Evaluation Of The Responsibilities Of The Students To Use Technological Devices

Öğrencilerin Teknolojik Araç Gereç Kullanma Sorumluluklarının Değerlendirilmesi

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ABSTRACT

Within the scope of the research, behaviour and attitudes of the participants towards the responsibility of using technological equipment in social sciences courses were analyzed. Considering the studies found upon a literature review regarding the responsibilities of primary school students towards technological tools and devices, no other study handling the issue with this approach has been found. Participants were composed of 3rd grade students in 4 primary schools in Isparta. The answers given by the participants were expressed as frequency (f), percentage (%), arithmetic mean (x), standard deviation (SD) and t-test. As a result of the research, it is concluded that female students perform more sensitive and positive behaviors on the responsibility of using technological devices whereas male students are more insensitive to this responsibility. To conclude all evaluations, it is observed that the majority of the participants had a positive approach towards the responsibility of using technological equipment.

Keywords: Primary school students, Responsibility, Social sciences course, Technology

ÖZET

Araştırma kapsamında, Isparta il merkezinde bulunan 4 ilköğretim okulundaki 3. Sınıf öğrencilerinden oluşan çalışma gruplarının hayat bilgisi dersinde teknolojik araç gereç kullanma sorumluluğuna karşı davranışları, tutumları incelenmiştir. Yöneltilen sorulara öğrenciler, teknolojik araç gereç kullanım durumlarına göre cevap olarak 'her zaman', 'hiçbir zaman', 'bazen' seçeneklerinden kendilerine uygun olanı seçmişlerdir. Cinsiyetlere göre sonuçlar karşılaştırılmıştır. Araştırma sonunda yapılan analizler ile çalışma grubunda bulunan öğrencilerin verdikleri cevaplar frekans (f), yüzde (%), aritmetik ortalama (x), standart sapma (SS) ve t- testi olarak ifade edilmiştir. Araştırma sonucunda kız öğrencilerin teknolojik araç gereç sorumlulukları konusunda daha hassas ve olumlu davranışlar gerçekleştirdikleri, erkek öğrencilerin ise kız öğrencilere oranla daha duyarsız oldukları sonucuna varılmıştır. Genel olarak değerlendirildiğinde ise çalışma grubunda bulunan öğrencilerin büyük çoğunluğunun teknolojik araç gereç kullanma sorumluluklarının olumlu olduğu belirlenmiştir.

Anahtar Kelimeler: İlköğretim Öğrencileri, Sorumluluk, Hayat Bilgisi,Teknoloji

1.INTRODUCTION

Education; is the most important step for economic and cultural relations; and for the development and welfare of a country. Through education, personalities and cognitive structures of next generations are formed. Today, the first planned educational program is carried out in the schools of Ministry of National Education and starts within primary school years. In the educational process of primary school, individuals improve mentally, emotionally and physically. This process can be stated as the most important formal education step which contributes to these developments (Kalaycı, 2005). Today, learning and teaching processes are carried out by technological devices, unlike the traditional methods of educational system. By integrating technology into education system, a meaningful learning environment is tried to be created. With the developing technology; technological advances affect education, and education affects the whole society (Alkan, 2005).

The reasons for using technology in education can be stated as following (Yürütücü, 2002):

- ✓ To increase access to education,
- ✓ To improve the quality of education,
- ✓ To control the cost of education,

✓ To respond to necessity of technological improvements,
✓ To provide the students with the skills they will need in their business and private lives, through technology.

The concept of educational technology can be defined as the body of knowledge resulting from the application of the science of teaching and learning to the real world through classroom. All methods and tools developed during this process have the purpose of assisting these applications (Dieuzeide, 1971). When reasons and purposes of the use of educational technologies are taken into consideration, it is once again realized that educational technologies should be used effectively at every level and step of education.

Especially for the students at primary level, these technological applications gain more importance in terms of readiness and cognitive level.

We can identify the aims of educational technologies as following (Yaylacı & Yaylacı, 1999):

✓ To deliver educational services to wider groups of people
✓ To make the educational and instructional process more efficient
✓ To individualize teaching and learning activities
✓ To make educational needs and opportunities a scientific research subject.
✓ To transform education into practical activities
✓ To ensure continuity in curricula
✓ To increase the productivity of education staff
✓ To organize and control environmental factors
✓ To adjust the teaching-learning process according to students' abilities

With the development of technology in education, educational materials and programs that can appeal to different sense organs at the same time are also developing in this direction. Thus, devices like computers, tablets, smart boards are important tools in the integration of technology to education. The quality of education is tried to be increased by integrating technology to education through educational programs like FATİH and EBA. Many factors can be effective in the use of instructional programs. One of them is the technological devices' being related to the sense organs. Studies suggest that 83% of human learning occurs visually, 11% through listening, 3.5% through smelling, 1% through tasting, and 1.5% through touching. The more a learning-teaching activity appeals sense organs, the more permanent and effective learning occurs, and the process of forgetting is delayed as much.

According to a study by Philips at the University of Texas in the United States, people remember 10% of what they read, 20% of what they only hear, 30% of what they only see, 50% of what they see and hear, 70% of what they tell, 90% of what they tell and do. These rates show that varied activity of teaching and learning in the classroom should be organized (Yürütücü, 2002).

In the process of integration of technology into education, devices such as tablets, smart boards and projections that are given to most of the schools, contribute to educational process, facilitate meaningful learning by appealing to different sense organs, provide rapid access to information and respond to the necessity of technological development. However, in classrooms where technological devices are used, students may use these materials for purposes other than their intended use and may harm them.

When an individual begins his/her educational life, he/she is moving away from the family members and familiar surroundings, and gets into a different environment. When the fact that students spend 180 days at school is taken into consideration; teachers and students take part in the classroom life within a defined purpose and program (Aydın & Yılmaz, 2013). The students' experiences, talents, interests, expectations, readiness and goals are different from each other. It is necessary to keep

teacher-teacher, student-teacher, student-class interaction in the most appropriate level by reducing these differences.

Students can use learning environment provided by technological devices like smart boards and tablets in order to watch movies, listen to music, play games and access the internet. It is also possible that food and beverages that are needed to be eaten in school canteens are brought to the classroom environment by the students and those cause damages on technological equipment. The fact that these devices used in education are actually used in accordance with their own purposes and teachers' being more effective on areas such as classroom management and student responsibilities; will make it possible for education to be more qualified and possible harms will be able to be avoided.

The development of students' responsibilities is influenced to a large extent by family's educational level, classroom management and school management. This means that parents and school administrators should be aware of the fact that they are effective in improving students' responsibilities, take necessary precautions and educate students in this respect.

1.1. Aim of the Study

The aim of this study is to identify the responsibilities of the primary school students towards the use of technological devices such as smart boards, projections, tablets etc. which started to be used commonly in social sciences courses with developing technology. Additionally, it will also be observed whether the responsibility of students towards using technological devices varies depending on the gender.

1.2.Literature Review

While the use of technology in teaching and learning processes is becoming more widespread, the outcomes of the studies exploring the responsibilities and reactions of the students towards these materials and technologies reveal that the studies in the literature generally involve the use of technology in classes, its efficiency and the viewpoints regarding the issue.

The study named "Analysis of the relationship between the opinions of parents towards children's use of technology and their purposes for use of technology, interest in technology and competency levels" by Şahan (2017) has the objective of investigating the views of parents regarding technology use of their children and the correlation between children's motives to use technology and their interests and competency levels.

The study by Kriek and Stols (2010) named "Teachers' beliefs and their intention to use interactive simulations in their classrooms" has the objective of examining the influence of the beliefs of Grade 10 to 12 physical science teachers on their intended and actual usage of interactive simulations (Physics Education Technology, or Ph ET) in their classrooms.

Chigona, Chigonaand and Davids (2014) in their studies named "Educators' motivation on integration of ICTs into pedagogy: case of disadvantaged areas" hold the objective of investigating factors that motivate educators to use Information Communication Technologies (ICTs) in schools in disadvantaged areas.

The study named "Perceived usefulness and culture as predictors of teacher's attitudes towards educational technology in South Africa" by Hart and Laher (2015) pursues the objective of investigating teachers' attitudes towards educational technology and the factors that are thought to influence teachers' attitudes, namely, perceived usefulness, perceived cultural relevance, perceived competence and access to ET.

Bansilal (2015) in the study named "Exploring student teachers' perceptions of the influence of technology in learning and teaching mathematics" holds the objective of identifying the ways in which technology was used and to explore the nature of this use by a group of 52 mathematics student teachers.

In the study "Developing an Attitude Scale Intended for the Use of Technological Devices and Materials in Pre-School Education" conducted by Kol (2012), an attitude scale was developed in order to measure the attitudes of pre-school teachers towards the use of technological devices and materials in education.

The study named "Viewpoints of Pre-School Teachers regarding the Significance of Use of Information and Communication Technologies" by Özturan and Bozcan (2017) had the objective of identifying viewpoints of pre-school teachers regarding the significance of use of information and communication technologies and of demonstrating the significances between these viewpoints and several demographic features.

Kablan, Topan and Erkan (2013) in their studies "The Effectiveness Level of Material Use in In-Class Teaching: A Meta-Analysis Study" had the objective of putting the outcomes of several independent studies regarding the effectiveness of teaching materials together.

The study by İbret, Avcı and Recepoğlu (2016) named "Viewpoints of Homeroom and Humanities Teachers Working at Primary and Middle Schools regarding the Use of Technological Devices and Materials in Project-Based Learning" had the objective of identifying the technological tools and devices used by homeroom and humanities teachers working at primary and middle schools in in project-based learning and, thus demonstrating the challenges faced in project-based applications.

Considering the studies mentioned above and found upon a literature review regarding the responsibilities of primary school students towards technological tools and devices, no other study handling the issue with this approach has been found. This study, thus, is intended to guide prospective studies on this issue and to raise awareness.

2.METHOD

2.1. Design of the Research

In this research, primary school students' responsibilities of using technological devices were evaluated in a descriptive screening model. In the process, the research topic was directly examined and; also previous records, data, studies on the investigated topic, and the researchers who study on the field were consulted and all of them were interpreted together with the data obtained.

2.2. Focus Group

3rd grade students in 4 different primary schools located in Isparta in the academic year of 2017-2018 constitutes the target population of this research. 20 questions were asked to participants, consisting of 216 students, by using a Likert scale. 100 male and 116 female students answered the questionnaire in the survey.

2.3. Instruments of Data Collection

Likert scale refers to the scales shaped from getting multiple Likert type questions together. In order to answer a single research problem, two or more likert-type questions are formed and in the analysis stage, the average values of these questions are used (Clason & Dormody, 1994). In this study on 3rd grade primary school students, Likert type scale was used. It was tried to pinpoint the responsibilities of primary school students for using technological devices through the scale. The scale was prepared in triplicate as never (1), sometimes (2), always (3). Each question was coded between 1.00 and 3.00. Thus, the scores obtained were between 20 and 60.

There were twenty questions in the scale to determine the responsibilities of primary school students for using technological devices. SPSS (Statistical Package for Social Sciences) for Windows 13.0 program was used for the statistical analysis of collected data.

Reliability analysis was made to determine the reliability of the scale and the cronbach alpha value was found to be 0.70. This value is a sufficient criterion for the reliability of the instrument

(Montenegro, 2005). Factor analysis was also used to determine the construct validity of the scale. First, it was examined whether the instrument of data collection was appropriate for factoring. For this reason, KMO value and Bartlett results were examined. As a result of analysis, KMO value was found to be .58, and Bartlett value showed that the data on the scale were appropriate for factoring. Exploratory factor analysis was used in the study. Exploratory factor analysis tries to determine construct validity of the instrument by looking into the relationship between the materials (Tabachnink & Fidell, 2001). In the exploratory factor analysis, 5 items (2,3, 5,6 and 14) out of 20-questions scale were removed since the factor load of some items was low. In this way, the limit value required for factor analysis was provided.

Table 1. Results of factor analysis

	Groups				
	Awareness of using the devices	Paying close attention to the use of devices	The skills of using devices consciously	Awareness of damaging factors on the devices	The use of devices out of purpose
m12	,909				
m17	,654				
m13	,602				
m20	,566				
m15		,732			
m18		,678			
m16			,787		
m19			,594		
m8			,544		
m10			,478		
m11			,477		
m4				,860	
m1				,776	
m9					,796
m7					,795

As a result of the exploratory factor analysis conducted on the data, the problematic items were removed and evaluation and grouping processes were performed on the other items. In the research, five dimensions were formed out of scale. These dimensions;

Paying close attention to the use of devices: (m15, m18)

Awareness of damaging factors on the devices: (m1, m4)

The skills of using devices consciously: (m8, m10, m11, m16, m19)

The use of devices out of purpose: (m7, m9)

Awareness of using devices: (m12, m13, m17, m20)

When items were taken into consideration, factor loads were found at the desired level. In factor analysis, factor loadings of 0.30 and above were regarded as acceptable values. As a result of the conducted exploratory factor analysis, the results indicated that the construct validity of the scale is high.

2.4. Data Analysis

Firstly, it was checked whether the data in the scale was filled in properly. In the evaluation of the data, in order to calculate and interpret the answers given to the questions; 'never' was marked as 1, 'sometimes' was marked as 2, 'always' was marked as 3. In the analysis of the data; percentage, arithmetic mean, frequency and independent t-test were used.

3.FINDINGS and INTERPRETATION

According to the answers given by the students, the data obtained from the scales were presented in following table. Table 2 gives the percentage values, frequencies and average values of the items.

Table 2. Results of items in the scale

SN	Statements		1:Never	2:Sometimes	3: Always	$\bar{X}$
			1	2	3	
1	When I am class/hall monitor, I observe others to prevent any damage on technological devices (smart board, computer, projection etc.) in the classroom.	f	8	32	176	2,77
		%	3,7	14,8	81,5	
2	I warn my friends when they treat technological devices in a harmful way.	f	28	28	160	2,90
		%	13	13	74,1	
3	I use the technological devices in our class to play games when our teachers are away	f	168	40	8	2,74
		%	77,8	18,5	3,7	
4	If the technological devices in our class are broken, I hit them to make them work.	f	200	16		2,92
		%	92,6	7,4		
5	I benefit from technological devices in our classroom for fun like watching movies, playing games or listening to music.	f	168	36	12	2,72
		%	77,8	16,7	5,6	
6	I go online while our teachers are not in the classroom.	f	176	20	20	2,72
		%	84,5	9,3	9,3	
7	I use the technological devices in our class to do research for lessons.	f	52	68	96	2,20
		%	24,1	31,5	44,4	
8	I turn on and off technological devices appropriately.	f	20	20	176	2,72
		%	9,3	9,3	81,5	
9	I can access the information I want by using technological devices	f	32	24	160	2,59
		%	14,8	11,1	74,1	
10	I adopt technological equipment in our class, as if they are my own	f	92	24	100	2,03
		%	42,6	11,1	46,3	
11	When our instructor finds it appropriate, I take charge of the maintenance of the equipment.	f	8	68	140	2,61
		%	3,7	31,5	64,8	
12	I use technological devices in a delicate way	f	20	12	184	2,75
		%	9,3	5,6	85,2	
13	I think it is my duty to be careful when using devices.	f	12	12	192	2,83
		%	5,6	5,6	88,9	
14	I am happy when the teacher gives me the responsibility of taking care of a device	f	4	16	196	2,88
		%	1,9	7,4	90,7	
15	I think every student should be careful when using technological devices	f	-	8	208	2,96
		%	-	3,7	96,3	

As a result of the answers given by the students, presented in table 2 above, it can be seen that, item 1; "When I am class/hall monitor, I observe others to prevent any damage on technological devices (smart board, computer, projection etc.) in the classroom" was answered as "always" by 81.5% of 216 participants. Using technology in education is the main target of every country. As a result, communication devices like radio, TV, computer, satellite etc. are being used in teaching and learning environments, and will be continued to be used in accordance with developments. It is observed that schools using modern technology are more successful and provide higher quality services (Yürütücü, 2002). In time, educators and students try to pay close attention to this by gradually getting consciousness about it. Therefore, according to answers given in the scale, 8 people stated that they were totally insensitive to technological devices, and 32 people said that they sometimes pay attention to use technological devices carefully.

According to these results, we can say that it is necessary to raise awareness on some students, of not damaging technological equipment. However, according to the answers given to this item, the majority of primary school students pay attention to the technological devices in the classroom when they are class/hall monitor, and in this way they try to protect them from taking any damages.

When we look through item 2, "I warn my friends when they treat technological devices in a harmful way", it is shown that the option of 'always' was marked by 160 students out of 216, which constitutes 74.1% of participants, which means most of primary school students warn others when they attempt to damage technological devices in the classroom or school environment. However, it can be said that 28 of them were insensitive to harmful behaviors on the devices and the other 28 were inconsistent with the responsibilities of technological equipment. In addition, the fact that this item has an average of 2.90, indicate that most of the students are conscious of any harmful behavior on technological equipment and that they warn their friends about this.

Renewed educational and instructional programs that have been implemented in Turkey since the 2005-2006 academic year, expect students to use the technology effectively and efficiently so that they can gain from the learning outcomes in the classroom and from the extracurricular activities (Yıldırım, 2013). However, 24.1% (n = 52) of students gave the answer of 'never'; 31.5% (n = 68) of them said 'sometimes' and 44.4% (n = 96) gave the answer of 'always' to 7th item, "I use the technological devices in our class to do research for lessons". As it can be seen, results are so similar to each other. This indicates that primary school students do not use technological devices to conduct research for lessons. 96 students out of 216, which is 44,4% of them, stated that they use technology to do research about courses. This figure indicates that technological devices are used out of purpose. These results suggest that students should be encouraged to use technological devices for learning purposes. The more active and happy students are in a class with a good integration of technology and good management system, the more they actively participate in lessons. In order to create the educational and instructional environment in which active participation is formed, firstly necessary psychological conditions and physical arrangements must be settled and students should be encouraged for class activities. This structuring is based on adopting modern classroom and school management systems (Kalaycı, 2005).

Table 3. Table of differences indicating averages of responses depending on gender

Category	Gender	N	Mean	Standard deviation	t value	Sig.(2-tailed)
Paying close attention to the use of devices	Male	100	4,8400	1,29271	0,343	,732
	Female	116	4,8966	1,12967		
Awareness of damaging factors on the devices	Male	100	5,3600	1,02020	0,370	,110
	Female	116	5,4138	1,10390		
The ability of using devices consciously	Male	100	9,6400	1,79517	3,546	,000*
	Female	116	10,4138	1,40848		
The use of devices out of purpose	Male	100	2,5600	0,90252	-0,348	,728
	Female	116	2,5172	0,89911		
Awareness of using devices	Male	100	10,6400	2,04752	3,251	,001*
	Female	116	11,3793	1,24869		

*P<0,05

In Table 3, t-test values, mean, standard deviation and Sig. (2-tailed) values depending on gender as a result of analysis of data obtained through the scale were presented. The mean of results belonging to female students was higher than that of male students except the item of "the use of devices out of purpose". In the category of "the use of devices out of purpose", male students have a higher average than female students.

A significant difference was found in the categories of "the ability of using devices consciously" and "awareness of using devices" (p <0.05). In other words, female students have more positive thoughts than male students on "the ability of using devices consciously" and "awareness of using devices". In the other categories, no significant difference was observed. The mean values belonging to female students were higher than male students in two categories. In the category of "the skill of using

devices consciously", average belonging to girls was higher than that of male students, due to their more sensitive and meticulous nature, thus a significant difference was observed between male and female students in this item. It was also observed that there was a significant difference in averages belonging to male and female students in the category of "awareness of using devices"; female students have high mean values than male students in this item, too.

3. CONCLUSION and DISCUSSION

The following conclusions have been reached through findings obtained from the evaluation of the responsibilities of third grade students in four different primary schools located in Isparta in the 2017-2018 academic year for using the technological equipment.

Technology is developing fast by gradually taking place in every field of life. The constantly evolving and developing technology has also contributed to our educational and instructional system. Integration of technology into education; (Erkan, 2013; Hart & Laher, 2015; İbret, Avcı & Recepoğlu, 2016; Kablan, Topan & Celik, 2007; Kol, 2012; Koşar & Çiğdem, 2003; Özturan & Bozcan, 2017; Şahan, 2017) plays an important role in preparing and delivering an effective educational and instructional environment, making it easier for students to reach their goals and for the program to be successful. Through the help of devices to be used, courses will become more interesting and attractive for students (Dursun, 2006).

In order to make teaching process interesting for the students, to facilitate the tasks of teachers, to provide information from the primary source, to increase the sources of learning, to create learning environments suitable for the needs of students and to provide students with civic responsibility, certain precautions must be taken in the classroom regarding the use of technology (Chigona, Chigona & Davids, 2014; Çelik, 2007). It is accepted at the international level that efficient and effective education can be realized through practices based on the understanding of integration of contemporary educational technology. Thus, teachers and administrators must be trained and constantly improve themselves in educational technology (Bansilal, 2015; Hızal, 1992; Yalın, 1997).

Looking at the results of this research, 81.5% of 216 students marked 'always' for the item "When I am class/hall monitor, I observe others to prevent any damage on technological devices (smart board, computer, projection etc.) in the classroom". Therefore, it is realized that the vast majority of students are sensitive to responsible, attentive and careful use and protection of technological equipment. 74% of the students are conscious about the use of technology and they warn their friends when technological devices are subject to possible risky situations by other students.

Another remarkable result in the survey is that 90.7% of the students were happy when their teachers gave them the responsibility of technological devices. This situation can be regarded as a factor that enables students to participate in lessons and be successful in lessons. However, the responsibilities and willingness of the students and teachers to use technology in the classroom are not at the same level.

When we evaluate the results of analysis in general, it turns out that the responsibility of students to use technological equipment is in the desired condition. In general, students stated that they warn each other in possible damaging situations, they are happy to be given responsibility of technological devices by their teachers and that they can easily access information through these devices.

When female and male students are considered separately, it can be seen that female students are more sensitive to the responsibilities of technological equipment. It is found out that male students use technological devices in situations that are not related to courses, that is, they are more likely to use technology out of purpose. Therefore, administrators or teachers should also take into account the views of the students involved. An effective educational program with integration of educational technology requires identification of the classroom management practice, the students' interests, expectations, needs and readiness (Kalaycı, 2005; Özturan & Bozcan, 2017; Sönmez, 1986). Thus,

the level of technological equipment use of students can be determined and the conscious behavior of students in using the devices can be further developed. Since technology is in every area of our lives and it is used to get the desired results in education, necessary practices may be conducted for students who act negatively in this respect. That's why, teachers' deficiencies should be overcome and an efficient and positive educational process should be established by increasing the responsibilities of students towards technological devices (Çilenti, 1995; Kablan, Topan & Erkan, 2013; İbret, Avcı & Recepoğlu, 2016; Yıldırım & Çakır, 2009).

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