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THE ATTITUDES OF THE STUDENTS STUDYING IN THE FIELD OF HEALTH SCIENCES ON THE USE OF TECHNOLOGY IN EDUCATION

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Abstract

Introduction: The complexity of educational content, the increase in the number of students, the lack of academics and individual differences have led to the use of technology in education more frequently. Through the use of technology in education, a higher quality education has started to be provided and the working quality of the potential labor force group has also increased.

Aim: The study aims to determine the attitudes of the students, studying in the field of health sciences, towards the use of technology in education and to determine and develop the most effective education method by the students.

Method: The study, which was planned in descriptive research type, was carried out with 208 students studying and volunteering in Beykent University, School of Health Sciences between December and January 2019. The data were collected meticulously by determining the most appropriate time for each student with the questionnaire developed by the researchers upon reviewing the relevant literature. Before the questionnaire, the purpose of the study was explained to the students and they were asked to complete the questionnaire fully and carefully. By utilizing the IBM SPSS Statistics 22 program, data were analyzed using descriptive and inferential statistical techniques.

Results: Of the students included in the study, 108 (51.9%) stated that they frequently used technology while they were studying, and 110 (52.9%) stated that they wanted the courses to be computer-aided, and 154 (74.0%) of the students think that the use of technology facilitates learning, and 156 (75.0%) think that the quality of education can be improved by using technology in education. 88.5% of the students think that the use of technology in education is helpful and 28.8% find it interesting. Depending on their department, according to the students' opinion about the use of technology, there was a statistically significant difference ($p < 0.05$). It was stated that 24 (57.1%) of the students studying health care management frequently used technology, and 36 (57.1%) of the students studying nursing used it partially.

Conclusion: The majority of the students participating in the study think that the use of technology in education makes learning easier and the quality of education can be improved through technology. Since we live in the age of technology, it is recommended to increase the use of technology in educational curricula.

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Keywords:

Technology, education, university student, health education

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Introduction

Advances in technology lead us to restructuring by giving new qualities to the world we live in. This situation reflects to all areas of social life, with a speed that requires monitoring change. In line with the rapidly changing world order, societies are expected to keep up with change at the same rate. (Bahçekapılı, 2011). While the society is trying to keep up with the changes with social, economic and human institutions, the education system is one of the areas that should renew itself. The abundance of the beneficiaries of educational services, as well as the rapid increase in information, has left educators in a position to offer more information to more students in less time. Therefore, in order to make education systems more efficient, continually questioning and examination of the ways of modernization come to the agenda, and it is necessary to develop new educational techniques and methods (Akolaş, 2009; Saban, 2007). As a matter of fact, growing up in a world intertwined with technology affects and changes the learning styles of today's youth. These young people call themselves digital natives, stating that they grow up in a world intertwined with technology. Rather than learning through traditional presentation, students now need an environment in which there are many stimuli in the learning environment and can play an active role in the learning process (Prensky, 2008). Thus, in order to support the learning needs and styles of the students, renewal of the elements of the education system in line with today's conditions comes to the agenda. In this process, technology is seen as an appropriate tool that can be used to meet the needs of students in educational environments. When examined, it is seen that technology has been used in educational environments to solve practical problems encountered in learning. This approach, called educational technology, is the application of technological processes and tools that can be used to solve the problems of teaching and learning fields (Kısa and Kaya, 2006;Zayim et all. 2006 Newby et all, 2006). In this sense, technology acts as a bridge between educational scientists and students and teachers who face practical learning difficulties. As a result, educational technology refers to the principles, processes and products used to improve the learning of teachers and students (Newby et all, 2006). Roblyer (2006) summarizes the need for using technology in education in four titles. These are; motivation, enriched learning methods, efficiency and the necessity of the information age. For these reasons, it is expected that learning environments will be integrated with technology in order to help ensure higher learning. In the light of this information; the aim of the study was to evaluate the attitudes and thoughts of students studying in the field of health sciences regarding the use of technology in education.

METHOD

The Aim and Type of the Study

This study was conducted as a descriptive study in order to evaluate the opinions of students studying in the health sciences of a foundation university in Istanbul on the use of technology in education. In addition, it is aimed to determine the frequency of technology use in education and to reveal the students' opinions about the most effective education method.

Research Questions

- Are educational technologies utilized in health education?

- Are the students satisfied with the use of technology in education?
- What are the most effective educational technologies used in health education?

Population of the Research and Sample Selection

The population of the study consisted of students studying in the field of health sciences in the 2018-2019 academic year of a foundation university in Istanbul. In this study, no sample selection was made and it was aimed to reach all students studying in the field of health sciences. As a result, 208 volunteer students were the sample of the study.

Data Collection Tools

The data was collected meticulously by the researchers using the "Structured Student Form'' which was developed by investigating the relevant literature and by determining the best time for each student. Before applying the questionnaire, the students were informed about the purpose of the study, informed consent was obtained and they were asked to answer the questionnaire completely and carefully.

Structured Student Form

The questionnaire prepared in accordance with the literature consists of two parts. The first part of the questionnaire contains questions about the sociodemographic characteristics of students such as age, gender, and so on; and the second part contains questions about the place of technology in their education such as the most frequently used technological tools of the students, the extent to which they have benefited from the technology while studying or doing research, the most commonly used tools in their education, the method by which they can learn the courses they have taken.

Evaluation of Data

The data obtained from the study were analyzed by using SPSS (Statistical Package for Social Sciences) for Windows 22.0. Number and percentage were used as descriptive statistical methods in the evaluation of the data. Chi-square analysis was used to compare the grouped variables.

Ethical Aspects of Research

The required institution permission and the ethics committee permissions (from T.R. Ministry of Health, University of Health Sciences, Istanbul Education Research Hospital, Clinical Research Ethics Committee, with the decision no. 1594 dated 21.12.2018) were obtained for conducting the study. The undergraduate program students were informed about the purpose and expectations of the study in accordance with the Helsinki Declaration and their written consent was obtained.

Limitations of Research

The study only includes students studying at a foundation university in Istanbul. For the results of the research to have a widespread effect, it is necessary to work with a larger sample group.

RESULTS

102 (49%) of the students who participated in our study were between the ages of 20-21, 165 (79.3%) were women, 63 (30.3%) were enrolled in the nursing department and 125 (60%) were living with their families. (Table 1).

Table 1: Sociodemographic Characteristics of Students (N:208)

Properties	Groups	Frequency(n)	Percentage (%)
Age	18-19	81	38,9
	20-21	102	49,0
	22-23	20	9,6
	24 and older	5	2,4
Gender	Male	43	20,7
	Female	165	79,3
Department	Nursing	63	30,3
	Healthcare Management	42	20,2
	Physiotherapy and Rehabilitation	50	24,0
	Nutrition And Dietetics	53	25,5
Stay in/with	in Dormitory	35	16,8
	with Flatmate	42	20,2
	with Family	125	60,1
	in Public Housing	2	1,0
	Others	4	1,9
	Total	208	100,0

When the participants' opinions about technology were evaluated; 205 (98.6%) of the participants stated that the most used technological device is telephone, 66 (32%) of them stated that they have computers, 108 (51.9%) of them stated that they use technology frequently while studying, 184 (88.5%) of them stated that the use of technology in education is beneficial, 152 (73.1%) of them stated that computer is the most used technological device in educational activities, 110 (52.9%) of them stated that they partially support computer aided courses (Table 2).

182 (87.5%) of the students who participated in the study stated that the most comfortable learning style was visual expression, 178 (85.6%) of them said that simulation technology should be used in health education, 170 (81.7%) of them said that simulation technology improves the quality of education, however; 134 (64.4%) of them stated that they did not receive course with simulation (Table 2).

156 (75.0%) of the students think that the use of technology in education increases the quality and permanence of education and 154 (74.0%) of them think that the use of technology makes learning easier (Table 2).

Table 2: Distribution of Attitudes Towards Technology Use in Education (N:208)

	Groups	Frequency(n)	Percentage (%)
Most commonly used technological tools	Telephone	205	98,6
	Computer	66	31,7
	Television	20	9,6
	Tablet Pc	18	8,7
	Others	1	0,5
Frequency of Using Technology While Studying	Very Often	64	30,8
	Often	108	51,9
	Partly	29	13,9
	a Bit	6	2,9
	Never	1	0,5
Computer Aided Courses	Yes	74	35,6
	Partly	110	52,9
	No	24	11,5
Tools used in educational activities	Projection	186	89,4
	Video	83	39,9
	Film Documentary	21	10,1
	Computer	152	73,1
	Simulation Laboratories	18	8,7
	Model Laboratories	128	61,5
	Others	19	9,1
The most comfortable way to learn the lessons learned for education	Verbal Lecture	93	44,7
	Visual Expression	182	87,5
	Auditory Expression	86	41,3
	Tactile Expression	78	37,5
	Others	1	0,5
Using Simulation in Education	Yes	24	11,5
	Partly	50	24,0
	No	134	64,4
Using Simulation in Health Education	Usable	178	85,6
	Partly Usable	28	13,5
	I Don't Know What Simulation Is.	2	1,0
Simulation Improves Students' Quality in Education	Yes	170	81,7
	Partly	36	17,3
	No	2	1,0
Opinion about Using of Technology in Education	Useful	184	88,5
	Complex	16	7,7
	Interesting	60	28,8
	Difficult	2	1,0
	Unnecessary	1	0,5
	Others	1	0,5
Does the use of technology improve the quality and effectiveness of education?	Yes	156	75,0
	Partly	49	23,6
	No	3	1,4
Does the use of technology make learning easier?	Yes	154	74,0
	Partly	53	25,5
	No	1	0,5

When the technology usage is compared according to the departments of the participants, there was a significant relationship between computer aided courses and students' department. ($p<0.005$) 24 (57%) of healthcare management students stated that the courses should be computer-aided. 60 (95%) of nursing students believe that

simulation should be used in health education and 33 (79%) of healthcare management students argue that learning is facilitated by using technology in education (Table 3).

There was no significant relationship between the frequency of using technology while studying and using simulation technology in education. (X^2=9,839; p=0,630>0.05). (Table 3).

Table 3. Distribution of Attitudes Towards the Use of Technology by Department (N:208)

		Nursing		Healthcare Management		Physiotherapy and Rehabilitation		Nutrition And Dietetics		p
		n	%	n	%	n	%	n	%	
Frequency of Using Technology While Studying	Very Often	16	%25,4	16	%38,1	14	%28,0	18	%34,0	X^2=9,839 p=0,630
	Often	31	%49,2	22	%52,4	28	%56,0	27	%50,9	
	Partly	14	%22,2	3	%7,1	6	%12,0	6	%11,3	
	a Bit	1	%1,6	1	%2,4	2	%4,0	2	%3,8	
	Never	1	%1,6	0	%0,0	0	%0,0	0	%0,0	
Computer Aided Courses	Yes	19	%30,2	24	%57,1	19	%38,0	12	%22,6	X^2=14,144 p=0,028
	Partly	36	%57,1	15	%35,7	24	%48,0	35	%66,0	
	No	8	%12,7	3	%7,1	7	%14,0	6	%11,3	
Using Simulation in Education	Yes	6	%9,5	4	%9,5	10	%20,0	4	%7,5	X^2=9,640 p=0,141
	Partly	17	%27,0	6	%14,3	15	%30,0	12	%22,6	
	No	40	%63,5	32	%76,2	25	%50,0	37	%69,8	
Using Simulation in Health Education	Usable	60	%95,2	33	%78,6	45	%90,0	40	%75,5	X^2=13,665 p=0,034
	Partly Usable	3	%4,8	9	%21,4	4	%8,0	12	%22,6	
	I Don't Know What Simulation Is.	0	%0,0	0	%0,0	1	%2,0	1	%1,9	
Simulation Improves Students' Quality in Education	Yes	58	%92,1	34	%81,0	38	%76,0	40	%75,5	X^2=14,577 p=0,024
	Partly	3	%4,8	8	%19,0	12	%24,0	13	%24,5	
	No	2	%3,2	0	%0,0	0	%0,0	0	%0,0	
Use of Technology to Improve Education Quality	Yes	51	%81,0	35	%83,3	35	%70,0	35	%66,0	X^2=6,108 p=0,411
	Partly	11	%17,5	7	%16,7	14	%28,0	17	%32,1	
	No	1	%1,6	0	%0,0	1	%2,0	1	%1,9	
Using Technology to Facilitate Learning	Yes	50	%79,4	33	%78,6	34	%68,0	37	%69,8	X^2=5,623 p=0,467
	Partly	12	%19,0	9	%21,4	16	%32,0	16	%30,2	
	No	1	%1,6	0	%0,0	0	%0,0	0	%0,0	

No significant relationship was found between students' use of technology and gender (X^2=1,315; p=0,859>0.05). 52 (31.5%) of the female students used the technology very frequently while studying, 23 (37%) of the male

students stated that the courses should be partially computer supported, 136 (82%) of the women stated that using simulation in education will improve the quality of education, 33 (77%) of the male students support the use of technology to increase learning. It was found that 65.5% of female students did not use simulation applications in their education (Table 4)

Table 4. Comparison of Technology Use with Gender (N:208)

		Male		Female		p
		n	%	n	%	
Frequency of Using Technology While Studying	Very Often	12	%27,9	52	%31,5	X^2=1,315 p=0,859
	Often	22	%51,2	86	%52,1	
	Partly	8	%18,6	21	%12,7	
	a Bit	1	%2,3	5	%3,0	
	Never	0	%0,0	1	%0,6	
Computer Aided Courses	Yes	16	%37,2	58	%35,2	X^2=0,279 p=0,870
	Partly	23	%53,5	87	%52,7	
	No	4	%9,3	20	%12,1	
Using Simulation in Education	Yes	7	%16,3	17	%10,3	X^2=1,201 p=0,548
	Partly	10	%23,3	40	%24,2	
	No	26	%60,5	108	%65,5	
Using Simulation in Health Education	Usable	36	%83,7	142	%86,1	X^2=0,863 p=0,650
	Partly Usable	7	%16,3	21	%12,7	
	I Don't Know What Simulation Is.	0	%0,0	2	%1,2	
Simulation Improves Students' Quality in Education	Yes	34	%79,1	136	%82,4	X^2=0,979 p=0,613
	Partly	9	%20,9	27	%16,4	
	No	0	%0,0	2	%1,2	
Use of Technology to Improve Education Quality	Yes	32	%74,4	124	%75,2	X^2=0,298 p=0,862
	Partly	10	%23,3	39	%23,6	
	No	1	%2,3	2	%1,2	
Using Technology to Facilitate Learning	Yes	33	%76,7	121	%73,3	X^2=4,331 p=0,115
	Partly	9	%20,9	44	%26,7	
	No	1	%2,3	0	%0,0	

DISCUSSION

Since health education is a comprehensive field that requires the acquisition of cognitive, psychomotor and affective behaviors, it is important to use innovative applications in education (Melnyk, 2011); (Terzioğlu, 2012) These applications increase the attention of the students, save the education from the monotony and ensure the permanence of the teaching by ensuring the active participation of the student (Şendir and Doğan 2015). Because today is the age of technology, the use and development of new learning tools has increased in every stage of the nursing education process (Edeer et all 2015); (Göriş et all 2014). These developments in technology and education, have bring along the coexistence of these two areas and they have given the opportunity to use educational technologies, which are widely used to increase technical and non-technical skills in nursing education. The majority of the students who participated in our study reported that the most frequently used technological device is the telephone and 66 (32%) of them stated that they have computers. Studies indicated that the most common technological devices used by university students are telephone and computer. (Koç, 2006); (McCoy et all 2001), in his study with nursing students, stated that 26.6% of the students have computers, 76.6% of them stated that they need to used the computer and 85.9% of them use computers. McCoy et all. (2001) found that 73% of the students like the computer.

With the developing technology, higher education institutions started to renew their curricula. In this context, the use of technology in education has become widespread in order to meet the learning needs of the Z generation, which is called the digital generation.

When the participants' opinions about technology were evaluated; 108 (51.9%) of the students stated that they frequently use technology while studying, 184 (88.5%) of them stated that the use of technology in education is beneficial, 152 (73.1%) and 110 (52.9%)of them stated that they partially supported computer supported courses.With the studies, it is revealed that the new generation students are technology-friendly and want to use the technology in education as in all fields (Akcan et all., 2007; Fidancıoğu et all 2009; Yavuz and Coşkun 2008). Mutlu (2012) stated that technology-based education has a positive effect on students' motivation, attitude and achievement in thesis, Yavuz and Coşkun (2008) found that students 'use of technological tools in teaching affected students' attitudes positively and as a result of the interviews, it was determined that the students had positive ideas about the use of technology.

At every stage of the innovative education processes, educational methods and materials with different technological infrastructure are used. The most commonly used technological methods in education are web based education, distance education and simulation. The complex structure of the health system, the lack of existing academics, the inadequacy of clinical internships and the complexity of theoretical education make health education difficult. However, despite all these problems, the use of simulation and other technologically supported education have an important place in health education. (Sarı, 2017). 182 (87.5%) of the students who participated in the study stated that the most comfortable learning style was visual expression, 178 (85.6%) of them stated that simulation technology should be used in health education, 170 (81.7%) of them think that simulation technology improves the quality of education. Baptista et all. (2016), in a study conducted with nursing students, found that students who participated

in medium and high reality simulation applications had higher educational satisfaction and decision-making skills. In Cobbett and Snelgrove-Clarke (2016) studies, it was found that anxiety levels of students studying with simulation were lower. In Fawaz et all. (2016) studies, statistical motivation and clinical decision-making rates differed among students who received high-grade simulation and traditional classroom education.

156 (75.0%) of the students who participated in our study think that using technology in education increases quality and permanence in education and 154 (74.0%) of them think that the use of technology facilitates learning. Studies have shown that the integration of education with technology will be beneficial for both educators and students (Broussard, 2009; Fidancıoğlu, 2009; Tuzer, 2016). The majority of the students who participated in the Fidancıoğlu and Beydağı (2009) study stated that the use of computers and the internet is necessary for their professional development.

CONCLUSION

The rapid development of communication and information technologies has led to the formation of information societies and it has created a wide range of information and service opportunities. With the development of technology, computers have become an inevitable element in human life and their use in educational environments has become a necessity. The complex structure of computers has brought together more features than other educational technologies used in educational environments. Because of these features, there are many benefits of using computers in educational environments. According to the results obtained from the literature, it has been observed that the quality of education has increased with the use of technology in health education. It is thought that general satisfaction and knowledge levels will increase with increasing technology-based education, and anxiety levels will decrease in clinic and practice. It is recommended that the study be conducted with students who study in different fields and with more samples.

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