LEARNERS' PERCEPTIONS TOWARD ONLINE LEARNING: AN APPLICATION FOR A SYNCHRONOUS E-CLASS

By

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ABSTRACT

The aim of this study is to discover the effects of an e-class application on the computer and reading anxiety of learners, and the correlation between the two anxieties. The learners' perceptions of this new learning experience are also investigated. Information was obtained by using the Foreign Language Reading Anxiety Scale (FLRAS), the Computer Anxiety Scale (CAS) and learners' diaries. The study found that both anxieties decreased at the end of the application. A positive relationship between both types of anxiety was also identified. Students became more relaxed as they became more familiar with the new educational tool. They also displayed positive attitudes towards synchronous classes. This study demonstrates that anxiety free language learning can be created with interactive online facilities which are designed considering learners' needs and perceptions.

Keywords: Computer-mediated Communication, Improving Classroom Teaching, Interactive Learning Environments, Pedagogical Issues.

INTRODUCTION

The use of the computer in language teaching has caused a shift from traditional face-to-face education towards e-learning courses offered by many institutions. Recent research has focused on the best way to implement technology-based courses in language teaching (Bennet, Bunker & Rowley, 2003; Land, 2005; Sun, 2001; Zhao, Pugh, Sheldon & Byers, 2002). These studies are limited, however, in that they concentrate on single aspects of the implementation of e-teaching. Studies considering multiple aspects of technology-based courses are rare. In addition, scant attention has been given to how such technology affects users. Nonetheless, the need to study and understand learners' perceptions of their own learning has increased as lifelong online learning has become more popular (Heilesen & Josephsen, 2008; Lee & Tsai, 2005; Sanders & Morrison - Shetlar, 2001; Wall, Higgins & Smith, 2005).

Previous research has found that anxiety has negative effects on the language learning experience. When learners have to perform classroom tasks in another language, they may feel anxious because of the fear of talking in front of others, not being able to express their thoughts clearly because of insufficient language skills, worrying about making positive social impressions, trying to discriminate the sounds in the foreign language, exposing themselves in the written mode of another language, and having to do this in an organized setting (Elkhafaifi, 2005; Horwitz, Horwitz & Cope, 1986; Leki, 1999; MacItnyre& Gardner, 1991; Oxford, 1999; Scarcella & Oxford, 1992; Vogely, 1999). Reading skill also creates anxiety for some language learners. Decoding unfamiliar scripts and unknown words, making sense of these words in a foreign language with an incomplete cultural knowledge are among the reasons students feel anxious while reading in another language (Lee, 1999; Saito, Garza & Horwitz, 1999; Sellers, 2000). MacItnyre and Gardner (1994) argue anxious learners experience difficulties at all stages of the language learning process. They receive less linguistic input because they are distracted by negative thoughts. Processing of linguistic information is slower than and not as efficient as non-anxious students. Performance on any task is difficult for

such students. Obtaining information of the negative effects of anxiety on language learners will help teachers understand and develop solutions to facilitate the learning experience.

If anxiety has negative impacts in a face-to-face learning environment, it might not be unreasonable to assume that such learners would experience even more anxiety when teaching is conducted through computers rather than with a teacher in a face-to-face classroom situation. The literature reports that learners feel more anxious and defensive in an unconventional classroom situation where there are no means for them to express their anxiety. (Kay, 2007; Matsumura & Hann, 2004). According to Sun, Tsai, Finger, Chen, and Yeh (2007), learners' anxiety toward computers is a significant factor impacting on learner satisfaction. Factors inducing feelings of anxiety in a technology-based learning environment include unfamiliarity with the learning context, psychological readiness for the new learning environment, lack of keyboard skills, technical difficulties, unclear instructions and expectations (Aydin, 2007; Fletcher & Deeds, 1994; Kohrman, 2003; Nash, 2005), reductions in face-to-face interaction, increased student workload and students' feelings of inadequacy (Peters, 2001).

Jurczyk, Benson and Savery (2004) maintain that understanding how learners perceive the online learning environment is important for educators and designers in that such perceptions influence the attitude and behaviour of learners. In a traditional classroom, teachers obtain immediate feedback from learners' verbal and nonverbal behaviours. Similar interaction is difficult, if not impossible, for an online instructor. It is also maintained that innovations can only contribute to learners' education and improve their learning if they are perceived as being of advantageous by learners (Heilesen & Josephsen, 2008; Liaw, Huang & Chen, 2007). If students can not make sense of the e-learning activities, they may perceive it as a barrier to their learning. It follows therefore, that it is imperative to consider the technological needs and perceptions of students in creating an effective learning environment.

Purpose

The aim of this study is to discover the impact of a synchronous e-class application from multiple perspectives; to identify how e-class application affects students' foreign language reading anxiety and computer anxiety. The study will also provide information on students' perceptions of the new learning experience. Finally, it will help to fill in some of the gaps of investigating technology-based courses from multiple perspectives as canvassed in the literature.

This study was designed to fill in some of the 'gaps' of the effect of technology on learners and the importance of learners' perceptions of the use of such technology. More specifically, it addresses the following research questions:

1. How did e-class application affect learners' reading anxiety?
2. How did e-class application affect learners' computer anxiety?
3. Is there any relation between learners' reading anxiety and computer anxiety?
4. What are learners' perceptions of e-class application?

In the Turkish context, computers have only recently become available as an education tool and most learners do not have their own computers. Hence, the authors hypothesize that Turkish learners will initially experience reading and computer anxiety, with such anxiety diminishing as learners become more familiar with the learning experience. They also hypothesize that there will be a high correlation between reading and computer anxiety. That is, learners with high reading anxiety will also experience high computer anxiety, and vice versa. Learners who experience reading anxiety may (will) have difficulties with such material on the computer which will exacerbate their feelings of anxiety. Finally, the authors hypothesize that Turkish learners will express positive attitudes to the new learning experience.

Theoretical Background of the Study

The synchronous e-class used in this study was designed considering the needs of Turkish learners taking an advanced reading course in a Distance English

Language Teacher Training program. A group of people including experts in language teaching, media and communication, management, computer engineering as well as technicians worked together to create a virtual environment considering multiple perspectives. As a result, the most important component of e-learning, that is e-contents were prepared (Aydin & Yuzer, 2006). A rich bundle of media, including pictures, videos, animations, whiteboards and PowerPoint slides were combined to increase the prospects for interactivity with learners. Such interaction was provided visually, verbally and in written mode. A web cam allowed learners to see their e-educator. This facility helped learners to have 'access' to non-verbal messages which are an important component of language learning and help learners decode meanings in a foreign language. Verbal communication between e-educators and learners, as well as among the learners, was aided with headsets with speakers and microphones. Chat boxes, which allowed all learners to participate in the class at the same time, were one of the biggest advantages of the virtual classroom for written communication. An example of this is provided in Figure 1.

Group work activities, an indispensable component of language learning, were the other important characteristics of the synchronous e-class. During the lesson, learners could work in online groups and benefit from interaction with group members in accomplishing various tasks.

Virtual classrooms not only provide synchronous communication and interaction but also incorporate asynchronous dimensions. E-learners were given the opportunity of reviewing learning sessions or watching

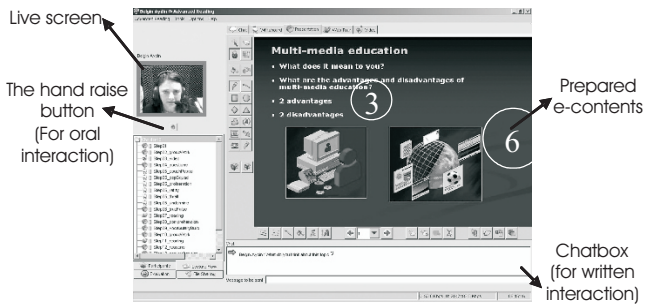

Figure 1. An example of the learner interface

them if they missed a class. Interactive sections in the content parts such as answering multiple choice questions, tests or surveys were also provided to learners who might have missed a lesson. Different data about e-learners, such as how many times they participated in the class orally, or with written answers, or what they produced during group work activities, were stored in the database to be used, for various purposes, by the organizations and researchers. The software used in the virtual classroom was designed to be as flexible and adjustable, according to perceived e-educators' and learners' further needs.

Methodology

Research Setting

This is an experimental study which focuses on the impact of a synchronous e-class application collecting both quantitative and qualitative data. The participants consisted of Turkish learners' taking an Advanced Reading course in a Distance English Language Teacher Training program (DELTT). DELTT is a blended program with face-to-face and distance components. Students are required to attend courses conducted in traditional classrooms during the first two years, and then continue their distance education during the third and the fourth years. The first two years mainly aim to improve students' proficiency and include courses such as reading, writing and speaking. The distance part focuses on helping learners train themselves within the teaching profession and includes courses such as language teaching methodology, testing, linguistics and literature. Advanced Reading, in which the data of this study were collected, was one of the second year courses.

The subjects of the study consisted of one group of learners among 28 groups. The group consisted of 26 second year students. None of the subjects had any online learning experience in their education. When asked about their familiarity with using computers, a few did not even know how to use a key board, most stated that they did not go beyond using e-mails, with a few having internet connections at home.

Research Design

Before-after experimental design was used in this study

(Riazi, 1999). That is, the subject group was used as its own control group and the dependent variable the effect of e-class application was measured by pre- and post-test introduction of independent variable reading anxiety and computer anxiety.

Instruments

The Foreign Language Reading Anxiety Scale (FLRAS), developed by Saito, Garza and Horwitz (1999), was used in order to discover the effects of e-class application on learners' reading anxiety. FLRAS contains 20 items, each of which was answered on a 5-point Likert scale, ranging from strongly agree to strongly disagree. In order to eliminate possible language difficulties learners might have, the Turkish version of the scale was administered. The Turkish version of FLRAS was first adopted by Kuru Gonen (2005) by translating it and testing the translated version through a pilot study of 332 students of different proficiency levels. A principle component analysis with varimax rotation was used to assess construct validity. For the reliability of the scale, Cronbach's α was computed and two items (items 16 and 19) were eliminated to increase reliability, which was equal to .85, which is viewed as a 'good' result. In this way, a reliable and valid Turkish version of FLRAS was created which contained 18 items.

The Computer Anxiety Scale (CAS) was developed by Ceyhan and Namlu (2000) to measure the anxiety level of students when they use computers. Reliability and validity tests were conducted with 1091 students studying a wide range of majors. For construct validity, a principal component analysis with varimax rotation was computed and scree plot criterion was used. The scale was found to be reliable with a factor loading of .53. Instrument reliability and dicriminant reliability were also measured. For validity, item analysis, Cronbach's α and test-retest validity were computed. Item analysis results showed a validity of .94 and Cronbach's α was measured as .73. Pearson product moment correlation used for test-retest was measured as .79.

In order to reveal what learners think about e-class application they were asked to keep a diary about their learning experience after each e-class application. There were eleven synchronous classes. Guidelines were provided, consisting of open-ended questions that learners could address in their diaries, to aid them in expressing their opinions and to focus on various aspects of the e-class experience.

Data Collection Procedures

Data was collected following a four-step procedure:

At the beginning of the application, the subjects were told that they would participate in an e-class project and that their reading would be conducted in a computer laboratory. They were assured that participation was voluntary and that they could change their group and have classes in a face-to-face format like other groups, if they did not want to participate in the project for any reason. All 26 students in the group enthusiastically agreed to participate, stating that it would be a great opportunity for them.

After informing students about the aim of the project, its importance for their future education and the characteristics of the e-class, they were given a chance to participate in introductory exercises, such oral discussions, providing written answers, participating in group work, and so on. A technical team participated in this familiarity phase, together with the course teacher, who was also the content developer.

The subjects were given the Turkish version of Foreign Language Reading Anxiety Scale (FLRAS), and then the Computer Anxiety Scale (CAS) during their normal class. Both scales were provided to class members before the e-class application began. In order to measure the impact of the e-class application, the same scales were given to learners at the end of the e-class experiment. The scales given at the beginning were used as the pre-tests; those at the end as the post-tests.

Students were asked to write about their learning experience after each e-class application in their diaries, as explained above. Information written after

each class was collected the following week. Security and the privacy of the information they would provide were guaranteed.

Results and Discussion

The results of the non-parametrical Wilcoxon Signed-Rank Test for the pre test and post test scores of the reading anxiety scale revealed a statistically significant difference in the scores of participants ($z=-4.28$, $p<.05$). They reveal a decrease in foreign language reading anxiety scores. The fear of being 'spotlighted' and of failure in performing in front of one's peers may be reduced when learners participate in online discussions or when they provide written answers to questions from a teacher.

In order to determine if there was a statistically significant difference between the foreign language computer anxiety scores of participants, a similar statistical analysis was applied for the scores students gained from CAS. The Wilcoxon Signed-Rank Test for CAS found that there was a statistically significant difference between the pre-test and post-test scores of the computer anxiety scale ($z=-4.06$, $p<.05$). This shows that participants' computer anxiety, like that of their reading anxiety, decreased by the end of the study. This finding is consistent with Necessary and Parish's (1996) and Kay's (2007) research which found that when students gained experience with computers their anxiety levels declined, and Shams (2006) who found that computer mediated teaching may help decrease levels of foreign language anxiety.

The Spearman rho correlation coefficient was conducted to test the relationship between computer and foreign language reading anxiety. This non-parametrical statistical correlation analysis was chosen because it does not require an assumption that the relationship between variables is linear, or require variables to be measured on interval scales. As the scores gained from both scales were not normally distributed, the Spearman rho correlation coefficient appeared as an appropriate non-parametrical alternative to be used here. It showed a high level of correlation between computer anxiety and foreign language reading anxiety ($r=0.744$, $p<.05$). This important finding shows that as computer anxiety decreased, foreign language reading anxiety similarly decreased, and vice versa.

Finally, students' responses to this experiment were analysed using content analysis. The distribution of the categories and their frequencies are given in Table 1.

There were 713 separate responses. They were classified into three major categories. They were opinions as to technical aspects of the e-class (61 per cent); attitudes towards e-class application in general (29.9 per cent); and opinions about group work activities used during synchronous classes (9.1 per cent). Table 2 provides a further breakdown of students' responses to technical aspects of their learning experience.

64.3% provided a positive response and 35.6% a negative response. Visual support enhanced learning (17.9%). Colourful pictures, graphs, tables and video extracts helped their comprehension of reading material. One student wrote:

> *I believe that having lessons on the computer is more effective than a normal classroom, because there are lots of visuals on the computer. They address to all our senses. I also believe that these visuals will help us to remember what we learn better.*

Categories	Positive		Negative		TOTAL	
	N	%	N	%	N	%
Technical aspects of the e-class	280	39.3	155	21.7	435	61.0
E-class application	201	28.2	12	1.7	213	29.9
Group work activities	22	3.1	43	6.0	65	9.1
TOTAL					713	100

Table 1. Categories of student's opinions

		Positive			Negative	
		N	%		N	%
A	Visual Supports	78	17.9	Voice Problem	86	19.8
B	Equal Participation	69	15.9	Reading on the Screen	24	5.5
C	Better Vocabulary Learning	68	15.6	Video Connection	20	4.6
D	Easier to read on screen	55	12.6	Various technical problems	16	3.7
E	Teacher's Vision	10	2.3	Teacher's Vision	5	1.1
F				Length of study	4	0.9
	TOTAL	280	64.3	TOTAL	155	35.6

Table 2. Students' opinions regarding technical aspects

Turkish students, confirming Warschauer's (1996b) and Simpson's (2002) earlier work, said that computer-mediated communication enabled enhanced student participation, provided each student with an equal amount of time, rather than someone dominating proceedings (15.9%). When the teacher asked a question, each student in class could come up with an answer and answers would be seen by the teacher and the other students simultaneously. Increased participation is reported as one of the major benefits of the e-class learning by this group of Turkish students. This is demonstrated by the following statements of two students:

I am very glad to see that everybody gives an answer. I like reading how my friends answer the questions.

Students who do not talk a lot in the class normally do not hesitate to participate when we are in the e-class, especially while they are giving written answers.

Advanced reading learners also reported that learning vocabulary on the computer was easier than in a face-to-face classroom. Seeing pictures accompanied by meanings and examples of target words facilitated vocabulary comprehension, which in turn helped them 'place' such words in their long term memory (15.6%). Similarly, some students thought that reading the text on the computer screen was easier than reading them from a book (12.6%). This result is similar to AlKahtani's (1999) claim that online teaching facilitates reading comprehension. Some students also said that they appreciated seeing the teacher on their own computer during class. They felt more relaxed when they saw their teacher on their screen.

35.6% of the responses were about the problems students experienced during the synchronous classes. Problems with voice, or hearing, were the most important of these (19.8%). Complaints were expressed concerning problems with hearing the teacher during the lessons and other students when they gave an oral answer to a question. In addition, while some students liked the idea of reading the text on the screen, others experienced problems (5.5%). Other students expressed problems with video connections (4.6%). While including video extracts facilitated students' comprehension in reading texts, technical problems they experienced interfered with their concentration. Other technical problems such as online connection were also reported (3.7%). A few of the students complained about not having a bigger and a more qualified teacher vision on their screens (1.1%). Having an online class which lasted for 3 hours was criticised by some students. Complaints were made about carrying the headphones (0.9%), as is illustrated here:

I like having classes on the computer, but I have headaches because of these headphones, especially at the third hour.

Students' opinions regarding their attitudes towards e-class application in general are presented in Table 3. It shows that 94.2% of responses were about positive aspects, with only 5.7% being negative. Turkish students like those in Mackey and Ho's (2008) study, found synchronous application beneficial and enjoyable (50.2%). These positive feelings are illustrated by the following comments from students:

I think this is a very efficient way of having reading lessons.

There is no attendance problem, because everybody loves coming here.

I wish we had all our classes on the computer.

Students found participating in the lesson on the computer easier (21.1%) than participating in a traditional face-to-face class, as is indicated by the

		Positive			Negative	
		N	%		N	%
A	Enjoyable & Useful	107	50.2	Speed of Typing Answer	6	2.8
B	Easier Participation	45	21.1	Not Useful	2	0.9
C	Future Preparation	28	13.1	No human Interaction	1	0.5
D	More Motivation	9	4.2	Speed of the Screen Change	1	0.5
E	Easier Concentration	9	4.2	Concentration Problems	1	0.5
F	Improvement in Computer Skills	3	1.4	Tiresome	1	0.5
	TOTAL	201	94.2	TOTAL	12	5.7

Table 3.Students' opinions regarding their attitudes towards e-class application

following comments: (Table 3).

I generally do not volunteer in a normal class, but this e-class is so enjoyable that I participate into everything.

I believe that e-class will be useful for us. Because, studying with the computer is more interesting than studying in a regular class. In the class, for example, you don't need to join the lesson. However, in the e-class we must join the lesson all the time.

Students taking part in the e-class project stated that it would enhance their further education (13.1%) and would not have any difficulty in adopting the distance part of their education in the 3rd and the 4th years. This is illustrated by the following comment:

I think e-class is an opportunity each student in this program should benefit from. It is the new learning method of the future.

Some students said they would wish to have more computer classes (4.2%). Similarly, as Warschauer's (1996a) and DiGiovanni and Nagaswami (2001) found, the students here reported that time in class passed quickly and that they were more able to concentrate on the task at hand (4.2%). One student stated:

I think e-class is very effective, because we concentrate only on the lesson; just the computer and me.

Some students said that the e-class project helped them to improve not only their reading, but also their computer, skills, as is illustrated in the following comment:

I think it's very effective. You can't be busy with the other things at the time of learning. You only have to be busy with the computer. You learn both the lesson and the computer.

An examination of students' negative attitudes reveals that some experienced difficulties with computer literacy. They complained about not being able to type their answers as fast as other students (2.8%). There were two responses which said that e-classes were not very useful. One of these complained about the lack of human interaction in the computer lab. One student complained about the speed of screen change, another experienced problems concentration, and another found participating in the e-class very tiring.

Table 4 provides information on students' opinions regarding group work. It shows that students found interaction with peers enjoyable and beneficial (33.8%). The inclusion of human interaction into online learning enhanced learning. One student expressed this sentiment:

I believe that e-class facilitates our learning. We have very effective lessons; we all participate. When I do not understand something, my friends in my group help me.

Negative comments were mostly related to the voice problem students experienced in trying to hear other group members (38.5%). Students sitting next to them were louder than students that they heard through headphones. As a result, some students did not find group work activities useful and believed whole group activities were better and that small group activities on the computer were waste of time (16.9%). Other members of the group sometimes created problems during class (6.2%). Students also complained about passive members in their group, especially when there was a task that needed to be undertaken by the group. Criticisms were also offered about instructions that were not clear or what they should do if their group encountered problems (4.6%).

This study confirms the results of earlier research that online learning benefits Turkish students (Dwyer, Barbieri & Doerr, 1995; Kubala, 1998; O'Malley & McCraw, 1999, Liaw, Huang and Chen, 2007). Turkish students, like others before them, have found e-learning as an efficient means to enhance their education. Despite some problems, they found it to be motivating, relaxing,

		Positive			Negative	
		N	%		N	%
A	Enjoyable & Useful	22	33.8	Voice Problem	25	38.5
B				Waste of Time	11	16.9
C				Group Members	4	6.2
D				Unclear Instructions	3	4.6
	TOTAL	22	33.8	TOTAL	43	66.2

Table 4. Students' opinions regarding group work activities

enhanced their concentration and attention in facilitating their learning.

Conclusion

This study combines multiple aspects of foreign language learning in a virtual environment. The results presented in this paper help to fill in the recent research about reading and computer anxiety, their correlation with each other and learners' perceptions of an e-class experience. The research found that both types of anxiety decreased at the end of the e-class application. As students became more familiar with the new educational environment, they felt more relaxed during classroom applications.

In this study, online class discussions and utilising multimedia facilities while reading are major advantages of virtual classrooms. Therefore, virtual classrooms can provide a means for professionals to design teaching programmes which advance the ability of students to become proficient in acquiring foreign language skills. In this context, this study provides strong support for computer-assisted learning to enhance the ability of students to read more efficiently. Besides, this study provides teachers and program designers with facilities which are not readily available in a traditional education setting. However, it should be noted that it is necessary to allow some time for students to become acquainted with such technology, so as to reduce their anxiety about computer learning. Lowering anxiety concerning computers and foreign language will enhance the pleasures associated with the learning experience. It is also important to discover how e-teaching is perceived by students. Yushau (2006) has identified that the attitude of students' attitudes to computers is a significant factor in their approach to learning. This study has demonstrated, in a Turkish context, the benefits that can be obtained from the development and implementation of online learning modes in acquiring foreign language skills.

Acknowledgements

We would like to thank to Assoc. Prof. Dr. Umit Deniz Turan for her valuable comments during the editing process. She patiently read every single word of this paper and worked on it very punctiliously. We owe special thanks to Associate Professor Dr. Gulsun Kurubacak who deserves our special appreciation for spending a great time for giving us her invaluable feedback with a critical eye. Finally, thanks to Braham Dabscheck, Senior Fellow, Faculty of Law, University of Melbourne (Australia) for volunteerring to help improve the paper's "Englishness".

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