42	.93***	0.07

****p* > .001

Table 5 exposed comparison of means of pretest results and posttest results of the experimental group. Findings showed that there is significant difference between pretest and posttest results of the experimental group with t (19) = -13.18, p < .001. Results showed that pretest results (M = 4.90, S = 2.19) and posttest results (M = 8.25, S = 1.37) of the experimental group are significantly different. Two sets scores were significantly correlated (r = .89, p < .001). The value of Cohen‟s *d was - 1.83 (> 0.80)* which indicated large effect size. The results of pretest and posttest of the experimental group that was given planned intervention, showed significant difference.

Posttest results revealed very good results as compared to the pretests. It is proved from the findings that intervention really worked on the EFL learners. As it is the age of technology so youngsters also intend to do every work through technology. During experiment students eagerly attended all the sessions and learnt the concepts with keen interest that they found hard before receiving intervention. In fun and play young learners learnt more, the games and use of different websites during intervention was new for the learners so they picked up hard concepts quickly and showed remarkable results in the posttests.

Difference between Pre and Post Apprehension of the Experimental Group

This section answers question number one and two of the present research. The challenges and difficulties of the EFL learners were calculated by applying pre writing apprehension test and by applying a post writing apprehension test comparison between the two was made. For this purpose The Daly-Miller Test by John Daly and Michael Miller's, was applied two times before and after intervention on the experimental group. This test is an empirical development instrument to measure writing apprehension. Pre-writing apprehension and post-writing apprehension test results of the experimental group were arranged in pie-chart (see figure 5) for analyzing and comparing conveniently. It shows the difference between the pre and post writing apprehension level of the experimental group.

Figure 5. Percentage of Pre Writing Apprehension Level of the Experimental Group

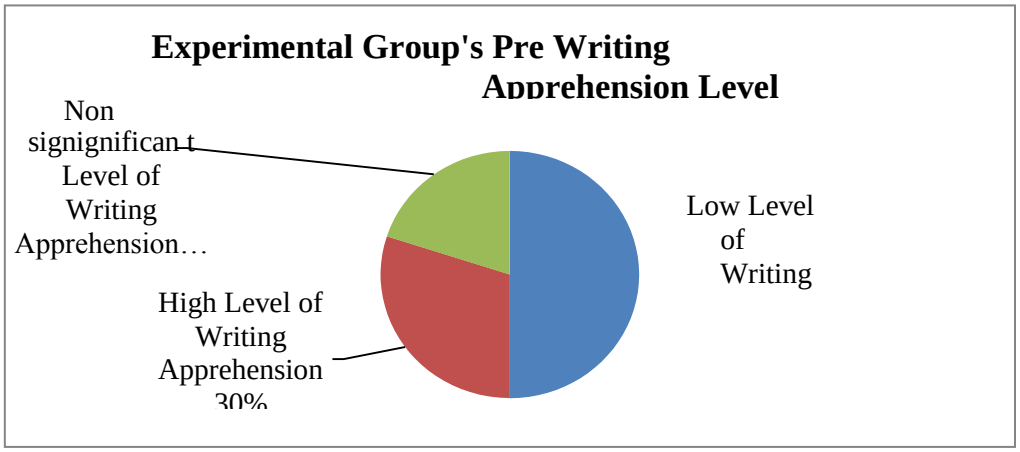

Figure 5 shows the pre writing apprehension level of the experimental group. In the above pie chart non-significant level of writing apprehension is shown by green colour, in which only 20% EFL learners of the experimental group falls. It means that before intervention very low number of students was there who had non-significant writing apprehension level. Low level of writing apprehension is mentioned through blue colour where 50% EFL learners fall. It means that 50% EFL learners had also writing apprehensions but of low level. High level of writing apprehension is showed by red colour where 30% EFL learners of the experimental group fall. It means that 30% EFL learners had high concerns regarding writing.

Figure 6. Percentage of post writing apprehension level of experimental group

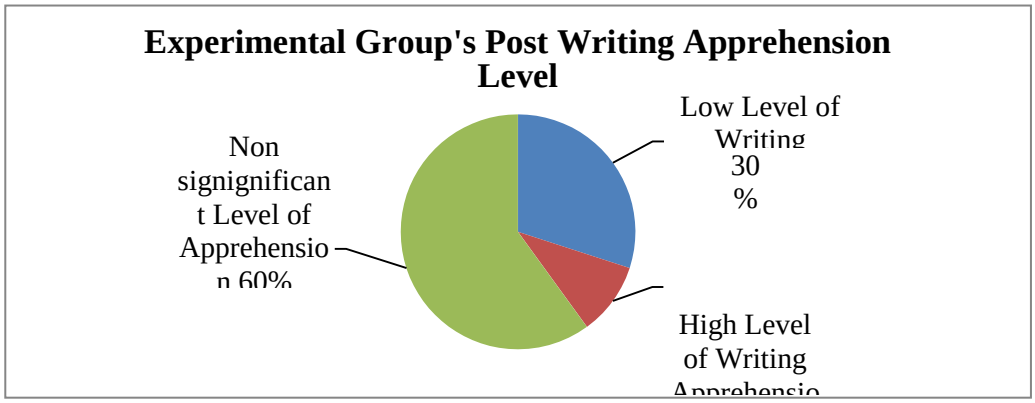

Figure 6 shows the post writing apprehension level of the experimental group. In the above pie chart non-significant level of writing apprehension is shown by green colour, in which only 60% EFL learners of the experimental group falls. It means that after applying intervention number of EFL learners increased who had non-significant writing apprehension level. Low level of writing apprehension is mentioned through blue colour where 30% EFL learners fall. It means that after intervention number of EFL learners decreased who had low writing apprehension level high level of writing apprehension is showed by red colour where 10% EFL learners of the experimental group fall. It means that only 10% EFL learners remained who had high concerns regarding writing. It is also revealed that intervention had also positive effects on the writing apprehension of the EFL learners.

Writing apprehension scores of the experimental group ranged from 49 to 124. There is specific method to determine the score in The Daly-Miller Test as told by John Daly and Michael Miller's. A score of 78 placed on the mean, which is the middle point between two extremes, closer the score to the mean, lesser the apprehension recorded in EFL learners. This test was based on twenty six questions of five point Likert scale. Results of pretest and posttest were calculated using MS Excel. First, the researcher added together all point values for positive statements (PSV questions = 1; 4; 5; 7; 8; 13; 16; 18; 21; 22; 24; 25; 26) only. Second, added together all point values for negative statements (NSV questions = 2; 3; 6; 9; 10; 11; 12; 14; 15; 17; 19; 20; 23) only. After that data was placed in the following formula to discover the Writing Apprehension (WA) score: WA = 78 + PSV-NSV

Table 6. *Apprehension level of the experimental group*

No. of Students	Non-significant Level of Writing Apprehension (60-96)	High Level of Writing Apprehension (26-59)	Low Level of Writing Apprehension (97-130)
In Pretest	4	6	10
In Posttest	12	2	6

Table 6 shows that in pre writing Apprehension test four EFL learners (20%) did not experience a significantly unusual level of writing apprehension, writing apprehension level of six EFL learners (30%) was high and writing apprehension level of ten EFL learners (50%) was low. In post writing apprehension test writing apprehension level of twelve EFL learners (60%) was non-significant, writing apprehension level of two EFL learners (10%) was high and writing apprehension level of six EFL learners (30%) was low. The difference between pre and post writing apprehension test showed that intervention applied in between these tests worked. Number of EFL learners decreased who had high level of writing apprehension. There was significant difference in the numbers of EFL learners who had non-significant writing apprehension level in the posttest. In pre writing apprehension test 50% EFL learners had low level of writing apprehension that were reduced to 30% in post writing apprehension test. The results of pre and post writing apprehension test showed that after applying intervention on the experimental group their anxiety about writing significantly reduced. The figures revealed that the EFL learners who were reluctant to write they started writing habitually as their fears regarding appropriate writing were removed to a great extent.

5. CONCLUSION

Findings from the analysis of the results of this study it revealed that there was a clear difference in writing apprehension before and after intervention. In the beginning EFL learners were afraid of English writing that is why they avoided writing. They got nervous in composition and performed poorly even they did not like to be evaluated by their writing. After evaluating the EFL learners‟ writing difficulties and apprehensions the intervention was planned and applied to the experimental group it showed outstanding results. The EFL learners who were afraid of writing started enjoying English writing they felt confident in expressing their ideas in writing even their apprehension regarding evaluation decreased with notable difference.

Besides decreasing the writing apprehension of the EFL learners their writing performance enhanced via administering the modern technology in their language classrooms. In compare to the control group there was non-significant difference in the pre and post writing performance test it showed that use of different soft wares and technologies helped to improve EFL learners‟ of the experimental group in English writing. Students also learnt how to get knowledge autonomously through technology due to its easy accessibility, easy usability, resource variety, cognitive familiarity, authenticity sharing, interaction, and opportunities and the role of a teacher booster their learning. The teacher directed the learners to a defined goal by providing them useful material and guidance.

After concluding the findings of this research I hope current study will play a significant role in the field of teaching and learning of English as foreign language in Pakistan. Educationists and teachers can avail benefits by using unique teachings methods used in the present research. Through results it is proved that the theory behind this research, the research design, pedagogy and evaluation is useful and can be used in future also for the same kind of

studies. The results of the present study are generalizable to all the EFL learners at SSC level in Pakistan as the population of the research belongs to those 95% students who opt for Matriculation.

Thus, integration of affordable modern technology into writing classrooms of foreign language learning can prove effective in enhancing and developing the writing skills of EFL learners at SSC level of Pakistan.

Recommendations

On the basis of present research the researcher gave the following recommendations:

1. Private and particularly public institutions should realize need of the hour and develop themselves with modern technology such as internet and other devices so that there would be easy access to the resources that can escalate the students‟ learning level.
2. With changing era the ELT method should be improved and digitilized according to the learner‟s need and mental approach so that they can learn English as foreign language habitualy and eagerly.
3. In writing classrooms teachers should develop such task based activities that
4. are interesting for the students and they can learn autonomously.
5. For evaluating writing performance of the EFL learners there are a number of softwares that can automatically check the mistakes and errors of the writing.
6. EFL teachers should avail these softwares it can give accurate results with little effort and can save their time and of students as well.
7. EFL teachers should be given training of digitilized ELT at national level. These trainings should be based on how to avail usfulness of various technology tools for ELT.
8. Instead of cramming the material for passing exams students should be given small writing projects that should also be published at least on their school websites on regular basis. It will motivate them to write habitually and will also give better grasp on their writing skills. This act will also bring forward new young writers.

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