Generation Z Students' Views on Technology in Education: What They Want What They Get*

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ABSTRACT

The aim of this study is determining the expectations of high school students about the use of technology in education and their views on whether these expectations were met or not. The study was designed as a case study. In the study, embedded single-case design, which is one of the designs of case study, was used. The participants of the study consisted of 100 students in the 9th-10th-11th and 12th grades of a high school in Mersin in the spring semester of the 2018-2019 academic year. Research data were obtained by using interview method. Content analysis was used in the analysis of the data obtained. According to the findings obtained from the research, it is seen that ; hardware and software inadequacy, lack of knowledge and negative attitudes of teachers about the integration of technology into education, and restrictions imposed on students are considered by Generation Z high school students as factors that negatively affect the use of technology in education. Students evaluated the use of technology in education by considering its positive and negative effects. Considering the positive effects, the use of technology increases students' interest in the lesson, enables them to learn easily, increases their technology use skills, and provides easier and faster access to more information. All of the students recommend the use of technology in all lessons. They stated that for this, there should be content prepared for each lesson. The students compared their teachers with themselves on the use of technology and characterized them as older and less knowledgeable. In this case, they think that teachers should be trained on the use of technology.

Keywords: *: Educational technology, Z generation, high school students*

INTRODUCTION

For decades, the amount of information that individuals need to reach is constantly increasing with the addition of new ones every second. Rapid developments in technologies for the circulation of information are at the center of all human-related issues. In the current Digital Age, the functions of information and communication technologies affect the social functions of education as well as many other areas. One of the main goals of education is to raise individuals with the qualifications required by the age. Education is described in the UNESCO Incheon Declaration (2015) as "*A human right and a force for sustainable development and peace*". It is also stated that education is at the center of every goal in the 2030 Sustainable Development Agenda. It was emphasized that an education in which individuals will be equipped with

knowledge, skills, and values is required to live in dignity, build their lives and contribute to the society they live in. In today's global and competitive economic environment, the characteristics of individuals that countries need for sustainable development and prosperity are described as 21st-century skills. The opinions of institutions, organizations, stakeholders, and policymakers who have a say in the world in education, economy, and civil society have an important place in determining these skills. When the literature on the qualities that 21st-century people must possess is examined (ISTE, 2007; Lai & Viering, 2012; OECD, 2005; P21, 2016; Trilling & Padel, 2009; Wagner, 2014), it is observed that especially high-level cognitive skills are emphasized and digital literacy and the ability to use information and communication technologies effectively are common in many.

Educational institutions are one of the institutions that both initiate and direct social changes and developments, and therefore must follow technological developments, use and teach the use of these technologies (Akkoyunlu, 1995). John Dewey (1995) states that, "If we teach today's students as we taught yesterday, we are robbing them of tomorrow.". Students studying today will have important roles in the information and digital economy in the future. For this reason, today's education systems have the responsibility to raise individuals who have the skills of questioning, free-creative and critical thinking, learning to learn, lifelong learning, being open to change, reaching the right information, using information, reading and writing digitally and producing information. However, the realization of this depends on many factors. First of all, education should be of good quality, equal, and efficient. Article 26 of the Universal Declaration of Human Rights (1948) states, "Everyone has the right to education.". Education is a fundamental human right to be guaranteed, promoted and monitored. Therefore, the accessibility of education and equal opportunities should be ensured for all without discrimination (UNESCO, 2016). Quality education is a dynamic concept that changes according to social, economic, environmental contexts and time (UNESCO, 2005, p.1). Lim et al. (2018) define quality education as education that meets basic learning needs and enriches students' lives and general life experiences (Lim et al. 2018, p. 371).

To reach the goal of inclusive, egalitarian, quality education and lifelong learning until 2030, taking into consideration the definitions and determined elements in the literature it can be said that, information and communication technologies should be used in education, including mobile learning, to strengthen education systems, information dissemination, information access, quality, and ensure effective learning and more efficient service delivery.

The necessity of the integration of technology into education and the use of educational technologies in the process of teaching-learning is a widely accepted idea in the field of education science. Many studies (Chang, 2002; Hwang, Hsiang Wu & Kuo, 2013; Leow & Neo, 2014; Lim & Tay, 2003; Moallem, 2003; Renshaw & Taylor, 2000; Roblyer, Edwards & Havriluk, 2004; Roschelle, Pea, Hoadley, Gordin & Means, 2000; Swan, Hooft & Kratcoski, 2005; Zeighner, 2020) demonstrate that the integration of technology into education and its use in the teaching-learning process increases students' academic success and motivation, positively affects their attitudes towards learning, supports the development of students' problem solving and cooperative learning skills, and provides more time for teachers to guide their students.

To realize the possible benefits of using technology in schools at a high level; teachers, school administrators and supervisors who are the stakeholders of the education process are in the key position (Seferoğlu, 2009). However, the student who performs the learning has an important role in the use of effective technology in the teaching-learning process. Nowadays, high school students are in the Z generation. Generation Z is defined as the generation that was born after 2000. Since this generation was born in a purely technological age, they live with technology. Members of this generation are called "Generation I", "Internet Generation", "Next Generation" or "iGen" (Levicate, 2010). Generation Z individuals are used to quick access to information. They are both consumers and producers of knowledge. They trust themselves. They are open-minded, pragmatic, creative, entrepreneurial, skill and goal oriented. Their device handling skills are quite high. They have high expectations. They prefer to communicate with social media connections, multitasking, personalized micro experiences, hands-on exercises, seeing graphics before texts, and interactive and video-based learning. They work best by applying and networked. They like to associate what they have learned with real-world problems they are experiencing now or may face in their careers in

the future (Csobanka, 2016; Ernst & Young Report, 2016; Merriman, 2015; Seemiller & Grace, 2016).

According to Prensky (2001), the teachers who are responsible for the education of Z generation are digital immigrants. Digital immigrants are those who were not born in the digital world but at some point in their life have adopted most aspects of new technology. In order to provide the most effective and useful experiences in the teaching-learning process for the Z generation, it is very important to know how these students think, what their interests are and how they prefer to be taught. Therefore, it can be said that the determination of the expectations of these students about the use of technology in the learning and teaching process will contribute to the effective use of educational technologies. In this context, this study aimed to determine the expectations of high school students about the use of technology in education and their views on whether these expectations were met or not. In line with this basic purpose, the research question is formed as; "What are the views of Generation Z high school students on using technology in education?"

RESEARCH METHOD

Research Model

This study was designed as a "case study" in accordance with the objectives of the study. Case study, which is one of the qualitative research designs, is a systematic method of collecting information to examine and explain the situation and operation of a particular person, a social situation or event with different dimensions of a particular group (Berg, Lune & Lune, 2004; Yin, 2003). In the study, embedded single-case design, which is one of the designs of case study, was used. Embedded single-case design can be used if there are multiple sub-strates or units in a single state (Yıldırım & Şimşek, 2016). In this research, the classes in which the participants studied were considered as the sub-units forming the whole.

Participants

The participants of the study consisted of 100 students in the 9th-10th-11th and 12th grades of a high school in Mersin in the spring semester of the 2018-2019 academic year. Those born in and after the year 2000 are described as the Z generation in the literature. The participant students of this research are generation Z members, as they are between the ages of 15 and 18 and were born in 2000. 45 of the students are male and 55 are female. A project called "Movement to Increase Opportunities and Improve Technology" (FATIH) was started in 2010 in Turkey. Within the scope of this project, it is aimed to provide hardware and software infrastructure in all schools in the country from pre-school to secondary education, to provide and manage educational e-content, to use ICT effectively in curriculum, to provide in-service training of teachers and to ensure conscious, safe, manageable and measurable ICT use (Ministry of National Education, 2021). The students who are the participants of the study are studying in one of the schools within the scope of this project.

The class levels of the students were accepted as sub-units in accordance with the embedded single-case design and stratified sampling method was used. In the stratified sampling method, the sub-universes that make up the universe have the potential to affect the measured variable. Therefore, the unit numbers of sub-universes are taken into consideration when determining the sample (Erkuş, 2009; Frankfort-Nachmias & Nachmias, 1996). In this study, the number of students from each class level in the study group was determined as sub-units. Table 1 shows the number of students in the study group.

Table 1. *Number of Study Group by Class Levels*

Class Levels	*f*	*%*
9	26	26
10	38	38
11	21	21
12	15	15
Total	100	100

Information of the applications used by the study group of the research is given in Table 2.

Table 2. *Applications Used by Students*

Application	1.	2.	3.
Instagram	43	25	12
Whatsapp	20	27	15
Youtube	15	20	14
Google	8	5	9
Twitter	1	1	7
Tureng	3	1	3
Spotify	1	3	2
Snapchat		1	7
Mobile Game		6	2
Facebook			3
Whattpad	1		2
Discord	2		
Pinterest	1		
Google Music			1
Univerlist	1		
Call of Duty	1		
E-School		1	
Sound Cloud			1

According to Table 2, it can be said that the applications most used by students are instagram, whatsapp and youtube. Students almost never use the e-school application where they can obtain information about their absences, exams, grades, etc.

Data Collection Tool

Research data were obtained by using interview method. Yin (1998) lists the interview method as one of the six data collection methods that can be used in the case study. In this context, interview form approach, which is one of the interview methods, was used. In this approach, it is aimed to obtain the same kind of information from different individuals on similar subjects (McMillan & Schumacher, 2006). The researcher has the freedom to ask additional questions in order to ask the previously prepared questions and get more detailed information about these questions (Patton, 1987; cited in Yıldırım and Şimşek, 2016). It is also possible to obtain more systematic and comparable information from different individuals (Yıldırım & Şimşek, 2016). In the first part of the interview form, questions about demographic characteristics of the participants were given. In the second part, the participants' expectations regarding the use of technology in education, their opinions on the fulfillment of these expectations and their suggestions for the improvement of the current situation are presented.

Collection of Data

The data of the research were collected by the researcher at the school where the students were educated. The purpose of the research was explained to the students and information was given about how to fill in the data collection tool. Research data took about three weeks to obtain. The voluntary participation of the students is taken as a basis.

Data Analysis

Content analysis was used in the analysis of the data obtained. According to this, the codes and categories related to the opinions and suggestions of the participants were determined. The data obtained through the interview form were analyzed separately by both researchers. As a result of the analyses, the categories and codes of consensus and disagreement were determined for each question that was examined separately by the researchers. Then, Miles Huberman (1994) reliability calculation (Reliability=[Agreement/Agreement+Disagreement*100]) was made and the results are presented in Table 3. The categories created were modeled considering holistic relationships and the findings were interpreted according to the order in which the research questions were presented.

Table 3. Number of Study Group by Class Levels

Qualitative data Content	Reliability Value
Current Physical Substructure and Hardware	100
Factors That Negatively Affect the Use of Technology in Education	78
The Effects of the Use of Technology in Education on Students	90
The Expectations and Suggestions of Students	92

The following steps were taken within the scope of the research's credibility, transferability, consistency and confirmability studies:

Validity and Credibility

The following steps were taken within the scope of the research's credibility, transferability, consistency and confirmability studies:

• The interview form was presented to three experts in educational sciences who are experienced in qualitative research. In the light of the opinions of the experts, three questions which were thought to be similar to the others were excluded from the form.

• Before the interviews, five students who were not included in the study group were interviewed and corrections were made for unclear questions in line with the students' opinions.

• Data obtained from interviews were recorded and transferred to computer and filed.

• The research process is described in detail. In this context, the working group, the role of the researcher, and the stages followed in the collection and analysis of the data were defined in detail.

• The results obtained from the data are presented as a whole in relation to each other. In the interpretation of the data, direct quotations were made from the opinions of the participants. Excerpts were given using the codes S1, S2, …which were determined for the participants.

• Immediately after the interviews, the data were summarized to the participants and their approval was obtained.

• Confirmation review was conducted. For this purpose, support was obtained from two experts who had general knowledge about the research subject and who had experience about qualitative research methodology. The experts evaluated the results comparing them with the raw data.

FINDINGS

For the purpose of the study, the findings obtained from students views are presented under the headings of current physical substructure and hardware, factors that negatively affect the use of technology in education, the effects of the use of technology in education on students, and the expectations and suggestions of students.

Physical Infrastructure and Technological Equipment

Findings related to physical infrastructure and technological equipment are presented in Figure 1.
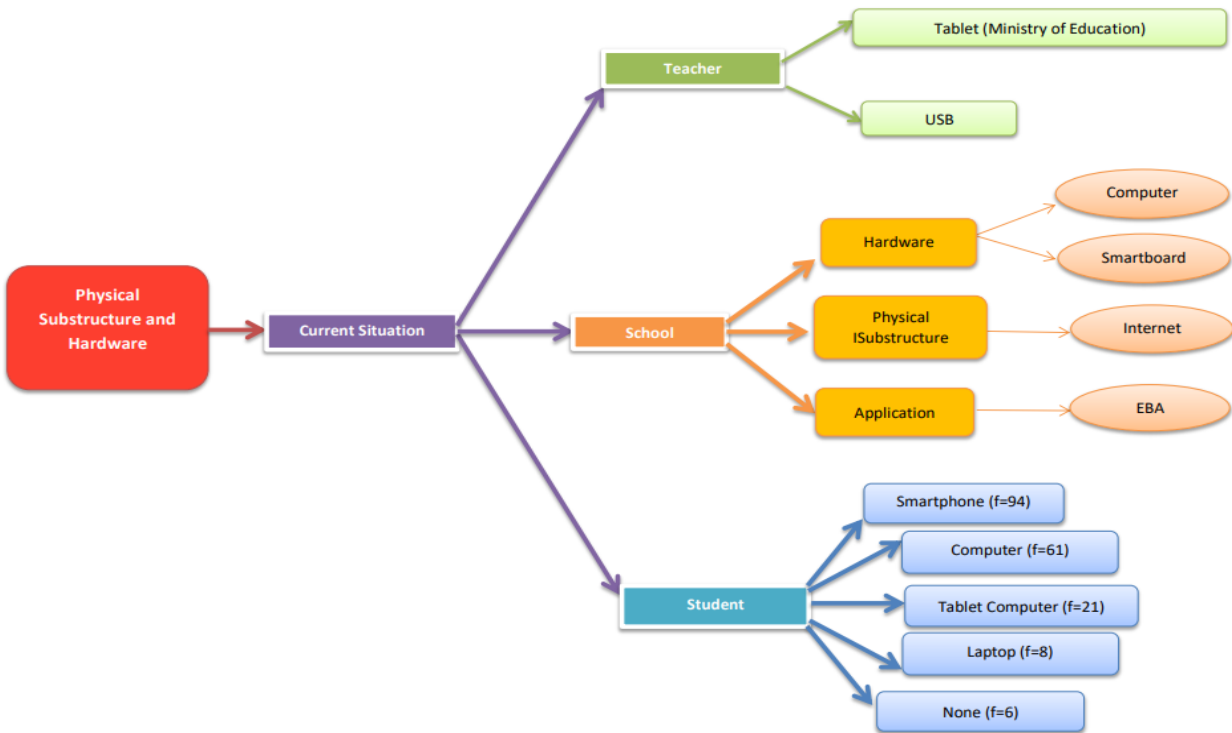
Figure 1. *Current Physical Substructure and Hardware*

Figure 1 shows that the information given by students regarding physical substructure and hardware is divided into three main titles. Accordingly, teachers have tablets given to them by the Ministry of Education within the scope of Fatih Project. In addition, each teacher has a USB device to store data. There are smart boards in every classroom at school. There is also an internet connection and computers. EBA (Education Information Network) created by the Ministry of National Education is used as an online social education platform. When the information given by students about themselves is examined, it is seen that 94 of them have smartphones. 61 of the students have desktop computers, 21 of them have tablet computers, and 8 of them have laptops. Six of the students stated that they did not have any technological tools.

Factors That Negatively Affect the Use of Technology in Education

Findings related to the problems that negatively affect the use of technology in education are presented in Figure 2.
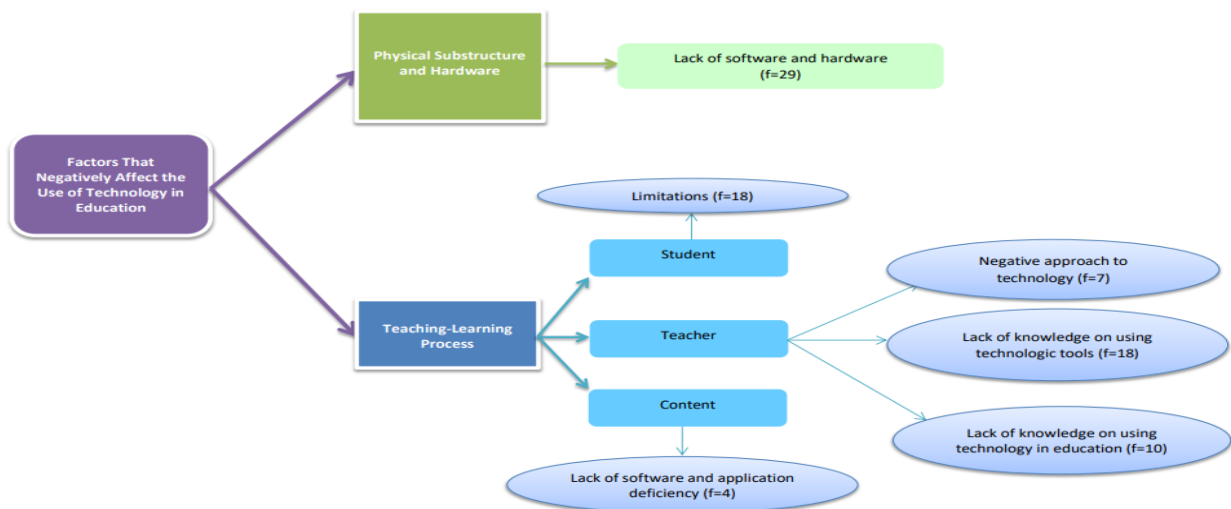

Figure 2: *Factors That Negatively Affect the Use of Technology in Education*

Figure 2 shows that the information given by students regarding the factors that negatively affect the use of technology in education is divided into two main titles as physical substructure and hardware and teaching-learning process. Accordingly, students state that the lack of software and hardware are negative factors. It is seen that the opinions about the teaching-learning process are divided into three headings: student, teacher and content. The limitations imposed on students have been identified as a problem. Negative approaches of teachers towards using technology, technological tools and lack of knowledge about using technology in education were evaluated negatively. In addition, software and application deficiencies are also mentioned as factors that negatively affect the use of technology in education. Some of the student views on this finding are as follows:

«Our teachers don't know how to use technology.» (S5)

«The fact that using technology for education is forbidden and constant pressure is something that negatively affects.» (S22)

«Technology is not used in some courses. It is mostly used in lessons such as mathematics or a project. Sometimes, even if our teachers want to use it, the smart board is broken. » (S15)

"When it comes to using technology, teachers are the lake and students are the ocean." (S81)

«Because most of our teachers are over 45, there were teachers when computers were not yet available. As we grew up with technology, we are more adequate in current information and use.» (S73)

The Effects of the Use of Technology in Education on Students

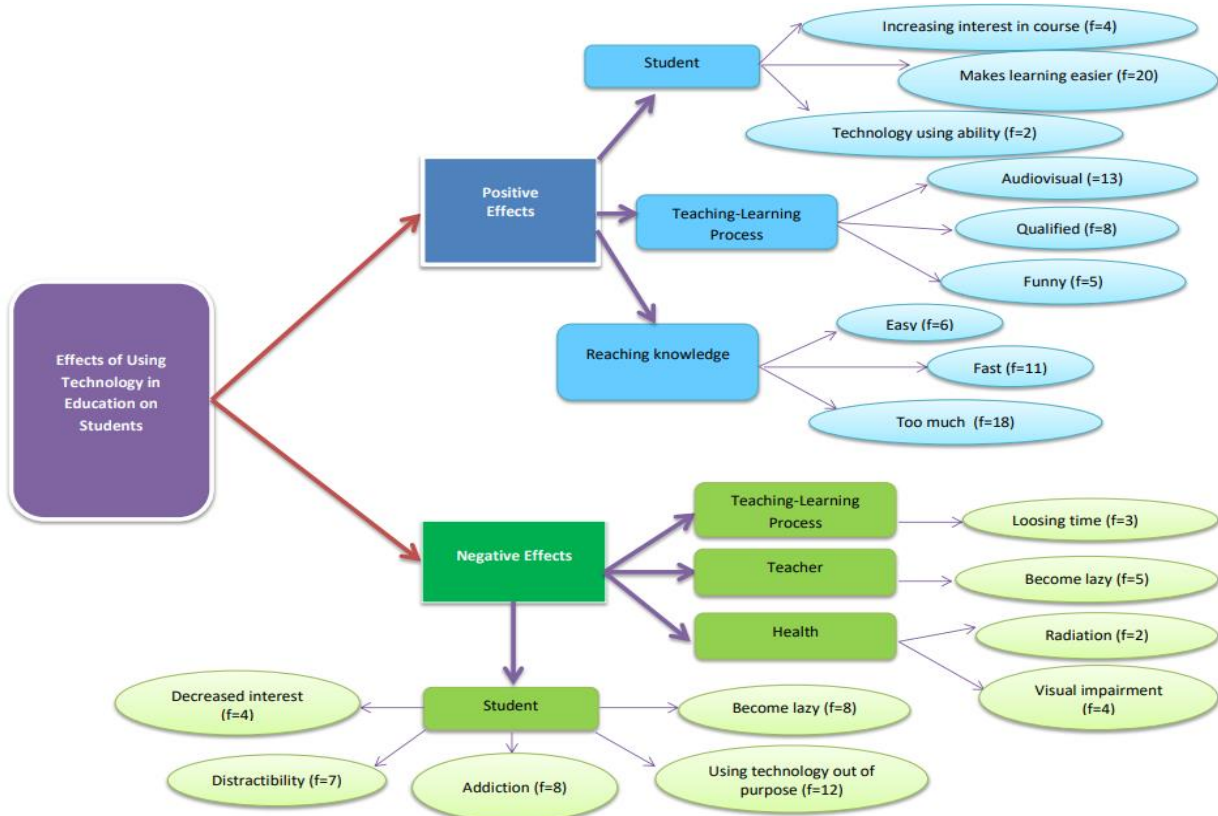Findings regarding the effects of the use of technology in education on students are presented in Figure 3.

Figure 3: *The Effects of the Use of Technology in Education on Students*

Figure 3 shows that the use of technology in education has positive and negative effects on students. According to the students providing easy learning, making audiovisual learning and reaching too much knowledge are the most positive effects of using technology in education. When the negative effects of the use of technology in education are analyzed, especially the student title draws attention. According to these views students can use technology out of its purpose. Technology can cause distractions and addiction. They stated that their interest in lessons could decrease and cause laziness when using technology. In addition the laziness of the teachers and various health problems are stated as other negative effects of the use of technology in education. Some of the student views on this finding are as follows:

"I consider the technology positive for us as many resources are available. But it is also negative to have many distractions. » (S39)

"I think it's positive in every way. Because the lessons with technology are fun. » (S88)

"With the visuals, our intelligence improves and our understanding becomes easier" (S61)

«We learn faster and better with a smart board.» (S90)

"The information is more permanent because it is supported by visual." (S27)

"We can see an object, DNA, climate events and so on, visually. We can learn more easily what they look like. We can solve more questions. Our teachers don't waste time writing the question on the board. » (S19)

«The teacher should tell the lesson not smart board» (S8)

«The lesson should not only be explained with a smart board, but it does. This does not make use of technology effective. Because the teachers are trying to explain the subject with a slide. By opening the slide, the lesson is not explained. This is negative. » (S3)

«There is no interest in the lesson in excess use. For example, when the teachers open EBA, I get distracted after a while »(S17)

The Expectations and Suggestions of Students

Findings regarding the expectations and suggestions of students regarding the use of technology in education are presented in Figure 4:
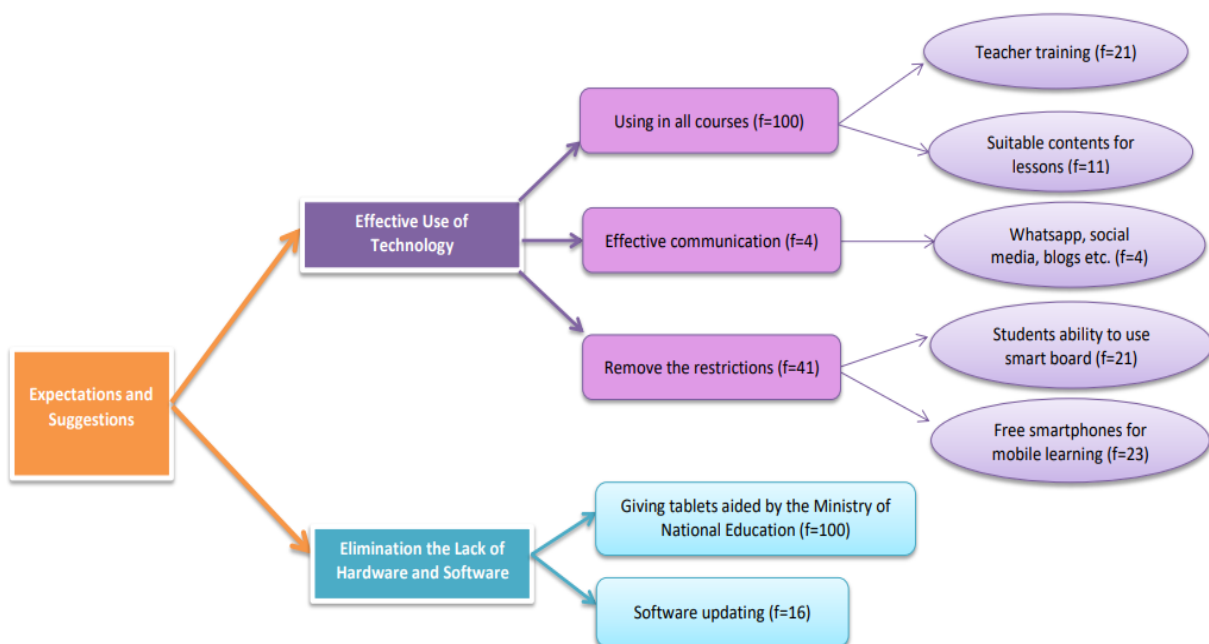

Figure 4: _The Expectations and Suggestions of Students_

Figure 4 shows that the expectations and suggestions of students towards the use of technology in education are directed towards effective use of technology and elimination the lack of hardware and software. All of the students stated that technology should be used in all courses. They suggested that teachers should be given training and suitable contents prepared for each lesson. Whatsapp, social media and blogs can be used to communicate effectively according to student opinions. They also suggested that the restrictions imposed on them be lifted. Accordingly, they stated that using smart boards without the supervision of the teachers and using smartphones in the teaching-learning process will contribute to the effective use of technology. Another suggestion that all students give a common view is to overcome the lack of hardware and software. All of the students want to be provided with tablet aided by the Ministry of Education, just like the teachers. Another suggestion is to make software updates constantly. Some of the student views on this finding are as follows:

"They lock the board. When it is locked, we cannot do anything without teachers. Although it is good for teachers, it is very bad for us "(S25)

"If our teachers see that our phones can also be educational material, we can teach more efficiently" (Ö78)

"Teachers contact us with applications such as Youtube, whatsapp…"(S47)

"I would like the lessons to be handled with a touch system, not with books, but with apps, not pages. It would be a better and better quality lesson." (S63)

"Most of the teachers don't understand technology because their age is quite big. Generally, students help. They need to be trained for it."(S32)

"Students should be given tablets. Students can follow while the teachers process the topics on the smart board. No time wasted." (S51)

"I would like our phones to be used as an educational tool. I would like EBA to be developed and used effectively on phones and lessons. In this way, success would definitely increase." (S12)

DISCUSSION AND CONCLUSION

In this study, Generation Z students' views on the use of technology in education were analyzed. The findings obtained are summarized below and discussed in relation to the literature. According to the findings obtained from the research, it is seen that the school where the study was carried out has the basic facilities required to integrate technology into education and teaching-learning process. There is an interactive whiteboard in every classroom and every teacher has a tablet computer. Almost all students have a technological device. Almost all students have smartphones, but fewer students have laptops or tablets. This situation reveals that while teachers receive support from the Ministry of National Education in terms of technological tools, students have these tools within their own means and do not receive any support. Accordingly, it is understood that the FATİH Project's goal of providing the stakeholders in all schools with laptop computers, LCD panels, interactive boards and internet network infrastructure for the effective use of information technology tools in lessons in order to ensure equal opportunities in education and training and to improve technology in schools is not fully achieved.

The positive outcomes of technology integration into education and utilizing technological tools in the teaching-learning process in terms of teachers, students and teaching processes are emphasized in many studies (Arslan & Şendurur, 2017; Demirer & Dikmen, 2018; Dikmen & Tuncer, 2018; Kula & Deryakulu 2017; Kumar & Kaur, 2018; Lim & Ching, 2004; Lai, 2019; Nadine & Hayes, 2009; Raja & Nagasubramani, 2018; Sachs & Bull, 2012; Shahrimin & Butterworth, 2002; Tunaboylu & Demir, 2017) in the literature. However, the effective integration of technology in education is a complex and multidimensional process that does not only involve technology (Tinio, 2003). According to another finding obtained from the research; hardware and software inadequacy, lack of knowledge and negative attitudes of teachers about the integration of technology into education, and restrictions imposed on students are considered by generation Z high school students as factors that negatively affect the use of technology in education. This finding is similar to the findings of many studies in the literature. Every hardware and software has a certain lifespan. For this reason,

it is important to constantly renew the equipment in the schools by following the current technologies. At the same time, as long as the existing hardware is not supported by software, the effective integration of technology into education will not be achieved. In the literature, hardware and software insufficiency is seen as one of the obstacles to effective technology integration in education (Ertmer, Addison, Rose, Lane & Woods, 1999; Çakır & Yıldırım, 2009; Göktaş, Gedik & Baydaş, 2013; Kaya & Koçak Usluel, 2011; Moyenga, 2018; Papanastasiou, Angeli,; Pelgrum, 2001; Şahin İzmirli & Kırmacı, 2017; Tondeur, van Keer, van Braak & Valcke, 2008). According to students 'opinions, teachers' lack of knowledge and negative attitudes are other factors that negatively affect the use of technology in the teaching-learning process. According to Hamutoglu and Basarmak (2020), teacher resistance is one of the first obstacles to technology integration in education. When the studies on this subject are examined, it is seen that parallel results are reached with this finding of the research. The research results reveal that teachers' behaviors, attitudes, knowledge, skills, experiences and competencies regarding technologies play an important role in the successful integration of technology into education and teaching-learning process (Chai, Koh & Tsai, 2011; Buabeng-Andoh, 2012; Ertmer, 1999; Hutchison & Reinking, 2011; Pac, 2008; Vongkulluksn, Xie, & Bowman, 2018; Ward & Parr, 2010). According to the students, the fact that they have not yet purchased the tablet computers within the scope of FATİH Project and the restrictions on the use of the internet with interactive boards are other sources of problems for the effective use of technology in education. When the national literature is examined, similar results are obtained with this finding (Altın & Kalelioğlu, 2015; Keser & Çetinkaya, 2013; Kurtoğlu-Erden & Seferoğlu, 2019; Pamuk, Çakır, Ergun, Yılmaz & Ayas, 2013). The positive effects (teaching-learning process, academic achievement, etc.) of using interactive boards, tablet computers and applications as an auxiliary tool in education or teaching a subject area are emphasized in the studies (Gülcü, 2014; Higgins et al., 2005; Kırbağ Zengin, Kırılmazkaya & Keçeci; 2011; Mock, 2004; Sachs & Bull, 2012). However, the use of smart boards mostly under the control of teachers and restrictions on the internet and various software will cause educational technologies to be no more than modern overhead projectors.

Educational technologies are indispensable elements of the system, which are used in administrative affairs, in-class and extracurricular activities, in and out of school, in every conceivable activity related to education, including administrators, teachers, students and families. It can be said that the main purpose of using technology in education is to obtain maximum benefit for students, teachers and the education system. The use of technology in the teaching-learning process contributes to the increase of students' academic achievement, interest and motivation in the course, concretization of abstract concepts, in-depth processing of lessons, measurement of outputs, and faster access to more resources. However, there are also studies in the literature that address the negative effects of technology. In these studies, it is stated that technology (educational technologies, mobile technologies, social networks, etc.) may cause the weakening of the emotional bond between teachers and students (Guangyang, Li, & Haiyan, 2019), the limitation of students 'imagination and emotional experiences, and the weakening of students' communication and focus skills (Raja & Nagasubramani, 2018). The findings obtained from this research also support the literature. Students evaluated the use of technology in education by considering its positive and negative effects. Considering the positive effects, the use of technology increases students' interest in the lesson, enables them to learn easily, increases their technology use skills, and provides easier and faster access to more information. According to the students, when technologies are used in the teaching-learning process, audio-visual learning environments can be created to address more than one sensory organ, thus creating more qualified and fun learning processes. It is seen that the negative effects stated by the students are more directed towards them. According to this, laziness, decreased interest in the lesson, distraction, technology dependence, misuse of educational technologies and various health problems are the situations that negatively affect students. Loss of time and laziness in teachers were also stated as other negative effects. Students' expectations and suggestions for the use of technology in education are a synthesis of the other findings discussed above. The students stated that they were expecting hardware support and constantly suggested updating for software problems. All students expect tablet support from the Ministry of National Education. This situation is one of the indicators that FATİH Project has not reached its targets yet. Although hardware support was provided to students in the first years of the project, it is seen that this support has not been fully realized in recent years. Students' suggestions for effective use of technology are quite remarkable.

The findings of the study clearly reveal that Generation Z students prefer to learn through modern

technologies and they want these technologies to be used in the teaching-learning process. Students' suggestions for effective use of technology are quite striking. All of the students recommend the use of technology in all lessons. They stated that for this, there should be content prepared for each lesson. The students compared their teachers with themselves on the use of technology and characterized them as older and less knowledgeable. In this case, they think that teachers should be trained on the use of technology. Studies on Generation Z show that technology is a natural requirement of this generation. The use of technology in education is important for the development of this generation, which opens its eyes to technology and needs technology as if it needs oxygen. However, bringing technology to the educational environment is not enough to strike this generation's fancy. The opinions of the students are also evidence of this. Teacher qualifications should be at a level that can address the characteristics of the target audience. Comi, Argentin, Gui, Origo, and Pagani (2017) also state that the effectiveness and usefulness of information and communication technologies in school environments depends on teachers' ability to use these technologies in education and training processes. Prensky (2002) discusses this situation in terms of the qualifications of the Generation Z individuals and states that the teachers who will teach this generation should know how they prefer to be taught and have the qualifications that will enable them to experience these experiences. Similarly, according to Szymkowiak et al. (2021), teachers should combine traditional teaching styles with modern, Internet-based learning tools and use modern technologies such as mobile applications and online videos in the classroom, taking into account the learning preferences of Generation Z.

Another issue that students expect is about the removal of restrictions. Accordingly, the students suggested that interactive boards could be used without teacher control. Another issue they want to remove the restrictions is for smartphones. Since the students do not have tablets, they recommend using smart phones, another mobile device, in the teaching-learning process. Mobile technologies are among the rapidly growing and developing technologies for a considerable period of time. Mobile technologies have been among the rapidly growing and developing technologies for a long time. Due to the ubiquitous and widespread use of mobile devices, it is almost impossible to imagine how complicated life would be without these devices, especially cell phones (Kalinic, Arsovski, Stefanovic, Arsovski & Rankovic, 2011). Knowledge-based societies need smart learning environments both today and in the future, and mobile technology in education is becoming an increasingly attractive alternative for the future (Dumancic et al., 2019). With the Covid-19 epidemic, which affects the whole world, revolutionary changes are taking place in every field that concerns every human being. Education is one of the areas most radically affected by these changes. Although it has been said by researchers for decades that educational technologies should be integrated into the teaching-learning process and benefit from these technologies for an effective and efficient education, 2020 has been a year to be noted in history in this sense. Due to epidemic conditions, internet and mobile technologies have become indispensable for education. Those who do not have information and communication technologies remained outside the teaching-learning process. However, social media applications have become indispensable tools in communication among all stakeholders of education. This situation shows that the suggestions for benefiting from social media applications in order to provide effective communication in the teaching-learning process of the students are very suitable for the current situation we live in.

Suggestions

- The following suggestions can be made based on the findings obtained from the research;
- It is important to use the right technology at the right time and in the right way in order to achieve the targeted effect and efficiency in the teaching-learning process. For this, teachers have effective classroom management skills and be able to use technology and digital communication language very well. In this context, teachers can be provided with technical and pedagogical support so that they can use technology, e-contents and existing applications more effectively and efficiently in the teaching-learning process. For this, it is considered important to provide both face-to-face / applied and online professional development activities for teachers in all branches and to ensure the continuity of these activities.

- Prohibiting students from the use of mobile technologies, smart phones or the internet in the teaching-learning process will not ensure that undesirable behavior does not develop or that the developing behavior is eliminated. Therefore, instead of imposing limitations, students can be educated to use technology consciously.
- Technical support teams can be established in schools to solve hardware problems and to carry out R&D and content development studies.

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