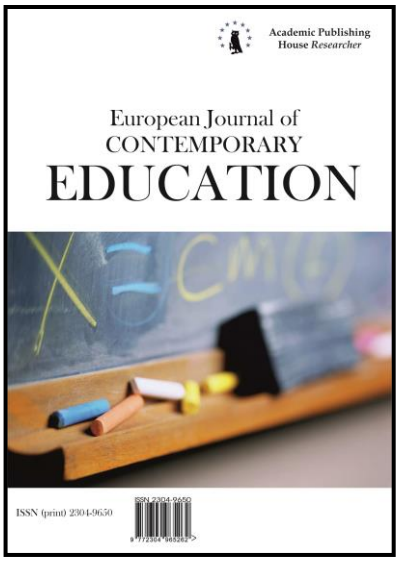
Published in the Slovak Republic
European Journal of Contemporary Education
ISSN 2304-9650
E-ISSN 2305-6746
2017, 6(3): 604-611
DOI: 10.13187/ejced.2017.3.604
www.ejournal1.com



Education Faculty Students' Levels of Satisfaction with E-Learning Process

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Abstract

Also, e-learning environments, which integrate technology into education, have now become widespread and popular. Examining how students use this education management system is fairly important for the success of this system, and any possible results to be obtained are significant. For this purpose, the present study was conducted with 348 students attending an education faculty. In the study, the courses of 'Introduction to Computer' found in their curriculum were taught to the students for two academic terms with the e-learning management system. At the end of the academic year, a questionnaire was applied to the future pre-service teachers to determine their levels of satisfaction with e-learning. The results revealed no significant difference in the preservice teachers' levels of satisfaction with e-learning in terms of their gender, their education program and their department. In addition, it was revealed out that there was a significant difference at the significance level of $p<.05$ between their levels of satisfaction with e-learning and their levels of knowledge of Internet technologies It was found out that the students' mean score regarding their satisfaction with e-learning was calculated as $\overline{X}$ =3.80, which referred to "I don't agree". The students thought that teaching a course with this method is important for learning new education management systems, and the students who were introduced to technology during their university education, reported that this education should be given following their university education.

Keywords: e-Learning, Web-Based Systems, Education.

1. Introduction

Education has been one of the most important elements for people throughout the history. The basic purpose of education, which has gone through a number of phases up until today, is the

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train individuals. Thanks to rapid spread of the Internet and use of technology to read books regarded as source of information for all people around the world, information is now easily accessible in all parts of the world (Yalman et al., 2013). With recent developments in technology, every person can use the Internet and computer. The potential of the Internet to reach millions of people encourages many business firms to invest on this platform. Therefore, the Internet now has a structure that allows people to search for and reach information, to communicate with friends and relatives, to play games and to read newspapers (Aggarwal, 2000).

Positive results obtained via experiments conducted by researchers made it possible to use the Internet for educational activities as well as in many other areas made. Use of educational platforms for instructional activities helps determine not only the positive but also the negative sides of this learning management system. These structures designed in electronic environments and used for educational activities are called e-learning platforms. In other words, e-learning can be defined as "use of Internet technologies that provides solutions necessary to increase information and performance" (Ünsal, 2004). The success of this management to be conducted via Web depends on what type instruction is planned and for whom as well as on how to transfer these arguments to the web environment in the best way (Eşgi, 2006). The success of education given via the e-learning management system by any institution can be said to change in line with individual differences of students (motivation, learning styles, attitudes, self-efficacy and so on) (Güngör, Aşkar, 2004, Shraim, Khlaif, 2010).

Today, e-learning applications used for education are provided as two different models: synchronous and asynchronous. Many e-learning platforms found on the Internet generally give education with asynchronous model. Asynchronous model can be defined as a system in which individuals who give education and those who take that education do not necessarily exist in the same place at the same time and in which students feel free to complete their education at the time they want (Driscoll, 2002). In synchronous model, instructors and students who are both found in different places can do their educational activities by communicating simultaneously with each other via the website used as the education platform (Güngör, Aşkar, 2004). Based on the characteristics of the education to be given, one of the models (synchronous or asynchronous) can be selected during the preparation of the e-learning system. In this way, the model to be selected could increase the quality of the education (Watkins et al., 2004).

E-learning is still used as a distant education management system in higher education institutions. In Turkey, the number of universities using the distant education system to give their associate-degree education and other certificate programs is gradually increasing. In addition, the fact that universities lack the technical sub-structure necessary to give such education and that there are no standards set for students and teachers regarding technical efficacies and skills hampers studies conducted on e-learning (Gülbahar, 2012). Determining the satisfaction levels of students with the platform they use to take their education could help identify the pros and cons of the system.

It is important to determine the views of users of such a system about the related processes. As the participants of the present study were selected among education faculty students who are prospective teachers, it is important to know about their levels of satisfaction with this model so that their levels of satisfaction can be reflected upon future generations. It is only possible to train future teachers who prefer to use technological tools while giving education if they are conscious of the subject.

2. Method

Purpose and Research Model

The purpose of the study was to examine education faculty students' levels of satisfaction with e-learning with respect to certain variables. What are education faculty students' levels of satisfaction with e-learning? The present study tried to find answers to the question of whether their levels of satisfaction with e-learning differ significantly with respect to their characteristics, their gender, their type of education (daytime education or evening education), In order to determine the relationships between two or more variables, the descriptive survey method was used. Survey method aims at describing a past or present situation (Karasar, 2005: 77).

Data Collection

The questionnaire method was used as the data collection tool in the study. The study was carried out with education faculty students who took the course of Computer-I and Computer-II via the e-learning method in the Fall and Spring Terms of the academic year of 2012-2013. The questionnaire form developed was put in the e-learning platform prepared, and the students were asked to fill in the questionnaire form. Of the 615 students registered to the system, 266 of them participated in the study filling in the questionnaire form. One of the most important limitations of questionnaires conducted via the Internet is that they do not have consistent return-rates (İnan, 2002). The questionnaire forms were delivered to the departments that were not accessible via the Internet. As a result, a total of 82 questionnaires were included in the study.

Universe and Sample

The universe of the present study carried out to determine the participants' levels of satisfaction with e-learning included 615 students attending an Education Faculty in the Fall and Spring Terms of the academic year of 2012–2013. In the study, the questionnaire form was either sent via the Internet or delivered in paper-form to a total of 348 students were selected from this universe with the method of simple random sampling method. Table 1 below presents information about the participants in the present study.

Table 1. Demographic Backgrounds of the students in relation to e-learning

Variable	Demographic Feature	N	%
Gender	Female	216	62.07
	Male	132	37.93
Type of Education	Daytime Education	226	64.94
	Evening Education	122	35.06
Departments	Elementary School Teaching	211	60.63
	Preschool Teaching	66	18.97
	Math Teaching	41	11.78
	Religion and Ethics Teaching	30	8.62
Total		348	100.0

Of all the students responding to the questionnaire, 62.07 % of them were female, and 37.93 % of them were male students. Among the participants, 64.94 % of them (226 students) were taking daytime education in their faculty, while 35.06 % of them (122 students) were taking evening education. As for the departments of the students who responded to the questionnaire, 60.94 % of them were from the department of Elementary School Teaching, 18.97 % of them from Preschool Teaching, 11.78 % of them from Math Teaching and 8.62 % of them from Religion and Ethics Teaching.

Data Collection Tools

In the study, the e-learning satisfaction scale developed by Gülbahar (2012) was used. The original scale was made up of seven parts with 55 items. These seven parts were personal characteristics, access to technology, technical skills, motivation and attitude, factors influencing success, transmission and practicality instructional process, instructional content, interaction and assessment. As for the items in the scale, they were 5-point Likert-type items. The Cronbach alpha reliability coefficient of the scale was calculated by Gülbahar (2012) as 0.93.

Data Analysis

For the analysis of the data collected via the questionnaire, SPSS 18.0 package software was used. In the questionnaire, "I completely disagree" was scored as "1"; "I disagree" as "2"; "I partly agree" as "3"; "I agree" as "4"; and "I completely agree" as "5". While interpreting the mean scores regarding the students' attitudes towards e-learning, the mean scores ranging between 1.00 and 1.80 were regarded as "I completely disagree"; those between 1.81 and 2.60 as "I disagree"; those between 2.61 and 3.40 as "I partly agree"; those between 3.41 and 4.20 as "I agree"; and those

between 4.21 and 5.00 as "I completely agree". These ranges were obtained dividing them by the number of values between 1 and 5, the former being the lowest value assigned to the choices and the latter being the highest. For the analysis of the data, first, mean scores, frequencies and percentages were used. As for the application of parametric and nonparametric tests for the analyses of the data to explain the sub-problems regarding the dependent and independent variables of the study, normal distribution and group variances were examined. For the purpose of testing the hypotheses regarding the sub-problems in the study, independent samples t-test, one of parametric tests, was used, and for the dependent groups, one-way ANOVA was applied. In variance analysis, in order to determine the groups the significant difference was in favor of, Tukey HSD test was used. As a result of the analysis of the data collected, the Cronbach alpha reliability coefficient was calculated as 0.93.

Findings

The results obtained from the questionnaire applied to determine the students' levels of satisfaction with the e-learning management system are presented in Tables below.

Table 2. Students' levels of satisfaction with e-learning

	n	$\overline{X}$	**Ss**
Mean	348	3.80	0.46

The mean score of the education faculty students' levels of satisfaction with e-learning was $\overline{X}$ = 3.80. It was seen that the students' levels of satisfaction with e-learning were in the range of 3.41 and 4.20 which referred to the level of "I agree" in the measurement tool.

Table 3. t-test results regarding the students' levels of satisfaction with e-learning with respect to their gender

Gender	**n**	$\overline{X}$	**Ss**	**Sd**	**t**	**p**
Female	216	3.81	0.37	346	-.782	.43
Male	132	3.77	0.58			

According to the findings obtained in the study, the female students' mean score was Mf=3.81 (Sd=0.37), while the male students' mean score was Mm=3.77 (Sd=0.58). The statistical analysis conducted regarding the mean scores revealed no significant difference between the students' mean scores with respect to their gender ($t_{(346)}$= -.782; p>.05).

Table 4. t-test results regarding the students' levels of satisfaction with e-learning with respect to their type of education (daytime education or evening education)

Type of Education	**n**	$\overline{X}$	**Ss**	**Sd**	**t**	**p**
Daytime education	226	3.82	0.44	346	1.398	.16
Evening education	122	3.75	0.47			

According to the research findings, the mean score of the students taking daytime education was Mde=3.82 (Sd=0.44), while the mean score of the students taking evening education was Mee =3.75 (Sd=0.47). The results of the statistical analysis regarding the related mean scores did not reveal any significant difference between the students' mean scores with respect to the type of their education (daytime education or evening education ($t_{(346)}$= 1.398; p>.05).

In the study, ANOVA was conducted to determine the satisfaction levels of the participants taking the courses taught with e-learning management system during the two academic terms. The results obtained are presented in Table 5.

Table 5. Results of ANOVA regarding the students' levels of satisfaction with e-learning with respect to their departments

	KT	df	KO	F	Level of Significance
Between Groups	.158	3	.053	.249	.862
Within Groups	72.496	344	.211		
Total	72.653	347			

No statistically significant difference was found between the students' levels of satisfaction with e-learning with respect to their departments ($F_{3\text{-}344}$=.249; p=.010).

Table 6. Mean scores, frequencies and percentages regarding the students' levels of satisfaction with e-learning

Students' knowledge about Internet technology use	$\overline{X}$	*f*	%
No	-	4	1.15
Little	3.61	38	10.92
Average	3.78	164	47.13
Good	3.87	121	34.77
Very Good	3.91	21	6.03
Total		348	100

Regarding the students' general knowledge about Internet technologies necessary to use the e-learning environment, 1.15 % of the students said they had "No" knowledge about these technologies; 10.92 % of them said "Little"; 47.13 % of them said "Average"; 34.77 % of them said "Good"; and 6.03 % of them said they had "Very Good" knowledge about Internet technologies they needed to use the e-learning system. As for the related mean scores of the students with respect to their levels of knowledge about Internet technologies necessary to use the e-learning system, they were $\overline{X}$ =3.61 for those with little knowledge, $\overline{X}$ =3.78, for those with average knowledge, $\overline{X}$ =3.87 for those with good knowledge and $\overline{X}$ =3.91 for those with very good knowledge.

Table 7. Results of ANOVA regarding the students' satisfaction with e-learning management system with respect to their Internet use knowledge

	KT	df	KO	F	Level of Significance
Between Groups	2.332	3	.777	3.852	.010
Within Groups	68.609	340	.202		
Total	70.940	343			

The study investigated whether there was a significant difference between the groups with respect to the students' levels of knowledge about Internet use. The number of those with "No" knowledge about Internet use was not enough for analysis, these participants were not included in the analysis. The results revealed a significant difference between the groups ($F_{3\text{-}340}$=3.852; p=.010). Table 8 presents the results of Tukey HSD test conducted to determine the difference.

Table 8. Tukey HSD Significance Test Results Regarding the Students' Knowledge of Internet Use

Knowledge of Internet Technology Use		Mean Difference	Mean Difference
Little	Good	-.26204	.010

The results of Tukey HSD Test conducted to determine the difference revealed that there was a significant difference between the groups with "Little" and "Good" levels of knowledge about Internet Technology Use in favor of the group of students who had good levels of knowledge about Internet technologies.

Table 9 presents the students' views about the e-learning management system.

Table 9. Students' mean scores regarding their views about the e-learning platform

E-learning Environment	$\overline{X}$
Its Use	3.63
Design	3.81
Introduction	3.89
Syllabus	4.09
Content	3.93
Communication and Interaction	3.69
Assessment	3.72

The students' mean scores regarding the e-learning environment were at the level of "I agree" as follows: $\overline{X}$ =3.63 for usability, $\overline{X}$ =3.81 for its design, $\overline{X}$ =3.89 for its introduction, $\overline{X}$ 4.09 for the syllabus, $\overline{X}$ =3.93 for the content found in the platform, $\overline{X}$ =3.69 for the students' communication and interaction with each other and with the trainers in the web environment and $\overline{X}$ =3.72 for the overall evaluation of the platform used.

3. Discussion and Conclusion

The present study aimed at determining the education faculty students' levels of satisfaction with e-learning. Of all the students responding to the questionnaire, 37.93 % of them were male, and 62.07 % of them were female students. The satisfaction levels of the students who took their courses with the e-learning management system were found to be at the level of "I Agree" with $\overline{X}$ =3.80. The t-test results conducted revealed that there was a significant difference between the students' satisfaction levels with respect to their gender. In addition, it is reported in related literature that faculty members find use of e-learning management system more demanding and time-consuming when compared to regular education (Karaman, 2007). Introducing students to such learning management systems during their undergraduate education could have positive influence on the use of these learning management systems in future (Yalman et al., 2013, Hye-Jung, Rha, 2009; Ilgaz 2008).

Preservice teachers' levels of Internet technology use is considered to be among the most important factors influential on their levels of satisfaction with e-learning (Yalman, 2013). In the study, a significant difference was found between the students' levels of knowledge about the Internet and about the use of Internet technologies and their levels of satisfaction with e-learning ($p< .01$). The results of ANOVA conducted revealed a significant difference between the groups with "Little" and "Good" levels of knowledge about Internet use in favor of the students who good levels of knowledge about the Internet and Internet technologies. The fact that the students were knowledgeable about the use of education platforms created in the Internet environment will increase their success in their courses and contribute to their understanding of the education platform (Palmer, Holt, 2009; Bray et al., 2008; Machado, 2007; Alper et al., 2006).

The fact that the participants in the study were education faculty students increases the importance of the related trainings to be given to them. Adaptation of education faculty students to the e-learning system, who regard education as their professional life, will help introduce them to the technologies and e-learning environments in their future institutions where they will be appointed. In addition, students' conscious and appropriate use of the Internet and computer will facilitate the process of accessing information throughout their education lives (Yalman, 2013).

In the study, it was seen that the students' satisfaction were at the level of "I Agree" regarding the usability of the e-learning platform they used, the design of the activities found in the platform, the introduction of the elements used, the methods applied to follow the lessons, the course contents prepared, students' communication and interaction with each other and with the teachers, tests given at the end of lessons, assessments of the learning gains. In studies conducted, teachers reported positive views about the use of e-learning management systems although they feel themselves inefficient in the use of technological tools (Gözütok et al., 2007).

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