Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 176 (2015) 596 – 601

Procedia Social and Behavioral Sciences

IETC-2014

Attitude of Turkish EFL Learners towards e-Learning through Tam Model

Recep Cakır*, Ekrem Solak

Amasya University, Amasya,Turkey & Amasya University, Amasya,Turkey

Abstract

The purpose of this study was to understand the attitude of Turkish EFL learners towards technology and to determine role of these factors in the academic achievement of the participants. Survey method was used to collect data about technology acceptance of the Turkish Foreign Language Learners. This research was conducted at a state-run university in 2012-2013 academic year and subjects were 231 male and 279 female e-language learners from the Vocational Higher School taking up English course through e-learning. According to the results of the research, some of the TAM factors have effects on the academic achievement of the e-learners. It is understood that while anxiety towards e-learning has a negative effect on academic achievement; perceived ease of use, attitude, satisfaction and self-efficacy have a positive effect on the academic achievement of e-learners. These findings indicate that Turkish EFL learners have a positive attitude towards technology and they are at the stage to make a decision to adopt or reject the technology.

Peer-review under responsibility of the Sakarya University.

Key Words: TAM, TAM in language teaching, language teaching and technology

1. Introduction

While Prensky (2001) names today's students as digital natives, Tapscott (1998) calls them net generation. Because they are born in a different world which is full of digital technology and this technology is an important part of their lives. Prensky (2001) states that the new generation is exposed to a huge amount of information since early childhood and therefore they think and process information much faster and are used to multi-tasking. However, they have little patience for long tasks and get bored easily. Therefore, it is vital for teachers to make a shift in methodology and learning content.

Corresponding author. Tel.:+0 000 000 0000
E-mail adress: recepcakir@gmail.com, ekremsolak@gmail.com

Peer-review under responsibility of the Sakarya University.
doi:10.1016/j.sbspro.2015.01.515

It has been proved that information and communication technologies encourage learners to make progress in their foreign language learning and motivate the learners in a positive and creative manner (Sanders & Morrison-Shetlar, 2001). Sankaran (2000) found that students who preferred courses supported with technology performed better than those who were presented in the lecture format.

However, Huang &Liaw (2005) state that, no matter how sophisticated and powerful the state of technology is, it is the user having a positive attitude towards it. Therefore, it is the purpose of this study to determine the attitude of Turkish EFL learners towards e-learning through Technology Acceptance Model (TAM) and propose some suggestions if there are any deficiencies.

2.Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) (Davis, 1989) generated from the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) offers a theoretical basis for user acceptance and usage behavior of information technology. Figure 1 illustrates Technology Acceptance Model.

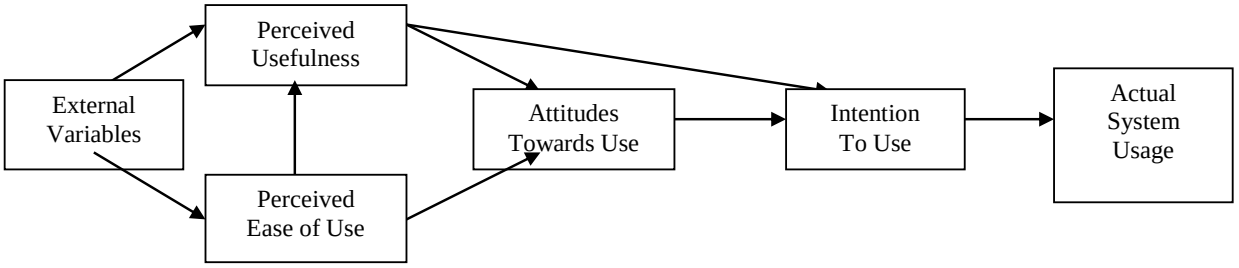

Figure 1: Technology Acceptance Model (Davis, 1989)

In TAM, there are two core beliefs as perceived usefulness and perceived ease of use which lead an individual's behavioral intention to adopt a system. Davis (1989) defines Perceived usefulness as "the degree to which an individual believes that using a particular system would enhance his or her productivity" while perceived ease of use is defined as " the degree an individual believes that using a particular system would be free of effort" (Davis, 1989). It can be stated that perceived ease of use has a direct effect on both perceived usefulness and technology usage (Adams et al., 1992; Davis, 1989). Davis (1989) cites that users' beliefs are directly related to a technology's usefulness, the attitude and the intention to use the technology. It is reported that perceived usefulness has stronger relationship with usage than other variables. Moreover, an individual adopts a technology if it is considered as convenient, useful and socially desirable even though it is not enjoyable to use the technology (Saga &Zmud, 1994).

TAM is a model widely used in the studies about the acceptance of technology. This model has been adopted and expanded in many studies in various types of technologies including e-mail, word processor, World Wide Web, enterprise resources planning (ERP) systems and proved high validity.

3. Review of Literature

Rogers (1995) states in his Innovation Decision Process theory that an innovation's diffusion is a process that occurs over time through five stages: Knowledge, Persuasion, Decision, Implementation and Confirmation. Accordingly, ''the innovation-decision process is the process through which an individual passes (1) from first knowledge of an innovation, (2) to forming an attitude toward the innovation, (3) to a decision to adopt or reject, (4) to implementation of the new idea, and (5) to confirmation of this decision'' (Rogers, 1995). In cases where technology is very recently introduced into the educational system, studies have mainly focused on the first two stages, that is, on knowledge of an innovation and attitudes about it. (Akbulut, 2008)

The early studies on attitudes to computer technology generally revealed that existing culture, interaction with the tutors and dialogue were the predictors of success in distance learning. Moreover, these researches suggested that there was no significant difference in achievement levels between distant and traditional learners.

Thomas (1987) emphasizes the importance of the cultural/social norms of a country to the acceptance of technology. Thomas states, ''How acceptable a new technology will be in a society depends on how well the

proposed innovation fits the existing culture'' (p.15). A user may resist a technological innovation because it may not fit within their micro- or macro-cultures. Thomas names his hypothesis as the cultural suitability factor.As Stone (1990) argues in his assessment of interactivity in distance learning, high quality learning can occur as long as students have interaction with tutors.

Johnstone (1991) stated that there was no significant difference in achievement levels between distant and traditional learners, but there is considerable variance in student attitudes and satisfaction levels (cited in Threlkeld&Brzoska, 1994, p. 49).

According to Kirkup and Jones (1996) the success of distance learning courses cannot be predicted. They (1996) summarize the most significant weaknesses of distance education as (a) its inability to offer dialogue in the way that conventional face-to-face education does; (b) the inflexibility of its content and study method; and (c) the isolation and individualization of the student.

Hilgenberg & Tolone (2000) believe that one of the most common problems of many distance learning courses is the limitation of dialogue between teachers and learners, and amongst learners themselves.

Khine (2001) corroborated with Yuen and Ma (2001) revealed that affective attitudes, general usefulness, behavioral control, and pedagogical use to be significant in determining the use of ICT. Kumar & Kumar (2003) reported that most teachers believe that the amount of computer experience has a positive effect on attitude towards computers.

Glancing at the recent literature on technology acceptance and e-learning, Lee et al (2009) investigated critical factors on e-learning adoption in South Korea and their study proposes a research model which consists of four independent variables as instructor characteristics, teaching materials, design of learning contents, and playfulness, two belief variables as perceived usefulness and perceived ease of use, and one dependent variable as intention to use e-learning.

In his study, Lee (2010) combines the expectation–confirmation model (ECM), the technology acceptance model (TAM) and the theory of planned behavior (TPB) to propose a theoretical model to predict the users' intentions to continue using e-learning. The results suggest that satisfaction has the most significant effect on users' continuance intention, followed by perceived usefulness, attitude, concentration and subjective norm.

Sang et al (2010) focused on the impact of Chinese student teachers' gender, constructivist teaching beliefs, teaching self-efficacy, computer self-efficacy, and computer attitudes on their prospective Internet and Computer Technology (ICT) use. Results indicate that prospective ICT integration significantly correlates with all teacher related variables, except for gender.

Tzeng (2011) investigated users' perceptions of the technology and the perceptions' association with attitude towards and intention of using the technology. The results prove that for prospective users, attitudes have the strongest significant effect on usage intentions.

Cheung and Vogel (2013) used the technology acceptance model to highlight the factors that influence the acceptance of Google Applications for collaborative learning. According to the research results, the subjective norm represented by peers is found to significantly moderate the relationship between attitude and intention toward the technology.

Melendez et al (2013) examined the perceived playfulness in the context of a blended learning setting with existing gender differences. The study suggests that there exist gender differences in the effect of playfulness in the student attitude toward a technology and the intention to use it.

In this study, it is believed that TAM is the ideal model to figure out the attitude of Turkish EFL Learners towards e-learning because it is very comprehensive and as can be seen, valid results have been obtained from the studies.

4. Method of the study

In this research, survey method was used to collect data about technology acceptance of the Turkish Foreign Language Learners. There have been several studies focusing on TAM in various fields so far but little attention has been paid to understanding the perceptions of Turkish Foreign Language Learners through TAM in Turkish Vocational Higher education context. This study can be considered unique, because the effects of subfactors of TAM in academic achievement are also discussed. Therefore, the results and the implications of this study will highlight a different aspect of e-learning regarding a different population. It is hypothesized in this research that

4.1. Subjects

This research was conducted at a state-run university in 2012-2013 academic year and subjects were 231 male and 279 female e-language learners from the Vocational Higher School taking up English course through e-learning. The subjects were elected on voluntary basis and the total number was 510. The participants study English course 2 credits a week. E-learners benefit from videos, notes, files etc. prepared by language teachers in an e-learning context. Videos that are composed of 15-20 minute presentations, a discussion board which learners ask questions at any time and e-content which is supported by animations are the main characteristics of the present e-learning program. E-learning system is at students' disposal for 24 hours.

5. Findings

Table1. Demographic data of the participants

		F	%
Gender	Female	279	54,7
	Male	231	45,3
Facebook	Yes	468	91,8
	Nor	42	8,2
Personal Computer	Yes	391	76,7
	Nor	119	23,3
The skill of using technology	insufficent	0	0
	Not bad	129	25,3
	sufficient	251	49,2
	Very good	130	25,5
Daily internet usage	1-3 hours	168	32,9
	4-6 hours	239	46,9
	More than 6 hours	102	20,2
Documents	rarely	114	22,4
	sometimes	159	31,2
	frequently	186	36,5
	very often	51	10,0
videos	rarely	113	22,3
	sometimes	194	38,3
	frequently	175	34,5
	very often	25	4,9
Exercises	rarely	87	17,3
	sometimes	255	50,7
	frequently	120	23,9
	very often	41	8,2

According to the demographic data collected, each participant (N= 468, 92%) almost has a facebook. Nearly 77% (N=391) of the subjects have personal computers. While 130 (%25,5) subjects' skill of using technology is very well, 251 of them have a sufficient skill of using technology. In addition, %20,2 (N=102) of the participants use internet more than 6 hours a day.

Analyzing the use of e-learning materials by language learners, course documents, videos, and exercises are the most frequently used ones. While 186 participants use course documents frequently, 174 use course videos at the same rate. Furthermore, 120 of the participants studied the exercises frequently. On the other hand, very few participants state that they take advantage of form pages. While 42 students use the form page for technical reasons frequently, 54 subjects use foreign language course form page at a high rate. Moreover, voice files and messages are used at a low rate.

Table2. The Analysis of subfactors in TAM Scale

	N	Mean	Std. Deviation
Anxiety	510	2,66	1,01
Perceived usefulness	510	3,22	,70
Perceived ease of use	510	3,43	,75
Attitude	510	3,13	,68
Subjective norms	509	3,30	,72
Perceived behaviour control	510	3,40	,67
Satisfaction	510	3,27	,69
Continued intention	510	3,02	,80
Self-efficacy	510	3,51	,81
Facilitative conditions	510	3,82	,76

Analyzing the subfactors, the mean of anxiety level to the e-learning is 2,67 out of 5. It is understood that participants have somewhat anxiety to the system though it is not high. In addition, among the subfactors, facilitative conditions have the highest mean (X= 3,83). Also, it can be stated that the mean of self-efficacy of the participants are the other subfactor which has a high mean (X=3,52). The mean of attitude of the participants to the system is 3,14.

Table3. The Correlation among the variables

	2	3	4	5	6	7	8	9	10	11
1. achievements	-,540*	,188	,696*	,552*	,163	,404*	,133	,184	,539*	,115
2. Anxiety		,123	-,304	-,162	,047	-,170	,029	,124	-,195	,025
3. Perceived usefulness			,346	,489	,394	,416	,443	,392	,312	,104
4. Perceived ease of use				,302	,226	,251	,277	,250	,473	,111
5. Attitude					,353	,225	,374	,351	,209	,104
6. Subjective norms						,348	,231	,203	,275	,035
7. Perceived behavior control							,243	,341	,228	,118
8. Satisfaction								,306	,205	,105
9. Continued intention									,365	,146
10. Self-efficacy										,285
11. Facilitative conditions										1

Table shows the correlation among the variables. According to the table, there is a correlation between variables and course documents.

6. Discussion and Conclusion

This is an empirical study aiming to understand the attitude of Turkish EFL learners towards technology and to determine role of these factors in the academic achievement of the participants. According to the results of the research, most of the participants have a facebook account and a personal computer. In addition, each participant goes online every day and spends at least 1-5 hours online. Moreover, e-language learners spend most of the time studying course documents. The present study also reveals that some of the TAM factors have effects on the academic achievement of the e-learners. It is understood that while anxiety towards e-learning has a negative effect on academic achievement; perceived ease of use, attitude, satisfaction and self-efficacy have a positive effect on the academic achievement of e-learners. These findings indicate that Turkish EFL learners can be considered at the third phase of Rodger (1995) Innovation Decision Process theory. In other words, participants have a positive attitude towards technology and they are at the stage to make a decision to adopt or reject the technology.

The findings of this study were not in line with Saade and Kira's research (2007). The results of their study revealed that anxiety did not play a mediating role on the impact of computer experience and perceived ease of use. In addition, contrary to the findings of the present study, Raaij and Schepers' results (2008) indicated that perceived usefulness had a direct effect on Virtual Learning Environment use. Perceived ease of use and subjective norm had only indirect effects through perceived usefulness.

Ngai et al's findings (2007) were partly in accordance with the results of the present study. They found that perceived ease of use and usefulness were the significant factors influencing the attitude of students using WebCT.

On the other hand, Lee's findings (2010) were partly in line with the results of the present study. His study revealed that satisfaction had the most significant effect on users' continuance intention, followed by perceived usefulness, attitude, concentration, subjective norm. However, perceived behavior control was found as significant but weaker predictors.

The findings of Cheung and Vogel (2013) were not in consistent with the present study. In their study, they found that the subjective norm showed a significant effect on behavioral intention to use technology.

The results of Tzeng's (2011) research were in consistent with the findings of the present study. His study also indicated that attitudes had the strongest significant effect on usage intentions.

The findings of Sang et al (2010) were in accordance with results of the present study. They also found that computer self-efficacy and more favorable attitudes toward computer were the strongest predictor of prospective computer use.

References

Adams, D. A, Nelson, R. R. and Todd, P. A. (1992), "Perceived usefulness, ease of use, and usage of information technology: A replication", *MIS Quarterly* 16: 227–247

Akbulut, Y. (2008). Exploration of the attitudes of freshman foreign language students toward

Using computers at a Turkish state university. *TheTurkish Online Journal of Educational Technology, 7*(1), 18-31.

Cheung, R. D. Vogel (2013) Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning, *Computers&Education*, 63, 160-175.

Davis, F. (1989). Perceived Usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13, 319-339.

Fishbein, M. and Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to the ory and research*. Reading, MA: Addison-Wesley

Hilgenberg, C., and Tolone, W. (2000). Student perceptions of satisfaction and opportunities for critical thinking in distance education by interactive video. *The American Journal of Distance Education, 14*(3), 59-73.

Johnstone, S. (1991). Research on telecommunicated learning: Past, present and future. *The Annals of theAmerican Academy of Political Science, 514,* 49-57.

Kirkup, G., and Jones, A. (1996). New Technologies for open learning: The super highway to the learning society? London: Routledge.

Lee,B. , Jeong-Ok Yoon b, In Lee (2009) Learners' acceptance of e-learning in South Korea: Theories and results, *Computers&Education*, 53, 1320-1329.

Lee, M. (2010) Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation–confirmation model, *Computers&Education,* 54, 506-516

Padilla-Meléndez, A., del Aguila-Obra A.R. and Garrido-Moreno A. (2013. Perceived playfulness, gender differences and technology acceptance model in a blended learning scenario, *Computers&Education*, 63, 306-317.

Prensky, M. (2001). Digital natives, digital immigrants. Part 1. *On theHorizon*, *9*(5).

Saga, V., Zmud, R. (1994). The Nature and Determinants of IT Acceptance, Routinization, Routinization, andInfusion. In: L. Levine (Ed.): Diffusion, Transfer and Implementation of Information Technology. ElsevierScience Publications, Minneapolis, MN, USA, pp. 67-86.

Sang, G., Martin Valcke, Johanvan Braak, JoTondeur (2010) Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology, *Computers&Education*, 54, 103-112

Stone, H. (1990). Does interactivity matter in video-based off-campus graduate engineering education? College Industry Education Conference Proceedings.

Tapscott, D. (1998). *Growing up digital. The rise of the Net Generation.* New York: McGraw-Hill.

Threlkeld, R., and Brzoska, K. (1994). Research in distance education. NJ: Educational Technology Publications.

Tzeng, J.(2011)Perceived values and prospectiveusers' acceptance of prospective technology: The case of a career eportfolio system, *Computers&Education,* 56, 157-165.