Journal of Qualitative Research in Education

Use of Technology in Social Studies Teaching: The Journey of Five Teachers*

Erdi ERDOGAN**
Buket SEREFLI***

To cite this article:
Erdogan, E., & Serefli, B. (2021). Use of technology in social studies teaching: the journey of five teachers. *Journal of Qualitative Research in Education*, 27, 232-256. doi:10.14689/enad.27.11

Abstract: This study aims to examine the effect of personal experiences of Social Studies teachers on using technology in the teaching process. The study was carried out with narrative research that is one of the qualitative research models. A purposeful sampling method was used in determining the study group. Five Social Studies teachers were included in the study. The research data were collected with a semi-structured interview form. Three sessions of interviews were conducted to collect research data. In the data analysis, narrative analysis was used to form the participants' stories, and thematic analysis was used to present the findings from the participant stories systematically. The findings revealed that Social Studies teachers have limited technological opportunities in their learning process; they could not access sufficient equipment during their undergraduate education. Still, despite these limited opportunities, they can develop their technology use skills in line with their interests and curiosities after starting their professional life. Besides, Social Studies teachers with more years of professional experience are willing to realise and eliminate their shortcomings, and cooperate. Thus they use instructional technologies effectively.

Keywords: Social Studies teacher, narrative research, instructional technology

Article Info
Received: 09 Oct. 2020
Revised: 26 Jan. 2021
Accepted: 20 Jun. 2021

Article Type
Research

* This research was presented as an oral presentation at the 7th International Congress on Social Sciences, Humanities and Education.

** *Correspondence:* Kırıkkale University, erdierdogan90@hotmail.com
*** Kırıkkale University, buket.serefli@kku.edu.tr

Declaration of Conflicts of Interests: None

Introduction

The increasing digitalisation of societies has triggered today's technology-based transformation of education, many components from educational environments to teaching processes have been included in the technological circle, in more detail; it has been observed that one of the effects is on the planning, execution, and evaluation of the teaching process (Instefjord & Munthe, 2017; Bolick, 2017; Hew & Brush, 2007). This situation has caused changes in teacher roles and teaching practices. Thus, it became clear that the teacher should assume the role of a manager and provide a function that includes technology in educational environments (International Society for Technology in Education [ISTE], 2017; Wright & Wilson, 2009). In this regard, the Organisation for Economic Development and Cooperation stated that due to the change of school and teacher roles, there is an expectation from teachers to use information and communication technologies for teaching purposes effectively (Organisation for Economic Co-operation and Development [OECD], 2009). Additionally, it has been stated by the National Council for the Social Studies ([NCSS], 2013) that it is inevitable to include technology in teaching processes to adapt to the digital age and to connect with students in courses. There has also been an expectation for teachers to use information and communication technologies competently to plan the teaching process, develop digital materials, effective teaching, and evaluating teaching to support student development (Ozgur, 2020). These expectations are an important indicator of understanding of education in the 21st century, gradually moving away from traditional methods and evolving into a different understanding using digital technologies. However, since teachers have important obstacles in including information and communication technology in their courses and competencies, this new understanding requires a long process.

The obstacles inherent in the new understanding of education are classified as first-order and second-order barriers in the literature (Ertmer, 1999; Tosuntas et al., 2019; Cheng et al., 2020; Francom, 2020). First-order barriers are external barriers. These barriers consist of the inadequacy of school resources, time limitations, lack of training on how to use technology, lack of technical support, and the inability of the school administration to provide administrative support at the desired level. Second-order barriers are internal and include teachers' beliefs about technology use in the classroom, teaching and learning processes, and willingness to change. However, in the study conducted by Tsai and Chai (2012), it was stated that there was another third-order barrier. The researchers stated that teachers should have design thinking skills in designing a technology-based teaching process for students' individual differences. They also stated that an effective technology integration might not occur even if the first two barriers are overcome in a lack of design thinking skills. Another classification was carried out by Hew and Brush (2007), and this study categorised the barriers related to technology integration under six basic themes. These are; resources (inadequacy in technology, access to technology, time, and technical support), knowledge and skills (lack of technological and pedagogical knowledge and skills), institution (leadership, deficiencies in school timetable, and institution planning), attitudes and beliefs

(technology integration of teachers low attitudes and beliefs about usage), evaluation (evaluation processes and exams have great importance), and subject culture (general practices and expectations inherent in the structure of the institution).

All of these difficulties provide important clues for integrating technology into the teaching process. Obstacles can be removed by following these clues. Besides, the appropriate structure of the course to which technology integration will be provided will make the process even easier. Social Studies course has an important advantage at this point. The Social Studies course is a suitable course to benefit from digital technologies frequently (Shriner et al., 2010; Demirezen & Keles, 2020). Because Social Studies courses have an interdisciplinary structure. Due to this structure, Social Studies facilitates bringing content related to many disciplines to the classroom environment. Additionally, there are many concrete and abstract concepts belonging to different disciplines in the content of the Social Studies course. Instructional technologies are effective in learning these concepts by students (Dere & Ates, 2020). Due to the suitable structure of the Social Studies course, many digital technologies and technological devices, from various software to digital cameras, can be employed in the teaching process to achieve the determined teaching goals (Debele & Plevyak, 2012). Besides, Curry and Cherner (2016) stated the necessity of including technology in Social Studies teaching as a necessity of the modern age. Although the Social Studies course is suitable for integrating instructional technologies, it should not be ignored that the basic dynamic here is the belief and competence of the Social Studies teacher to achieve this.

It is also quite complex to evaluate the teachers' integration of technology into Social Studies as in all branches. Although many models have been presented in the literature to achieve this, one of the universally accepted and most up-to-date models is the "Technological Pedagogical Content Knowledge (TPACK)" model designed by Mishra and Koehler (2006). The researchers stated that it is not enough for teachers to have knowledge of technology alone. At the same time, they emphasised that it is important to realise the technology-supported teaching process with an appropriate pedagogical understanding and specific field knowledge. However, Wilson (2003) stated that instructional technology courses are separate courses in many teacher-training programs. Still, these courses do not develop the connection of technology, field knowledge, and pedagogy. As a result, in the evaluations with the TPACK model, the inadequacies of the teacher candidates and teachers emerge. It takes a long process to develop teachers' instructional technology and technology integration competencies. Teachers should comprehend how to include the new elements of the developing technology in their courses in the most appropriate way (Kaya & Yazıcı, 2019). Shin et al. (2019) stated that it is necessary to gain extensive experience in technology integration and use them in Social Studies teaching methods courses. However, these experiences are not enough alone. Additionally, teachers' pedagogical beliefs about technology use and integration should be brought to a sufficient level (Tondeur et al., 2016). In this regard, Yılmaz and Ayaydın (2015) stated that the physical facilities of education faculties should be improved, and the lack of equipped lecturers in teaching technology should be eliminated to gain skills related to teaching technology.

When the literature is examined, there are many studies conducted with different research methods examining the perspectives of Social Studies teachers and teacher candidates on instructional technology and technology integration. For example, Ersoy and Bozkurt (2015) aimed to reveal the primary school teacher's experience using the smart board through narrative research. As a result, they identified that the teacher could improve his technology use skills in line with his interest and that there are problems with the internet and electricity infrastructure while using smart boards. Yılmaz and Ayaydın (2015) used a semi-structured interview form to examine Social Studies teachers' competence and their perceptions of efficacy in using instructional technologies. The researchers concluded that the instructional technologies course that the participants enrolled in undergraduate education was not efficient and that more than half of the participants see themselves as sufficient in using instructional technology. Furthermore, Dere and Ates (2020) examined the observations and experiences of teachers regarding the use of technological tools and materials in Social Studies courses in their case study research. As a result of the research, it was concluded that Social Studies teachers closely follow the emerging technologies; the most used tool in their courses is the smart-board and they have positive opinions about using technology. Demirezen and Keles (2020) examined the techno pedagogical content knowledge competencies of Social Studies teachers regarding various variables using the Technological Pedagogical Content Knowledge (TBAP) Scale. As a result of the research, it was concluded that Social Studies teachers consider themselves competent in using technology and that the variables of gender, seniority, and access to technology do not affect their TPACK competencies. Tondeur et al. (2016) examined the relationship between teachers' pedagogical beliefs and their use of technology in education with a qualitative research approach. As a result of the research, it was concluded that there is a significant relationship between pedagogical beliefs and the use of technology in education and that the use of technology in education led teachers to a constructivist approach. In their research, Farjon et al. (2019) examined the attitudes and beliefs of preservice teachers in including technology at the beginning of their undergraduate education. They concluded that attitudes and beliefs have a strong effect on technology integration, while access to technology has a weaker effect. Finally, Shin et al. (2019) examined the perceptions and views of Social Studies teacher candidates and a faculty member about a technology-supported course. As a result of the research, it was concluded that most of the preservice teachers found a course supported with technology useful, and the faculty member used technology in their courses to fill the gap between theory and practice. However, despite all these studies, no study has been found that examines the use of instructional technology in the courses of Social Studies teachers with a narrative research pattern depending on their personal experiences. This situation points to an important shortcoming. Social Studies course is in a structure where instructional technologies are used frequently. For this reason, it is necessary to examine Social Studies teachers' instructional technology competence thoroughly. Based on this deficiency, the purpose of this research is to examine the effects of Social Studies teachers' personal experiences on the use of technology in the teaching process. For this purpose, answers were sought for the following sub-problems.

1. Which life experiences emerged in Social Studies teachers' early period of life (before formal education) in their relationship with technology?
2. How did the experiences of Social Studies teachers in the formal education process (primary, secondary, and high school) affect their technology use skills?
3. How did the experiences of Social Studies teachers in the undergraduate education process affect their understanding of including technology in the teaching process?
4. How did Social Studies teachers' professional experiences reflect on their use of instructional technology?

Method

Research Model

This research examines the effect of Social Studies teachers' personal experiences on using technology in the teaching process. Therefore, the study was designed as narrative research. Narrative research is a research model that aims to reveal individuals' experiences through stories, depending on the constructivist perspective (Stephens & Breheny, 2013). Narrative research has an understanding that allows events to be shared with different individuals through a determined communication channel (Ersoy & Bozkurt, 2016). Narrative research, which has an interpretative structure, reveals important sections within the stories told by individuals and interprets their effects (Pinnegar & Daynes, 2006). In this regard, Bruner (1996) also emphasised that personal stories are an effective tool in revealing experiences. However, these experiences are not independent of the socio-cultural sphere of influence. For this reason, the stories of the participants should not be evaluated independently from the socio-cultural structure they are in (Johnson & Golombek, 2002). Therefore, narrative research should be carried out in a specific process. In relation to that, Creswell (2012, p.514) suggests a process that consists of defining the problem, determining the participants who will make sense of the phenomenon with purposeful sampling, collecting personal stories, retelling individual stories, cooperating with the participant in the whole process of the research, creating holistic stories, and making a confirmation process. In this research, the research process was continued by adhering to the procedure stated. Since the narrative research enables the presentation of individual experiences and the interaction with the environment chronologically, it has been determined as the research pattern to reveal how Social Studies teachers make sense of instructional technology implementations. The narrative research pattern aimed to reveal the interaction of individuals with the environment and the effects of this interaction on individuals. Thus, the process that starts in early childhood and covers professional life has been evaluated in the context of interaction with the environment.

Study Group

There are five Social Studies teachers in the study group of the research. The purposeful sampling method, which is frequently used in qualitative research, was used to determine the research group (Patton, 2014). In accordance with the purpose of the research, following criteria were sought for the participants to continue their professional life actively, to be a graduate of the faculty of education, to complete their undergraduate education in Social Studies teaching, to be interested in instructional technologies, to spend intensive time with digital tools and to voluntarily share their experiences. Four of the participants included in the study work in a private educational institution, while one participant continues his professional life in the Ministry of National Education. Participants were reached through teachers who the researchers knew. For this, the researchers first met with Social Studies teachers in their immediate surroundings. Then, with the teachers' advice, candidates were determined, and the participants who were thought to meet the criteria were contacted. Finally, five Social Studies teachers who met all criteria were included in the study. The experiences of the participants were presented under different names to keep the information of the participants confidential. Introductory information of the participants was presented below.

Aslihan: Aslihan has been teaching Social Studies for two years. She was born in Ankara in 1994. Aslihan started her primary education and completed her higher education here. She is continuing her graduate education, which she started in 2017. Aslihan defines herself as someone who likes to learn and share. Her areas of interest include watching biography-themed movies and reading history and psychology books. In addition, she describes herself as interested in instructional technology. She defines her family as tolerant of technology.

Hakan: Hakan has been teaching Social Studies for three years. He was born in 1994 in a small district of Kutahya and started his education here. He continues his graduate education. Hakan describes himself as "a teacher who cares about literacy and tries to instill this in his students". Having a habit of reading books from an early age, Hakan writes about history and philosophy on several websites. He expresses that his hobbies are cultural tourism, reading books, and gardening. He defines himself as someone who attaches importance to technological tools and instructional technologies. Hakan describes his family as a family that attaches importance to education and has a tolerant approach to technology.

Beyza: Beyza has been teaching Social Studies at a private institution for three years. She was born in Ankara in 1995. She completed her education in Ankara from primary education to higher education. Then she started graduate education in this city and still continues. Beyza states that her most important hobby is reading book, and she loves sharing book reviews with her friends. She also has a blog account on social media where she comments on the books she reads. She states that she is pleased to include instructional technologies in her courses. She describes her family as tolerant of technology.

Ibrahim: Ibrahim has been working as a Social Studies teacher at a private institution for eight years. Ibrahim was born in the province of Tekirdag in 1989. He completed his undergraduate education in a city which is located in the Aegean Region. İbrahim states that he likes to explore different cultures, to present his cultural knowledge to his students with the help of digital tools, and especially to read about the History of the Republic. Additionally, he likes to follow educational technologists and websites that contain content about instructional technology on social media. Ibrahim's family has tolerant manner, and have a supportive approach towards technology.

Umut: Umut has been working as a Social Studies teacher in the Ministry of National Education for 12 years. He was born in 1985 in a village far from the city centre of Gumushane. He completed his higher education in a city in the Eastern Anatolia region. Umut states that his most important hobbies are reading about the Ottoman Empire and dealing with different sports branches. He also stated that he has an intense interest in instructional technology and has received certificates in this field. Umut's family has a traditional structure and has a tolerant manner towards the use of technology.

Data Collection Tool and Collecting Data

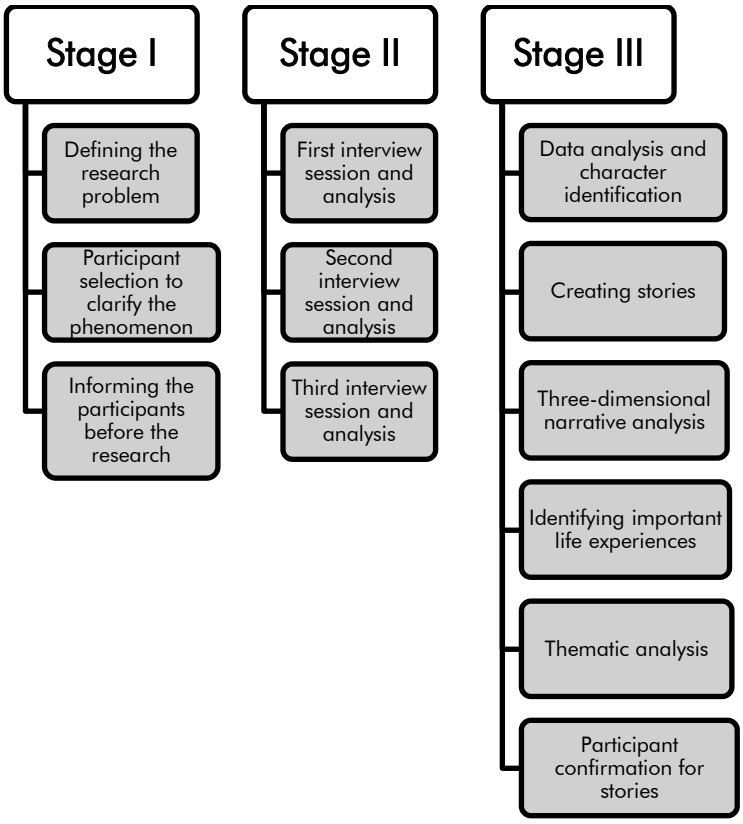
Research data were obtained from five Social Studies teachers within the scope of three-session interviews. The main reason for the interviews to be held in three sessions is that the experiences of a long period can only be revealed with specified number of interviews. In the research, a semi-structured interview form was used as the data collection tool. Thus, avoiding a set of precisely defined questions, an interview process that provides flexibility in the process was preferred. While preparing the interview form, the related research in the literature was examined, and candidate questions were formed. The designed 37 candidate questions was examined by two Social Studies education experts, a language expert and an assessment and evaluation expert. As a result of the feedback, it was stated that some of the questions were overlapping and some of them would not serve the purpose of the research. In this context, arrangements were made in the interview form, and the remaining 25 questions were included in the research process. During the data collection process, three sessions of the interview were conducted with each participant. There was a minimum of one week between the interview sessions. During this period, preliminary analyses regarding the interviews were carried out. Also, free weeks were used to act following the occupational intensity of the participants. In successive sessions, the questions that were overlooked or not asked in the previous session were noted and addressed to the participants in the next session. The interviews were conducted with the help of online video conferencing tools due to the preference of the participants, the Covid-19 Pandemic and their location in different provinces. The date and time of the interview were arranged according to the participants' wishes, and the sessions lasted 20 to 45 minutes. The interview process was recorded with a tape recorder and researchers' notes.

Analysis of Research Data

Before starting the analysis of the data, the audio recordings of each session were transcribed. The written data were analysed weekly, and deficiencies or points not mentioned were noted and addressed to the participants in the next session. Two researchers took part in the data analysis. First of all, independent examinations and coding were carried out. Subsequently, the researchers came together and made comparisons regarding the coding and reached harmony in all codes. After obtaining the data, detailed investigations and character definitions were made. Then, the three-dimensional analysis framework proposed by Clandinin and Connelly (2000) was used in the arrangement and narrative of the interview data. This method is an analysis framework accepted in the literature developed by Clandinin and Connelly (2000), who systematised John Dewey's theory of experience to explain the experience. The dimensions of this frame have been named "social interaction", "time", and "space". Next, the participants' stories were created by examining the research data in the light of the specified dimensions. Then, thematic analysis was used to present the data systematically. The thematic analysis process was carried out following the five-stage process suggested by Robson (2015). First of all, data were obtained, the first codes were created, themes were clarified, thematic relationships were established, combined, and interpreted.

Figure 1.

Research Process



As a result of this process, the themes "Meeting with Technology in Early Childhood Period", "Educational Experiences, Opportunities and Development", and "The Process of Being a Social Studies Teacher, Professional Life, and Instructional Technology" emerged. After the analysis of the stories was completed, participant confirmation was obtained from the Social Studies teachers who participated in the study. The stages of the research process are shown in Figure 1.

Credibility, Verifiability, and Transferability in Research

First, expert opinions were taken on the data collection tool to ensure credibility, verifiability, and transferability. Apart from this, the collected data was confirmed by the participants to ensure objectivity and the findings were supported by detailed direct quotations. Additionally, precautions were taken such as using a qualitative research design for the study, choosing a proper data collection tool for the research design, determining the appropriate study group for the study, specifying the characteristics of the study group in detail, and describing the data collection and analysis process in detail. In the research, the process of preventing data loss by using a voice recorder, meticulous examination and presentation of the findings, and ensuring consistency by being analysed by a different researcher was followed. By taking all these precautions, it is aimed to make the research qualified in terms of credibility, verifiability and transferability.

Findings

Meeting with Technology in Early Childhood Period

Social Studies teachers first met with technology in early childhood period. Regarding this period, the participants expressed their interest in technology, the technological opportunities provided by their families, their parents' use of technological devices, and their perspective towards technology during the formation period of their identities. When the viewpoint of teachers towards technology from the early childhood period are examined, it is seen that all of them have a positive perspective. Especially individual curiosity and family approach are seen as factors that reveal this. It is thought that individual curiosity is one of the important criteria affecting the experiences of teaching technologies after starting teaching.

Aslihan especially states that her interest in technology is at a very high level. One of the reasons for this situation may be that Aslihan has sufficient technological facilities.

> … Afterwards, I was spending a lot of time on the computer like children of that age. I had an above-average interest in technology. Aslihan

On the other hand, Ibrahim stated that he fosters an intense sense of curiosity towards technology and constantly evaluates how he can benefit from technological tools. This sense of wonder can be associated with Ibrahim's character traits.

> Technological devices and developments have attracted our attention in our period as well as in every child. At this point, there were times when we were constantly turning to these, as it drew our attention to what was in it, what kind of gain it would provide, and what kind of entertainment methods we could find with its use. Ibrahim

Other participants Umut, Hakan, and Beyza, also stated that they were interested in technology, but they did not fully explain the reasons for this. This situation indicates that other participants have a general interest in technology, unlike Aslihan and Ibrahim.

> My interest in technology has increased considerably with television. I was also interested in technological devices in our home. I also liked fixing them. Umut

> My interest in technology was very good in my childhood because my family was also interested in technological developments compared to other families. Hakan

> Back then, there were not many computers in homes. It was developing when I was just getting started to fifth and sixth grade. The computer seemed like a very strange thing to us. Naturally, it only attracted our attention for the game. Beyza

Social Studies teachers stated that the technological facilities they had in early childhood also affected their experiences. While Aslihan and Hakan stated that their families provided them with sufficient opportunities, Umut, Ibrahim, and Beyza stated that they had limited access to technology.

Hakan and Aslihan are lucky individuals to have technological opportunities. With the support of their families, they could easily access the current technologies of their time. Thus, they met technology at an early age and increased their awareness.

> One of the greatest technologies for childhood was the phone. The internet was not as common as it is today. When I started the third grade in primary school, we had a desktop computer in our house. My family also contributes, of course. According to our environment, I can say that our technological facilities were above average. Hakan

> In our era, I was introduced to technology - if we mean computer and cell phone - in the eighth grade. At that time, we had a push-button phone. I also had a computer during high school. Aslihan

There is a disadvantage for Ibrahim, Umut, and Beyza. While the disadvantage for Ibrahim is that his family cannot provide opportunities, for Beyza, it is related to the environment they are in. Participants' limited technological capabilities may have affected their technological competence in the future. If these individuals had Hakan and Aslihan's opportunities, they could exhibit a different development feature.

> Since I could not access technological devices in my childhood, I had a limited chance to use them. I did not have much access to computers, cell phones, or other technological devices. For this reason, my relationship with technology was very limited in childhood. Ibrahim

> Frankly, there were not many computers in the houses around us. I started using them when I was going to middle school. At that time, we didn't know about phones or anything. Beyza

The participant who has the most limited opportunity in terms of technology is Umut. Umut was born and raised in a rural area, could only spend time watching television due to the characteristics of both the physical environment he lived in and his period.

> Electricity had just arrived in the village when I was born. Technology started to develop in my childhood. I did not see much about technology until my primary school period. Ours was the only TV. It broadcasted only one channel. Since we had limited technological opportunity, we were playing games outside. Umut

Social Studies teachers stated that their families' use of technological devices in the early childhood period is also important. They evaluated this in terms of being a role model. However, they stated that their families do not have the same perspective despite their interest in technology. For example, only Hakan stated that his family uses technological devices frequently. On the other hand, Ibrahim, Umut, Aslihan, and Beyza stated that their families do not regularly use technological devices.

Hakan is in a different situation about the technology usage preferences of the parents among the participants. His family is interested in technology and eager to use it. This feature is thought to have a significant impact on the continuity of Hakan's interest in technology.

> My family's interest in technology was top-end for a family living in the countryside. Of course, my family used technological devices. Hakan

For other participants, their parents' use of technology is minimal. Their parents either do not use the technology or use it to a limited extent to meet their basic needs. This parental structure may have affected the participants' role modelling behaviours to remain at a limited level. The inability of the participants to benefit from parental knowledge created a gap in the technology perspective.

> My parents were inadequate in this regard. Technology in Turkey at that time was not very common. Besides, our parents did not have much interest in technology. We learned more from what we saw from ourselves and from our environment, not from our family. Umut

> My mom and dad did not use technology. I have a sister one year younger than me. She did not use it as much as I did. I was using it more active than her. Aslihan

> My family did not use many technological devices. Even now, they only have phones. At that time, they did not prefer to use the internet and the computer. Beyza

> There was only limited use for purpose in my family. They only preferred the phone for communication. Ibrahim

Another emphasis in early childhood is on the parents' approach to the participants' use of technology. Here, a tolerant family approach emerged for all participants. Ibrahim, Umut, Aslihan, Beyza, and Hakan emphasised that their families support the use of technology and at the same time feel the need to control the technology usage process. Therefore, they stated that their parents sometimes warned about the duration and purpose of use.

Despite all these similarities, there are also minor differences in family approaches. For example, although Ibrahim and Umut's families were tolerant, they also continued to warn their children. This situation can be considered as an indication that the parents also adopt a controller role.

> … We were being exposed to some warnings. We were constantly trying to spend time with technological devices with the curiosity of childhood. We were doing this to learn and discover something new. However, as I said, our family was in a moderate but also a little stimulating manner in this regard. Ibrahim

> Even though we had limited access to technology, we used to watch television. Our family wouldn't say anything to it. But when we spent too much time on television, my family would be tensed up, and they would warn us. Umut

Aslihan states that her family has a positive manner on use of technology. However, her family displays a stricter manner towards the duration of use than Umut and Ibrahim's families.

> I was using technology freely. My family supported this; they were positive. … When I spent too much time with technology, my mother and father got angry. Aslihan

On the other hand, Beyza emphasised that her family displayed different approaches towards computer and internet usage. She stated that her family evaluated internet usage differently, also emphasised the controlling characteristics of her family.

> The computer alone did not worry much to my family, but when the internet gets involved, mothers start to be a little nervous. They asked me questions such as "which websites do you access" and "what are you doing on the computer". They were not extremely harsh, but they were still careful. Beyza

Hakan's family intervened in the use of technology in cases where their children exceeded their daily use, despite all their tolerant approaches. This situation is because Hakan does not limit the daily usage time and uses technology intensively.

> Conditions at that time were not as they are today. I was constantly playing games on the computer. The computer was in my room, and I could sometimes overdo it. That's why my parents were putting limitations. Hakan

Educational Experiences, Opportunities, and Development

When the stories of Social Studies teachers were examined, it was understood that the technological opportunities they had in their schools during their primary, secondary, and high school education were different from each other. Teachers predominantly stated that they have very limited opportunities at the primary school level and that limited technological opportunities started to develop during the secondary and high school education process.

Living in the village has an important effect on the experiences of Ibrahim and Hakan in the formal education process. Both teachers stated that the technological equipment in the primary school in the village was limited. However, they stated that this situation

started to change in secondary school. This situation can be interpreted as educational opportunities in rural settlements create a disadvantage in individuals' experiences regarding technology.

> I started school in the village primary school. There was not even a TV in our classes. Eventually, I tried to take a small TV that we had at home to school. Since I attended secondary school in the district, it was quite advanced compared to the village primary school. There was a TV in every classroom. Apart from that, we also had computers we used in computer courses. Hakan

> I can say that technology was used very limitedly in primary school. As a technology, I can talk about overhead projector at that time. It was also rarely used. Opportunities were limited, as I completed primary school in the village school. In the middle school period, we used it more widely, especially in Social Studies courses. We had computer courses. We were trying to learn something with a limited number of computers. When we started high school, we used technology more actively. This time, we started to have more courses in the computer lab. We used slide shows in our history and geography courses. Since computers were not in every classroom, we went to stationary computer classes and taught our courses there. Since projection devices were also limited, we were usually looking at relevant information, images, and data on the computer screen in turn. Ibrahim

Umut stated that although he lived in a rural settlement, he had difficulties accessing technology during his formal education process due to the characteristics of the period he started school rather than the effect of the physical environment. This finding can be interpreted as the period conditions are a turning point in the experiences about technology in the formal education process.

> The '90s were the years when I was educated. We haven't seen anything about technology in primary, secondary, and high school education. There was nothing in our courses. Courses at school were taught by teachers using classical methods. We only had books. Umut

On the other hand, Beyza and Aslihan are more fortunate in gaining technology-oriented experiences in the formal education process because it is seen that they have the common technological devices throughout the country in their time; this way, their experiences were enriched.

> We had computer courses in our schools. At that time, we had a computer lab. One computer per two students at most. But it's not what it is now. There were computers with old cases. Apart from that, we haven't seen much technology in our schools. Beyza

> There was a television in the classroom in primary school. I remember sometimes watching cartoons. But there was no overhead projector in the classrooms. There was a hall, a projection room. We used to get there sometimes in courses. There was a computer lab in our secondary school. There was a computer course a week. There was a projection in certain classes in high school as well. We rarely attended these classes. Aslihan

It has been revealed that the use of technology and technological equipment opportunities in the educational life of Social Studies teachers until the undergraduate process have made remarkable changes in their perspective towards the course for some participants and have a limited effect on the others.

It is seen that Umut is the most disadvantaged among the participants in the formal education process in terms of developing the technology perspectives and technological

competencies. It is thought that the disadvantaged situation has arisen due to the periodic characteristics and the teachers' new interest in current technologies.

> Our period was rather insufficient in terms of technological equipment. Since computer technology has just arrived, it was difficult for our teachers to be aware of this issue. We were educated with chalkboards. Unfortunately, technology was not available in our classes at the time we were studying. We haven't learned much. Umut

On the other hand, Ibrahim and Hakan think that the formal education process until undergraduate education has a limited effect on technology use. Based on this assessment, it can be said that the technologies used in the classroom are insufficient, and the teaching process is not maintained effectively.

> We could not learn much because we could not use technology much in the courses. Maybe we could get some information randomly on some subjects, such as using a computer and arranging a slide. It did not do much for educational purposes or accessing other information. But because of my curiosity, it guided me more enthusiastically on this issue. Ibrahim

> The use of technology in the classroom didn't make a big impact on me. Because it was in my home from a young age, I could only reach them at certain times at school, but I was always able to reach them when I got home. Since there was not as advanced technologies as today's use in the course, of course, it has contributed in terms of attention, but at a certain level… The courses I took in middle school and high school allowed me to use computer hardware, Microsoft, Word, PowerPoint, Excel. Hakan

Aslihan and Beyza made different evaluations from other participants in gaining technological competence and perspective towards technology. Two participants stated that the technologies used in primary, secondary, and high school education had a developing effect on them and positively affected their perspective towards the courses. This situation can be interpreted as providing sufficient technological opportunities, and effective use of these technologies in the teaching process can have a developing effect on students' capacities and perspectives.

> It was nice to use technology. I liked go to the projection room. The course was more enjoyable because there were visuals. I remember that our high school geography teacher took us to the projection room. I mean, I already liked the geography course, but I can say that the course with projection helped me even more. I thought I was more active. … I learned how projection reflects in middle school. … At that time, technology was not used much, but our teacher taught us Word program, etc. in the computer course. Aslihan

> Word was one of the computer programs that we started to use at first. We learned how to use them gradually. Of course, we develop them later during university, but we learned the first steps in primary and secondary school. Likewise, there were slide programs like PowerPoint. … As for what technology affects the course, it was fun back then. Rather than just working with the book, let's open it from the computer, our teacher makes a presentation, or we do it. It was something that motivated all students. It also made us more aware of the use of technology, I think. Beyza

The Process of Being a Social Studies Teacher, Professional Life, and Instructional Technology

The undergraduate process is a period in which Social Studies teachers' instructional technology competencies are developed. One of the critical points in this process which is carried out through planned experiences, is the participants' technologies and how they use them. From this point of view, it is seen that there are important differences between the participants.

Due to the recent development of technological tools in undergraduate education, the most disadvantaged among the participants is Umut. Umut does not have any technological device in his undergraduate education except a communication tool. It can be said that this deficiency makes the undergraduate period inefficient in terms of instructional technology competence.

> I started university in 2002. I had a push-button phone when I was in my first year. We only used it for communication. There was no internet use. Although I do not have a computer and internet, we started to encounter the internet more frequently from the first class. We were supplying our needs in internet cafes. I was doing this just for playing games. Umut

İbrahim has fewer technological devices in his undergraduate education than the other participants. However, what draws attention to Ibrahim states is that he has a conscious purpose of use. This awareness has made an important contribution to Ibrahim's competence in instructional technology during the undergraduate process.

> When I think about it, the first thing that comes to my mind is the push-button mobile phone. It was used more effectively during the university period. Apart from that, I persuaded my family to buy a laptop because I started my education life and I thought it would be really useful to me. Since my mobile phone is not a smartphone and internet usage is limited, we used the technology in our education process mostly with laptops. I watched videos about courses on my laptop, I was doing my research, found and read articles about my courses and made arrangements for my courses. Most of my study during the undergraduate process was running on a laptop. Ibrahim

Aslihan and Hakan have the technological devices required by their period. They use these devices for their academic development. Both participants used technological devices for communication, homework, and research purposes. It can be said that this situation positively affected the instructional technology competencies of the participants.

> I bought a smartphone at the end of the university's first year. I subscribed to Facebook, Twitter, and Instagram on social media. I already had a desktop computer. Then I bought a laptop. … I especially benefited from the laptop. Of course, we cannot ignore the smartphone. We were especially creating Whatsapp groups to communicate with each other. I was doing my homework from the laptop. I was using Word, Excel, and PowerPoint to do this. Apart from that, I was doing all my internet research from there. Aslihan

> The first year of university, I had a laptop. I also had a smartphone. …Of course I was using the computer. It was a platform where we could share our notes in terms of social sharing, and at the same time, we were using WhatsApp groups as communication from our phone. We benefited a lot from these during the undergraduate process. We could not do some things when I thought neither of them existed. So the computer and phone were very important in my undergraduate life. Hakan

Beyza has the necessary technological devices. However, Beyza's main problem is in its intended use. A shadow use case has arisen here. Although she had the necessary technological devices, she could not use them efficiently for his academic development.

> During the undergraduate process, I had a smartphone and a tablet pc. My family bought these devices for me as I won the university. Tablets rather than laptops were in everyone's hands at that time. We liked to move. … Generally, we used it to learn our grades and to answer the questions asked by the lecturers. Beyza

During the undergraduate study, another important emphasis was placed on the courses taken. There should be an effective education process for instructional technologies in this period of being a teacher candidate. However, when the participants' stories were examined, it was found that technology-based courses were not carried out effectively. This situation had a significant impact on the participants. It has been determined that information technologies, instructional technologies, and material design courses have been carried out over the basic programs and printed materials that have been ongoing for years. The lack of instructional technology programs and Web 2.0 tools is seen as an important deficiency in the participants' ability to use instructional technology.

In particular, Umut states that undergraduate education is unfavourable in terms of providing instructional technology competence. The main reason for this is that faculty members do not have enough competence.

> During the undergraduate process, we have received training on computer usage and the procedures such as installing and uninstalling programs that can be considered indispensable on the computer. Even though I had no chance in the faculty, I got a computer certificate from an outside course. I think there were an instructional technology and material development course in the 3rd year. We only prepared printed material for this course. We prepared something mostly about printed materials. …The undergraduate process was not very effective in gaining instructional technology competence. Our faculty members were not well equipped in this regard. We tried to do something within our means. But if we could improve ourselves in the undergraduate process instead of our means, it would be different now. Umut

From another point of view, Hakan emphasised that the level of technology-related courses he took during his undergraduate education was unproductive, and the courses were not carried out for their purposes. Thus, one of the conclusions drawn from Hakan's statements is that the courses he took during his undergraduate education did not contribute to instructional technology competence.

> We took a computer-related course in our first year of undergraduate. We taught courses in the computer lab. We prepared presentations from Excel, Word, and PowerPoint and learned about how they are used. It was like a continuation of the computer course in middle and high school. … We did not design such technology-oriented materials in the Instructional Technology and Material Design course. Was it a factor to have a teacher who is not interested in technology in this course? I do not know. In this course, mostly everyone designed a printed material after making a presentation. Hakan

It is noteworthy that Ibrahim differentiates the "Information Technologies" and "Instructional Technologies and Material Design" courses that he took during his undergraduate education. He thinks that the "Information Technologies" course had a

significant improvement effect on him. But, on the other hand, he emphasises that the "Instructional Technologies and Material Design" course did not have a remarkable effect on him.

> The Information Technology course directly included what we can use while teaching in schools. Since our teachers are conscious, they tried to install permanent information in us; they aroused our interest in technology. In the Information Technology course, I learned almost everything about instructional technology, to prepare slides, to set up a site, to share some information on the site, which sites are not reliable or reliable, to prepare questions for students using the program, to check the answers to the questions on the system.... Instructional Technologies and Material Design course focused more on printed materials. We were not very involved with technology in this course. Ibrahim

The emphasis of Aslihan and Beyza is similar. Both participants took courses with similar procedures during their undergraduate education. Although these courses are not sufficient, it is seen that they impress in their development. They consider it important to develop at least a digital material in the "Instructional Technologies and Material Design" course.

> There was a projection in the first term of our class at the university. Later, a smart board was provided. We were watching videos in the courses. We were watching documentaries. Our teachers were showing slides from PowerPoint. We were preparing a presentation for almost every course. ... We had computer courses in our first year. We learned about Word, Excel, and Powerpoint here. Then, we prepared a book in a computer environment for the Instructional Technologies and Material Design course. Then we even printed that book. Other than that, I don't remember anything specific. Aslihan

> We had smart boards and computers in our classrooms. Both us and our teachers benefited from the smart board. We had an undergraduate education based on presentations. ... We saw the computer course in the first year. We started the course with simple programs such as Word, then saw a different presentation program, Prezi. We saw Excel and PowerPoint. ... We also had an Instructional Technology and Material Design course. Everyone was producing a material. I also designed a digital magazine. At the end of the presentations, we always was doing an activity. We were preparing games on the computer and designing activities instead of giving a paper to the children. We also had friends who prepared a website for this course. Beyza

The most important breaking point in using instructional technology for Social Studies teachers and including them in their courses is the beginning of their professional life. Teachers can make up their shortages in their professional life and improve their instructional technology usage skills. Furthermore, they can benefit from training on educational technologies in line with their wishes or with the support of their institutions. It is noteworthy that in the expressions of the participants, the older teachers make more effort to improve their instructional technology competencies than the youngers. This finding indicates that some teachers put their development in a static process, while others attach importance to continuing their development.

Although İbrahim and Umut are older, they make a significant effort for their development compared to the other participants. They are trying to improve their instructional technology competencies through external courses, in-service training, and social media tools.

> I attended courses on instructional technology during the teaching process. The public education centre created a course, and I attended it. Apart from that, I also attended the tablet training course. I tried to participate in such events as much as possible. We need to keep ourselves up to date. What kind of methods are used, which sites can we use at school? I learned about these. If we start to use tablets, which applications can be used in our classroom, how education should be maintain with tablets, how we prepare tests for students, how we analyse these tests, etc. I got information on these subjects. … There are many videos about instructional technologies. I follow them on the internet, especially via YouTube. I use Twitter a lot, particularly to combine technology and education. I follow what my experts on Twitter do, especially those who are interested in education, and I read what they write. These make a great contribution to integrating technology to our courses. I also follow some people on Facebook and Instagram. Ibrahim

> In 2017, the "Information Technologies" course was started in the province I was in. Those who were willing attended this course. This program continued for a month. I found it beneficial to take the course because of my interest. In its content, we learned important things related to the FATIH project, such as the arrangement and use of smart boards. After this course, I can trim my videos and make them what I want, and I can use my smart board without the need for anyone. … When I search for any training related to instructional technology in in-service training, I cannot see anything. I would make an effort to participate, though. I learned something with my effort. I think I use instructional technology actively because of my curiosity. Umut

Although Aslihan does not attend any course or training for instructional technology competence, she supports her development through social media. The fact that she is doing her master's degree is an indication that she gives importance to development.

> I did not attend any courses or in-service training after I started teaching. Before I was nominated, I was a paid teacher. I was doing a master's degree at that time, and I could not attend due to time problems. But there are channels and accounts I follow about instructional technology on YouTube and Instagram. Aslihan

Hakan and Beyza do not make enough effort to develop their instructional technology competence. They stated that the reason for this situation is that their institutions do not offer opportunities, and they see themselves as sufficient. However, these thinking structures are thought to prevent them from seeing their shortcomings.

> After I was nominated as Social Studies teacher, I did not participate in an education related to instructional technologies. I think I am ahead of most of my colleagues regarding technology literacy because I consider myself competent and I am young. Also, I have not encountered a suitable in-service course for myself. There is no one I follow in terms of instructional technology in digital environments. Maybe there are such channels, but I haven't come across them. Hakan

> I did not attend any training after I started my profession. Some institutions plan these training themselves. No such thing happened with us. Also, I didn't feel inadequate, so I didn't feel the need to participate. … There is no account or education technologist with the instructional technologies I follow on social media. Beyza

A critical question that reveals instructional technology skills in the stories of Social Studies teachers is about which technologies they use in their classrooms. Because it is thought that past experiences will provide important reflections on the implementation process. However, when the participants' stories were examined, it was found that individual characteristics and preferences shaped in-class practices rather than possibilities.

Especially, Umut and Ibrahim are eager to include various instructional technologies in their courses with the influence of their curiosity and interests, as they stated before. Therefore, they employ much up-to-date digital content and instructional technologies in their teaching processes in line with their desire.

> We access and watch videos on YouTube. Again, we use Google Earth program while examining the landforms. For example, we use Google Maps in sketches. In almost every course, I use videos, photos, and cartoons that allow students to get information and have fun. I also benefit from virtual museum tours and animations. We can travel and examine our cultural heritage with virtual tours. We even connect to the city surveillance cameras of different countries while explaining the time difference in our course. Since our school is a private school, it has own software, and I use many tools. … There is an application called Kahoot that works very well in evaluation. I apply it when the students bring the tablets. I take short videos and photos of the places I visit during the holidays and bring them to the classroom. Although not very often, I benefit from the Information Network in Education (EBA). There are online tests, and we solve them. There are some websites related to Social Studies; I am not naming them now. I also play educational games here in the classroom. For example, there was a basketball game about the Revolution History. Ibrahim

> It is different to explain something to the student by supporting it with visuals. We make presentations on the smart board. We repeat an event that happened through videos. We use Google Earth, especially when explaining geography-related issues. We use digital forms of some books and tests. We do virtual tours in our course. For example, we visited Topkapı Palace with my class. I use the Information Network in Education (EBA) and the Morpa Campus sites. Especially at EBA, I can follow the development of children. There are good animations in EBA, and I use them too. Maybe in the future, we can explain the subjects of history through virtual reality. I've also heard of tools about online evaluation, but so far, I haven't been able to spare time for them. Umut

On the other hand, Beyza, Hakan, and Aslihan show a limited use reflex for instructional technology, with more presentations and videos. One of the important reasons for this situation may be that they do not make enough effort to fill their deficiencies in instructional technology after their professional life begins.

> We use instructional technologies. I also teach in eighth grade. Our course is about history, so children are curious about something behind the scenes. When students have something they are curious about, I can open it and show it to them using my computer. If the computer is not available at that moment, I can open it from my phone and show it. I direct children to appropriate sites so that they can access accurate information. They can get information from there. Beyza

> We have a smart board. I use it. Apart from that, I bring my computer, connect it to our smart board and use it when there is something I need to show. I use the internet and video-sharing sites. I show students videos on YouTube. The things we can do in the Social Studies course are limited because it is a historical subject since we cannot go back to the past. So, I make the students watch the films of that period or the cartoons and animations from time to time. Hakan

> I use EBA. Usually, I pose questions to children from there. I prepare a presentation myself so that the subjects gain visualise, and I bring them to the course. I make videos, and I use them. Apart from that, I use educational games on the smart board. Aslihan

Results and Discussion

Employing instructional technologies in courses stands out as a necessity of 21st-century teaching processes. Social Studies teachers should also be competent to use instructional technology and blend these technologies with an appropriate pedagogical method and relevant field knowledge to make the teaching process more effective. However, this situation takes place on the axis of different experiences for each teacher. Narrative research, a research method based on the interpretative paradigm, is used to reveal such experiences. In this study, the experiences of Social Studies teachers in instructional technologies and their reflections on their courses were examined. As a result of the research, four main results have been reached.

The first and most striking of these is that the participants will develop their instructional technology usage skills in line with their interests after their professional life begins, despite their past impossibilities. At this point, it should be considered that an important factor that reveals this interest is parental approaches in their early childhood. A study supporting this result was conducted by Debele and Plevyak (2012). Researchers have concluded that Social Studies teachers' technology integration skills can be improved due to their participation in research processes after their professional life begins and their cooperation with researchers. In the study conducted by Hao and Lee (2015), it was stated that teachers who have a high interest in technology integration in the teaching process attach more importance to new applications and are more effective in including new technologies in the implementation process. Another research supporting this result was conducted by Kim et al. (2013); the researchers concluded that although many factors affect teachers' technology integration skills, their personal beliefs especially play an important role in this process. A similar conclusion was reached by Tondeur et al. (2016). In the study conducted by Vanatta and Nancy (2014), it was stated that teachers who develop themselves in the use of technology outside the classroom and want to learn technology are more likely to use technology in the classroom. In the national literature, the study conducted by Bal and Karademir (2013) emerged the importance of individual concern in a way that supports this research. This study concluded that teachers who received in-service training for information and communication technologies in line with their desire improved their technological competence more than those who did not. Similarly, Ersoy and Bozkurt (2015) concluded in their research that teachers can improve their technology use skills in education and affect their colleagues positively with their individual interest in technology.

Another result of the study is that Social Studies teachers have limited technological opportunities in their learning processes and these limited opportunities prevent them from developing their technology use skills. A study that confirms this result was carried out by Wilson (2003). It is stated in the study that barriers such as lack of technological equipment and internet access made it difficult to integrate technology into Social Studies teaching. The importance of having technological possibilities in the teaching process was also revealed in the study conducted by Sad and Nalcacı (2015). It has been concluded that preservice teachers who have computers have higher competencies in

information and communication technologies. Besides, in the study conducted by Saygıner (2016), it was found that preservice teachers who have computer and internet access have higher technological competence. Similarly, Pamuk and Peker (2008) found that preservice teachers with computers have high computer self-efficacy and attitudes towards computers. An opposite result from our study was reached by Gercek et al. (2006). In their study, the researchers concluded that teachers' conditions of access to computers do not affect their computer usage skills.

The undergraduate process is a breaking point in shaping Social Studies teachers' experiences and capacities about instructional technology. Another result in this direction is that the participants did not reach desired competence about instructional technology in the undergraduate education process. However, there are individual differences in terms of instructional technology. The instructional technology competencies of teacher educators working in education faculties may be an important factor that reveals this deficiency. Wright and Wilson (2009) concluded that it is important for teacher educators to demonstrate good practices related to instructional technology to preservice teachers in the undergraduate process to increase their competencies and teach how technology, content, and pedagogy can be integrated. Similarly, in his research with university students Wilfong (2006) found that the technology anxiety levels of the participants were influenced by their computer self-efficacy beliefs, not by the frequency of computer use or computer experience. In their research, Andersan and Maninger (2007) concluded that preservice teachers' enrolling in educational technology courses has a developing effect on their technology integration skills, self-efficacy, and beliefs. In another study, Nelson and Hawk (2020) concluded that gaining the belief that technology is beneficial in the teaching process in undergraduate education will save preservice teachers from the simplification process, such as only showing a PowerPoint presentation and will affect their professional development. Kabakci-Yurdakul (2011) stated that it is important for teacher candidates to gain techno-pedagogical content knowledge in undergraduate process because there is a relationship between their beliefs about technology integration and their use of technology after starting their profession. Pamuk, Ulken, and Dilek (2012) stated that preservice teachers did not have sufficient basic knowledge on effective technology use, and they considered themselves inadequate in technology use. They suggested that the shortcomings of preservice teachers on this issue should be eliminated. Additionally, in the study conducted by Kaya and Yazıcı (2019), it was concluded that Social Studies teachers who received training in information and communication technologies had higher techno-pedagogical education competencies than those who did not.

Finally, it was concluded that Social Studies teachers with more years of professional experience were more willing to realize their shortcomings, cooperate to overcome them and use teaching technologies more effectively than teachers with less professional experience. An opposite result was found in the study done by Hu et al. (2003). The researchers stated that as teachers' years of professional experience increased, their level of technology acceptance decreased. In the study conducted by Cheng and Xie (2018), a negative relationship was found between the professional experience years of

teachers and their standard technology knowledge. However, in a study conducted by Niess et al. (2006), it was concluded that teachers who have just started the profession have insufficient pedagogical knowledge, and their level of linking between technology, pedagogy, and content is low. In the national literature, a result opposite to our research was reached by Ozgur (2020). In the study, it was found that as the age of teachers increased, their technostress levels also increased, and teachers with less experience were able to cope with technological processes more effectively. Similarly, in the study conducted by Akturk and Delen (2020), it was concluded that teachers with less professional experience had higher technology acceptance than teachers with more experience. On the other hand, Demirezen and Keles (2020) found no relationship between Social Studies teachers' technological pedagogical content knowledge and professional experience level. Similarly, in the research conducted by Altun (2013), it was concluded that the professional experience year did not affect the techno-pedagogical content knowledge of the teachers. These results can be evaluated as the effect of professional experience factor may create different effects in line with the individual characteristics of Social Studies teachers.

Although this research examines the effect of Social Studies teachers' life experiences in including instructional technology in their courses, it has some limitations. The main limitations are that only the interview method is used as a data collection tool and a small study group. To eliminate these limitations, survey studies that allow studying with large participant groups can be designed. Besides, more detailed data can be obtained within qualitative approach by enriching data collection tools with triangulation. By designing case studies, participants' experiences of instructional technology implementations in their classrooms can be revealed. Within quantitative research approach, factors affecting the instructional technology competencies of social studies teachers can be investigated with modelling studies. The data of this research includes an interview process that lasts for three sessions. By extending this process further or repeating the interviews in the following years, the development of Social Studies teachers' skills in using instructional technology can be examined in more detail. Finally, the problems in our research can be tested with different data collection tools.

References

Akturk, A. O., & Delen, A. (2020). Ogretmenlerin teknoloji kabul duzeyleri ile oz-yeterlik inancları arasındaki iliski [The relationship between teachers' technology acceptance levels and self-efficacy beliefs]. *Bilim, Egitim, Sanat ve Teknoloji Dergisi (BEST Dergi), 4*(2), 67-80.

Altun, T. (2013). Examination of classroom teachers'technological, pedagogical and content knowledge on the basis of different variables. *Croatian Journal of Education: Hrvatski časopis za odgoj i obrazovanje, 15*(2), 365-397.

Anderson, S. E., & Maninger, R. M. (2007). Preservice teachers' abilities, beliefs, and intentions regarding technology integration. *Journal of Educational Computing Research, 37*(2), 151-172.

Bal, M.S., & Karademir, N. (2013). Sosyal bilgiler ogretmenlerinin teknolojik pedagojik alan bilgisi (TPAB) konusunda oz-degerlendirme seviyelerinin belirlenmesi [Determining Social Science Teachers' Self-Assessment Levels with Regard to Their Technological Pedagogical Content Knowledge (TPCK)]. *Pamukkale Universitesi Egitim Fakultesi Dergisi, 34*(2), 15-32.

Bolick, C. M. (2017). The Diffusion of Technology into the Social Studies. In M. Manfra & C. M. Bolick (Eds.), The wiley handbook of social studies research (pp.499-517). Wiley-Blackwell.

Bruner, J. (1996). The culture of education. Harvard University Press.

Cheng, S. L., Lu, L., Xie, K., & Vongkulluksn, V. W. (2020). Understanding teacher technology integration from expectancy-value perspectives. *Teaching and Teacher Education, 91*, 1-14.

Cheng, S. L., & Xie, K. (2018). The relations among teacher value beliefs, personal characteristics, and TPACK in intervention and non-intervention settings. *Teaching and Teacher Education, 74,* 98-113.

Clandinin, D., & Connelly, F. M. (2000). Narrative inquiry: Experience and story in qualitative research. Jossey-Bass.

Creswell, J. W. (2012). Educational research: Planning, conducting and evaluating quantitative and qualitative research (4th edition). Sage.

Curry, K., & Cherner, T. (2016) Social Studies in the Modern Era: A Case Study of Effective Teachers' Use of Literacy and Technology. *The Social Studies, 107*(4), 123-136.

Debele, M., & Plevyak, L. (2012). Conditions for successful use of technology in social studies classrooms. *Computers in the Schools, 29*(3), 285-299.

Demirezen, S., & Keles, H. (2020). Sosyal bilgiler ogretmenlerinin teknopedagojik alan bilgisi yeterliliklerinin cesitli degiskenlere gore incelenmesi [Examining the technopedagogical content knowledge competencies of social studies teachers according to various variables]. *Uluslararası Sosyal Bilgilerde Yeni Yaklasımlar Dergisi, 4*(1), 131-150.

Dere, İ., & Ates, Y. (2020). Sosyal bilgiler derslerinde teknolojik arac ve materyal kullanımı: Bir durum calısması [The use of technological tools and materials in social studies courses: a case study]. *Erzincan Universitesi Egitim Fakultesi Dergisi, 22*(2), 496-514.

Ersoy, A., & Bozkurt, M. (2015). Understanding an elementary school teachers' journey of using technology in the classroom from sand table to interactive whiteboard. *International Electronic Journal of Elementary Education, 8*(1), 1-20.

Ersoy, A., & Bozkurt, M. (2016). Anlatı arastırması. In A. Saban & A. Ersoy (Eds.), Egitimde nitel arastırma desenleri (pp. 209-250). Anı Yayıncılık.

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development, 47*(4), 47-61.

Farjon, D., Smits, A., & Voogt, J. (2019). Technology integration of preservice teachers explained by attitudes and beliefs, competency, access, and experience. *Computers & Education, 130,* 81-93.

Francom, G. M. (2020). Barriers to technology integration: A time-series survey study. *Journal of Research on Technology in Education, 52*(1), 1-16.

Gercek, C., Koseoglu, P., Yılmaz, M., & Soran, H. (2006). Ogretmen adaylarının bilgisayar kullanımına yonelik tutumlarının cesitli degiskenler acısından incelenmesi [An analyses of the attitudes of teacher candidates towards computer use]. *Hacettepe Universitesi Egitim Fakultesi Dergisi, 30*(30), 130-139.

Hao, Y., & Lee, K. S. (2015). Teachers' concern about integrating Web 2.0 technologies and its relationship with teacher characteristics. *Computers in Human Behavior, 48*, 1-8.

Hew, K. F., & Brush, T. (2007). Integrating technology into K-12 teaching and learning: Current knowledge gaps and recommendations for future research. *Educational technology research and development, 55*(3), 223-252.

Hu, P. J. H., Clark, T. H. K., & Ma, W. (2003). Examining technology acceptance by school teachers: A longitudinal study. *Information & Management, 41*(2), 227-241.

Instefjord, E. J., & Munthe, E. (2017). Educating digitally competent teachers: A study of integration of professional digital competence in teacher education. *Teaching and teacher education, 67,* 37-45.

International Society for Technology in Education [ISTE]. (2017). *ISTE standards for educators*. https://www.iste.org/standards

Johnson, K. E., & Golombek, P. (2002). Teachers' narrative inquiry as Professional development. Cambridge University Press.

Kabakci-Yurdakul, İ. (2011). Ogretmen adaylarının teknopedagojik egitim yeterliklerinin bilgi ve iletisim teknolojilerini kullanımları acısından incelenmesi [Examining technopedagogical knowledge competencies of preservice teachers based on ICT usage]. *Hacettepe Universitesi Egitim Fakultesi Dergisi, 40*(40), 397-408.

Kaya, M. T., & Yazıcı, H. (2019). Sosyal bilgiler ogretmenlerinin teknopedagojik egitim yeterliklerine iliskin gorusleri [A views of the social studies teachers' on technopedagogical education competencies]. *ETU Sosyal Bilimler Enstitusu Dergisi, 9,* 105-136.

Kim, C., Kim, M. K., Lee, C., Spector, J. M., & DeMeester, K. (2013). Teacher beliefs and technology integration. *Teaching and Teacher Education, 29,* 76-85.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*, 1017–1054.

National Council for the Social Studies [NCSS]. (2013). Technology position statement and guidelines. http://www.socialstudies.org/positions/technology

Nelson, M. J., & Hawk, N. A. (2020). The impact of field experiences on prospective preservice teachers' technology integration beliefs and intentions. *Teaching and Teacher Education, 89,* 1-12.

Niess, M. L., Suharwoto, G., Lee, K., ve Sadri, P. (2006), Guiding inservice mathematics teachers in developing TPCK. Paper presented at the American Education Research Association Annual Conference, San Francisco, CA.

Organisation for Economic Co-operation and Development [OECD]. (2009). *Creating Effective Teaching and Learning Environments*. First Results from TALIS. Paris: OECD Publications http://www.oecd.org/dataoecd/17/51/43023606.pdf

Ozgur, H. (2020). Relationships between teachers' technostress, technological pedagogical content knowledge (TPACK), school support and demographic variables: A structural equation modeling. *Computers in Human Behavior, 112*, 1-9.

Pamuk, S., & Peker, D. (2009). Turkish preservice science and mathematics teachers' computer related self-efficacies, attitudes, and the relationship between these variables. *Computers & Education, 53*(2), 454-461.

Pamuk, S., Ulken, A., & Dilek, N. (2012). Ogretmen adaylarinin ogretimde teknoloji kullanim yeterliliklerinin teknolojik pedagojik icerik bilgisi kuramsal perspektifinden incelenmesi [The investigation of preservice teachers' technology integration competencies from technological pedagogical content knowledge framework]. *Mustafa Kemal Universitesi Sosyal Bilimler Enstitusu Dergisi, 9*(17), 415-438.

Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice (4th ed.). Sage Publications, Inc.

Pinnegar, S., & Daynes J. G. (2006). Locating narrative inquiry historically: Thematics in the turn to narrative. In D. J. Clandinin (Ed.), Handbook of narrative inquiry (pp. 3-34). Sage.

Robson, C. (2015). Bilimsel arastırma yontemleri: Gercek dunya arastırması. (S. Cınkır, & N. Demirkasımoglu, Trans.). Anı Yayıncılık.

Saygıner, S. (2016). Ogretmen adaylarının bilgisayar yeterlilik duzeyleri ile teknolojiye yonelik algıları arasındaki iliskinin cesitli degiskenler acısından incelenmesi [An analysis of relationship between computer competencies and perceptions of pre-service teachers towards technology in terms of certain variables]. *Mustafa Kemal Universitesi Sosyal Bilimler Enstitusu Dergisi, 13*(34), 298-312.

Shin, S., Brush, T. A., & Saye, J. W. (2019). Using technology-enhanced cases in teacher education: An exploratory study in a social studies methods course. *Teaching and Teacher Education, 78,* 151-164.
Shriner, M., Clark, D. A., Nail, M., Schlee, B. M., & Libler, R. (2010). Social studies instruction: Changing teacher confidence in classrooms enhanced by technology. *The Social Studies, 101*(2), 37-45.
Stephens, C., & Breheny, M. (2013). Narrative analysis in psychological research: An integrated approach to interpreting stories. *Qualitative Research in Psychology, 10*(1), 14-27.
Sad, S. N., & Nalcacı, O. İ. (2015). Ogretmen adaylarinin egitimde bilgi ve iletisim teknolojilerini kullanmaya iliskin yeterlilik algıları [Prospective teachers' perceived competencies about integrating information and communication technologies into education]. *Mersin Universitesi Egitim Fakultesi Dergisi, 11*(1), 177-197.
Tondeur, J., Braak, J. v., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2016). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: a systematic review of qualitative evidence. *Educational Technology Research and Development, 65*(3), 555-575.
Tosuntas, S. B., Cubukcu, Z., & İnci, T. (2019). A holistic view to barriers to technology integration in education. *Turkish Online Journal of Qualitative Inquiry, 10*(4), 439-461.
Tsai, C. C., & Chai, C. S. (2012). The" third"-order barrier for technology-integration instruction: Implications for teacher education. *Australasian Journal of Educational Technology, 28*(6), 1057-1060.
Vannatta, R. A., & Nancy, F. (2004). Teacher dispositions as predictors of classroom technology use. *Journal of Research on Technology in Education, 36*(3), 253-271.
Yılmaz, K., & Ayaydın, Y. (2015). Sosyal bilgiler ogretmenlerinin ogretim teknolojileri kullanımına iliskin alt yapılarının ve yeterlilik algılarının incelenmesi: Nitel bir calısma [Examination of in-service social studies teachers' backgrounds and self-efficacy beliefs in relation to instructional technologies: A qualitative study]. *Abant İzzet Baysal Universitesi Egitim Fakultesi Dergisi, 15*, 87-107.
Wilfong, J. D. (2006). Computer anxiety and anger: The impact of computer use, computer experience, and self-efficacy beliefs. *Computers in Human Behavior, 22*(6), 1001-1011.
Wilson, E. K. (2003). Preservice secondary social studies teachers and technology integration. *Journal of Computing in Teacher Education, 20*(1), 29-39.
Wright, V. H., & Wilson, E. K. (2009). Using technology in the social studies classroom: the journey of two teachers. *The Journal of Social Studies Research, 33*(2), 133-154.

Authors

Erdi ERDOGAN
Social Studies Education, Instructional Technology.

Buket SEREFLI
Social Studies Education.

Contact

Dr. Erdi ERDOGAN,
Kırıkkale University Faculty of Education
Department of Turkish and Social Sciences Education 71450
Yahsihan / KIRIKKALE

E-mail: erdierdogan90@hotmail.com

Res. Assist. Buket SEREFLI,
Kırıkkale University Faculty of Education
Department of Turkish and Social Sciences Education 71450
Yahsihan / KIRIKKALE

E-mail: buketserefli95@gmail.com