

The Factors that Affect Online Learners' Satisfaction

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ABSTRACT In distance learning systems, students' satisfaction is a significant issue in terms of student attendance and not feeling lonely. In this study, the relationship between online students' satisfaction and their demographic characteristics were examined. Screening model was used in the study. With this study, whether satisfaction levels of students who are continuing in the program in which various information and midterm examinations were given online significantly differ in terms of age, computer literacy levels, internet accessibility and computer experience intended to be examined. Besides, whether there is a relationship between student achievement levels and satisfaction scores was tested. Within the scope of this study, Online Students' Satisfaction Scale developed by researcher was used. The scale includes 38 items, it has a three-factor structure (The Structure and the Process of the Program, Interaction with the Instructors, and Interaction with Other Students), and it is a valid and reliable scale that explains 67.95 % of total variance and whose coefficient of internal consistency calculated by Cronbach alpha coefficient was 0.97. As a result of the statistical analysis of student data, which was obtained from an online program, it was found out that while online students' satisfaction levels did not significantly differ in terms of age, computer literacy levels and internet accessibility, it significantly differs in terms of internet experience.

INTRODUCTION

Distance education is an educational environment where the learners who are not physically present and educational materials are put together by means of information technologies. Schlosser and Simonson (2006) defined distance learning as the institutional learning environment where the learning group is separated and interactive telecommunications systems connect learners, instructors and resources. However, in this study, only online learning aspect of distance education is considered.

Universities in Turkey are rapidly opening associate's degree, complementary undergraduate degree, bachelor's degree, master's degree and doctoral programs by establishing distance education institutions (Cakir and Oguz 2010). Although these rapidly increasing programs are being opened by the approval of the Council of Higher Education, they differ in terms of their functions. Same program can be opened in more than one university. Since it is not possible for students to be physically present in the same place, each student has the opportunity to enroll at any university in any part of the country. Therefore, the university that has the more qualified education can be distinguished among other universities where the program is opened.

The quality level of education is important in order to control the effectiveness of distance

education programs and to be able to give better education to the participants. It is possible to collect the quality indications of distance education under the headings such as efficiency, effectiveness, students' satisfaction and accessibility (Mayadas et al. 2002; Moore and Kearsley 1996). Students' satisfaction, which is one of the quality indications, is an important factor in student attendance (Ilgaz 2008; Parlak 2007) and in determining the success of the program (Kaba et al. 2012).

While the dictionary definition of satisfaction can be stated as "a feeling of happiness or pleasure because you have achieved something or got what you wanted" (Turk 2010a), contentment means "the state of being happy and satisfied" (Turk 2010b). Even though it is described as students' satisfaction in some resources and student contentment in some other resources, the term, students' satisfaction intended to be used in this study. Contentment can be described as the perception of being happy because the desires and the needs are fulfilled after participating in an activity (Fullerton and Taylor 2002; Swan and Bowers 1998). According to Karatas (2006) and Parlak (2007), when students' satisfaction is considered, it can be defined as satisfaction and contentment regarding various dimensions of the service the student gets. Sener and Humbert (2003) define students' satisfaction as the contentment that learning and teaching activities and facilities cause in students.

Many factors affect students' satisfaction in distance education. When it is looked at the current scales, which have been developed to measure students' satisfaction in distance education, it is seen that scale items are collected under the sub-headings below (Parlak 2007; Ilgaz 2008; Askar et al. 2008; Jesus et al. 2011): Interaction, Institutional Support, Task Orientation, Instructor Support, Interview, Flexibility, Technical Support, Ergonomics, Participation, Quality and Information Structure, Design, Interaction among Students, Course Structure, Course Management, Learning Outputs, Instructor Characteristics and Styles, Learning Environment, Student Preferences, User-Friendliness, Computer Literacy, Interest, Cooperation, Reflective Thinking.

Achtemeier et al. (2003) stated that student characteristics are an important factor that affects students' satisfaction and achievement levels. Allen et al. (2002) emphasized that the factors regarding satisfaction could be affected by personal variables.

When the studies conducted about the students' satisfaction were examined, it was seen that there are studies that investigate whether students' satisfaction differ according to some demographic variables. Some of these studies can be shown below:

Price (1994) examined the relationship between students' satisfaction, mass media used in education, educational level, gender, job status and motive for enrollment in distance education at South Carolina University. The analysis of the data obtained showed that there is a relationship between students' satisfaction levels and mass media used in education and distance education experiences. There is also a relationship between students' satisfaction and students' previous educational levels. No relationship was found between students' satisfaction and gender. It was found out that there is a relationship between students' satisfaction and job status; and between students' satisfaction and their basic motives for enrollment in an online course.

In his study, Miltiadou (2000) discovered that age, gender and previous experiences about web-based courses do not affect satisfaction and achievement. However, he found out that task value and goal orientation are significant predictors of satisfaction.

Bower and Kamata (2000) conducted a survey in Florida with 555 students in order to de-

termine the factors that affect students' satisfaction. Within the scope of the study, the learners were given a questionnaire to determine course management, teaching methods, accessibility, presentation style and students' demographic characteristics. According to the result analysis, satisfaction scores of the students who expected to get good grades at the end of the term were higher than the ones who found their performances inefficient. The satisfaction levels of the students who can access to online courses are higher when compared to the students who have courses via interactive television. Besides, it was found out that students' accessibility to online courses affect satisfaction in a positive and effective way. Accessibility and anticipated grades not only explain students' satisfaction about all the courses but also affect the satisfaction in course management, teaching methods and traditional classroom experiences. Satisfaction was found higher in women compared to men and in seniors compared to young people in terms of demographic characteristics (Bower and Kamata, 2000). The results of the survey, conducted with 555 students with the purpose of determining what personal characteristics or factors affect students' satisfaction among the students who have online courses, show that accessibility and anticipated grades are the most powerful factors that affect students' satisfaction (Bower and Kamata 2000).

Hong (2002) examined the relationship between learning and satisfaction and educational variables and students in a web-based course. Research findings showed that gender, age, learning style, time spent on online course, the perception of student-student interaction, course activities and asynchronous web-based conferences are not related to the effects of satisfaction and learning. Experienced computer users get more satisfaction from the course. Students have a positive perception about the student-teacher interaction. Students gave a good performance during conferences of discussion group and it was seen that learning materials were used in conferences; therefore, a positive development was promoted and more satisfaction was achieved in the course.

Parlak (2004) examined students' satisfaction (in this study, satisfaction term was used instead of contentment) in web-based distance education in his scale development study. According to the findings obtained from the data which were

collected with this purpose, it was determined that students' satisfaction scores do not differ according to universities, programs, gender, accessibility to web-based distance education activities and computer experience. However, it was seen that scores show significant difference in terms of age, the state of being employed or unemployed and previous learning experiences in web-based distance education.

Askar et al. (2005) researched the effects of blended learning on students' satisfaction within the frame of dimensions such as user friendliness, instructional design and application. In the study in which undergraduate students were used as the sample group, interactions were carried out through face-to-face sessions via internet. According to the findings of the research, interaction was determined to be the critical component in online learning environments. Therefore, because blended learning increase interaction, it was considered that it affects students' satisfaction positively.

Karatas and Ustundag (2008) conducted a study whose name was "the relationship between Gazi University distance education program students' web-based distance education satisfaction and their demographic attributes." They examined the relationship between students' satisfactions about web-based distance education at Ataturk Vocational School Computer Technologies and Programming and Management Department that existed within the structure of Gazi University Distance Education Program and students' demographic attributes. The survey method was used in the study. The scores Gazi University Distance Education Program's students received from web-based e-learning satisfaction scale were compared and contrasted with their demographic attributes such as age, gender and general average. After the statistical process, it could not be found a significant relationship between demographic attributes (age, gender, and general average) and satisfaction scores.

Sahin and Shelly (2008) did a structural equations study with the purpose of determining students' perceptions towards distance learning. They tested the relationships between variables like computer literacy, the flexibility of distance learning, the advantage of distance learning and satisfaction in distance learning using structural equation modeling in their studies based on the Technology Acceptance Model. One hundred

ninety-five (195) university students participated in the study. As a result, it was found out that flexibility and experience affect satisfaction in distance learning directly and indirectly. It was determined that the students who are more computer literate and the ones who define distance learning beneficial have more satisfaction about the distance learning. That computer literacy, flexibility and advantage combination explain 57 % of the variance of the satisfaction in distance learning is one of the results of this study.

A study named "The Effect of Support Services in E-Learning on the Learner's Satisfaction" was conducted by Kaba et al. (2012). In this study, they intended to determine satisfaction levels of the learners about support services in Istanbul Ayдын University distance education programs, to observe and examine the changes in their satisfaction levels and variation of the satisfaction according to demographic attributes such as age and gender. A questionnaire was designed in the form of 5. Likert type scale consisting eight statements in order to measure learners' satisfaction levels about academic, administrative and technical support services. Besides, two more questions regarding the information about age and gender were included in the questionnaire to measure learners' demographic attributes. In the study, chi-square (χ^2) independence test was done to examine whether age and gender are dependent on the level of satisfaction; because p values significance level is bigger than 0,05, it was seen that average satisfaction levels are independent from age and gender.

It can be seen that there are studies to determine which variables are influential in changing the satisfaction levels of the students in distance learning. While some of these studies show that students' satisfaction vary according to gender (Bower and Kamata 2000; Parlak 2004), there are studies that show that they do not differ (Price 1994; Karatas and Ustundag 2008; Hong 2002; Miltiadou 2000; Arbaugh 2000; Kaba et al. 2012). When the studies showing whether students' satisfaction varies according to age are examined, a similar case occurs. When it is examined whether they have any previous experiences in distance learning, Parlak (2004) says that having experience makes a difference in students' satisfaction but Miltiadou (2000) claims that experience does not make any difference. When it is looked at the body of literature, Sahin and Shelly (2008) say that computer experience can cause a

difference in the satisfaction levels of the students who attend courses via internet. When the relationship between achievement and satisfaction was examined, it was seen that there is no relationship between them (Karatat and Usundag 2008; Miltiadou 2000).

Based upon body of literature, it is aimed to examine the relationship between Online Students' Satisfaction Scale scores of nursing students who were enrolled in online program opened within the body of Nursing Complementary Undergraduate Program (HELITAM) in Distance Education Center at Ataturk University and their demographic attributes. In this research, it is aimed that finding answers to the following questions.

- 1) Do the "Online Satisfaction Scale scores of the nurses who participated in the study differ according to their
 - a) age
 - b) computer literacy level
 - c) internet access places
 - d) years of experience in web-based distance learning
 - e) mid-term grades
- 2) Is there a relationship between students' satisfaction scores in online learning and their mid-term grades?

METHOD

This study was planned and conducted according to relational survey method. Students' satisfaction scores in online distance learning differ in terms of age, internet accessibility, experience in distance learning, and computer literacy level was tested. Besides, whether there is a relationship between students' satisfaction levels in online teaching and their mid-term grades was examined.

Participants

An online questionnaire was conducted over 175 nurses who were enrolled in Nursing Complementary Undergraduate Program at Ataturk University that had a distance complementary undergraduate program in the education years 2010-2011. The questionnaire has two parts. The first part includes personal information and the second part has the Online Students' Satisfaction Scale. Personal information of the individu-

als in nursing complementary undergraduate program is given in Table 1.

Table 1: Demographic attributes of the students

<i>Variables</i>	<i>f</i>	<i>%</i>
<i>Gender</i>		
Male	7	4
Female	168	96
<i>Age</i>		
35 and below	73	41.71
35 and over	102	58.29
<i>Computer Literacy Level</i>		
Beginner	11	6.29
Intermediate	129	73.71
Advanced	35	20.00
<i>Internet Accessibility</i>		
Home	62	35.43
Workplace	23	13.14
Other	90	51.43
<i>Distance Learning Experience</i>		
Less than 1 year	40	22.86
1-2 years	124	70.86
More than 3 years	11	6.29
<i>Class Level</i>		
1. Class/Grade	6	3.43
2. Class/Grade	169	96.57
Total	175	100

4 % of the participants were males and 96 % were females. While it can be seen that the participants who were 35 years old and over (58.29 %) mostly constitute the study sample; the participants aged 35 and less (41.71 %) follow this group. When the participants' computer literacy levels were examined, it could be seen that the majority was intermediate users (73.71 %), 20 % of them were advanced users and only 6.29 % users were in the beginner level. 35.43 % of the participants had access to the internet from home, 13.14 % from workplace and 51.43 % of them had access to the internet from other places. When their years of experience in distance learning were considered, 70.86 % of the participants had 1-2 years of experience, 22.86 % had experience less than 1 year and 6.29 % of them had more than 3 years of experience. When it came to their class levels, it could be seen that 3.43 % of the participants were in the first class and 96.57 % were in the second class.

Instrument and Data Collection

The study was conducted as an online questionnaire form according to relational survey method over 175 students who were enrolled in

Nursing Complementary Undergraduate Program at Ataturk University that had a distance education complementary undergraduate program in the education years of 2010-2011. The questionnaire consisted of two parts. Students' personal information was in the first part and Online Students' Satisfaction Scale was in the second part. Personal information and the data of the study group were obtained via internet because nursing students who were enrolled in Nursing Complementary Undergraduate Program volunteered to complete the scale online.

The Students' Satisfaction Scale in Online Teaching

In this study, "Online Students' Satisfaction Scale" was used, developed by Cakir (2012). The measurement of reliability and the validity of the "Online Students' Satisfaction Scale" were carried out over 546 students who were enrolled in Computer Operation program in 2009, in which the courses were carried out by using online distance education method. During the development process of the scale, to begin with, 45 items were prepared by taking literature and expert opinions into consideration and this model scale was applied to the study group. Principal component analysis method was used to examine the validity structure of the scale. As a result of the analysis done, the scale, consisting 38 items and 3 factors (the Structure and the Process of the Program, Interaction with the Instructors and Interaction with Other Students) that explains 67.95 of total variance was developed. As validity evidence, internal consistency coefficient of the scale, which was calculated by using Cronbach Alpha, is 0.97. 7-Likert type gradation was used for the opinions about the items in the scale. This gradation was graded ranging from "I totally disagree (1)" to "I totally agree (7)".

Data Analysis

The findings, which were obtained through the responses students gave to general ques-

tions and to the "Online Students' Satisfaction Scale", included the findings regarding participant profile and these findings were analyzed by f and % statistics. Analyses were done through SPSS 17.0 program considering the total score of the "Online Students' Satisfaction Scale". In the analysis based on the age factor, t -test was used for the independent samples. When computer literacy levels, the state of internet accessibility, and years of experience in distance education were examined, because the findings did not show a normal distribution, Kruskal-Wallis H test for computer literacy level, internet accessibility and years of experience were used. When Kruskal-Wallis H test results showed significant differences, Mann-Whitney U test was done between each group separately to determine between which groups significant difference exists. The relationship between participants' scale scores and their mid-term grades was examined by Pearson product-moment correlation coefficient. In all the comparisons, error level of 0.5 was taken as a base.

RESULTS

Age Factor

The total scores were compared and contrasted according to the ages of the participants. Because there were few individuals in some age groups, these groups are joined and finally comparisons were done between 2 age groups as 35 years old and less and 35 and over.

Whether the findings show significant difference from normal distribution according to these two groups was examined using Skewness and Kurtosis values and normality test and it was seen that distribution did not show significant difference from normal distribution. Therefore, t -test for independent samples as a parametric test was used for the comparison of average of the scores between two independent groups. The results of the t -test were given in Table 2.

Table 2: t-test results of the scale scores according to age

Age	N	X	S	df	t	p
35 and below	73	152.62	43.75	173	-.961	.338
35 and over	102	158.47	36.64			

As it can be seen from the table, there is not a significant difference between average scores of the participants who are 35 years old and less and the average scores of the participants who are 35 years old and over ($t_{(173)} = -.961, p > .05$).

Computer Literacy Levels

Kruskal-Wallis, which is not a parametric test, was used to examine whether the scale scores show significant difference according to computer literacy levels. Because there were only 11 participants at the beginner level, Kruskal-Wallis H test was preferred instead of One-Way Analysis of Variance, which is a parametric test. The test results were given in Table 3.

According to the results of the analysis, it was seen that scale score averages do not show significant difference for computer literacy levels ($\chi^2_{(2)} = 3.32, p > .05$).

The State of Internet Accessibility

Because the scale scores do not show normal distribution for internet accessibility, Kruskal-Wallis H test was done to examine whether the scale scores show significant difference for internet accessibility. Analysis results were given in Table 4.

As it can be seen in Table 4, it was seen that scale score averages do not show significant difference for internet accessibility ($\chi^2_{(2)} = 3.61, p > .05$).

Years of Experience in Distance Education

Because the number of the participants who have 3-4 years experience and the ones who have 5 years and more experience is rather low, people in these two groups were put together and was examined as one group having 3 years and more experience to test whether scale scores vary according to participants' years of experience in distance education. Despite putting them in one group, because the number of the participants who have 3 years and more experience is only 11, the analysis of the difference was done using Kruskal-Wallis H test and test results were given in Table 5.

With reference to the analysis results, it is possible to say that scale score averages show significant difference for participants' internet accessibility ($\chi^2_{(2)} = 7.02, p < .05$). Mann-Whitney U test was done between each group separately to determine between which groups significant difference exists and it was found out that significant difference between averages only existed between the groups of less than 1 year experience and 1-2 years experience ($z = -2.59, p < .05$).

The Relationship between Mid-term Grades and Satisfaction

The relationship between scale scores and mid-term grades was examined by Pearson Product-Moment Correlation Coefficient; however, a

Table 3: Kruskal-Wallis H Test results of scale scores according to the level of computer literacy

<i>The level of computer literacy</i>	<i>N</i>	<i>Rank averages</i>	<i>df</i>	χ^2	<i>p</i>
Beginner	11	61.27	2	3.324	.190
Intermediate	129	89.30			
Advanced	35	91.60			

Table 4: Kruskal-Wallis Test results of scale scores for internet accessibility

<i>Internet accessibility</i>	<i>N</i>	<i>Rank averages</i>	<i>df</i>	χ^2	<i>p</i>
Home	62	78.85	2	3.610	0.164
Workplace	23	86.52			
Other	90	94.68			

Table 5: Kruskal-Wallis H Test results of scale scores for years of experience in distance education

<i>Years of experience in distance education</i>	<i>N</i>	<i>Rank averages</i>	<i>df</i>	χ^2	<i>p</i>
Less than 1 year	40	69.76	2	7.023*	0.030
1-2 years	124	92.69			
More than 3 years	11	101.45			

significant relationship between two variables could not be found ($r = -.031, p > .05$).

DISCUSSION

In this study, it is aimed to reveal whether satisfaction levels of university students show any difference for age, computer literacy levels, internet accessibility, and years of experience in distance education.

In accordance with this purpose, age variable was primarily examined. As a result of the analysis, there could not be found a significant difference between scale score averages of the participants who are 35 years old and less and the scale scores of the ones who are 35 years old and more. This finding is consistent with the findings of Price (1994), Miltiadou (2000), Hong (2002), Karatas and Ustundag (2008), Kaba et al. (2012). However, it shows difference with the findings of Bower and Kamata (2000) and Parlak (2004). It is thought that not having a difference for age variable is because the opportunity of graduate degree program was given by Nursing Complementary Undergraduate Degree Program. During the face-to-face, interviews, and independent from the age variable, nursing students who were enrolled in this program thought that they were lucky.

It was seen that average scale scores of the students did not show significant difference for computer literacy levels. This finding contradicts with the findings of Sahin and Shelley (2008). The group who has online courses does not need to have much experience about the computer literacy. They need to open and close the system to attend the course by using user name and password. They just need to be able to use a generated learning management system. Orientation training is given to use the system.

It was seen that average scale scores did not show significant difference for the other variable of the study, which is internet accessibility. When the variable of years of experience in distance education was examined, it was seen that average scale scores of the participants show significant difference for internet accessibility. It was discovered that significant difference between the averages existed only between the groups of less than 1 year and 1-2 years. This finding is consistent with the findings of Price (1994), and Hong (2002). However, it differs from the findings of Miltiadou (2000). Because the group having experience in distance education knows the learning management system and the e learning, their satisfaction levels are high.

When the relationship between scale scores and mid-term grades was examined, there could not be found a significant relationship between two variables. This finding is consistent with the findings of Karatas and Ustundag (2008) and Miltiadou (2000).

CONCLUSION

As a conclusion, while there is no significant difference for age, computer literacy levels and internet accessibility, a significant difference was found for years of experience in distance education. There could not be found a significant relationship between mid-term grades and satisfaction. When the students have more years of experience, they feel more satisfied with the distance education. In other words, the participant more satisfied in distance education programs as long as they learned lectures via distance education programs more.

RECOMMENDATIONS

In the future studies, why or why not demographic attributes affect students' satisfaction can be investigated in detail by doing qualitative research studies as well as quantitative research. Currently, there are not distance-learning programs for all university degrees. Since the studies can be carried out over opened online programs, findings might change along with the characteristics of the program.

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