Technology Integration: EFL Learners' Level of Anxiety and Their Performance in Writing Tests

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Abstract

Modern technologies lead to numerous changes and modifications in different aspects of life. It also might influence language teaching skills in a significant domain. This study investigated the effects of technology-based instruction and computer supported education on enhancing EFL learners' writing competence and anxiety. Writing Competence Rating Scale (WCRS) and Foreign Language Classroom Anxiety Scale (FLCAS) were administered to assess the impact of employing computer, Internet, online resources, electronic portfolio, and email on learners' writing competence and anxiety. The obtained results indicated that anxiety and proficiency have a significant negative relationship; that means advanced learners with high proficiency feel more comfortable in technology integrated learning environments. Interpretations and Implications are also discussed.

Keywords: *Technology-based instruction, computer supported education, electronic portfolios, writing competence, learning anxiety.*

1. Introduction

Learners, for centuries, have practiced reading and writing skills in their classrooms; however, they have a lot of problems in acquiring these skills. In fact, the role of writing in language classrooms, largely depends on either the teacher' or the learner' goals. Since writing is a productive skill, it needs a great comprehensive knowledge of grammar and vocabulary that are accompanied by its other principles such as writing format, which should be taught by the EFL teachers (Chastain, 1988). Especially, tertiary learners' writing capability is crucial to their language achievements, as they need to perform a variety of educational writing activities in their classrooms. Increasing learners' consciousness about the significance of brilliant writing ability and conducting writing skills training courses enable learners to learn sufficient knowledge and strategies to develop good writing performance more effectively (Gupta and Woldemariam, 2011; Mellati and Khademi, 2014a).

However, employing writing strategies in educational settings may be influenced by multifarious factors. One of these factors is employing technology in language teaching environments. Warschauer (1996) stated that the integration of modern educational technologies into education process is very important as it requires on the part of teachers and learners the ability to cope with both new language activities and the applied technologies. Therefore, electronic literacy has become a prerequisite for EFL learners to develop their language abilities. He added that computers serve as an efficient medium for distributing instructional resources to the language learners. The underlying principle behind using computers in language teaching process is repeated exposure to the same material. A computer is an ideal medium for conducting repeated tasks and drills; gives immediate, effective and unbiased feedback; lets learners to progress at their own speed; and releases the classroom time for additional learning opportunities and activities.

An interrelated issue with using technologies is learners' anxiety in technology-based instruction and their performance in language tests. Mostly, researchers and teachers believed that anxiety inhibits

internalizing new language knowledge. Clinical experiences and empirical research findings also demonstrated the existence of anxiety feedbacks as a hindrance regarding language learning in some individuals (Campbell, 1999; Bailey et al., 2000; Cassady and Gridley, 2005; Humphries, 2011). Considering this affective factor in language learning, Horwitz (2001) declared that nervousness or anxiety is a feeling of stress, uneasiness, nervousness, and worry that is associated with a stimulation of the learners' autonomic nervous system and negatively influences language learning. Psychology researchers distinguished numerous types of anxiety. Typically in psychology researchers' typology, anxiety is a personality characteristic that is distinguished from a temporary state anxiety. In other words, anxiety is considered theoretically as a relatively constant personality characteristic, though the state anxiety is seen as a transient reaction to a particular anxiety-provoking classroom task such as a significant test session. Humphries (2011) has found anxiety as an impediment in acquiring language skills such as speaking and listening that is highly associated with learners' feeling modules.

Technology-based instruction is the application of scientific knowledge for practical purposes. Modern educational technologies can be seen as practical and adequate tools for presenting those learning tasks that especially simulate real and authentic language use, and consequently, end in meaningful learning. It may be defined as a procedure by which learning activities deliver through technology-based tools and mediums to change, manipulate, and control learners' educational environments. Technology-integration is the knowledge of using tools and machines to perform language learning tasks more efficiently and improve learning more easily and effectively (Brzezowski, 1998).

LeLoup and Ponterio (2004) reflected on educational technologies as assessments and teaching apparatuses and stated that in all kinds of evaluation tools, technology can assist teachers to prepare learning resources and materials. In teaching process, teachers can now much more easily integrate authentic language tasks into their daily learning instructions. There are a large number of learning recourses such as images that can be presented in various media formats that help teachers to create the context necessary for the presentation or simulation of more realistic learning activities. Even the simple act of using a word processor to write tests can help teachers to reduce typographical errors, make modifications for multiple versions of tests, mix, match test segments and items from past exams, and other effective facilitations. In similar statements, Mellati and Khademi (2014b) confirmed that educational software helps teachers design more effective test instrument, better evaluate the learners' language knowledge, and communicate more effectively with the learners and their parents about what they need to be learned, what skills need to be acquired, and how they will be evaluated.

Dixon and Johnson (2001) declared that modern educational technologies have provided new opportunities for helping stakeholders, teachers and learners in both language teaching and evaluation. For example, they offer easy access to a large number of learning resources through various means, especially through the internet. Besides, learning and communication technologies have facilitated interaction between teachers and learners through both synchronous and asynchronous settings. Moreover, this has helped learning and instruction to prevent the limitation of time and space to a large extent. Alvarez and Rico (2006) eventuated that technology integration in language contexts has become an important factor in learning and education change. Cambiano, et al. (2001) claimed that teachers and learners today are searching for a new modern medium to eliciting meaning for the teaching and learning process more easily. Considering these statements, Cassady and Gridley (2005) demonstrated that employing the Internet in language classrooms provides learners access to a large number of meaningful learning materials. Moreover, recent developments in evaluation packages and secure Internet testing protocols have led to the common usage of online assignments, quizzes, and tests. These evaluation mediums enhance testing validity to a great extent.

Although there is great enthusiasm among teachers and learners regarding the potential use of technology-based instruction and online delivery of both formative and summative assessment materials, its unique impacts on learners' attitudes and anxieties is yet under question. To seek above-mentioned

effects in Iranian EFL context, this particular study investigated the effect of applying technology-based instruction on the Iranian EFL learners' level of anxiety and their performance in writing tests. Employing technology-based instructions and focusing on various aspects of this subject in language teaching and learning would be a turning point in this field of study. The great impacts of technology integration in language learning contexts might influence both teaching and evaluation fundamentally. The findings of this study are basing points for stakeholders, teachers, and educators that seek ways to teach language in a more integrated approach. The questionable notions for supporters of applying technology in the teaching process develop models that could help enhance the various aspects of the language learning process more efficiently.

2.   Review of Literature

Empirical researches have shown the importance of writing skill among other skills such as reading, listening or speaking in both second and foreign language contexts. Since writing is a basic communicative and productive skill and students need to know it strongly, in some courses the focus is on writing as a fundamental process in learning the language (Chastain, 1988). It would be very helpful in the area to have a clear picture of a learning context in which information about learners is often overlooked. Knowledge about learners allows teachers to make decisions that are more accurate in the language learning/teaching process. Carlson (2010) and Arnaiz and Guillén (2012) firmly believed that apart from all the advances achieved as regards methodology, psychological variables deserve careful analysis and attention in the foreign language learning contexts.

Recent studies have focused on the relationship between anxiety level and learners' actual proficiency and have yielded inconsistent results. According to Aida (1994), research studies on foreign language anxiety is yet underdeveloped. Aida believed that studies examining the relationship between anxiety and learner characteristics help teachers increase their understanding of language learning from the learner's perspective and provide a wider range of insights as well as meaningful learning. Liu (2006) found that Chinese English learners that have higher language proficiency were less anxious in presenting their language knowledge. The lack of control over a situation may provoke anxiety when students start learning a foreign language. However, other studies (Bailey et al., 2000; Kitano, 2001; Ewald, 2007) have suggested that as the level of language rises, so does the learners' anxiety level. They explained that this may be due to the increase in the complexity of instruction at higher levels. MacIntyre and Gardner (1994) in a study that French was a second language for the learners found that language learning anxiety was negatively correlated with language course grades. In other words, language proficiency reduces learning anxiety to a great extent. In a similar study, Campbell (1999) found relatively significant gender differences among learners in language anxiety level in the reading skill at a military language institute. MacIntyre, Baker, Clément, and Donovan (2002) demonstrated that whereas boys' overall anxiety levels remain stable across the three grade levels, girls show a decrease in anxiety from grade 8 to grade 9. The findings of the study confirmed previous research studies' findings. They added that the level of input anxiety depends on the learners' ability to control, focus on, and cope with external stimuli. Tobias (1986) declared that ineffective anxiety reduces the effectiveness of resources and materials by limiting the anxious learners' ability to attend to the material presented by the instructor and reduces the learners' aptitude to represent learning internally. Furthermore, the feeling of anxiety at the processing stage refers to the apprehension that learners experienced when they performed cognitive learning tasks and absorbed new knowledge. The quantity of feeling anxiety that teachers have encountered in their classrooms appears to depend largely on the difficulty of the new knowledge, the degree on which memory is relied, and finally, the level of organization and management of the presented new materials.

With the aim of identifying anxious university learners and evaluating their anxiety level, Horwitz et al. (1986) developed the Foreign Language Classroom Anxiety Scale (FLCAS) that has been widely used in different research studies on anxiety level in language learning contexts. Horwitz et al. (1986) conducted a research study at the University of Texas with 75 college learners enrolled in introductory Spanish

classes. The findings revealed that language learning in foreign contexts affected learners' performance in that language and many learners experienced significant anxiety in such learning environments. Subsequent research studies on language anxiety have reported the negative effects associated with foreign language anxiety and language learning. The challenging findings of the previous studies were provoking the researchers to investigate the effect of applying technology-based activities on the Iranian EFL learners' level of anxiety and their performance in writing tests. The major issues to be addressed in this study included the following particular research questions:

Q1: Does technology integration in writing courses have any significant effect on Iranian EFL learners' performance in writing tests?
Q2: Does technology integration in writing courses have any significant effect on the Iranian EFL learners' level of anxiety in writing tests?
Q3: Does the Iranian EFL learners' level of anxiety have any significant effect on their performance in writing tests?

3. Methodology

Participants
This particular study conducted on forty tertiary level English learners at Islamic Azad University, Shiraz Branch. They all accepted to participate in the study; therefore, their participation was voluntary. The participants were informed about the particular purposes of the study at the outset of the study. The researchers stated that they could withdraw their contributions at any time without any penalty. In addition, all of them were provided with written information about the exact nature and purpose of the research project. Finally, they were insured that their identities to the tests would be held in strict confidence. The participants (N = 40), aged 18 to 30, attended two separated classes taught by the same teacher. One class (N = 20) was chosen as the control group and the other (N = 20) as the experimental group. They randomly assigned to an experimental and a control group, 20 students each group. The results of writing and anxiety tests at the onset of the study demonstrated that participants in each of the two experimental and control groups were similar on several variables, such as (1) language proficiency, (2) writing ability, and their anxiety level. The participants studied writing, as well as various related educational topics. As for writing instruction, the participants studied the essay with mandatory subjects.

Instrumentations
A series of instruments was employed to collect the required data for the purpose of this particular study:

Writing Competence Rating Scale (WCRS)
In order to examine the impact of employing technology-based instruction and applying materials such as Microsoft Office word and e-mail in writing classroom, the researchers employed WCRS that was developed by Conor and Mbaye (2002) in the current study. To do this, members of the two groups took pre-tests and post-tests; the participants had to write a standard five paragraph essay about two subjects (select subject voluntarily). Then, the researchers developed an analytic rating scale to assess learners' writing competence. This scale addressed the writing content, organization, and accuracy of learners' essays. Face and construct validity of this scale were examined by three EFL experts. Then, two raters who scored learners' essays analytically rated learners' essays according to these three criteria; content, organization, and accuracy. Rating scores ranged from 1 (the lowest) to 4 (the highest). Inter-rater reliability also was verified before rating learners' essays.

Foreign Language Classroom Anxiety Scale (FLCAS)
To check the participants' anxiety, the researchers employed Foreign Language Classroom Anxiety Scale (FLCAS) that is developed by Horwitz, E. K., Horwitz, M. B., and Cope, J. (1986). This was a Likert type anxiety scale with five responses that are ranged from "strongly disagree" to "strongly agree". The questionnaire included 33 items with the purpose of evaluating the learners' level of foreign language

anxiety.

Procedures

The design of the present study was quasi-experimental or pretest-posttest experimental in which the participants randomly assigned into two groups. In this design, the experimental group received the treatment, whereas the control group treated similar to experimental group except for the study treatment. As the researcher did not have any control on its sample, it was a quasi-experimental design. The participants were chosen randomly for the purpose of this study. Then, they randomly assigned into two groups (experimental and control). To find out the effect of the study's treatment, i.e. technology integration, participants in both groups were asked to fill out the Foreign Language Classroom Anxiety Scale (FLCAS) at the beginning of the study. Besides, they were taken a writing essay as pretest.

The modern technologies such as Microsoft Office Word, e-portfolio, and e-mail that are adopted for using in the current study have a learning purpose, namely, to help learners experience the writing process on their own speed, through self-planning, setting goals, gathering relevant data about the selected writing subject, focusing on goals, and reflecting on the essay writing process through modification and reformulation of the whole writing. Therefore, since the focus of this particular study was on that learners experience writing as a complex and recursive process, the technologies served as a vehicle for highlighting learning growth relevant to essay writing. Technology integration required that learners have certain technological aptitudes that are necessary for functioning within the electronic mediums and dealing with them. Acquiring these competencies was prerequisite in order to participate in the current study. Among others, learners needed to acquire file management aptitude (i.e., the naming, organizing, attaching, copying, and pasting of files). Additionally, they needed to be familiar with the use of web browsers, e-mail programs, word processing, and concept mapping and other technology-related skills. To achieve the required technology-related skills, the participants of the experimental group received necessary training courses at a computer lab. Relevant assistance was provided by an experienced computer technician who was responsible for helping participants to overcome their technical difficulties.

During 16 sessions of treatment, the participants in the experimental group were exposed to a series of task-based classroom writing activities such as paraphrasing in word processing, paragraph writing, surfing the net for the mentioned topics, essay writing activities, and mailing their activities to teacher and classmates. The participants in control groups received conventional activities common to writing classes. In most cases, they had writing practices in the classroom. At the end of this period, all participants in both experimental and control groups were taken a posttest including writing an essay. They also were taken the same anxiety scale as they did at the beginning of the study. The results compared between groups employing statistical techniques.

4. Results

The researchers to conduct the analysis of data and test the hypothesis formulated for the current study, collected the required data based on the above mentioned data collection instruments and procedures. To evaluate the learners' writing ability and their anxiety level at the outset of the study, the researchers took a writing assay and administered FLCAS as pretest. The results of these tests were required for final comparisons.

Table 1. Results of descriptive statistics for writing test as pre-test

Group Statistics					
	Groups	N	Mean	Std. Deviation	Std. Error Mean
Writing Scores	Experimental	20	1.80	.696	.156
	Control	20	1.90	.718	.161

Learners' diversity in writing abilities might affect the results. To control this variable and to reach valid results, the researchers administered writing test at the outset of the study. As the results in Table 1 indicate, mean and the standard deviation for experimental (M= 1.80, SD= .696) and control group were (M= 1.90, SD= .718) respectively.

An independent samples t-test was conducted to explore the homogeneity of two groups at the very beginning of the treatment at their writing ability. Table 2 shows the results of the independent samples t-test in the pre-test.

Table 2. Results for independent samples t-test for writing scores in pre-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Writing Scores	Equal variances assumed	.022	.883	-.447	38	.657	-.100	.224	-.553	.353
	Equal variances not assumed			-.447	37.9	.657	-.100	.224	-.553	.353

An independent-samples T-Test was conducted to compare the results of the pre-test for the participants of both control and experimental group. There was no significant difference in scores of the control group (M= 1.90, SD= .718) and scores of the experimental group, M= 1.80, SD= .696; t (38) = -.047, *p* = .657. The results of Table 2 confirm the homogeneity of the participants at the outset of the study in their writing ability.

An independent samples t-test was conducted to explore the homogeneity of two groups at the very beginning of the treatment at their anxiety level. Tables 3 and 4 show the results of the independent samples t-test.

Table 3. Results of descriptive statistics for FLCAS as pre-test

Group Statistics

	Groups	N	Mean	Std. Deviation	Std. Error Mean
FLCAS Scores	Experimental	20	69.65	17.928	4.009
	Control	20	73.15	17.578	3.930

As the results in Table 3 indicate, mean and the standard deviation for experimental (M= 69.65, SD= 17.928) and control group were (M= 73.15, SD= 17.578) respectively.

Table 4. Results for independent samples t-test for FLCAS in pre-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FLCAS Scores	Equal variances assumed	.002	.965	-.623	38	.537	-3.500	5.614	-14.8	7.865
	Equal variances not assumed			-.623	37.9	.537	-3.500	5.614	-14.8	7.865

An independent-samples T-Test was conducted to compare the results of the pre-test for the participants of both control and experimental group. There was no significant difference in scores of the control group (M= 73.15, SD= 17.578) and scores of the experimental group, M= 69.65, SD= 17.928; t (38) = -.623, *p* = .537. The results of Table 4 confirm the homogeneity of the participants at the outset of the study in their anxiety level.

To investigate the effects of technology-based instruction or technology integration on learners' writing ability, the independent samples test was employed to test writing scores in post-test. Tables 5 and 6 show the results of the t-test analysis.

Table 5. Results of descriptive statistics for writing test as post-test

Group Statistics					
	Groups	N	Mean	Std. Deviation	Std. Error Mean
Writing Scores	Experimental	20	3.00	.725	.162
	Control	20	2.05	.759	.170

As the results in Table 5 indicate, mean and the standard deviation for experimental (M= 3, SD= .725) and control group were (M= 2.05, SD= .759) respectively.

Table 6. Results for independent samples t-test for writing scores in post-test

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Writing Scores	Equal variances assumed	.197	.660	4.046	38	.000	.950	.235	.475	1.425
	Equal variances not assumed			4.046	37.922	.000	.950	.235	.475	1.425

An independent-samples t-test was conducted to compare the results of the writing post-test for the participants of both control and experimental group. There was a significant difference in scores of the control group (M= 2.05, SD= .759) and scores of the experimental group, M= 3, SD= .725; t (38) = 4.046, *P* = .000. As the results of Table 6 reveals, conducting technology-based instruction or technology integration has a significant effect on learners' writing ability.

To investigate the effects of technology-based instruction or technology integration on the learners' anxiety level, the independent samples test was employed to test FLCAS scores in post-test. Tables 7 and 8 show the results of the t-test analysis.

Table 7. Results of descriptive statistics for FLCAS as post-test

Group Statistics					
	Groups	N	Mean	Std. Deviation	Std. Error Mean
FLCAS Scores	Experimental	20	49.25	12.494	2.794
	Control	20	72.25	17.213	3.849

As the results in Table 7 indicate, mean and the standard deviation for experimental (M= 49.25, SD= 12.494) and control group were (M= 72.25, SD= 17.213) respectively.

An independent-samples t-test was conducted to compare the results of the FLCAS post-test for the

participants of both control and experimental group. There was a significant difference in scores of the control group (M= 72.25, SD= 17.213) and scores of the experimental group, M= 49.25, SD= 12.494; t (38) = -4.836, P = .000. As the results of Table 8 reveals, conducting technology-based instruction or technology integration has a significant effect on the learners' anxiety level.

5. Discussions

As can also be observed in the scores that were obtained as a result of this particular research study, it was detected that technology integration and technology-based instruction, significantly and positively affects perceived Iranian EFL learners' performance in writing tests. In other words, the change taking place in perceived Iranian writing scores can be said to depend largely on technology integration or technology-based instruction. With regard to the second research question, it appeared that technology integration positively and significantly affects the Iranian EFL learners' level of anxiety in writing tests toward applying computer supported education at tertiary level. The research results also indicated that the Iranian EFL learners' level of anxiety affects their performance in writing tests negatively and significantly.

These results that emerged overlap with other research findings related to the subject matter. As the results of the study conducted by Usta and Korkmaz (2010) demonstrated, it was seen that as teachers' technology literacy levels increase, their positive attitude toward using technology also increases. In other words, teachers' technology literacy modifies teachers' beliefs towards employing technology-based instruction to a great extent. The research findings put forward the idea that attitudes of teachers toward technology and using technology in education are positive and that there is a positive correlation between a positive attitude toward technology and the frequency of use of technology. These results are confirmed by the results of other researches that were carried out on this subject matter. It appeared among the results of many studies carried out regarding the subject, that there is a direct correlation between computer anxiety and computer use. Learners' anxiety levels differed according to the features such as where they live, the type of university from which they graduated, whether they had taken a computer course before, their length of computer use and whether there is a computer where they live. (LeLoup and Ponterio, 2004; Arnaiz and Guillén, 2012; Carlson, 2010).

It was determined in other research studies that learners with high perceived computer self-efficacy are more successful at applying computers and other technology-related skills, have more self-confidence, are willing to take more responsibilities and are more successful in fulfilling their learning tasks (Burkhardt and Brass, 1990; Langford and Reeves, 1998; Celik and Bindak, 2005; Carlson, 2010). Common results of research studies regarding the subject matter (Akcay, Aydogdu, Yildirim, and Sensoy, 2005; Atam, 2006; Aykanat, Dogru, and Kalender, 2005; Morgil and Evrim, 2006) emphasized that computer supported education has a positive effect on increasing the success of learners, learners' attitudes toward technology integration, the permanency of learning and the development of skills such as reading and listening. Applying technology-based instruction, learners are able to conduct research and group works activities, establish strong and deep communication, written and oral communication, problem-solving and interminable personal developments. Furthermore, the existence of a positive and significant correlation between learners' computer self-efficacy, the frequency of computer use, and positive attitudes toward technology integration (Celik and Bindak, 2005) are the main characteristics of verifying the outcomes obtained from this particular research. In contrast, some researchers determined that learners' anxiety increase as learners' level of education increases, the negative correlation between computer anxiety and self-efficacy increases (Doyle, Stamouli, and Huggard, 2005). Online testing or technology integration not only lowers the levels of perceived test threat that learners face with and the obvious benefits of ease in scoring or test delivery on the part of teachers, but also provides increased positive attitudes towards applying technology-based instruction in language classrooms (Horwitz, 2001). The findings of the current study asserted that technology integration positively and significantly affects perceived computer self-efficacy, computer anxiety and computer supported education. Besides, it was

detected that technology attitude and computer anxiety, and technology attitude and perceived computer self-efficacy together, modify teachers and learners' attitudes toward employing technology-based instruction and computer supported education significantly. It was appeared that perceived computer self-efficacy, computer anxiety and technology integration attitudes are important predictors and latent variables of computer supported education that is among the most important outcomes of the present research. This situation puts forward the novelty of this research and its discrimination from other similar researches on this subject and also puts up great importance on technology attitudes of both teachers and learners and that they can overcome their computer anxiety and enhance their perceived computer self-efficacy. Performing computer supported education is an obligatory element of the present education world.

The main contribution of this research is to underline the level of anxiety of 40 Iranian university learners learning English. The results of the present study indicated that a high number of learners have average anxiety level, and are consistent with the findings in previous studies (i.e. Liu, 2006; Aykanat, Dogru, and Kalender, 2005) in other socio-demographic university contexts. However, it is interesting to note that the mean scores obtained in the study by Liu (2006) with learners of English and French are considerably lower than the mean scores in the present study. The reason for the difference in figures might be in students' level of motivation. In Liu's research, the learners were pre-service language teachers and therefore may have been more motivated than learners from other studies in which foreign language classes were a requirement. This study supported the findings of some early studies carried out in the university context with learners who had Japanese (Humphries, 2011) and French as a foreign language (MacIntyre et al., 2002; Aliweh, 2011, Gupta and Woldemariam, 2011).

These findings are consistent with those of Celik and Bindak (2005) who found that anxiety decreases when experience and proficiency increase. In other words, anxiety and proficiency have a significant negative relationship. In their investigation with French learners, Celik and Bindak (2005) declared that beginners showed higher anxiety than more advanced learners. Similarly, Liu's (2006) study with Chinese learners of English showed that the more proficient in English the learners were, the less anxiety they showed in classroom presentations and test performances. However, other findings have pointed out the opposite direction, like the ones obtained in the studies by Marcos-Llinás and Juan-Garau's (2009) and Ewald's (2007) findings in the Spanish classroom and also Kitano's (2001) findings in the Japanese classroom. As Kitano (2001) has suggested, this may be due to the fact that in the higher levels, instruction is aimed at developing more authentic and sophisticated communication skills, and this increase in the complexity of instruction may lead learners to be more apprehensive about communication or feel less comfortable when speaking English both inside and outside the classroom. In contrast to Kitano findings, the results of this study demonstrated that higher level instruction arouse advanced learners' motivation. Advanced learners with high proficiency feel more comfortable in technology integrated learning environments.

These particular results provide no support that online testing or other technology related learning tasks stimulate additional anxiety or impact performance levels. However, it is important to consider that these results should not be over-generalized to all undergraduate learners; all participants in the current research study were involved in courses that required frequent use of the Internet and other technologies to access course contents, materials, and new knowledge. This easy and systematic access to educational technology mediums and materials most likely facilitated any modification that learners needed to make use of online evaluative materials. It is questionable that learners with lower levels of technology literate and online experience would have similar comfort levels, and the level of emotionality and feeling of anxiety might be expected to rise in a great extent for learners without exposure to technology-based instructional processes and online courses. The researchers proposed that this finding was mostly influenced by the lack of personal control over the testing events or other learning tasks. Given the flexibility afforded by the secure technology-based teaching laboratories, the online working group was permitted to complete each task over the course of an entire week, including evenings and weekends.

However, the data suggested that providing online materials in a secure, proctored technology-based learning and evaluation laboratory may simply provide a reasonable increase in learners' performance, but might actually reduce their stress in learning contexts.

The only noted barriers to effective language classroom in an online environment are the standard logistical concerns. First, many instructors are technologically literate and become proficient in online testing; therefore, language laboratories should meet the prerequisites for technology-based instruction. This institutional barrier demands considerable attention due to the expenses that are associated with creating and maintaining additional technological laboratories. Second, some learners struggled with responding on screen rather than on paper. In other words, they lack technology literate. In particular, some learners found it hard to cope with their educational technologies in their learning contexts. The standard solution to this barrier was to suggest that all learners acquire technology literacy before entering technology supported courses. Third, learners in the online or technology-based conditions were not able to ask questions of the instructor during the teaching or evaluating period. Losing the ability to clarify questions with the instructor prior to learning or answering language tests is a barrier highlighted by a few learners.

The findings confirmed Arnaiz and Guillén (2012) and Carlson (2010) claims and demonstrated that knowledge about language contexts and learners is a vital factor in making more appropriate decisions on the part of stakeholders and teachers. Ewald (2007), language proficiency reduces learning anxiety to a great extent; in that, learners with high proficiency have less anxiety in their language performance.

6. Conclusions

The present study investigated the effect of applying technology-based activities on the Iranian EFL learners' level of anxiety and their performance in writing tests. As can be observed in the writing scores that were obtained as a result of this particular research, it was discovered that technology integration significantly and positively affects perceived Iranian EFL learners' performance in writing tests. In other words, the changes that take place in perceived writing scores can be said to depend largely on technology integration or technology-based instruction. With regard to the second research question, it appeared that technology integration positively and significantly affects the Iranian EFL learners' level of anxiety in writing tests towards applying computer supported education at tertiary level. The research results also indicated that the Iranian EFL learners' level of anxiety affects their performance in writing tests negatively and significantly. In other words, anxiety and proficiency have a significant negative relationship; that means advanced learners with high proficiency feel more comfortable in technology integrated learning environments.

The findings indicated that learners in technology-based education classrooms need to develop conceptual understandings of the contexts in technology in order to be technologically literate. Electronic literacy has become a prerequisite for EFL learners to develop language abilities. The technical aspect of the technology-based instruction is the main and most difficult domain for our educators and need to update and maintain in the ever-changing technological society; therefore, knowledge in technology and its related tools may be difficult for teachers and learners to comprehend or to deal with. An interrelated issue with applying modern technologies is learners' anxiety in technology-based instruction and their performance in language tests. Researchers, teachers, and even learners believed that anxiety and apprehension inhibit language learning. Clinical experiences and empirical research findings attest to the existence of anxiety reactions with respect to language learning in some learners. The results of the current study demonstrated that technologically literate learners had significant performance in their language tests. Technology self-efficacy increases learners' level of independence and reduces their level of anxiety. A technology integrated instruction is an ideal approach for carrying out repeated learning tasks; providing effective and instant feedback; and allowing learners to learn at their own speed and creating additional time for other learning activities. In circumstances that learners do not technologically

literate, anxiety will be the feeling of nervousness, apprehension, uneasiness, and concern that is associated with an arousal of the autonomic nervous system. In these cases, anxiety negatively influences the learners' performances in language learning tests.

The findings illustrated well how the Internet and other educational technologies can be used to help create an authentic and creative communicative learning environment where is integrated into all aspects of the language process. The technological literacy necessities in technology-based education classrooms are increasing along with modern technology advancements. Furthermore, learners in technology-based education classrooms need to develop conceptual understandings of the contexts in technology in order to be technologically literate. In other words, they should be able to cope with modern technology. The technical aspect of the technology-based instruction is the main and most difficult domain for teachers and learners and need to update and maintain in the ever-changing technological society; therefore, knowledge in technology and its related tools may be difficult for teachers and learners to comprehend or to work with.

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