Assessment of The Role of Technology in the Process of Tolerance

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Abstract – Technology is the most important communication tool that enables people to reach agreement, show tolerance and get closer to each other. Tolerance is the process of individuals’ empathizing with the feelings, thoughts, and behaviors of the people around them, and at the same time, respecting and trusting them in an unrequited way. The aim of the present study is to assess the role of technology in the process of tolerance according to computer science teachers. In the study, qualitative research approach was used. The aim was to obtain significant and detailed data regarding the role of technology in the process of tolerance by using case study. The research was carried out with 20 computer science teachers chosen with maximum variation sampling method. In the research, semi-structured interview was used as a type of data collection technique. The data of the research were analyzed through content analysis. In conclusion, technology helps to establish healthy communication between teachers. Also, technology helps to close communicative gaps in the process of tolerance. At the same time, technology plays a major role in communicating to increase tolerance because technology is a factor that helps bring teachers closer.

Keywords – technology; role of technology; tolerance; computer science teacher; school

I. INTRODUCTION

One of the issues that still remains on the agenda today is the importance of human rights. Human rights are the rules that ensure people to maintain their lives in the most efficient way and aim to protect humanitarian values [1, 2, 3]. What is meant by human rights is essentially the existence of universal rights. Universal rights are all of the rights that are worthy of human dignity and are of vital importance [1, 3, 4].

There are many elements within the concept of human rights. Some of these are concepts such as freedom, democracy, education, health, peace and justice [1, 2, 3]. Undoubtedly, one of the most important of these concepts is tolerance. Tolerance is one of the most important concepts that differentiates human from other living things. This is because tolerance is one of the most important values that make human beings human [4].

Today, with the effect of globalization, cultures are intertwined or different cultures are living together [5, 6, 7, 8, 9]. Therefore, it is important that all people on earth learn to live in peace [10]. The creation of this peaceful environment is, of course, linked to tolerance. It is important that people embrace everyone around them without discrimination, and respect the differences by always giving priority to their tolerant behavior. It is an undeniable fact that life will be easier for everyone if individuals show tolerance in every aspect of life [11].

It is important to exhibit tolerant behaviors in all living spaces where people and other living things take place [12, 13]. It is an undeniable fact that the climate and culture of the school will be positively affected if teachers, administrators, students and parents under the roof of the school mutually tolerate each other. It can be argued that as a result of tolerant behaviors, the efficiency and quality of the school in educational and instructional areas will increase [14, 15, 16].

Technology is the most important communication tool that enables people to reach agreement and get closer to each other. Without technology, people cannot express themselves and cannot meet on a common ground in today’s context [17, 18].

When the previous studies in this field were examined, it was observed that predominantly the studies on the role of technology were conducted. From this point of view, it can be argued that the role of technology in the process of tolerance is not studied sufficiently. It is anticipated that this research is important for the above reasons and will advance the previous studies by filling the gaps in the related field.

The purpose of the present study is to assess the role of technology in the process of tolerance according to computer science teachers. After this study, it is anticipated that a more democratic school dynamics will emerge among teachers and tolerant teacher behaviors that will support education management processes will be encouraged. In addition, it is thought that technology will be used more effectively among teachers and the role of technology in displaying tolerant behaviors will be considered more. At the same time, it is anticipated that the efficiency of education management processes can be increased in line with the results and recommendations obtained from this study. Answers to the following questions were sought in line with the purpose of the study:

i) What do computer science teachers think about the importance of technology use in the process of tolerance?

ii) What are the opinions of the computer science teachers about the role of technology in the process of tolerance?
II. METHOD

A. Research Model

In the present study, qualitative research approach was used. In this research, the aim was to obtain significant and detailed data regarding the role of technology in the process of tolerance by using case study. Case study is a research method that includes in-depth and detailed examination of a study subject as well as contextual conditions related to a subject in social sciences [19, 20].

B. Study Group

The study group of the research consisted of 20 computer science teachers. Maximum variation sampling method, which is one of the purposeful sampling methods was used in the research.

Purposeful sampling is widely used to identify and select knowledge intensive cases in qualitative researches [21]. In this research, the aim of using purposeful sampling is to form a data-rich group of participants. Maximum variation is a purposeful sampling strategy and its primary objective is to exemplify the heterogeneous structure [22]. The reason for using maximum variation in this research is to explain the problem more thoroughly by forming a wide range of participants.

While determining the computer science teachers who form the study group of the research, variables such as the genders of computer science teachers, their years of seniority in the profession, the district of the school they work at are, and the socio-economic structure in the region where the schools they work at are, were considered and the aim was to keep the variety of the study group at maximum level.

C. Data Collection Tools and Techniques

In the research, interview was used as qualitative data collection technique. Interview is a widely used data collection technique in qualitative researches [23]. The reason for using interview technique in the research is that this technique is superior in terms of revealing the experiences, emotions, thoughts and opinions of participants and is based on speech. Interview technique is divided into three, being unstructured interview, structured interview and semi-structured interview [24].

In this research, semi-structured interview was used as a type of data collection technique. Semi-structured interview is the most commonly used research method in social sciences. Whereas there are solid questions, which do not enable the orientation of someone in structured interview, it is possible that new ideas come in sight with the answers of the interview, by adding flexibility to the questions, thanks to the semi-structured interview [21]. Semi-structured interview technique was used in this study, both because it draws a road map for the researchers and because it brings in flexibility regarding the questions.

Before the interview questions prepared by the researchers were prepared, a detailed literature review was conducted on the concept of technology and tolerance. The interview questions were prepared by taking the opinions of three experts in the fields, two qualitative research experts and one language expert, following which 2 open ended questions were formed in total. Pilot scheme was performed; the interview form was tested on two computer science teachers and it was finalized in line with the answers and reactions of the computer science teachers interviewed and entitled "The role of technology in the process of tolerance – Interview Form". The purpose of this interview form is to reveal and evaluate the role of technology in the process of tolerance.

D. Data Collection Process

An official permission letter was received from Northern Cyprus Ministry of Education for the interview form. Interviews were conducted with the computer science teachers in the sample between March 2019 and May 2019. Interviews were conducted within the working hours, in the teachers' own schools, on a voluntary basis and with an official permission letter.

Before the interview, participants were reminded of the ethical rules. Within the framework of ethical rules, it was reminded that participation in the research was purely based on voluntariness, that identity information would not be shared with anyone other than the researcher and that the collected data would not be used for a purpose other than academic researches.

Since the participants stated that they were disturbed by the voice recording during the interviews, written record was performed instead of voice recording. At the end of the interview, each participant was asked if they had any opinions they wanted to add or remove, and the interviews were ended according to their wishes. It usually took 15 to 20 minutes for the participants to answer the questions.

E. Data Analysis

The data of the research were analyzed through content analysis. Content analysis is a research method that examines and analyzes different forms of documents such as text, image, audio, video and communication tools. Social scientists in particular use content analysis to systematically examine patterns of communication [25]. In other words, content analysis is an analysis technique that can collect and interpret similar data together in order to reach expressions and connections that can make sense of the data [23, 26]. Since the aim is to study the similarity relations of the data obtained and to gather and systematically analyze similar data, content analysis was utilized in the research.

In the first stage of the analysis of this study, the researchers conducted literature review in the field and since there were no explanatory categories, they formed their on categories based on the data obtained. Accordingly, the researchers adopted the induction approach and codings were made. In the second stage, themes were revealed. In the third stage, the data obtained from the participants were gathered and grouped on the basis of themes. In the last step, the present findings were explained in detail by utilizing numbers and tables.

Throughout the analysis of the interviews, abbreviation codes were formed for each participant,
being T1, T2, T3, ........ and T20. For instance, T2 abbreviation code refers to the second computer science teacher with whom the interview was conducted. The purpose of these abbreviation codes is both to keep the names of the participants confidential and to provide convenience during the study.

The findings obtained as a result of data analysis were presented in tables in parallel with the sub-objects of the research and all necessary explanations were made.

F. Validity and Reliability

Regarding internal validity, the data were written in detail and the way the results were obtained was explained clearly. During the explanations, the views of the participants were frequently quoted directly and the data were supported by these views. It was also considered important that the research findings were both consistent and significant in themselves and the data revealed had the quality to form a whole. Regarding external validity, the necessary explanations for the obtained findings to be tested in other studies are included in the research. For the results in the research to be generalized and transferred to similar environments and groups, the readers were informed in detail about all stages of the study.

In order to ensure the internal reliability of the analysis, the proposed formula (Reliability = Consensus / (Consensus + Disagreement)) was used in the reliability calculation [27]. According to [27], the fact that the result of reliability calculations for the researches is over 70% makes the research reliable. Since 95% consistency is obtained in the research, it can be argued that the interview records in the study are reliable in terms of the identified categories. The characteristics of participants such as their gender, professional seniority and field of study were identified for external reliability. In this way, other researchers conducting similar studies may consider these definitions while forming their samples. At the same time, the data of the study were stored so that they could be reviewed later by others on demand.

III. FINDINGS

A. The Importance of Technology Use

The opinions of computer science teachers regarding the importance of technology use in the process of tolerance were inquired and the related findings were presented in Table 1.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Number of opinions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology use helps to establish healthy communication between individuals</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Technology use helps to share ideas</td>
<td>8</td>
<td>40</td>
</tr>
</tbody>
</table>

As can be seen in Table 1, 12 computer science teachers think that technology use helps to establish healthy communication between individuals. This opinion is the most expressed by the teachers. Participant T6 expressed the opinion by stating that "Communication and interaction between individuals increase with technology use. In this way, the climate of the individuals’ environment is positive. Therefore, the importance of technology use should never be underestimated."

8 computer science teachers expressed their opinions by saying that technology use helps to share ideas. Participant T19 expressed his opinion on this issue in the words "People have different ideas. People can only meet on a common ground if they share their ideas with each other. This is only possible with the correct technology use."

B. The Role of Technology in the Process of Tolerance

The opinions of computer science teachers about the role of technology in the process of tolerance were inquired and the relevant findings were presented in Table 2.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Number of opinions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology is a key to understanding</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Technology helps to close communicative gaps in the process of tolerance</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Technology helps teachers to express their tolerance behaviors and expectations</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

When Table 2 is examined, 7 computer science teachers are observed to have the opinion that technology is a key to understanding. Regarding this issue, T13 shared his thought on this issue by stating that "Technology helps to spread tolerance among teachers. With the use of technology, you gain a broader understanding of a particular group of people, thus closing the gap between your differences."

7 computer science teachers stated that technology helps to close communicative gaps in the process of tolerance. T9 shared his thought on this issue by stating that "Technology helps to spread tolerance among teachers. With the use of technology, you gain a broader understanding of a particular group of people, thus closing the gap between your differences."

6 computer science teachers stated that technology helps teachers to express their tolerance behaviors and expectations. T1 conveyed his thoughts on the issue by stating that "With the help of technology, teachers can reflect tolerance behaviors towards their colleagues. In summary, through technology, teachers can express how they attribute tolerance and what their expectations are."

IV. DISCUSSION AND SUGGESTIONS

The main purpose of this research is to assess the role of technology in the process of tolerance according to computer science teachers. In the study conducted in accordance with this purpose, it was found that 60% of
teachers stated that technology use helps to establish healthy communication between individuals. As [17] stated, technology use allows the generated messages to be transmitted to the other party. Thus, technology use prepares the ground for the realization of communication. Reference [28] obtained similar results in their research by emphasizing that technology use reminds people of their existence, socializes them, and makes communication effective by offering them common living spaces. The remaining 40% of teachers stated that technology use helps to share ideas. Reference [28], who conducted research on this subject, emphasized that technology use draws a conscious path to communication and it provides the best transmission of thoughts. Based on these results, it can be said that technology use is the primary requirement of communication. In this context, school administrators have a big duty. School administrators are suggested to encourage teachers to use technology more.

Regarding the role of technology in the process of tolerance, 35% of teachers stated that technology is a key to understanding. As [17] stated, technology is a priority tool for understanding. In this context, it can be argued that in order to work in a cultural school, it is important to bring together teachers with different ideologies, behaviors, qualifications and policies. In this way, the country can produce a better result and create a successful, harmonious, pragmatic and tolerant society. At the same time, it can be argued that technology is a factor that helps bring teachers closer. The remaining 35% of teachers stated that technology helps to close communicative gaps in the process of tolerance. As [28] stated, technology is transmitted with the help of its constituent components. Technology is responsible for the formation and transmission of the messages as desired. At this point, it can be argued that technology is very important in eliminating communicative errors and gaps in the process of tolerance. Based on these results, it can be said that technology is a great tool for raising awareness and understanding of spreading tolerance among teachers. The remaining 30% of teachers stated that technology helps teachers to express their tolerance behaviors and expectations. In the light of this result, it can be said that technology is one of the most effective tools by which teachers express their tolerant behaviors and expectations about tolerance. In this point, it can be suggested to transform technology literacy into a state policy and to organize in-service trainings for teachers.

V. CONCLUSION

In conclusion, technology use helps to establish healthy communication between teachers. The role of technology in the process of tolerance should never be overlooked because technology is an indispensable tool to understanding. At the same time, technology helps to close communicative gaps in the process of tolerance. In addition, technology plays a major role in communicating to increase tolerance because technology is a factor that helps bring teachers closer.

REFERENCES


