The Opinions of Technology Supported Education of University Students

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Abstract—The aim of this study is to determine the opinions of university students about technology-supported education. In today’s era, technological tools are used in every sector of education. Today, when technologies are rapidly developing, the opinions of students studying at university institutions about technology are very important. As per the outcome of the research, it is important to know the opinions of working people in terms of competencies and attitude towards the technology. The research was carried out in the fall semester of the 2019-2020 academic year with 75 students studying at the Federal University of Kazan (Volga region), the Institute of Legislation and Comparative Law under the Government of the Russian Federation, Plekhanov Russian University of Economics and Sechenov University. As the case study method was adopted in the study, researcher prepared open-ended questions as a data collection tool. In this research, qualitative method was used. According to the results obtained from the research, it was concluded that they did not feel themselves competent in technology, they did not have enough equipment and their schools are not equipped for technology-supported education.

Keywords—Technology, education, opinion, student, educational technology, qualitative method
1 Introduction

As the technology is rapidly increasing, with the close relationship, the increased knowledge with the effect of global age has also been reflected in the technology. As the technology is developing day by day, it has a more important place in our lives. Using technology has become a necessity rather than a luxury. In today's era, to use technology in effective manner, it has become important to gain knowledge, habits, and attitudes to understand technology and benefit from its [7]. In our age, it is important to acquire skills like selection analysis, synthesis, and organization of information resources [8].

With the development of technology, the concept of informatics has emerged. Informatics is defined as a structure formed by the combination of information and communication words. The formation, use, and access of information are of great importance. In today's age of technology, communication must be good for informatics to be realized. For this reason, the concept of information technologies has emerged. Information technologies cover all developments in which information is in communication [23,24,25,28,29].

If we look at the areas where we use informatics in our lives, a few of them are as follows:

- In daily life (listening to music, playing games from tablet phones, etc., watching movies ...)
- In the field of education (using computers / smart boards in lessons, using e-learning tools, certificate / diploma programs with the departments opened with distance education, online lessons, fun lecture videos, etc.)
- Health (computed tomography and microsurgery methods in the definition of disease and treatment of patients)
- Transportation (Navigation apps)
- Security (Security cameras and systems)
- Banking and shopping (internet banking, online shopping sites)
- Communication (Video conferences, seminars, speaking, messaging)

Apart from these areas, the use of information technologies is increasing in communication, business, logistics, in short, in all areas [3,21,2,25,28,31,10]. The deficiencies of the teachers about online lessons were revealed. In-service trainings and their competencies can be increased in technology supported trainings [9,20,6,13,5].

Technology has been used in many sectors, but the most common sector is education. Today, rapid changes in the field of technology increase the place of technology in education in parallel [16,27]. There are basic rules for effective learning to take place in the classroom. These rules can be achieved when at least one of student-teacher, student-student, student-content and student-environment interactions can be at a high level [4]. Educational technologies can be used to enable these interactive trainings to communicate. When the studies were examined, it was thought that it is necessary to integrate technology with education in order to make teaching-learning processes more efficient and to raise more qualified individuals for future generations.
[15]. For this reason, the concept of education and technology is included in the learning-teaching process with the name of educational technology.

Application of scientific knowledge about educational technology, how people learn to solve teaching and learning problems. A set of systems of staff, tools, materials, processes and methods to transform teaching-related theories into the most effective and positive practices; behavioral or physical sciences concepts and systematic or systematic strategy applications and techniques derived from other information for solving teaching problems [12,22,3,34]. As can be understood from the definitions, educational technology teaching means a systematic and holistic approach to learning processes, and tools and materials emerge as one of the important elements of this process [18,30]. Especially in the modern understanding of education, the teacher is the person who plans the education and training processes by taking individual differences into consideration and knows how to achieve the goal by choosing the appropriate tools that should be used in this process. In today’s world, where science and technology are rapidly developing, it has become difficult to adopt traditional teaching methods [34].

The use of technology has now been used in schools and other institutions of the society. But still, there is a problem on how technology to be used and its inclusion in the educational programmes [26,27,33]. Therefore, in parallel with the developments in technology, new researches were made in educational sciences, students' attitudes towards technological equipment were determined, and importance was given to the formation of education policies and strategies for the rational use of investments. this area [17,35,32].

As technology is playing an important role in every sector. Students studying in universities in different department need to have deep knowledge of advance technologies. Teachers, healthcare professionals, operators, and engineers will be able to predict technology to be used in near future.

1.1 Purpose of the research

The main motive to conduct this research was to determine the opinions of the students on the technology. In this general scope, the following questions were asked to the senior students of the university.

For this general purpose, the following questions were sought.

1. What is technology? What is your first perception when it comes to technology?
2. What is your main motive to use technology?
3. Can you explain what technological tools and equipment you have encountered during your education process up to now and their effects on your education?
4. What are the pros and cons of using technological tools and equipment in the education process?
2 Method

One of the qualitative methods, interview method was conducted in the descriptive research. After taking their consent, the opinions of the students were taken with voice recording devices. The answers received from the voice recorders were written in the document, and the students’ confirmation was received. Hennink, Hutter, and Bailey [36] stated that the focus of qualitative research is a research model that helps us understand the participants.

2.1 Research group

The research was conducted in the fall semester of the 2019-2020 academic year with 75 students from the Federal University of Kazan (Volga region), the Institute of Legislation and Comparative Law under the Government of the Russian Federation, Plekhanov Russian University of Economics and Sechenov University. The demographic information of the university student participating in the study was given in Table 1.

Table 1. Demographic information of the instructors

| Gender |  
|--------|
| Female | 38  |
| Male   | 37  |
| Total  | 75  |

2.2 Data collection tools

In order to know the opinions of senior university students on the technology, the demographic information form was developed by the researcher. Also, semi-structured questionnaire consisting open-ended questions were used as data collection tools. The open-ended questions in the questionnaire were created using the literature and the researchers’ own experiences. The questionnaire was first examined by 6 experts (1 linguist, 5 computer teachers) experienced in qualitative research, and necessary corrections were made according to their feedback.

3 Results

3.1 What is technology? What is to your first perception when it comes to technology?
The answers given by the senior university students to the question of "what is technology" are innovation (29), communication (24), easy accessibility (15), technological tools (7). It was seen that students mostly answered the concept of technology as innovation and development to keep up with the times.

Some student views were as follows:
“When I think of technology, the first thing that comes to my mind is innovation. Because technology expresses the developing era, new features and tools. ”

“When it comes to technology, what comes to my mind is quick access to information. I can quickly access information thanks to technological tools. Likewise, I maintain my communication with technological tools. ”

### 3.2 For what purpose do you use technology?

| Purpose                  | N  |
|--------------------------|----|
| communication            | 45 |
| Play game                | 18 |
| Information research     | 10 |
| Preparing homework       | 2  |

Students were asked the question of what purpose you use technology frequently for. Among the findings of this question, they stated that they mostly used it for communication (45), for the game (18), for obtaining information (10), and when preparing homework (2).

Some of the students' views on this finding were as follows:
“I use technological tools to communicate the most. I use features such as telephone communication, social media usage, and messaging.”

“I love playing games. Mobile games are where I spend the most time on my computer and phone.”

“While preparing my homework, I frequently use technological tools while doing research on a topic.”
3.3 Can you explain what technological tools and equipment you have encountered during your education process up to now and their effects on it?

Table 4. Technological tools and equipment you have encountered during your education process and their effects on it

| Theme                     | N  |
|---------------------------|----|
| Computer                  | 50 |
| Projection instrument     | 45 |
| Presentation              | 29 |
| Tablet, mobile phone      | 15 |

Findings related to the answers given by the senior university students to the question “Technological tools they have used in education until now” were computer (50), projection device (45), presentation (40), tablet (15). The majority of the students stated that they used computers and projectors. According to the answers of this question, one more question was asked to the students: What the effect of using technological equipment on students is. Almost all of the students answered the question that they were motivated by the lesson (62). There were 35 students who stated that technological tools embody knowledge, made learning easier for them.

Some student views were as follows:

“The technological tools I use the most during my education are computers. I find information by searching the internet using a computer. I prepare homework and presentations on the computer. Even the use of the projection tool is done with the help of computers.”

“My teachers' lectures by using a projection device in presentations and video presentations increases my interest in the lesson. By showing them away from the verbal lecture and presenting the application concept, the narrations ensure that the information is permanent.”

3.4 What are the benefits and harms of using technological tools and equipment in the education process?

Table 5. Benefits and harms of using technological tools and equipment in the education process

| Positive (75)      | Negative (8)       |
|--------------------|--------------------|
| Effective learning (32) | Teacher technology shortage (7) |
| Fun content (27)   | Distraction (1)    |
| Interaction (13)   | Self-confidence (3) |

There were 75 students who gave positive opinions from the findings of the last year university students' answers to the question “What are the positive and negative aspects of the equipment used in education?”. 8 students put forward their negative aspects.
As a positive opinion, they stated that technological tools provide effective learning (32), sharing entertaining content (27) and perpetuating learning by providing interaction (13). 3 students gave the answer themed self-confidence. To the question of how technological tools provide self-confidence, the students stated that they increased their self-confidence by providing the opportunity to make presentations and that they realized the way of addressing in a crowded environment. They stated that the students’ responses to the negative aspects of technology-supported equipment in education may be due to the inadequate technological knowledge of the instructor (7), and if the use of technological equipment is not provided correctly, it may create distraction in students (1).

Some of the student views were as follows:

“The use of technological equipment both facilitates our learning and makes lessons enjoyable. We constantly use technological tools in daily life. Online trainings, effective presentation contents, video lectures, learning-based e-learning applications make it easier for us to learn and gain knowledge.”

“Our teachers' not knowing the use of technological equipment at a sufficient level can cause disconnection from the lesson. If I want to explain this with an example; One of the students helped a teacher who did not know how to use the project tool. We started the lesson 20 minutes late. Teachers have many new technological tools beyond the usual tools. They can train by using these tools such as kahoot, zoom, classroom, online exam system, etc. while lecturing.

4 Discussion and Conclusion

The innovation (29), communication (24), easy accessibility (15), technological tools (7) given by the senior university students to the question of “what is technology” were themed. This result obtained from the students revealed that the concept of technology is perceived correctly. Technology is among the sine qua non of today, and they cited technology as a tool that should be known as keeping up with innovation.

It was concluded that the students mostly used technology for communication. They stated that they mostly used the results of this question for communication (45), for the game (18), for obtaining information (10), and when preparing homework (2). This result is thought provoking. When used correctly, technology contributes to us. Technology has an important place in all areas of professions. Usually areas of use should not be games.

Findings related to the answers given by the senior university students to the question “Technological tools they have used in education until now” highlighted computer (50), projection device (45), presentation (40), tablet (15). The majority of the students stated that they used computers and projectors. According to the answers of this question, one more question was asked to the students: What the effect of using technological equipment on students is. Almost all of the students answered the question that they were motivated by the lesson (62). There were 35 students who stated that technological tools embody knowledge, making it easier for them to learn.
When we look at the results of the final year university students' finding “What are the positive and negative aspects of the equipment used in education”, there are 75 students who expressed a positive opinion. 8 students answered their negative aspects. As a positive opinion, the result is positive because technological tools provide effective learning (32). Effective learning transfers knowledge to cognitive memory correctly. Scientists’ processes of structuring scientific knowledge involve proving, evaluating and presenting claims, and this also forms the cognitive infrastructure of argumentation [11]. For this, technology provides convenience in transferring the information to permanent memory by concretizing the information as a suitable tool in education. They stated that sharing fun content (27) makes learning permanent by providing interaction (13). 3 students gave the answer themed self-confidence. Considering the results of this finding, it is consistent with other studies.

They stated that the students' responses to the negative aspects of technology-supported equipment in education were due to the inadequate technological knowledge of the instructor (7), and if the use of technological equipment was not provided correctly, it could create distraction in students (1). One of these categories is special field information, mastering the basic concepts and content of the special field that the teacher will teach [14, 19]. Another is the general knowledge of the profession, that is, how the teacher will teach. Recognition of students, material development, classroom management, strategy and methods assessment and evaluation, etc. It includes knowledge and skills [1].

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