

# The Role of Gender and Age on Students' Perceptions towards Online Education Case Study: Sakarya University, Vocational High School

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**Abstract**—The aim of this study is to find out and analyze the role of gender and age on the perceptions of students to the distant online program offered by Vocational High School in Sakarya University. The research is based on a questionnaire as a mean of data collection method to find out the role of age and gender on the student's perceptions toward online education, and the study progressed through finding relationships between the variables used in the data collection instrument. The findings of the analysis revealed that although the students registered to the online program by will, they preferred the traditional face-to-face education due to the difficulty of the nonverbal communication, their incompetence of using the technology required, and their belief in traditional face-to-face learning more than online education.

Regarding gender, the results showed that the female students have a better perception of the online education as opposed to the male students. Regarding age, the results showed that the older the students are the more is their preference towards attending face-to-face classes.

**Keywords**—Distance education, online education, internet education, student perceptions.

## I. INTRODUCTION

**D**ISTANCE education, as defined by the all educators in this field, is a process in which a distance exists between the person(s) who deliver the instruction and the person(s) of reception. It consists of distance teaching and distance learning. Due to time and other restrictions of life, distance education has become the most popular way for those who are getting their instructions and increasing their knowledge in their area of interest.

The new diverse technological devices have enabled people to share information and make teaching and learning processes possible with no time and distance limitations especially for those adults who cannot continue their traditional education in classrooms face-to-face with their instructors. Distance education, therefore, is now offered either totally or partially at a distance, nearly in all areas of

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education or skill development programs by almost all universities all over the world. Thanks to distance education it is possible for people to access to specific instruction that they would never otherwise receive. Different Universities use different methods to deliver instructions to distant students, and the most popular way of delivering the instruction nowadays is by the global interconnected network which is known as the Internet.

## II. BACKGROUND OF THE STUDY

With the evolution of the Internet, especially email and the World Wide Web (WWW), it became possible to electronically deliver education to distances while achieving a good degree of interaction within the limits of the technology to create a cost-effective teaching and learning process [1].

This study focuses on distance education via email and the World Wide Web as the method of delivering instruction through on-line diploma programs offered by Sakarya University in Turkey [2].

## III. CONTEXT OF THE STUDY

As mentioned in Sakarya University's distance education website, Adapazarı Vocational High School, operating under the auspices of the Sakarya University, rightfully boasts for a reputation of being the first institution offering courses on the internet. The programs offered are Computer Programming and Information Technology, Information Management, Business, Industrial Electronics and Mechatronics.

## IV. THE PURPOSE OF THE STUDY

The purpose of the present study is to analyze the existing relationships between students' perceptions of online distant education and gender and age.

The web-based instruction in distance education can be made efficient enough if the site is developed and designed in such a way as to maximize the course requirements, satisfy student needs, and make the communication process more interactive. These factors are very important if we want to overcome the communication barriers which are the result of an asynchronous text-based method of instruction, such as

students' frustrations, isolation and feelings of belonging, and the fear of using the technology [3].

Interactivity in an online program is directly related with the amount of contact the student has with the instructor, with his peers, and with the course material [4]. This interactivity and the roles of the students and instructors, changing from the traditional instructor-centered to learner-centered process, encourage the students to seek for answers and build their own knowledge from their own experiences.

#### V. RESEARCH QUESTIONS

The online programs offered by the Sakarya University will form the basis of this case study in this research, in which the perceptions and attitudes of the students to online distance education will be analyzed with respect to their age and gender. Students enrolled in these programs have varying skill levels related with the technology and the distance education environment. The analysis will progress through the perceptions of students towards distance education in a web-based system and seek answers to whether there are relationships between students' age and sex and their perceptions regarding distance education?

The above problem will be analyzed in detail based on the analysis of the relationships between students' perceptions to online education and the independent variable questions asked in the questionnaire.

#### VI. RESEARCH METHODOLOGY

The research methodology of this study will use the quantitative statistical methods and techniques such as significance differences, correlation and the cross-tabulation distribution to find out if there is a significant relationship between the independent and the dependent variable questions, measuring the role of age and gender of students towards their perceptions regarding distant education

#### VII. RESEARCH DESIGN

This case study will provide an analysis of the data collected regarding the role of gender and age of the students' perceptions in the web-based online courses and the online programs offered by Sakarya University. "The case study is the basic building block of the research design. In a case study, a variable or a set of variables is measured in one group (or individual) at one point in time." [5]. The quantitative data will be collected via survey questionnaire and be analyzed via quantitative statistical methods.

#### VIII. POPULATION

The population consists of all elements or figures which are under study. The population of this research study is all the students enrolled in the distance education programs and the online courses in the fall term of the 2005/2006 Academic Year.

#### IX. DATA COLLECTION INSTRUMENT

A questionnaire was prepared and posted on the internet to be filled by the population in concern, which comprises 2556 students enrolled in the online courses and distant programs offered by the Sakarya University. The numbers of respondents was 118 students all of who have successfully filled and submitted the questionnaire.

#### X. DATA ANALYSIS

The online questionnaire was divided into two main parts. Part I: Personal information regarding age and gender (Independent variable). Part II: questions related with students' perceptions towards online education (Dependent variables). The questionnaire aims at finding whether there are significant differences and relationships between the two independent variables and the 20 dependent variable questions listed in the table below, and to find and analyze the student perceptions towards the online courses and the distant education programs offered.

The existence of relationships between the variables was analyzed using the correlation statistical method taking into consideration the two-tailed significance with error-level ( $\alpha=0.05$ ) and the data analysis's results are given in the following table; (r) represents the correlation coefficient and (s) represents the significance. (Bolded figures show the existence of significant correlation).

TABLE I  
SIGNIFICANCE OF THE INDEPENDENT VARIABLES

Q	Dependent Variables		Independent Variables			
			Significance at the 0.05 level (2-tailed)			
			(1)	(2)	(3)	(4)
1	I find online education mechanical due to its dependency on technology.	r	<b>-.242</b>	<b>-.314</b>	<b>-.230</b>	-
		s	.008	.001	.012	.640
2	I prefer attending face-to-face classes.	r	<b>-.185</b>	<b>-.293</b>	-.086	.071
		s	.045	.001	.355	.448
3	I have concerns regarding the adequacy of the teachers in online education.	r	-.020	<b>-.249</b>	-.119	.100
		s	.828	.006	.200	.279
4	I have concerns regarding the adequacy of the online education given.	r	.013	-.157	-.107	.036
		s	.888	.090	.249	.702
5	I am not happy about the punctuality of the information received in online courses.	r	.110	<b>-.219</b>	-.021	.065
		s	.235	.017	.823	.481
6	There is no adequate communication between students in online education.	r	-.011	-.086	-.091	.012
		s	.903	.353	.328	.898
7	I fear that I may be isolated from other students in online education.	r	.004	-.118	.013	.087
		s	.966	.203	.887	.350
8	I have difficulty regarding nonverbal communication and collaboration in online education.	r	.094	<b>-.225</b>	.062	.007
		s	.309	.014	.503	.938
9	I do not possess the academic confrontation	r	.004	-.123	-.039	.012
		s	.970	.184	.675	.893

	needed.					
10	I do not posses the communication competence needed in online education.	r	-.065	-.178	-.042	.036
		s	.483	.054	.655	.696
11	I face no difficulty in dealing with the easy tasks but encounter difficulties in the challenging ones.	r	-.035	<b>-.288</b>	-.108	.037
		s	.705	.002	.245	.692
12	I have concerns regarding the responsibilities I should take in online courses.	r	-.143	<b>-.328</b>	-.170	.017
		s	.123	.000	.065	.859
13	I am incompetent in using the computer	r	-.097	<b>-.187</b>	-.034	-
		s	.294	.042	.714	.095
14	Online education does not motivate me so I do not learn well.	r	-.170	<b>-.305</b>	-.150	.049
		s	.065	.001	.104	.600
15	I think in online education more time is needed.	r	-.099	<b>-.202</b>	.004	-
		s	.287	.028	.967	.001
16	I do not have confidence on the reliability of the materials and the knowledge attained in online courses.	r	-.137	<b>-.242</b>	-.080	.011
		s	.138	.008	.387	.905
17	I may be interrupted at home or at work while taking online education.	r	-.016	-.093	.122	.114
		s	.862	.315	.187	.219
18	I don't get support from my family, friends and bosses regarding online education.	r	.131	-.069	.145	.057
		s	.158	.458	.118	.542
19	I am worried that the online education may interfere with my personal life.	r	.067	-.158	.031	-
		s	.473	.088	.739	.043
20	I believe that the individual differences are not taken into consideration in online education.	r	-.033	-.149	.006	-
		s	.722	.107	.952	.104

## XI. RESULTS OF THE ANALYSIS

Considering the significance and the correlation data analysis, a cross-tabulation analysis between the independent and dependent variables for those who have significance value indicating the existence of a meaningful relationship between them, were considered to analyze and interpret the results regarding the aim of this study research.

Regarding gender, the analysis showed that there is an inverse correlation between gender and the first two questions with a significance of (0.008 and 0.045) and a correlation coefficients of (-0.242 and -0.185). According to the cross tabulation of the data between the gender and the first question, where 35% of the students were female and 65% were male, 65% of the students (54% of female, 71% of male) regarded online education as mechanical due its dependence on technology and almost 44% of the students (31% female, 51% male) preferred taking face-to-face education rather than online education.

Age and questions (1, 2, 3, 5, 8, 11, 12, 13, 14, 15, 16) of the analysis showed that there is an inverse correlation between age and these questions with a significance of (0.001,

0.001, 0.006, 0.017, 0.014, 0.002, 0.000, 0.042, 0.001, 0.028, 0.008) and a correlation coefficients of (-0.314, -0.293, -0.249, -0.219, -0.225, -0.288, -0.328, -0.187, -0.305, -0.202, -0.242) respectively. According to the cross tabulation of the data between age and these questions, where 4% of them were at the age younger than 18, 64% within the age range of 18 to 25 and 32% were above 25 years old, almost 71% of the students perceived online education as mechanical due its dependence on technology, and nearly 48% of the students preferred face-to-face education rather than online one, and almost 83% of the students have concerns about the sufficiency and competence of the online instructors, 76% of the students were not happy about the punctuality of the information received, 60% of the them said that they face difficulty regarding nonverbal communication and collaboration, 71% have difficulties dealing with challenging or hard tasks, 69% have concerns in taking responsibilities in online courses, 75% answered that they are incompetent in using computers, 55% said that online education does not motivate them so they do not learn well, 50% think that more time is needed in online education, 84% does not have confidence in the reliability of the materials and the knowledge attained in online courses.

Regarding department, the analysis showed that there is an inverse correlation between department and the first question with a significance of (0.012) and a correlation coefficients of (-0.230). According to the cross tabulation of the data between the department and the first question, where 20% of the students were in Computer Programming and Information Technology, 19% was in Information Management, 18% in Business, 19% in Industrial Electronics and 24% in Mechatronics, 65% of the students ( 58% of Computer Programming and Information Technology, 59% of Information Management, 43% of Business, 87% of Industrial Electronics, 75% of Mechatronics) found that online education is mechanical due its dependence on technology.

Gender and age variables played an important role in this analysis, and the cross tabulation data showed that 4% of the students (2% female, 5% male) were at the age younger than 18, 64% (86% female, 52% male) within the age range of 18 to 25 and 32% (12% female, 43% male) was above 25 years old.

## XII. CONCLUSION

For the majority of the students, the online education was found to be mechanical and most preferred taking traditional face-to-face education. They also had concerns regarding the reliability of the materials used on the net and the adequacy or competence of the teachers who deliver the instruction, and they also faced shortness of time and experienced difficulty in nonverbal communication. The analysis, none the less, showed that, the percentage of male students perceiving online education as these is higher than the female students, and this percentage increases among the male and female students who are above thirty years old.

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