



# EMERGING MARKETS JOURNAL

ISSN 2159-242X (print) ISSN 2158-8708 (online)

## Factors Effecting E-Learning Preference: An Analysis on Turkish University Students from Government and Private Institutions

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Volume 4 No 1 (2014) | ISSN 2158-8708 (online) | DOI 10.5195/emaj.2014.59 | <http://emaj.pitt.edu> |

### Abstract

Information and communications technology has become an important tool in education. The use of online e-learning by members of educational communities is increasing, and this seems to be an accelerating tendency that will go on for the coming years. So it is important to identify and address students' preferences or their anxieties in e-learning, to offer beneficial programs. Although Turkish educational system, especially in universities, is also taking action parallel to this global trend, there is only limited research on the subject. Present study aims to fill this gap, and to identify effective factors while highlighting their contributions on e-learning preferences of university students. The sample of the study consist 606 university students from both government and private institutions which enables group comparisons. Results indicate 'reduction in training costs' and 'time flexibility of the programs' are the most valued factors to prefer e-learning. On the other hand, having courses and the exams on the internet was not found to be much favorable. With respect to demographic variables such as age, gender, private/government university, department, and grade (the year at the university) group differences were identified. Based on the findings, suggestions were presented.

**Keywords:** e-learning, university students, cost reduction in training, gaining time in education



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# Factors Effecting E-Learning Preference: An Analysis On Turkish University Students From Government and Private Institutions

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## I. LITERATURE REVIEW

In the last century, the stunning development of information technologies has certainly changed the way we acquire knowledge. Networking and Internet usage has become an important tool in education. Learning is no longer the same as before which was limited to lectures in the classroom. This facility commonly called 'e-learning', can be defined as the use of telecommunication technology to deliver information for education and training (Aixia and Wang, 2011). A number of other terms are also used to describe this mode of teaching and learning. They include online learning, virtual learning, distributed learning, network and web based learning. Fundamentally, they all refer to educational processes that utilize information and communications technology. As Naidu (2006) suggests, however, these labels refer to slightly different educational processes and they cannot be used synonymously with the term e-learning. The term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. As the letter "e" in e-learning stands for the word "electronic", e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices (Naidu, 2006).

During recent years, e-learning culture is seen as essential to the future of education and the facilitation of life-long learning. By enabling learners to learn anytime and anywhere, interest in it has been growing not only for companies to train their employees but also for academic institutions to establish web-course learning systems. Flexible access refers to access and use of information and resources at a time, place and pace that is suitable and convenient to individual learners rather than the teacher and/or the educational organization. It allows distance learners, to be in full or part-time employment and also be able to study at a time, place, and pace that suited their convenience. They would not be required to live or attend lectures in locations away from where they may be living and working.

Information and communications technology also enables the capture and storage of information of various types including print, audio, and video. It affords

a wide range of opportunities to capture, store and distribute information and resources of all types and formats. Along with text, pictures and illustrations, these include multimedia-based simulations of complex processes from all sorts of domains such as the biological and medical sciences, agriculture, engineering and educational practice which are not easily or cheaply accessible in real time and settings. It ensures the increasing access to information, as well decreasing cost. Moreover; educational organizations see advantages in making their programs accessible via a range of distributed locations, including on campus, home and other community learning or resource centers.

E-learning as an emerging new paradigm of modern education, is not without limitations or constraints. Lack of access to the necessary technology infrastructure may be counted in the first instance. Without it there can be no e-learning. Careful selection and matching of media attributes with learning and teaching strategies is another critical issue (Naidu, 2006). Academicians, educationists, and teachers should work together; and also familiarize themselves to benefit from it in the most efficient manner. But above all, an introduction of a new educational system must be assessed first place, in the light of students' characteristics (Berteau, 2009), (Lee, 2004). Literature indicates many cases in which students stop their online learning after their initial experience (Aixia and Wang, 2011). The lack of human interaction conceives a socially isolated environment in which the students need to apply self-disciplined schedule and strategies. What are the attributes needed to benefit most from this type of learning? What kind of factors will be influential on students' positive approach for such systems?

As existing research indicates; positive perceptions of technology, ease of access and use of internet, computer literacy, perceived usefulness, self-efficacy, motivation, patience, self-discipline, self-regulation are among factors affecting students' attitudes toward e-learning and achievement on these programs (Berteau, 2009), (Drennan, Kennedy and Pisarski, 2005), (Liaw, Huang and Chen, 2007), (Nogueira and Machado, 2008), (Sharma et. al., 2007), (Sun et. al., 2008). Furthermore, some studies state the effect of national culture for e-learning preference, usability, and satisfaction (Downey et. al. 2004), (McFeeters, 2003), (Sanchez-Franco, Martinez-Lopez and Martin-Velicia, 2009). However; there is still minimal research with respect to these issues (Sharma et. al., 2007).

Turkish educational system; at all levels of education is also moving to a trend that supports the use of information technologies. Especially universities, whether government or private, are switching rapidly to technology based systems in parallel with the worldwide undulation. There are already several instances of distant learning programs or classes held on the internet. These facilities seem to accelerate with an incredible speed in the years ahead.

## II. METHOD

### II.1. Sample:

Undergraduate students ( $N = 606$ ) from one government ( $N = 248$ ) and one private university ( $N = 358$ ) in Istanbul took part in the study (251 male, 354 female; 1 did not report gender). The mean age is 20,72 years ( $SD = 2.21$ ). Most of the students have computer (88,3%) and access to internet at their home (86,8%). Distributions based on other characteristics are presented in Table 1.

**Table 1. Distributions based on Demographics**

	Frequency	%
<b>Department</b>		
Psychology	173	28,5
Business Administration	153	25,2
Finance	111	18,3
Logistics	69	11,4
Architecture	57	9,4
Other	36	5,9
Missing Data	7	1,2
Total	606	100
<b>Grade</b>		
1.year	224	37,0
2.year	178	29,4
3.year	161	26,6
4.year	40	6,3
Missing Data	5	0,7
Total	606	100
<b>Economic Status</b>		
High	107	17,7
Middle-High	105	17,3
Middle	349	57,6
Low	42	6,9
Missing Data	3	0,5
Total	606	100
<b>Computer Use Activities</b>		
School	155	25,6
Social	278	45,9
Games	52	8,6
Other	87	14,4
Missing Data	34	5,6
Total	606	100

### II.2. Measurement Scales:

*E-learning preference* was measured with questionnaire composed of seven items. Five of the items were adapted from the scale developed by Berteau (2009) based on Mishra and Panda's (2007) scale to measure e-

learning attitudes of students. These items consist e-learning issues of time management, e-learning teaching efficiency, need for advanced technical abilities, schedule flexibility, reducing costs. The Cronbach's alpha of the five items was indicated as 0.749 (Berteau, 2009). The remaining two items were added by the researchers. One of them directly asks whether the student would prefer e-learning over classroom education, and the other asks whether they would prefer also having exams on-line. The cronbach's alpha was 0.77 for seven items.

Turkish translation of items was held in two steps. Items were first translated into Turkish by the researchers and afterwards re-translated into English by a colleague who is capable of both languages. There found no difference in regard of meaning between original and re-translated items.

All items were rated on a 6-point scale, where 1=totally disagree and 6=totally agree. Besides of the scales indicated above; attendants' demographic information (i.e. age, sex, university, faculty, year, perceived economic status, whether they have computer and internet access at home) was collected.

### II.3. Procedure:

All participants were recruited during class. Their course instructors distributed the questionnaires to the students, invited them to participate on a voluntary basis, and asked them to complete the questionnaire at class time. It was emphasized that the participants should not write their names or any identifying marks on the questionnaire.

## III. RESULTS

To start with, mean scores of answers for each of the seven statements reflecting preferences of students' for e-learning were calculated. As can be seen in Table 2, the two highest mean scores are in items representing the financial gains (mean=3,67) and time flexibility (mean=3,58). However; students were not very much in favor of having 'courses' (mean=2,09) and 'exams' (mean=2,52) via internet.

**Table 2. Mean scores on items for e-learning preference**

Items for E-learning Preference	Mean	Standard Deviation
4.E-learning reduces students' educational costs.	3,67	1,54
3.E-learning assures schedule flexibility.	3,58	1,56
2.Presenting courses on the internet, thanks to a wealth of visual material makes learning more efficient	3,31	1,59
1. E- learning offers the possibility to efficiently manage your time.	3,28	1,62
7. I would prefer to have exams on the computer.	2,52	1,67

5.E-learning is a learning environment which needs advanced technical knowledge and pc use.	2,41	1,20
6.I would prefer to have courses on the internet, rather than in classroom.	2,09	1,47

Independent sample t-test was used to assess whether there is significant difference between private and government university students on e-learning preference. As shown in Table 3, a significant mean difference between private and government universities was observed ( $t = 4,180, p < .001$ ); that is private university students scored significantly higher on e-learning preference.

**Table 3: e-learning preference scores of private and government university students**

	University				t	Df
	Private		Government			
	M	sd	M	sd		
e-learning preference	3,12	0,94	2,78	1,01	4,180***	604

\*\*\* $p < .001$

Further analyses were conducted to compare government and private university students for each item. Results indicated significant group differences for all items except one (Table 4). Students of government and private institutions were equally valued taking exams on the computer, item 7.

**Table 4. t-test results for government and private university students' e-learning preference items**

	University				t	d
	Private		Government			
	Mean	sd	Mean	sd		
1. E-learning offers the possibility to efficiently manage your time.	3,47	1,61	3,02	1,59	3,41***	604
2.Presenting courses on the internet, thanks to a wealth of visual material makes learning more efficient	3,50	1,53	3,02	1,62	3,71***	604
3. E-learning assures Schedule flexibility.	3,78	1,4	3,29	1,61	3,83***	503,66
4. E-learning reduces students' educational costs.	3,81	1,44	3,48	1,65	2,48**	483,17

5. E-learning is a learning environment which needs advanced technical knowledge and pc use.	2,49	1,19	2,29	1,19	1,99*	604
6. I would prefer to have courses on the internet, rather than in classroom.	2,21	1,53	1,93	1,38	2,35*	561,89
7. I would prefer to have exams on the computer.	2,56	1,64	2,46	1,72	,75	604

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

In order to find out whether there is a difference between male and female students on e-learning preferences, for each statement independent groups t-test analyses are applied. One but for all items, the two groups are found to be not differentiated. On item 7, indicating 'having exams on computer' females (mean=2,40) with respect to male students (mean=2,70) are less likely in favor of the computer testing.

To find out any group differences with respect to grade (year at the university) and department, one-way ANOVA are used. Detailed results for each item can be followed at Tables 5 and 6 respectively. The groups were significantly differentiated for each item except 7 and 5. Accordingly, freshman is lower in e-learning preference scores compared to the other three student groups. Moreover, e-learning preference increases as the student's grade moves up.

This result implies that students as having more years at the university are more becoming in favor of e-learning. With regard to department, architecture students are more favoring having classes on the internet whereas finance students are the least likely.

**Table 5. Anova results for Grade (Year at the university)**

		1. year N=224	2.yea r N=178	3.yea r N=160	4.yea r N=40	F
1. E-learning offers the possibility to efficiently manage your time.	M	2,82b	3,46a	3,58a	3,97a	11,577***
	s d	1,58	1,55	1,56	1,75	
2.	M	2,91b	3,48a	3,55a	3,85a	8,414***

Presenting courses on the internet, thanks to a wealth of visual material makes learning more efficient	<b>s d</b>	1,66	1,53	1,46	1,53	
3. E-learning assures Schedule flexibility.	<b>M</b>	3,08 <b>b</b>	3,78 <b>a</b>	3,88 <b>a</b>	4,31 <b>a</b>	14,380***
	<b>s d</b>	1,57	1,50	1,40	1,60	
4. E-learning reduces students' educational costs.	<b>M</b>	3,25 <b>b</b>	3,89 <b>a</b>	3,93 <b>a</b>	4,13 <b>a</b>	9,638***
	<b>s d</b>	1,63	1,46	1,36	1,62	
5. E-learning is a learning environment which needs advanced technical knowledge and pc use.	<b>M</b>	2,27	2,44	2,58	2,36	2,186
	<b>s d</b>	1,28	1,14	1,11	1,26	
6. I would prefer to have courses on the internet, rather than in classroom.	<b>M</b>	1,86 <b>b</b>	2,11 <b>b</b>	2,19 <b>b</b>	3,03 <b>a</b>	7,507**
	<b>s d</b>	1,42	1,51	1,35	1,76	*
7. I would prefer to have exams on the computer.	<b>M</b>	2,53	2,31	2,65	2,97	2,202
	<b>s d</b>	1,85	1,50	1,57	1,75	

p<.05; \*\*p<.01; \*\*\*p<.001

**Table 6. Anova results for Department**

		Psychology N=1	BA N=15	Finance N=	Logistics N=6	Architecture N=57	Other N	F
1. . E-	<b>M</b>	3,17 <b>b</b>	3,31 <b>b</b>	2,79 <b>b</b>	3,42	4,16 <b>a</b>	3,64	6,216**

learning offers the possibility to efficiently manage your time.	<b>s d</b>	1,49	1,60	1,60	1,65	1,59	1,74
	<b>M</b>	3,25	3,29	2,77 <b>b</b>	3,55	3,96 <b>a</b>	3,69
2. Presenting courses on the internet, thanks to a wealth of visual material makes learning more efficient.	<b>s d</b>	1,40	1,61	1,62	1,59	1,59	1,72
	<b>M</b>	3,55	3,64 <b>a</b>	3,03 <b>b</b>	3,83 <b>a</b>	4,35 <b>a c</b>	3,44
3. E-learning assures Schedule flexibility.	<b>s d</b>	1,35	1,63	1,55	1,45	1,63	1,66
	<b>M</b>	3,69	3,84 <b>a</b>	3,10 <b>b</b>	3,54	4,28 <b>a</b>	4,03
4. E-learning reduces students' educational costs.	<b>s d</b>	1,38	1,62	1,60	1,42	1,52	1,55
	<b>M</b>	2,52	2,46	2,16	2,60	2,46	2,47

ng is a learning environment which needs advanced technical knowledge and pc use.	<b>s d</b>	1,16	1,24	1,19	1,11	1,16	1,32	
6. I would prefer to have courses on the internet, rather than in classroom.	<b>M</b>	1,91 <b>b</b>	2,06	1,87	2,36	2,65 <b>a</b>	2,33	2,830*
	<b>s d</b>	1,27	1,39	1,49	1,61	1,68	1,80	
7. I would prefer to have exams on the computer.	<b>M</b>	2,34	2,54	2,42	2,97	2,86	2,31	2,061
	<b>s d</b>	1,45	1,60	1,86	1,87	1,74	1,78	

\*p<.05; \*\*p<.01; \*\*\*p<.001

With respect to economic status, Anova results indicate that students from high end prefer e-learning more than low economic status group on schedule flexibility and gaining time factors. For the rest of the items group differences were not significant.

**Table 7. Anova results for Economic Status of Students**

		High N=107	Mid-high N=10	Mid. N=349	Low N=42	F
1. E-learning offers the possibility to efficiently manage your time.	<b>M</b>	3,78 <b>a</b>	3,18	3,22 <b>b</b>	2,86 <b>b</b>	4,650**
	<b>s d</b>	1,61	1,46	1,65	1,55	
2. Presenting courses	<b>M</b>	3,62	3,20	3,27	3,14	1,727

on the internet, thanks to a wealth of visual material makes learning more efficient	<b>s d</b>	1,62	1,47	1,60	1,60	
3. E-learning assures Schedule flexibility.	<b>M</b>	3,92 <b>a</b>	3,48	3,55	3,21 <b>b</b>	2,653*
	<b>s d</b>	1,51	1,42	1,60	1,52	
4. E-learning reduces students' educational costs.	<b>M</b>	3,71	3,71	3,69	3,40	0,480
	<b>s d</b>	1,53	1,43	1,44	1,54	
5. E-learning is a learning environment which needs advanced technical knowledge and pc use.	<b>M</b>	2,54	2,35	2,35	2,69	1,544
	<b>s d</b>	1,23	1,05	1,19	1,49	
6. I would prefer to have courses on the internet, rather than in classroom.	<b>M</b>	2,21	2,16	2,00	2,40	1,338
	<b>s d</b>	1,41	1,48	1,43	1,88	
7. I would prefer to have exams on the computer	<b>M</b>	2,85	2,62	2,42	2,29	2,192
	<b>s d</b>	1,68	1,68	1,66	1,70	

\*p<.05; \*\*p<.01;

#### IV. DISCUSSION

The main purpose of this research was to analyze university students' preferences towards e-learning with respect to various factors. Efficient usage of time and reduced educational expenses were found to be on top of the list as the most valued advantages of e-learning. However, this result does not commend to fully move away from classroom education. Still, mostly students prefer having courses and exams in a classical way. Additionally; our analyses revealed significant group differences in many aspects as well. Some of the assumed causes and implications are discussed below.

First of all; the comparison test displayed that private university students are more willing to e-learning. Actually, there might be numerous reasons for such a

difference. But what comes to mind is that private universities are much better in terms of economic conditions and advanced technologies. On the other hand, especially in Istanbul, private universities established in the city are built on a narrow field which restricts the students' alternate socialization areas (i.e. space for a range of different clubs). Thus, students at private university able to reach technology but not enough space for alternate activities might more likely prefer e-learning. Additionally, there is difference in terms of economic status between government and private university students. In our sample, 43 percent of private university students and only 23% of government university students reported that they have enough money to spend easily. Thus, most of the students at private universities belong to high socio-economic class families and for them it is not an issue possessing advanced technology personally which facilitates e-learning.

With respect to grade; as the students reach higher grade, they prefer e-learning more. One reason for that maybe, the first year students need more social support, as they are new at the university environment. But as they get used to the system in years, they need less for such a face-to-face interaction and socialization. Also, Turkish youth undergo a process very difficult to enter the university that when they gain the entrance they most likely want to experience what a university is in real, rather than to see what it is in virtual. A limitation of this result is that the number of students from 4<sup>th</sup> year is much fewer than the first year attendants that it might not be accurate to compare their preference levels. However, most of the 4<sup>th</sup> year students start to work at part time jobs and it becomes somewhat difficult for them to attend classes at the university regularly. Hence, double career status might explain why 4<sup>th</sup> year students prefer e-learning more.

This study which revealed some indications is thought as a preliminary study to display e-learning preference levels of university students and further studies are needed to extend the limits of knowledge on e-learning preferences. It will especially be much helpful to examine e-learning preference in relation to other variables to have a clearer vision on the issue.

## V. REFERENCES

**Aixia, D. & Wang, D. (2011).** Factors Influencing Learner Attitudes Toward E-learning and development of E-learning Environment Based on the Integrated E-learning Platform. *International Journal of e-Education, e-Business, e-Management and e-Learning*. Vol. 1, No.3, pp. 264-68.

**Bertea, P. (2009).** Measuring students' attitude towards e-learning: a case study. *The 5th International Scientific Conference E-Learning and Software for Education*. Bucharest. <http://faculty.ksu.edu.sa>

**Downey, S.; Wentling, R.M.; Wentling, T. & Wadsworth, M. (2004).** The Relationship Between National Culture and the Usability of an E-Learning System. <http://nathanstrenge.com>

**Drennan, J.; Kennedy, J. & Pisarski, A. (2005).** Factors affecting student attitudes toward flexible online learning in management education. *The Journal of Educational Research*. Vol. 98, no. 6, pp. 331-38.

**Lee, I. (2004).** Searching for new meanings of self-regulated learning in e-learning environments. [http://dasan.sejong.ac.kr/~inlee/set/articles/searching\\_040426.pdf](http://dasan.sejong.ac.kr/~inlee/set/articles/searching_040426.pdf).

**Liaw, S.S.; Huang, H.M. & Chen, G.D. (2007).** Surveying instructor and learner attitudes toward e-learning. *Journal of Computers and Education*. Vol. 49, No. 4, pp. 1066-80.

**McFeeters, E.F. (2003).** The Effects of Individualism Vs. Collectivism on Learner's Recall, Transfer and Attitudes Toward Collaboration and Individualized Learning. Virginia Polytechnic Institute and State University. Doctorate Dissertation. [scholar.lib.vt.edu](http://scholar.lib.vt.edu)

**Mishra, S. & Panda, S. (2007).** Development and Factor Analysis of an Instrument to measure Faculty Attitude towards e-Learning. *Asian Journal of Distance Education*. Vol 5, No 1, pp 27 - 33

**Naidu, S. (2006).** E-learning: A guidebook of principles, procedures, and practices. 2nd Edition. Commonwealth Educational Media Center for Asia, New Delhi, India.

**Nogueira, J. & Machado, C. (2008).** Teams in virtual classes: an experiential perspective. *Technology, Education, and Development*. <http://cdn.intechopen.com/pdfs/9415/pdf>

**Sánchez-Franco, M.; Martínez-López, F. & Martín-Velicia, F. (2009).** Exploring the impact of individualism and uncertainty avoidance in Web-based electronic learning: An empirical analysis in European higher education. *Journal of Computers and Education*. Vol. 52, No. 3, pp 588-98J.

**Sharma, S.; Dick, G.; Chin, W.W.; Land, L.L. (2007).** Self-regulation and e-learning. *Proceedings of the Fifteenth European Conference on Information Systems*, pp. 383-94., St. Gallen University of St. Gallen, retrieved in May 16, 2012 from <http://is2.lse.ac.uk/asp/aspecis/2007157.pdf>

**Sun, P.; Tsai, R.J.; Finger, G.; Chen, Y. & Yeh, D. (2008).** What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Journal of Computers & Education*. Vol. 50, No. 4, pp. 1183-1202.