



ISSN:1306-3111

e-Journal of New World Sciences Academy
2012, Volume: 7, Number: 2, Article Number: 1C0530

NWSA-EDUCATION SCIENCES

Received: January 2012

Accepted: April 2012

Series : 1C

ISSN : 1308-7274

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**ARE CANDIDATES SATISFIED ENOUGH WHILE USING ONLINE REGISTRATION TO
PRIVATE APTITUDE TESTS?**

ABSTRACT

This study aims to determine the usability level of the website of the Faculty of Education' Special Aptitude Test at Uludag University on the Internet environment respect with System Usability Scale (SUS). Another aim of this study was to examine attitudes of candidate towards the website of the Faculty of Education' Special Aptitude Test with respect to sex and the types of department that the participants join. In analyses, it is found that participant students have adequate computer literacy to use online registration web site. Most of them indicated that the online registration web site is more convenient in terms of time, cost, confidential and technical used compared to the normal registration. There is no significant difference between students' means SUS scores according to their gender ($t = -0.317, p > .05$). There are differences on SUS scores between candidates' different departments according to the multiple comparison results.

Keywords: Human Computer Interaction, Satisfaction,
System Usability Scale, Usability, Aptitude Test

**KATILIMCILAR ÖZEL YETENEK SINAVI BAŞVURU SİSTEMİNİ KULLANMAKTAN YETERİ
KADAR MEMNUNLAR MI?**

ÖZET

Bu çalışmada, Uludağ Üniversitesi Eğitim Fakültesi Özel Yetenek Sınavı web sitesinin kullanılabilirlik düzeyinin sistem kullanılabilirlik ölçeği ile belirlenmesi amaçlanmıştır. Bu çalışmanın diğer amacı, katılımcıların Eğitim Fakültesi Özel Yetenek Sınavı için hazırlanmış olan web sitesini incelerken tutumlarının cinsiyet ve başvurdukları bölüm değişkenlerine göre incelenmesidir. Analizlerin sonucunda, katılımcı öğrencilerin online kayıt web sitesinde kullanmak için yeterli bilgisayar okur-yazarlığı olduğu tespit edildi. Katılımcıların büyük bir kısmı online kayıt web sitesinin normal kayıtlara göre, güven, maliyet zaman açısından daha uygun olduğunu belirtmiştir. Katılımcıların sistem kullanılabilirlik ölçeği (SKÖ) puanlarına göre cinsiyetleri arasında fark yoktur ($t = -0.317, p > .05$). Çoklu karşılaştırma sonuçlarına göre katılımcıların SKÖ puanları arasında başvurdukları bölümler arasında farklılık vardır.

Anahtar Kelimeler: İnsan Bilgisayar Etkileşimi, Memnuniyet,
Sistem Kullanılabilirlik Ölçeği,
Kullanılabilirlik, Yetenek Testi

1. INTRODUCTION (GİRİŞ)

Turkey's first private aptitude test was applied in 1925 to take the student for the school for Music Teachers. [8]. Since 1982, the Higher Education Act began to be implemented, both Sport and Physical Education and Sports Sections of High Schools, have started to implement the different programs and different content of the test methods [4]. Each unit has developed its own examination system and take students according to the special ability criteria In addition, each determines his aptitude test and exam application date. In this case, if one would like to apply to more than one university, S/he needs to travel from one city to another. Sometimes, the application dates of some universities are overlapped. Form of examinations, application and evaluation of working conditions and juries are also important in this exam. Kavuran (2003) indicated that exam results were announced in late, this causes a problem of delay in the actual records. In order to solve these problems, a web page was intended to develop.

1.1. Usability (Kullanılabilirlik)

Various definitions of usability have been made. Nielsen (1994) defined usability as "ease of use, learnability, efficiency, decrease in the number of errors, recovery and user satisfaction." International Standardization Organization (ISO) is associated usability with the effectiveness, efficiency and satisfaction criteria. Effectiveness, the use of a system is determined by the degree of reaching the goal. Efficiency is a measure of resources which must be spent to achieve these goals. Satisfaction is the degree of the user's system in finding an acceptable [1].

2. RESEARCH SIGNIFICANCE (ÇALIŞMANIN ÖNEMİ)

In Turkey, it was the first web page to take applications to private aptitude test online and to analyze the results of scores gained from these tests. Since it was the first in this area, it needs to be improved to make better by asking satisfaction rate of users to find usability of the online application form.

When the research conducted to investigate the usability of online application forms about private aptitude test and when the problems existent in these applications to tests and usage in Turkey are considered, it is observed that there is a need to investigate how a online registration program should be designed for use in an online information system. This study aims to determine the usability level of the website of the Faculty of Education' Special Aptitude Test at Uludag University on the Internet environment respect with System Usability Scale (SUS). Another aim of this study was to examine attitudes of candidate towards the website of the Faculty of Education' Special Aptitude Test with respect to sex and the types of department that the participants join.

3. METHOD (YÖNTEM)

Methods of usability testing can be categorized into model/metrics based, inquiry, inspection and testing. In usability inquiry techniques, usability evaluators obtain information about users' experiences with system by interviewing them, observing them using the system, or having them respond to questions in questionnaires [9]. In this study users answered a questionnaire called System Usability Scale (SUS) [3] after they used the website of the Faculty of Education' Special Aptitude Test at Uludag University. The questionnaire is included demographic information. In addition to these,

degree of knowledge about computer and Internet use were asked to answer by using this questioner.

3.1. Study Sample (Katılımcılar)

The sample of the study was 315 candidate students who were graduated from high school. They had knowledge about using computer, internet, World Wide Web, e-mail. Most of them had a computer connected to internet in their homes. 131 (41,6%) of them participated to department of Physical Education and Sport, 130 (41,3%) of them participated to department of Art Education program and 53 (16,8%) of them participated to department of Music Education program as shown in Figure 1. Of the 315 students, 48,6% (153) were females, and 51,4% (162) were males.

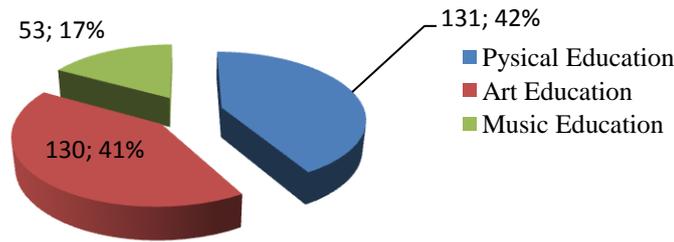


Figure 1. # of participants from departments
(Şekil 1. Bölümlere göre katılımcı sayıları)

3.2. Online Application Form (Online Kayıt Formu)

The web site for Special Aptitude Test was designed to collect information about Candidate. As well as demographic information, candidate's high school graduation grade, university entrance exam grades and some other grades were collected. These grades were required to calculate aptitude scores. The candidates had to register to the system by using their T.C id number and birthday date. They had to fill some forms about grades, address, phone number, bank bill number and they had to upload a portrait photograph. Finally, they should print application form.

3.3. System Usability Scale (SUS) (Sistem Kullanılabilirlik Ölçeği)

The System Usability Scale (SUS) is a simple, ten-item scale giving a global view of subjective assessments of usability (Appendix-A). SUS is a 5 point Likert scale ranging from "strongly agree" to "strongly disagree". 10 items were selected from 50 potential questionnaire items so that the common response to half of them was strong agreement, and to the other half, strong disagreement. SUS is a questionnaire whose questions all address different aspects of the user's reaction to the website as a whole [7]. To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1, 3, 5, 7, and 9 the score contribution is the scale position minus 1. For items 2, 4, 6, 8 and 10, the contribution is 5 minus the scale position. Multiply the sum of the scores by 2.5 to obtain the overall value of SUS. SUS scores have a range of 0 to 100. SUS has proved to be a valuable evaluation tool, being robust and reliable [3].

3.4. Data Analysis (Veri Analizi)

Students' satisfaction scores about using the web site for Special Aptitude Test were statistically analyzed according to gender,

the types of departments that candidates applied. Independent sample t-test and one way ANOVA was used to determine the difference.

4. FINDINGS (BULGULAR)

In analyses, it is found that 96% of the candidates use computer and approximately 50% of them uses computer for 1-3 hours, 37,5% of the candidates use computer approximately 1 hour as shown in Table 1, and 56% of them use internet almost for 1 hour, 39% use internet between 1 and 3 hours.. Also, in general they (42,5% of them) use computer to communicate with others at social networking services as shown in Table 2. In addition to that, most of them (31%) use computer to search something.

Table 1. Frequency and Percentage of candidates using computer and internet

(Tablo 1. Katılımcıların bilgisayar ve internet kullanım frekansları ve yüzdeleri)

Hours	Computer use		Internet use	
	f	%	f	%
<1	111	37,5	165	55,6
1-3	149	50,3	115	39,1
4-8	33	11,1	14	4,7
9-12	1	0,3	2	,7
>12	2	0,7		
Total	296	100,0	296	100,0

Table 2. Frequency and percentage for purpose to use computers
(Tablo 2. Bilgisayarı kullanma amaçları frekans ve yüzdesi)

Purpose to use computer		
	f	%
Social Network	125	42,5
Search	91	31,0
Game	4	1,4
Course	40	13,6
Others	34	11,6
Total	294	100,0

Table 3. Frequency and percentage for place to use online system
(Tablo 3. Sistemin kullanıldığı yerlerin frekans ve yüzdeleri)

Place to use online system		
	f	%
Home	211	70,3
Work	10	3,3
I	57	19,0
Uludag Univ	10	3,3
Others	12	4,0
Total	300	100,0

211 (70,3%) candidates connected to the online registration web site from their homes, 57 (19%) of them applied to special aptitude test by using online registration web site from café (Table 3). So, the study shows that participant students have adequate computer literacy to use online registration web site.

211 (70,3%) candidates had taken special aptitude test before taking aptitude test that Uludağ University applied. When the candidates who participated in special aptitude test before are asked to compare the normal registration procedure with the online registration web site, most of them indicated that the online

registration web site is more convenient in terms of time, cost, confidential and technical used.

In order to find out whether there was a significant difference between students' means SUS scores according to their gender; Independent sample t-test was used to compare their SUS scores. Data analysis revealed that there was no significant difference between students' means attitude scores according to their gender ($t = -0.317$, $p > .05$) as shown in Table 4.

Table 4. Independent sample t-test results of students' SUS scores according to their gender

(Tablo 4. Cinsiyete göre SKÖ puanlarının bağımsız örneklem t-testi sonuçları)

Gender	N	Mean	Std. Dev	t	Sig.
Female	162	63,12	18,275	-0,317	0,293
Male	153	63,75	16,792		

Second research question was "Is there a significant difference between students' SUS scores based the departments they they applied?" In order to answer this question one way ANOVA was used to compare their SUS scores according to the types of departments. It was also found that the types of high department applied is effective on SUS scores [$F(2, 311) = 10,666$; $p < 0.05$] as shown in Table 5.

Table 5. One way ANOVA results of students' SUS scores according to the types of department applied

(Tablo 5. Başvurulan bölümlere göre SKÖ puanlarının ANOVA sonuçları)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6117,918	2	3058,959	10,666	0.007
Within Groups	89197,496	311	286,9809		
Total	95315,414	313			

When Post-hoc tests were checked out, it was found that there are differences between candidates' of Music Education and Physical Education & Sport and between candidates' of Music Education and Art Education on SUS scores according to the multiple comparison results, while there are no any significant differences between Physical Education & Sport and. Art Education as shown in Table 6 based on Tukey B post-hoc tests.

Table 6. Multiple comparisons according to the types of departments applied

(Tablo 6. Başvurulan bölüm türlerine göre çoklu karşılaştırmalar)

	I) depart	J) depart	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	PED	Art	-,501	2,097	,969
		Music	-12,018*	2,757	,000
	Art	PED	,501	2,097	,969
		Music	-11,517*	2,760	,000
	Music	PED	12,018*	2,757	,000
		Art	11,517*	2,760	,000

* The mean difference is significant at the .05 level

5. DISCUSSION (SONUÇLAR)

In analyses, it is found that 96% of the candidates use computer and approximately 50% of them uses computer for 1-3 hours, and in general they use computer to communicate with others at social networking services. 211 (67%) candidates connected to the online registration web site from their homes. So, the study shows that participant students have adequate computer literacy to use online registration web site. Most of the participants had taken special aptitude test before taking aptitude test that Uludağ University applied. When the candidates who participated in special aptitude test before are asked to compare the normal registration procedure with the online registration web site, most of them indicated that the online registration web site is more convenient in terms of time, cost, confidential and technical used. Mean SUS scores of candidates is approximately 67. This finding supports the literature; Bailey (2006) stated that average satisfaction scores are usually between 65 and 70. Data analysis reveals that there is no significant difference between students' means SUS scores according to their gender ($t = -0.317$, $p > .05$). There are differences between candidates' of Music Education and Physical Education & Sport and between candidates' of Music Education and Art Education on SUS scores according to the multiple comparison results [$F(2, 311) = 10,666$; $p < 0.05$], while there are no any significant differences between Physical Education & Sport and Art Education.

It's also possible that the results could have been somewhat different if we had been able to collect data from more participants from other departments or using candidates who apply to special aptitude test to other universities different than Uludag University.

The insights gained in this small-scale study may help web developer to construct better online environments.

NOTICE (NOT)

In this study, 22-24 September 2011 in Elazig between the "(ICITS-2011) 5 International Computer and Instructional Technologies Symposium" presented as an oral presentation in.

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APPENDIX (EK)

Appendix-A: System Usability Scale

© Digital Equipment Corporation, 1986.

	Strongly Disagree				Strongly Agree
1. I think that I would like to use this system frequently	0	0	0	0	0
2. I found the system unnecessarily complex	0	0	0	0	0
3. I thought the system was easy to use	0	0	0	0	0
4. I think that I would need the support of a technical person to be able to use this system	0	0	0	0	0
5. I found the various functions in this system were well integrated	0	0	0	0	0
6. I thought there was too much inconsistency in this system	0	0	0	0	0
7. I would imagine that most people would learn to use this system very quickly	0	0	0	0	0
8. I found the system very cumbersome to use	0	0	0	0	0
9. I felt very confident using the system	0	0	0	0	0
10. I needed to learn a lot of things before I could get going with this system	0	0	0	0	0