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RESEARCH ARTICLE

Language Learning in the Virtual World: The Role of Foreign Language and Technical Anxiety Among Senior Students of TEFL

Azadeh Nemati[1*], Delaram Payehvar[2], Mohamad reza Rezazadeh Kavari[3], Pooria Goorakani[4]

[1,2,3,4]Department of English Language Teaching, Jahrom Branch, Islamic Azad University, Jahrom, Iran

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***Corresponding Author:**

azadehnematiar@yahoo.com

ABSTRACT

This study aimed to investigate the relationship between technical anxiety and language learning among TEFL students. The study involved 35 TEFL students who were enrolled at Shiraz University. Two questionnaires were administered to the participants. The first questionnaire was the Computer Anxiety Rating Scale (CARS), which measured the level of anxiety related to technology. The second questionnaire was called CALL, which examined students' language learning in the virtual environment. The researcher used correlational analysis and independent sample t-tests to find answers to the research questions. The Pearson Correlation was used to investigate the potential correlation between technical anxiety and language learning among TEFL students. The results showed that there was no significant relationship between technical anxiety and language learning. The researcher also conducted a t-test to determine if there were any differences in technical anxiety levels between male and female students. The analysis revealed that there were no significant differences between male and female students concerning their technical anxiety. However, it should be noted that the study only included a small number of TEFL students, which is a limitation that could be addressed in future research.

INTRODUCTION

According to Sorcinelli et al. (2005), the most valuable asset of a higher education institution is its the role of technology in improving foreign language learning and teaching processes is significant. It can potentially enhance communication and interaction in the target language (Gorjian et al., 2011). Technology serves as a useful tool to facilitate communication and collaboration, using various tools such as videoconferencing (Fetterman, 1996) and other web-based tools (Alshumaimeri et al., 2019).

Virtual classrooms for EFL and online learning, also known as e-learning, can provide an excellent environment for learners to interact with each other effectively (Alshumaimeri et al., 2019). As a significant teaching style in education worldwide, online learning is facilitated by virtual classrooms, which enable learners to interact with their teachers and peers.

A Virtual Learning Environment (VLE) was created to facilitate distance learning for students. Virtual worlds are known to be less stressful environments for students to learn in (Broad Ribb & Carter, 2009; Huang & Hwang, 2013). Distance learning involves delivering educational content through

online and e-learning platforms (Alshwiah, 2021). Assareh and Bidokht (2011) defined e-learning as instruction that is delivered through various tools such as computers, the Internet, or other remote technologies. E-learning can be synchronous, where the learner and teacher attend class at the same time, or asynchronous, where learners can access the content and study at their own pace (Gedic et al., 2013).

According to some researchers, traditional teaching methods are becoming outdated (Morton, 2016) and e-learning can be used as an alternative. Despite the benefits of e-learning programs offered by universities (Hwang et al., 2015), it has only been used to a limited extent. For instance, most universities have only used e-learning as an add-on to traditional teaching methods (Gori-Rosenblit, 2005). However, the COVID-19 pandemic has caused a significant shift in the world of education, making e-learning the primary mode of teaching across the globe.

On the other hand, changes in the teaching environment can pressure instructors who have not enhanced a high level of e-learning system acceptance and also do not have enough confidence to use their computer abilities and skills (Awofala et al.,2019).

Moreover, an instructor's lack of knowledge and computer technology skills can hurt students' learning process. The instructors who do not have enough knowledge of computer technology transfer the opposing tendency to use the e-learning system to their students.

Language learners experience the feeling of anxiety when they face the context of a virtual course. At that time, they feel fear of using or even confronting computers (Chua et al., 1999; Lewis & Atzert, 2000). The researchers conducted several research on the nature of computer anxiety. Computer anxiety has been defined in terms of aversion, of fear of being directly or indirectly involved with computers (Loyd & Loyd, 1985; Smith, 1994). It is often accompanied by negative behavior such as fear of computer crashes or making gross errors (Nelson et al., 1991).

So, this study tried to answer two questions:

1. Is there any relationship between technophobia and language learning?
2. Is there any difference between the technical phobia of Iranian EFL students' perception on their anxiety and language learning?

This article can be a helpful resource for exploring the relationship between language learning and technical anxiety in the virtual world. This research can help students to identify and reduce their anxiety while learning English by learning some skills. Furthermore, the researcher considers the relationship between gender and anxiety in this setting to find the differences between the technical anxiety of male and female students. The study aims to improve the quality of online language learning.

Theoretical framework

Technology has become a major concern in today's world. According to Loyd and Gressard (1984), anxiety towards technology has increased due to the growing use of computer tools and applications in teaching activities. While there have been studies on anxiety related to technology, there has been less research on technophobia and its impact on language learning. So, this study attempted to fill this gap by answering the following questions:

1. Is there any relationship between technical anxiety and language learning?
2. Is there any difference between the technical anxiety of male and female students of TEFL?

Carr et al. (2010) emphasized that individuals who are new to virtual worlds may encounter a barrier to entry. Similarly, technical or computer anxiety can cause apprehension among students. Young (1991) noted that activities that require students to speak in front of their peers and teachers can

generate significant anxiety. Matsumura and Hann (2004) suggested that the use of technology in teaching has resulted in an increased feeling of computer anxiety among students.

According to White (2003), language learning in the virtual world involves exchanging information as part of learning activities through the network. She defines online learning as a live connection to a remote computer, which allows learners to collaborate with other participants.

Virtual worlds and online learning

Virtual worlds are often known as non-threatening environments for learning (Broadribb & Carter, 2009; Cuoto, 2010; Levy & Stockwell, 2006). Sheehy (2010) also stated that the virtual environment can provide new opportunities for thinking in educational practices. Virtual worlds provide ideal conditions for authentic communication that is difficult to achieve in traditional classroom environments (Clarke et al., 2008). The learners can interact with each other through games or chat rooms.

Shetzer and Warschauer (2000) mentioned that using computer-based technology for teaching and learning requires many additional technical skills. This is particularly true for online instructors who use the synchronous mode. Based on Stepp-Greany (2002), instructors play a vital role in a technology-enhanced learning environment. Professional development must consider the skills necessary for the instructors to perform effectively (Harasim, 1995; McGrath, 1998; Weiss, 1994).

Gender and Attitudes Toward Using the Internet

Some researchers believe that there is a significant difference between gender and their attitudes toward using computer and internet technologies. For example, Durndell and Thomson (1997) explained that females have higher negative attitudes toward computer and internet technology than males.

As Dialogue (1998) stated, despite that the utilization of internet technology by females has grown in the last few years, males still use internet technology more than females (Schumacher & Morahan-Martin, 2001).

The reason for that is more related to the positive attitudes of male users toward the utilization of technologies than females. Based on Jackson et al., (2001) female teachers tend more to hold negative attitudes toward technology use than male teachers.

METHODOLOGY

The present study was quantitative because all the stages of data collection and data analysis were statistical and numerical. It means that the researcher used quantitative techniques for data collection and data analysis methods. The present study employed a survey research design, in order to find the relationship between the technical anxiety of senior students of TEFL and their language learning. The present study is a correlational one since the researcher seeks to determine a statistical relationship between two variables.

Participants

To conduct the study, thirty-five students of TEFL studied at Shiraz University. The target population of this study had experience in both classroom settings and virtual language classrooms. Their participation was voluntary. Two questionnaires were used and the students answered the questions. learners responded to the questionnaire anonymously.

Instruments

To answer the research questions, the researcher used two questionnaires. The first questionnaire was designed by Heinssen et al. (1987) to measure the level of computer anxiety among computer users. The study also employed the A-CALL questionnaire as its second instrument, created by Jalali and Ardebili (2013) to assess students' language learning. The students responded to the questions on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Data collection procedures

To collect data needed to shed some light on the degree to which the students are affected by the technical anxiety in their language learning. For this purpose, two questionnaires were given to a total of 35 Iranian TEFL students.

To this end, students were asked to fill out the aforementioned questionnaires. The teacher distributed the questionnaire among the students during class time.

Moreover, it is worth mentioning that before administering the questionnaires, a brief instruction was given to the students about the purpose of the questionnaire to have a background about it.

Data analysis

The subjects for this study were 35 senior students of TEFL took part. The quantitative data was gathered through two questionnaires which were analyzed utilizing SPSS (version 29), primarily for descriptive statistics such as personal correlation and independent sample T-test.

The first questionnaire was made by Heinssen et al. (1987) and it is called the Computer Anxiety Rating Scale – CARS. The experiment started by asking students to complete the questionnaire. This questionnaire comprised two different sections: the first section was designed to capture the respondents' information which comprised gender, computer experience, and duration of use. The second section was designed to measure computer anxiety among senior students of TEFL.

In addition, another questionnaire was used in this study. The second questionnaire is called CALL and it is made by Ardebili & Jalali (2013) to examine the language learning of students. The main purpose of this questionnaire was to find the relationship between computing anxiety and language learning of students.

RESULTS OF THE STUDY

Before analyzing the research questions, this study presented the descriptive statistics concerning two questionnaires utilized in this study.

Table 1: Descriptive statistics concerning two questionnaires utilized in the study

	Minimum	**Maximum**	**Mean**	**Std. Deviation**
Computer Anxiety Rating Scale	47.00	79.00	61.5429	7.26937
Learning language	42.00	77.00	58.2000	8.41497

This table shows that the Mean score for computer anxiety rating was 61.5 out of 100, while the Mean for language learning was 58 out of 100. The Minimum score on the computer anxiety rating scale was 47 out of 100 and the maximum score was 79 out of 100, with a standard deviation of 7.26. As for language learning, the Minimum score was 42 out of 100 and the Maximum was 77 out of 100, with a standard deviation of 8.41.

Addressing the first research question

H_1. There is no relationship between technical anxiety and language learning.

The researcher computed the Pearson correlation between the two variables to investigate the connection between technical anxiety and language learning,

Table 2: Pearson correlation between technical anxiety and language learning

	language learning	
	Sig.	Pearson Correlation
Computer anxiety rating scale	.357	-.160

In Table 4.3, the correlation coefficient is -0.16, and the p-value calculated is 0.35, which is higher than the threshold value of 0.05. Therefore, we can conclude that there is no significant correlation between technical anxiety and language learning.

The second research question

H_2. There is no significant difference between the technical anxiety of male and female students of TEFL.

The second research question of this study was designed to scrutinize if there was any significant difference between male and female students of TEFL regarding their computer anxiety rating scale. To do so, two separate group statistics were obtained for each group or gender and their technical anxiety. Therefore, two separate independent sample t-tests were implemented to analyze and compare the mean scores between the two genders.

Table 3: Independent Samples T-Test between male and female students regarding their computer anxiety

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Computer Anxiety Rating Scale	Equal variances assumed	.357	.554	-.271	33	.788	-.68333	2.51749
	Equal variances not assumed			-.273	30.920	.787	-.68333	2.50324

The first step in the interpretation of the T-test is comparing the significance level with the alpha level. According to Table 4.5, sig. (2-tailed) is equal to 0.78, which is greater than the alpha level of 0.05. Therefore, it can be concluded that male and female students did not experience significant differences in their computer anxiety.

DISCUSSION

In this part, the results of this study are discussed and compared to the results of previous studies. According to the research question, this study aimed to investigate the relationship between technical anxiety and language learning. However, the results showed that there was no significant relationship between the two. The Pearson correlation coefficient between technical anxiety and language learning was -0.16 and the P-value was more than 0.05. Therefore, it can be concluded that the technical anxiety did not affect the TEFL students of Shiraz University. Our study was limited in scope, which hindered our ability to conduct a more detailed investigation. Specifically, the number of students who participated in the study was limited. If more students had taken part, we would have been able to obtain more reliable answers to our questions. Thus, further study is needed to investigate computer anxiety in a large number of students.

Besides, their generation may have influenced their answers as they were more accustomed to using computers, which could have contributed to technical anxiety.

The second research hypothesis of this study indicated that there was no significant difference between the technical anxiety of male and female students of TEFL. To do so, separate group statistics and independent sample T-TEST were implanted to analyze and compare the mean scores between the two genders. The analysis of data showed that the mean of males' computer anxiety was M=61.9 and the female's Mean was M=61.2. Besides, an independent sample T-TEST was employed to find the differences between the two groups and their computer anxiety. The result of Leven's test for equality was 0.55which is larger than the cut of 0.05.so, there was no significant difference in mean rating scales for Male and Female students regarding their computer anxiety rating scale. As a matter of fact, because of the Iranian culture, in which men have more freedom and courage in expressing their ideas, women are regarded as being conservative who accept society as it is, it was supposed that there was a significant difference between male and female student's computer anxiety but the results rejected the notion.

The findings of this study were not in agreement with Alahakoon (2016) who inspected the relationship between technical anxiety and E-learning. He found that a student with a high rate of computer anxiety would have a more negative perception of using technology in comparison with other students, which means that anxiety can affect negatively using the–learning system. In another study, Guo et al., (2013) indicated that technology anxiety effects negatively perceived ease of use and perceived usefulness.

Conti-Ramsden et al., (2010) found that students with poorer language skills experienced greater computer anxiety than those with better language skills. Leino (2009) also found that students with reading disabilities were more likely to avoid computers. Durkin et al., (2009) found that English, as the main language of computer technologies, helps students with good competence in English skills (especially reading and writing) take more advantage of the materials provided by computers such as manuals, helps, hyperlinks, various software, and up-to-date information on the internet. This ease of use decreases their level of computer anxiety and, in turn, helps them use computers more comfortably for their learning.

Research on the correlation between computer anxiety and gender has been conducted for some time, but the findings have been inconsistent. Rahimi and Yadollahi (2011) studied the variations in computer anxiety between male and female Iranian high school students. They selected 819 high

school students from eight cities across the country, who then completed a Computer Anxiety Rating Scale and a personal information questionnaire. The results indicated that there was a link between gender and computer anxiety, but age was found to be unrelated to computer anxiety. Despite the belief that the gender gap in computer-related issues was narrowing among university students and those with higher education in the 21st century, this study revealed that the difference between males and females in computer anxiety still existed, at least among high school students.

A study by Marimuthu et al. (2013) found that male and female students did not differ significantly in terms of internet anxiety. This means that both groups of students had similar levels of internet anxiety while participating in online learning.

Another meta-analysis by Rosen and Maguire (1990) found that women exhibit slightly more anxiety than men, but the difference was not significant. Therefore, it is still uncertain whether gender plays a role in computer anxiety.
However, some other studies have also found no significant relationship between gender and computer anxiety (Carlson & Wright, 1993). On the other hand, Chen and Tsai (2007) have suggested that numerous studies have indicated few or no gender differences in students' attitudes toward Internet or web-based learning. According to a study by Hsu et al. (2009), regularly learning new software applications can help computer users reduce their anxiety.

The findings of this study were not consistent with Todman's (2000) research, which showed that the percentage of computer-phobic adults, including first-year university students, remained relatively stable over several years. However, self-reported computer anxiety (CA) scores from five samples of first-year university students between 1992 and 1998 indicated a decrease in average levels of CA, as well as a decrease in the proportion of students who had computer phobia. Nonetheless, the overall decrease in CA masked a growing disparity between the average CA scores of male and female students. Additionally, the number of female students in the high-scoring group (computer phobia) increased from 1992 to 1998.

CONCLUSION

One significant issue with online learning is the technical anxiety of students. It is crucial to address computer anxiety among university students before it becomes an uncontrollable issue. This study was conducted to examine the relationship between technical anxiety and language learning among TEFL students of Shiraz University.

The study found that technical anxiety did not affect the language learning of TEFL students at Shiraz University, and there was no significant difference in technical anxiety between male and female students. Similarly, Pan & Tang (2004) suggested that application-oriented teaching methods can also be effective in overcoming computer anxiety. The results of the current study indicated that there is no significant difference between the technical anxiety experienced by male and female students.

This research study is essential because it shows the relationship between technical anxiety and language learning of students. The results of this study can be significant because it can help teachers create a better environment for both male and female students based on some information that was provided about technical anxiety and their language learning. Also, it can be an important help for educational institutions that need to establish good relationships with local academic institutions in order to work together to provide a technostress-free environment for learners by implementing proper computer anxiety management techniques.

It has been concluded that there is no relationship between technical anxiety and language learning. The researcher used the Pearson correlation to determine the relationship between technical anxiety

and language learning, and the results showed that there was no statistically significant relationship between the two among TEFL students. This information can be helpful for teachers to create a better learning environment for their students. Additionally, the study aimed to determine if there was any difference in computer anxiety between male and female TEFL students. Two separate group statistics were collected for each gender to analyze their technical anxiety. To do so, separate group statistics and independent sample T-TEST were implanted to analyze and compare the mean scores between the two genders. The data analysis revealed that there was no statistically significant difference between male and female students in terms of their technical anxiety.

REFERENCES

Alshammari, M. T. (2020). Evaluation of gamification in e-learning systems for elementary school students. TEM Journal, 9(2).

Alshumaimeri, Y., Gashan, A., & Bamanger, E. (2019). Virtual Worlds for Collaborative Learning: Arab EFL Learners' Attitudes. *World Journal on Educational Technology: Current Issues*, *11*(3), 198-204.

Alshwiah, A. A. (2021). Barriers to online learning: adjusting to the 'new normal ' in the time of COVID-19. *Turkish Online Journal of Distance Education*, *22*(4), 212-228.

Assareh, A., & Bidokht, M. H. (2011). Barriers to e-teaching and e-learning. *Procedia Computer Science*, *3*, 791-795.

Awofala, A. O., Olabiyi, O. S., Awofala, A. A., Arigbabu, A. A., Fatade, A. O., & Udeani, U. N. (2019). Attitudes toward Computer, Computer Anxiety, and Gender as determinants of Pre-service Science, Technology, and Mathematics Teachers' Computer Self-efficacy. *Digital Education Review*, *36*, 51-67.

Broadribb, S., & Carter, C. (2009). Using Second Life in Human Resource Development. *British Journal of Educational Technology*, *40*(3), 547-550.

Carlson, R. E., & Wright, D. G. (1993). Computer anxiety and communication apprehension: Relationship and introductory college course effects. *Journal of Educational Computing Research*, *9*(3), 329-338.

Carr, D., Oliver, M., & Burn, A. (2010). Learning, teaching and ambiguity in virtual worlds. *Researching learning in virtual worlds*, 17-30.

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behavior. *Entrepreneurship theory and practice*, *23*(4), 19-39.

Clarke, J., Dede, C., & Dieterle, E. (2008). Emerging technologies for collaborative, mediated, immersive learning. *International handbook of information technology in primary and secondary education*, 901-909.

Couto, S. M. (2010). Second Life: Anxiety-free language learning. *ICT for Language Learning*.

Dialogue, C. (1998). Online health reaches critical mass. *Nua internet surveys.*

Durndell, A., & Thomson, K. (1997). Gender and computing: a decade of change?. *Computers & education*, *28*(1), 1-9.

Gedik, N., Kiraz, E., & Ozden, M. Y. (2013). Design of a blended learning environment: Considerations and implementation issues. *Australasian Journal of Educational Technology*, *29*(1).

Gorjian, B., Moosavinia, S. R., Ebrahimi Kavari, K., Asgari, P., & Hydarei, A. (2011). The impact of asynchronous computer-assisted language learning approaches on English as a foreign language high and low achievers' vocabulary retention and recall. *Computer Assisted Language Learning*, *24*(5), 383-391.

Guo, X., Sun, Y., Wang, N., Peng, Z., & Yan, Z. (2013). The dark side of elderly acceptance of preventive mobile health services in China. *Electronic Markets*, *23*, 49-61.

Guri-Rosenblit, S. (2005). 'Distance education'and 'e-learning': Not the same thing. *Higher education*, *49*, 467-493.

Harasim, L. M. (1995). *Learning networks: A field guide to teaching and learning online*. MIT press.

Heinssen Jr, R. K., Glass, C. R., & Knight, L. A. (1987). Assessing computer anxiety: Development and validation of the computer anxiety rating scale. *Computers in human behavior*, *3*(1), 49-59.

Huang, P., & Hwang, Y. (2013). An exploration of EFL learners' anxiety and e-learning environments. *Journal of Language Teaching and Research*, *4*(1), 27.

Hwang, G. J., Lai, C. L., & Wang, S. Y. (2015). Seamless flipped learning: a mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of*

Jackson, L. A., Ervin, K. S., Gardner, P. D., & Schmitt, N. (2001). Gender and the Internet: Women communicating and men searching. *Sex roles*, *44*, 363-379.

Jalali, S., & Ardebili, M. (2013, May). The perceptions of Iranian EFL learners toward computer-assisted language learning. In *International Conference on Current Trends in ELT* (pp. 20-22).

Levy, M., & Stockwell, M. (2006). Effective use of CALL technologies: Finding the right balance. *Changing language education through CALL*, *1*(18), 301-320.

Lewis, A., & Atzert, S. (2000). Dealing with computer-related anxiety in the project-oriented CALL classroom. *Computer assisted language learning*, *13*(4-5), 377-395.

Matsumura, S., & Hann, G. (2004). Computer anxiety and students' preferred feedback methods in EFL writing. *The modern language journal*, *88*(3), 403-415.

McGrath, B. (1998). Partners in learning: Twelve ways technology changes the teacher-student relationship. *The Journal*, *25*(9), 58-61.

Nelson, W. A., Andris, J., & Keefe, D. R. (1991). Technology where they least expect it: A computer-intensive teacher education curriculum. *Computers in the Schools*, *8*(1-3), 103-110.

Pan, W., & Tang, M. (2004). Examining the effectiveness of innovative instructional methods on reducing statistics anxiety for graduate students in the social sciences. *Journal of Instructional Psychology*, *31*(2).

Sheehy, K. (2010). Virtual environments: issues and opportunities for researching inclusive educational practices. *Researching learning in virtual worlds*, 1-15.

Shetzer, H., & Warschauer, M. (2000). An electronic literacy approach to network-based language teaching. *Network-based language teaching: Concepts and practice*, *3*(5), 171-185.

Todman, J. (2000). Gender differences in computer anxiety among university entrants since 1992. *Computers & Education*, *34*(1), 27-35.

Marimuthu, S., Rahuman, A. A., Jayaseelan, C., Kirthi, A. V., Santhoshkumar, T., Velayutham, K., ... & Rao, K. V. B. (2013). Acaricidal activity of synthesized titanium dioxide nanoparticles using Calotropis gigantea against Rhipicephalus microplus and Haemaphysalis bispinosa. *Asian Pacific Journal of Tropical Medicine*, *6*(9), 682-688.

Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, *24*(4).

Rosen, L. D., & Maguire, P. (1990). Myths and realities of computerphobia: A meta-analysis. *Anxiety research*, *3*(3), 175-191.

Stepp-Greany, J. (2002). Student perceptions on language learning in a technological environment: Implications for the new millennium.

Weiss, A. M. (1994). The effects of expectations on technology adoption: some empirical evidence. *The Journal of Industrial Economics*, 341-360.

White, L. (2003). *Second language acquisition and universal grammar*. Cambridge University Press.

Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest? *The modern language journal*, *75*(4), 426-439.

Loyd, B. H., & Loyd, D. E. (1985). The reliability and validity of an instrument for the assessment of computer attitudes. *Educational and psychological measurement*, *45*(4), 903-908.

Morton, T. (2016). *Dark ecology: For a logic of future coexistence*. Columbia University Press.

Fetterman, D. M. (1996). Research news and Comment: Videoconferencing On-line: Enhancing Communication Over the Internet. *Educational Researcher*, *25*(4), 23-27.

Hsu, S. H., Wen, M. H., & Wu, M. C. (2009). Exploring user experiences as predictors of MMORPG addiction. *Computers & Education*, *53*(3), 990-999.

Chen, R. S., & Tsai, C. C. (2007). Gender differences in Taiwan university students' attitudes toward web-based learning. *Cyberpsychology & behavior*, *10*(5), 645-654.

Rahimi, M., & Yadollahi, S. (2011). ICT use in EFL classes: A focus on EFL teachers' characteristics. *World journal of English language*, *1*(2), 17.

Chen, R. S., & Tsai, C. C. (2007). Gender differences in Taiwan university students' attitudes toward web-based learning. *Cyberpsychology & behavior*, *10*(5), 645-654.

Durkin, S. J., Biener, L., & Wakefield, M. A. (2009). Effects of different types of antismoking ads on reducing disparities in smoking cessation among socioeconomic subgroups. *American journal of public health*, *99*(12), 2217-2223.

Korobili, S., Togia, A., & Malliari, A. (2010). Computer anxiety and attitudes among undergraduate students in Greece. *Computers in Human Behavior*, *26*(3), 399-405.

Conti-Ramsden, G., Durkin, K., & Walker, A. J. (2010). Computer anxiety: A comparison of adolescents with and without a history of specific language impairment (SLI). *Computers & Education*, *54*(1), 136-145.

Leino, O. T. (2009). Understanding Games as Played: Sketch for a first-person perspective for computer game analysis.

Schumacher, P., & Morahan-Martin, J. (2001). Gender, Internet and computer attitudes and experiences. *Computers in human behavior*, *17*(1), 95-110.