



## Digital Storytelling Experiences of Primary School Students in Distance Education: An Analysis on Students' Perceptions of Collaborative Working


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### Abstract

This research aimed to examine primary school students' experiences of preparing and using digital stories and their perceptions of collaborative work in distance education. This qualitative case study consisted of 36 fourth grade primary school students determined by easily accessible case sampling. Data were collected through questionnaire and semi-structured interviews prepared by the researchers. The survey data were subjected to descriptive statistics and content analysis was employed in the analysis of semi-structured interview data. The results indicated that primary school students could work collaboratively, prepare and present homework with the use of digital storytelling (DS) in distance education. In addition, primary school students were able to express themselves, interact with each other and had a high level of participation in the lesson conducted with DS. Based on the results of this research, it is suggested to conduct collaborative studies such as digital storytelling in distance education.

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## INTRODUCTION

Sharing the same physical environment, interacting and contact may sometimes lead to different diseases in societies which can be treated or prevented with advances in technology and health. However, there are times when diseases cannot be treated immediately and their spread cannot be prevented, thus considered as pandemics (Altun, Akyıldız, Gülay & Özdemir, 2021). A pandemic is a contagious and epidemic disease that can affect very large regions and cause mass deaths (Aslan, 2020). Posing a danger all over the world, the current pandemic is called Covid-19, which, starting in China and spreading rapidly, influenced the whole world in a short time and changed daily life in many areas. One of the areas affected considerably by the pandemic is education (Telli Yamamoto & Altun, 2020), leaving education administrators in a difficult situation all over the world, making face-to-face education difficult, and compelling the transition to distance education (Özer, 2020). As a result, more than 1.5 billion students in the world were transferred from face-to-face education to distance education (OECD, 2020). In this regard, on March 23, 2020, the Ministry of National Education (MoNE) implemented a distance education application over the Education Informatics Network (EBA) for precautionary purposes (MEB, 2020). Diluted and distance education has been applied from time to time since that date.

Distance education, which has been applied extensively since the beginning of the pandemic, was first employed in the 19th century. It is an education system where teachers and students do not have to be in the same physical environment but come together online by connecting from different places through high-level information and communication technologies (Adıyaman, 2002; Barış, 2015), in which teachers and students interact visually and audibly, and share content and material (Ally, 2008; Simonson, Zvacek & Smaldino, 2019). Namely, distance education is an education system that eliminates the necessity of being in the same place and at the same time by using information and communication technologies and multimedia applications, providing the opportunity to learn from many different geographies (Çelik & Perçin, 2020; Etlioğlu & Tekin, 2020). In this regard, distance education is considered as a support (Al & Madran, 2004) and an alternative to face-to-face education in terms of its implementation (Akbaba, Kaymakçı, Birbudak & Kılcan, 2016). However, geographical distances, disadvantaged individuals, etc. have caused distance education to become widespread (Kan & Fidan, 2016) and extraordinary situations such as the Covid-19 pandemic have led it to turn into a basic education model (Al & Madran, 2004). This education system has synchronous and asynchronous models, the main difference between which lies in the presence of the teacher and the student in the teaching system at the same time. Synchronous distance education has been mainly applied during the Covid-19 pandemic by the Ministry of National Education in Turkey. Synchronous distance education brings together teachers and students in the system by making use of information and communication technologies and provides a learning experience similar to face-to-face education. This education system enables multiple users to organize simultaneous meetings or discussions, prepare question and answer activities, make presentations, organize collaborative or individual events, etc. via the internet (Özdemir, 2020).

All educational applications have both advantages and disadvantages. Distance education also involves some drawbacks such as lack of communication and interaction (Akbaba et al., 2016; Birişçi, 2013; Etlioğlu & Tekin, 2020; Kalelioğlu, Atan & Çetin, 2016; Kan & Fidan, 2016; Karatepe, Küçükgençay & Peker, 2020; Öztaş & Kılıç, 2017; Sümer, 2016), lack of student concentration (Kalelioğlu et al., 2016), low level of participation in the lesson, and decreased communication and sense of community (Akbaba et al., 2016; Etlioğlu & Tekin, 2020), which can be experienced especially in synchronous distance education (Can, 2020). In addition, teachers may have difficulty in transferring the discussion and collaborative working environments in face-to-face education to synchronous distance education, which may lead to some decrease in active participation and involvement of students in the learning process. Another most important disadvantage of distance education carried out during the pandemic

process is that teachers, students and parents were caught unprepared for this system due to the emergency transition, which caused these stakeholders of education to have difficulty in adapting (Telli Yamamoto & Altun, 2020). Hence, especially primary school students have had adaptation problems, leaving the physical classroom environment, which is a part of socialization, and finding themselves in an online classroom environment. In this regard, the opportunities of these students to take responsibility for socialization and learning during the pandemic process have been restricted.

Considering the above mentioned disadvantages, in order for distance education to be effective, enriched learning environment, support and peer support (Beaudoin, Kurtz & Eden, 2009; Concannon, Flynn & Campbell, 2005; Soong, Chan, Chua & Loh, 2001; Venkatesh & Davis, 1996) and active, appropriate methods-techniques, examples and games should be provided (Erkut, 2020) and a classroom environment with more interaction should be created (Kalelioğlu et al., 2016; Kan & Fidan, 2016). In this context, active participation of students in distance education should be maximized (Karaman, Özen, Yıldırım & Kaban, 2009) by giving students more responsibility for their learning, providing a suitable learning environment (Öztaş & Kılıç, 2017; Uşun, 2006) and increasing students' cooperation and interaction with each other (Güney, 2011; Kalelioğlu et al., 2016; Özdemir, 2020; Uzun, 2013). In summary, teachers should ensure that students can plan and direct the learning process, and perform group work and interact with their peers in particular, considering that interaction increases the success and motivation of students in distance education (Cheng & Chau, 2016).

A student and life-centered education philosophy was adopted in the 2018 Social Studies Curriculum by the Ministry of National Education. On the other hand, it was revealed in many international studies that the history topics in this course are teacher-centered, do not reflect the latest developments in educational philosophy and learning theories, and, therefore, the course is perceived as a boring and rote-based course by students. In addition, teachers thought that students' expectation of the teacher-centered teaching of the lesson negatively affected the teaching of the social studies lesson (Özcan, 2019). In this respect, in order for students to learn better and permanently and to develop a positive attitude towards this lesson, new methods and techniques should be used as stated in the current social studies curriculum; "Current and controversial issues related to achievements may be applied in the class by using different discussion techniques and associating them with problem solving, critical thinking, evidence use, decision making and research skills." In addition, literary techniques such as short stories can be used in this curriculum as regards the statement; "The Social Studies course should be supported with literary products by making use of genres such as legend, epic, fairy tale, proverb, folk tale, folk song and poetry. Students should be encouraged to read literary products such as novels, historical novels, stories, memoirs, travel writings and anecdotes that will help them love the subjects. In addition, the achievements deemed appropriate should be supported with traditional or modern art products such as painting, music, miniatures, engravings, calligraphy, sculpture, architecture, theatre, and cinema." (MEB, 2018, p. 10). Storytelling has been one of the main ways of sharing information from past to present (Dola & Aydın, 2020), which has taken its place in the digital environment with the current technological developments (Kaya-Erdem & Baydaş Sayılğan, 2011). Thus, stories have started to be created in digital environments, changing the shape of the stories with the bidirectional structure of this environment and replaced by interactive stories (Kırık & Yazıcı, 2017).

There are a number of definitions for digital storytelling. Robin and Fromm (2006) define digital storytelling as a few-minute stories that are used to teach historical events and personal stories by combining elements such as graphics, text, music, voiceover, video, etc. According to Chung (2006), it is the presentation of digital elements such as visual, text, audio and video, etc. as multimedia in the computer environment. Ohler (2013) defines digital storytelling as the use of a personal digital technology with an appropriate story by combining multiple media. Based on these definitions, it is understood that digital storytelling consists of multimedia elements such as text, music, picture and

video, which is based on the fact that computer users choose their own topics, do some research, write screenplays, develop an interesting story, and thus become creative storytellers or producers by making use of various multimedia (Robin, 2008). The changes in students' expectations and needs prompted this technique to become an effective tool for teachers and students in learning environments (Robin & Fromm, 2006). In addition to being an important tool for teaching basic subjects such as language skills and history, digital storytelling also helps develop visual skills, collaboration, and technology use skills (McLellan, 2006). Digital storytelling enables the creation of student-centered and technologically rich, interactive learning environments as an innovative approach to learning that integrates human creativity and technology (Smeda, Dakich & Sharda 2010).

The relevant literature reveals that digital storytelling increases students' permanent learning and motivation (Bedir-Erişti, 2016; Bedir-Erişti, 2017; Gözen & Cırık, 2017; Kocaman-Karoğlu, 2016; Seat & Kocakaya, 2015) and the academic self-efficacy of students when applied collaboratively (Baki, 2015; Dola, 2020). Besides, Baki (2015) determined that digital storytelling increases students' academic success, self-efficacy, and improves their coordination and respect for different opinions. Similarly, Gömleksiz and Pullu (2018) reported that digital storytelling increases students' academic success, class participation, motivation, and improves their attitude and permanent learning. Considering the results of these studies on digital storytelling and the limitations of the studies at primary school level, it is important to conduct research at this level and to reveal the results. In addition, considering the abovementioned educational contributions, the digital storytelling technique can enrich the educational process and provide a fun and interactive learning environment, especially, for primary school students. This research aims to contribute to the literature and education stakeholders within these aspects.

The aim of this study is to examine primary school students' experiences of preparing and using digital stories in distance education and their perceptions of collaborative work. The current study seeks to answer the following research questions:

1. What are primary school students' perceptions of collaborative work on digital storytelling experience in distance education?
2. What are primary school students' self-study perceptions regarding digital storytelling experience in distance education?
3. How do primary school students evaluate group work performance in digital storytelling experience?
4. What are primary school students' views on digital storytelling experience in distance education?
5. What are the views of the primary school teacher on the experience of digital storytelling in distance education?

## **METHOD**

### **RESEARCH DESIGN**

This case study employed a qualitative research approach to deeply determine and examine the experiences and study perceptions of fourth grade primary school students in preparing and using digital stories in distance education (Ekiz, 2015). It was ensured that the research data were obtained as stated by the participants and analyzed in depth (Creswell, 2016a). Thus, the effect of using digital storytelling in distance education of primary school students on their collaborative work was examined in detail with a holistic approach (Yıldırım & Şimşek, 2011).

### **SAMPLE**

The study group was determined by the purposeful sampling method in order to describe and understand the researched topic in depth. (Ekiz, 2015). Fourth grade students were selected in

accordance with the purpose of the research, the course and the subject in which the applications will be carried out. A volunteer primary school teacher to teach with digital storytelling applications and volunteer students to participate in the research were included in the study. Therefore, easily accessible case sampling was preferred and students who had these qualifications and could be reached more easily were preferred as the study group (Ekiz, 2015). The use of this widely preferred qualitative research method brought speed and practicality to the research (Yıldırım & Şimşek, 2011). In this context, the study group of the research consisted of 36 (20 boys, 16 girls) fourth grade primary school students affiliated to the Trabzon Provincial Directorate of National Education. In direct quotations from the interviews, students were coded as S1, S2, S3, ..., S36 in accordance with confidentiality and ethical rules.

#### **DATA COLLECTION TOOLS**

The data of the study were collected through the Collaborative and Individual Work Evaluation Questionnaire, Interview Form for the Evaluation of Group Work, and Interview Form for the Evaluation of Digital Storytelling Experience, all of which were developed by the researchers. Multiple data collection tools were used to increase reliability by making use of the triangulation principle, (Ekiz, 2015) and thus providing data diversity (Yıldırım & Şimşek, 2011). The Collaborative and Individual Work Evaluation Questionnaire was used to determine the study group's perceptions of collaborative and individual study using digital storytelling in the distance education process (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2016). The literature on digital storytelling and collaborative work was scanned in detail to form the questionnaire and, as a result, draft articles were created. Two field experts, a primary school and a computer and instructional technology educator, evaluated the questionnaire for the validity and reliability, and items related to individual work were added to the questionnaire in line with the opinions of these experts. The questionnaire included a total of eight items, four for collaborative and four for individual studies, in the triple likert type of "no, partially, yes".

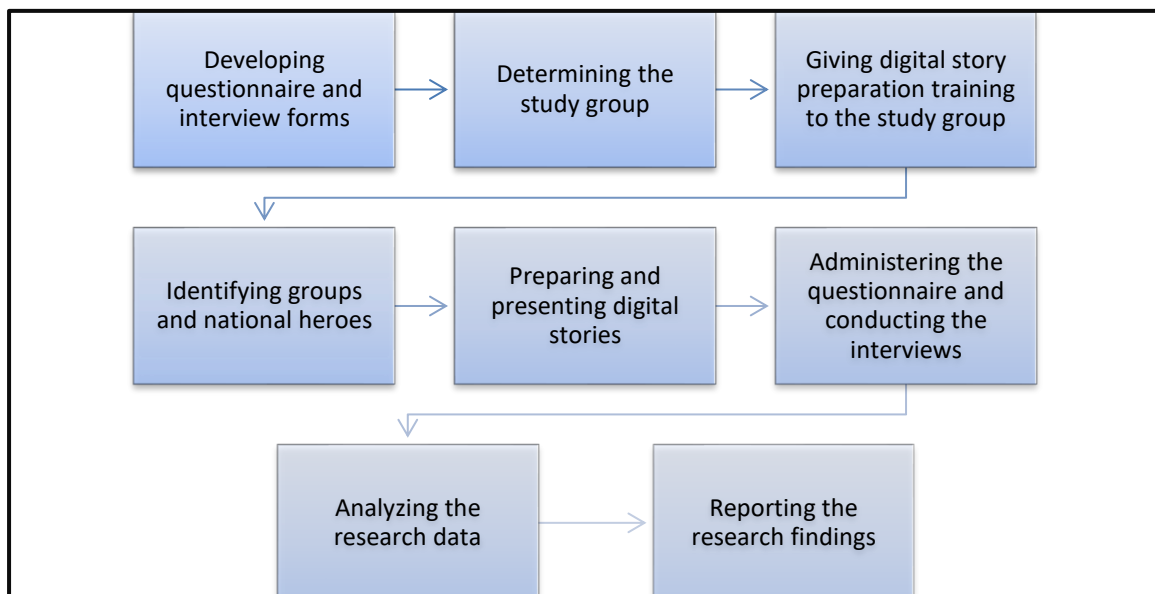
The Interview Form for the Evaluation of Group Work, which was designed as semi-structured so that students could be free (Ekiz, 2015), express themselves comfortably, give in-depth information (Büyüköztürk et al., 2016), was used to evaluate the group work performance of the students in the digital story preparation process. While creating the form, first of all, the interview questions in the related studies were examined and draft questions were formed. The form was submitted to the opinion of two field experts, a primary school and a computer and instructional technology educator, within the scope of validity and reliability. Based on their views, one question about what can be done to make the groups better and, based on the experiences of the students in the process, questions about the problems and feelings experienced in the groups were added before the final form was formed. The form included nine open-ended items aiming to determine the positive and negative evaluations of the students regarding the digital storytelling experiences and group work. A semi-structured interview was conducted with the primary school teacher to evaluate the digital storytelling experiences of the students. This interview technique was used to rearrange the items according to the answers of the participants and the progress of the interview (Ekiz, 2015). The questions for the interview were formed after the relevant literature was examined, and draft questions were prepared. Then, the form was presented to the opinion of two field experts, a primary school and a computer and instructional technology educator, in order to ensure its validity and reliability. In line with their views, a question was added about the contribution of the digital storytelling application to the teaching of the teacher. In addition, in line with the observations in the process, a question about the reason which the teacher connects the effectiveness of this application to was added to the form before giving its final form. This interview form included six items on the effects of digital storytelling on the learning process.

**DATA COLLECTION AND ANALYSIS**

In this research, fourth grade primary school students were requested to prepare and use digital stories in distance education on the topic of "The importance of the National Struggle based on the lives of the Heroes of the National Struggle" in the Social Studies course. First of all, the primary school teacher and students were informed about the application in two course hours of online training on the use of the digital story preparation platform and program. The students were informed about the group study and the homework process by the course instructor before the application. Second, the 11 national heroes to be introduced with the digital storytelling method were determined and tasks were distributed to groups of three or four students. The student groups were given two weeks to prepare their digital stories and allowed to meet and collaborate online with their parents. This period was kept as long as possible within the scope of the subject to ensure the reliability of the research (Creswell, 2016a; Ekiz, 2015). At the end of this period, the students presented their digital stories and were surveyed online, and semi-structured interviews were conducted with them. In addition, an interview was held with the primary school teacher to evaluate his experiences. The interview, which was recorded within the scope of the reliability of the research, was submitted to the approval of the primary school teacher after transcription (Creswell, 2016a; Ekiz, 2015).

The data from the Collaborative and Individual Work Evaluation Questionnaire were subjected to descriptive statistics which allows summarizing the data obtained from the participants with values such as mean, frequency, etc. (Christensen, Johnson & Turner, 2015a; Creswell, 2016b). Accordingly, students' perceptions of collaborative and individual work were expressed as frequencies and presented with figures. The data from the online semi-structured interviews with the students and the primary school teacher were subjected to content analysis so that the data could be analyzed in depth, codes and themes could be created from them by bringing together similar meanings (Ekiz, 2015; Yıldırım & Şimşek, 2011). For the reliability of the research, the process was carried out by three researchers, the codes and themes were discussed, and consensus was reached (Creswell, 2016a; Ekiz, 2015). As a result, the findings were presented in a more understandable and organized way using frequencies and shapes. In addition, direct quotations were included in the presentation of the interview data for the reliability of the research. The flow of the study is summarized in Figure 1.

**Figure 1.** Flow of the Study



**ETHICAL PRINCIPLES OF THE RESEARCH**

Within the scope of the ethical principles of the research, first, ethical committee approval was obtained, and the voluntary participation of the participants was considered in the research. (Creswell, 2016c). In this regard, the primary school teacher, students and parents were informed about the study, ensured about the concealment of their identity, and their consent was taken. As a matter of fact, the name of the school and the teacher where the application was carried out was not specified in the report. In addition, the names of the students were given by coding. In the context of ethics, the implementation process and results were presented clearly, accurately and in detail. References used in the preparation of the report were also given correctly and carefully (Christensen, Johnson & Turner, 2015b; Creswell, 2016c; Ekiz, 2015).

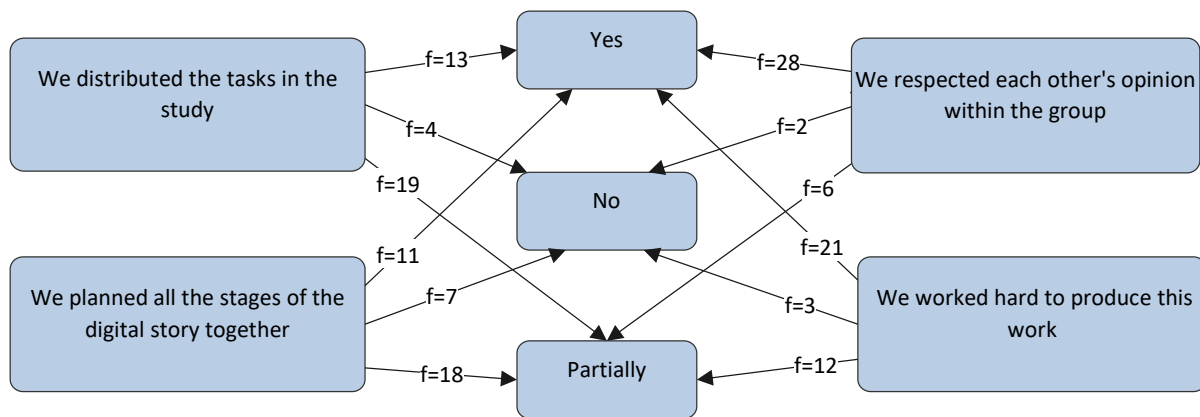
**FINDINGS**

The data obtained from the Collaborative and Individual Work Evaluation Questionnaire and subjected to descriptive statistics were organized as "Findings on Students' Perceptions of Collaborative Work in Digital Storytelling Experience" and "Findings on Students' Perceptions of Individual Work in Digital Storytelling Experience". Semi-structured interview data conducted with students and subjected to content analysis were organized as "Findings for Students' Evaluation of Group Work Performance in Digital Storytelling Experience", "Findings on Student Characteristics Prominent in Digital Storytelling Experience", "Findings on Student Feelings Prominent in Digital Storytelling Experience", and "Findings for Students' Evaluation of Digital Storytelling Experience". Semi-structured interview data conducted with the primary school teacher and subjected to content analysis were presented under the title of "Findings for the Primary School Teacher's Evaluation of Digital Storytelling Experience".

**FINDINGS ON STUDENTS' PERCEPTIONS OF COLLABORATIVE WORK IN DIGITAL STORYTELLING EXPERIENCE**

The students were directed four items in the questionnaire regarding their perceptions of working collaboratively in group work. The answers given by the students to these items are as shown in Figure 2.

**Figure 2.** Student Perceptions of Collaborative Work

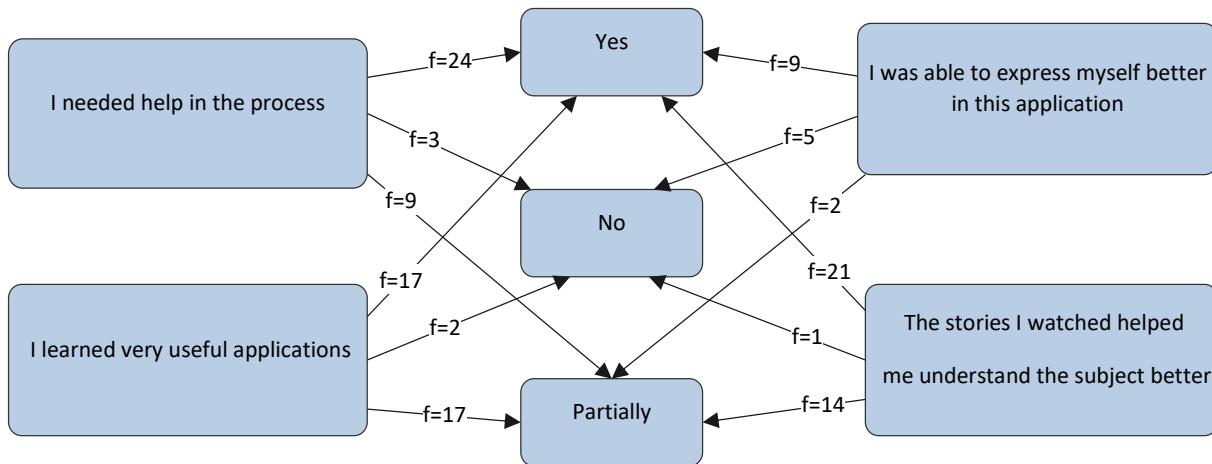


As seen in Figure 2, 11 students (30.6%) stated that they planned all the stages of the digital story together, 18 students (50%) could partially plan together, and 7 students (19.4%) could not. In addition, 13 students (36.1%) stated that they distributed tasks, 19 students (52.8%) could partially do so, and 4 students (11.1%) could not. It is understood from Figure 2 that 28 students (77.8%) respected each other's opinion, 6 students (16.7%) partially realized, and 2 students (5.5%) could not. Finally, 21 students (58.4%) thought that they worked hard in the process, 12 students (33.3) partly thought so, and 3 students (8.3%) thought that was not the case.

**FINDINGS ON STUDENTS' PERCEPTIONS OF INDIVIDUAL WORK IN DIGITAL STORYTELLING EXPERIENCE**

The students were directed four items in the questionnaire regarding their perceptions of individual work in the digital storytelling experience. The answers given by the students to these items are as shown in Figure 3.

**Figure 3. Student Perceptions of Individual Work**

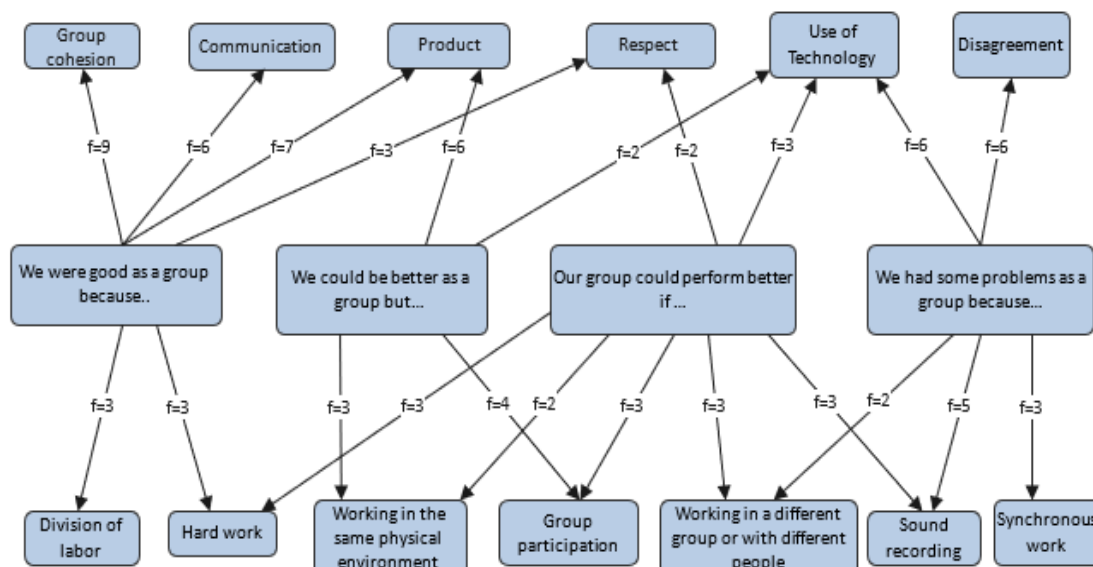


As seen in Figure 3, 24 students (66.7%) stated that they needed help during the homework preparation process, 9 students (25%) partially felt so, and 3 students (8.3%) did not. In addition, 9 students (25%) thought that they expressed themselves better with this application, 22 students (61.1%) partially thought so, and 5 students (13.9%) did not. Moreover, 17 students (47.2%) stated that they learned very useful applications with the experience of digital storytelling, 17 students (47.2%) learned partially well, and 2 students (5.6%) did not think so. Finally, 21 students (58.4%) learned the subject better with this experience, 14 students (38.9%) partially learned, and 1 student (2.7%) did not think so.

**FINDINGS FOR STUDENTS' EVALUATION OF GROUP WORK PERFORMANCE IN DIGITAL STORYTELLING EXPERIENCE**

Semi-structured interview questions were directed to the students about the positive and negative aspects of group work, their good and weak points, the problems they experienced and what could be done to improve their performance. The answers given by the students to these questions are presented thematically in Figure 4.

**Figure 4. Student's Evaluations of Group Work Performance**



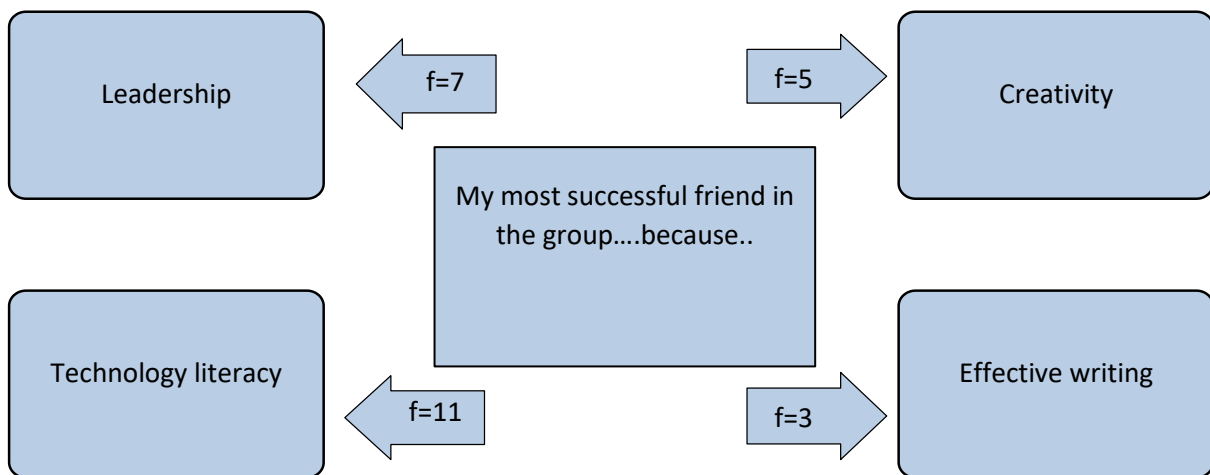


As seen in Figure 4, most of the students (31 students) were satisfied with the group work. Students attributed it to group cohesion, communication, respect, division of labor and hard work. For example, S1 stated *“We worked hard together. We shared tasks and everyone worked hard.”* However, some students stated that they had problems in the use of technology, disagreement, synchronous working, sound recording, working in different groups or people in group work. Regarding this situation, S10 expressed *“We had difficulties in using the program and recording the sound.”* In addition, students stated that groups would perform better with technology use, group participation, higher respect, and more work. For example, S20 expressed his opinion on this as follows: *“If my friends had more participation and work, our group would have performed better.”*

**FINDINGS ON STUDENTS' CHARACTERISTICS PROMINENT IN DIGITAL STORYTELLING EXPERIENCE**

A semi-structured interview question was directed to the students about which of their friends drew attention with what characteristics in their group work. The answers given by the students to this question are presented in Figure 5.

**Figure 5. Prominent Student Characteristics in Group Assessment**

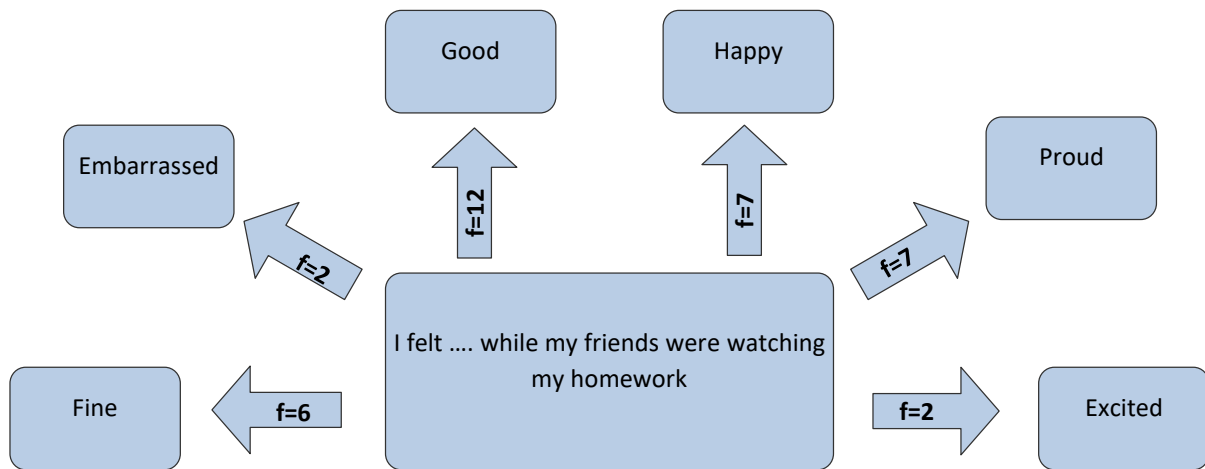


As seen in Figure 5, the students regarded their friends as successful in group work due to their high technology literacy and creativity, their leadership and impressive story writing skills. For example, S26 expressed his opinion as follows: *“My most successful friend in the group was XX because she led the group and wrote a beautiful story.”*

**FINDINGS ON STUDENT FEELINGS PROMINENT IN DIGITAL STORYTELLING EXPERIENCE**

A semi-structured interview question was directed to the students about how they felt while being watched by their classmates when they presented the group products. The answers given by the students to this question are presented in Figure 6.

**Figure 6.** Prominent Student Feelings in Digital Story Presentation

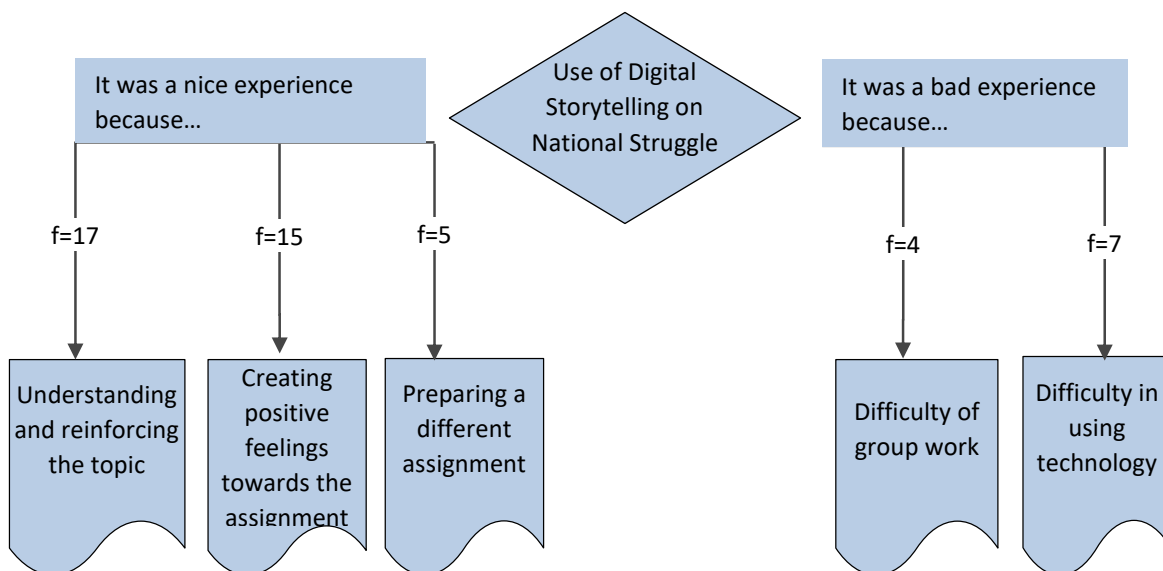


As seen in Figure 6, almost all of the students experienced positive feelings such as "good, happy, proud, fine, excited" while their classmates were watching the presentation of their products. S36 expressed his opinion as *"It made me feel good and nice for my friends to watch our group's homework"*. Only two students stated that they felt embraced during this time. For example, S31 expressed his opinion on this issue as follows: *"The fact that my friends watched our group's homework brought me happiness, excitement and embarrassment."*

**FINDINGS FOR STUDENTS' EVALUATION OF DIGITAL STORYTELLING EXPERIENCE**

A semi-structured interview question was directed to the students about whether it was a good or bad experience to cover the subject of "Heroes of the National Struggle" with digital storytelling. The answers given by the students to this question are presented in Figure 7.

**Figure 7.** Student Evaluations of Digital Storytelling Experience



As seen in Figure 7, most of the students commented on teaching with digital storytelling as a good experience. Students attributed this to learning and supporting the subject, creating positive feelings towards homework, and preparing different homework by using this method. For example,

S32 expressed as *“I think it was a good experience to use digital stories about the National Struggle Period as I reinforced the subject better and discovered a new application.”* However, some students evaluated this process as a bad experience, emphasizing the difficulty of group work and using technology. For example, S11 expressed his opinion as follows: *“I think it was a bad experience to use digital stories about the National Struggle Period because we didn't use technology very well and our group work wasn't very good.”*

#### **FINDINGS FOR THE PRIMARY SCHOOL TEACHER'S EVALUATION OF DIGITAL STORYTELLING EXPERIENCE**

Semi-structured interview questions were asked to the primary school teacher about their experiences of digital storytelling for the students and herself. The primary school teacher stated that the use of digital storytelling enabled the emergence of different characteristics of students and increased their interest in the lesson, and expressed as *“During this study, different characteristics of each student emerged. Even the students who were not active enough in the course worked willingly when there was a technological situation. In this study, leadership characteristics of some students were also revealed. These students guided their groupmates and took an active role in story formation.”* The primary school teacher expressed the benefits of using this method in teaching as follows: *“It provided to learn the heroes of the National Struggle, which is a difficult subject to understand and comprehend in a live lesson environment, in more fun, permanently and willingly.”* The primary school teacher stated that the effectiveness of teaching based on this method depends on the habit of reading books and technology literacy. He stated that *“The students' reading habits had a positive effect on this study. Students who read and understand quickly were able to master the situation more easily. The students' knowledge of technology also affected this study positively.”* Finally, the primary school teacher expressed his suggestion for using this method as follows: *“I think that this study can be used for other lessons as it makes learning fun and increases permanence.”*

#### **DISCUSSION, CONCLUSION AND IMPLICATIONS**

The results of this research revealed that primary school students had the perception that they could work collaboratively by planning the process together, distributing tasks, respecting the opinions of their groupmates and working hard in the digital storytelling experience. Some studies in the literature (Coutinho, 2010; Gyabak & Godina, 2011; Robin, 2008; Sadik, 2008; Yuksel, Robin & McNeil, 2011) also reported the positive effects of digital storytelling technique on increasing students' collaborative working skills. Kotluk and Kocakaya (2015) also determined that digital storytelling enables high school students to plan the process together, take responsibility, help each other, and cooperate. In addition, Gözen and Cırık (2017) revealed that the digital storytelling technique enables preschool students to work in a planned manner and to adapt to group work. Thus, this research overlaps with the literature, supports the current research results that digital storytelling enables students to work collaboratively.

It was determined in current study that primary school students could express themselves better with the experience of digital storytelling regarding their perceptions of individual work. The literature reveals similar findings that digital storytelling enables students to think about their own views (Liu, Liu, Chen & Liu, 2010) and to express themselves effectively (Bedir-Erişti, 2017; Tatlı & Aksoy, 2017). In addition, the current study determined that primary school students were of the opinion that they learned very useful applications and the subject better with the experience of digital storytelling. Shirtless & Pullu (2017) also found that digital storytelling enables students to learn easily. However, the participants in the current study needed help in the process. As a matter of fact, some studies (Broström, 2002; Kocaman-Karoğlu, 2016) stated that it is necessary to help especially young students in individual studies with digital storytelling. In this respect, although there are some problems, the experience of digital storytelling is also considered to enable students to work individually.

As a result of the research, it was discovered that primary school students were successful in group work thanks to communication, respect, division of labor and responsibility in their digital storytelling experience. Some studies in the literature (Bedir-Erişti, 2017; Bran, 2010; Coutinho, 2010; Demirer, 2013; Gözen & Cırık, 2017; Gyabak & Godina, 2011; Jakes & Brennan, 2005; Kotluk & Kocakaya, 2015; Robin, 2008; Turgut & Kışla, 2015) also determined that the use of digital storytelling increases students' effective communication skills. In addition, Seat and Kocakaya (2015) found that digital storytelling improves students' communication, cooperation, responsibility, and cooperation skills. However, the participants stated that the group performance, especially the inadequacy of technology use, decreased. Tatlı & Aktaş (2017) also determined that students experience problems especially related to the inadequacy of technology use skills while applying this technique. The studies in the literature also reported technical problems in the use of digital stories (Doğan & Robin, 2008; Temizsiz & Pullu, 2017; Karakoyun, 2014; Kocaman-Karoğlu, 2016; Kurtoğlu-Erden, 2016; Yamaç, 2015). In addition, in this study, primary school students stated that they had difficulties in working with some members and had disagreement with them in group work. Gözen & Cırık (2017) also revealed that some students experience temporary conflicts and adjustment problems with group members in the use of digital storytelling. In this context, it can be stated that the digital storytelling technique provides especially high-level communication but there are generally technological problems in its use.

In the research, it was determined that presenting digital storytelling experience products made primary school students feel especially proud and happy. Tatlı & Aksoy (2017) also determined that putting out a product in the digital storytelling experience makes students feel proud of themselves. In addition, Bedir-Erişti (2016) determined that use of digital storytelling products gives students excitement and happiness. In this context, the use of digital storytelling technique in the learning environment and process is believed to bring about positive feelings in students.

As a result of the research, it was determined that the primary school teacher believed the digital storytelling technique to increase the participation of the students in the lesson. Some studies in the literature (Balaman, 2016; Bedir-Erişti, 2016; Bedir-Erişti, 2017; Çiğerci, 2015; Coutinho, 2010; Gakhar, 2007; Shirtless & Pullu, 2017; Gyabak & Godina, 2011; Heo, 2009; Kahraman, 2013; Karataş, Bozkurt & Hava, 2016; Kocaman-Karoğlu, 2016; Kotluk & Kocakaya, 2015; Robin, 2008; Tatlı & Aksoy, 2017; Tunç & Karadağ, 2013; Sadik, 2008) also suggested that the digital storytelling technique helps students actively participate in the lesson. In addition, in this study, the primary school teacher was of the opinion that this technique provided permanent learning for the students. As a matter of fact, some studies (Bedir Erişti, 2017; Shirtsiz & Pullu, 2017; Gözen & Cırık, 2017; Karataş, Bozkurt & Hava, 2016; Kocaman-Karoğlu, 2016; Seat & Kocakaya, 2015; Tatlı & Aksoy, 2017) revealed digital storytelling to provide permanent learning. In this respect, it can be stated that the digital storytelling technique provides active participation and permanent learning of the students in the process.

As a result of this research, it was determined that the primary school teacher believed digital storytelling to increase the interest in the lesson. Looking at the literature, there are some studies (Gömleksiz & Pullu, 2017; Torres, Ponca & Pastor, 2012; Tunç & Karadağ, 2013; Tatlı & Aksoy, 2017; Turgut & Kışla, 2015) that verify this technique to increase students' interest. It was also determined in the current study that the primary school teacher confirmed the use of this technique making the lesson more enjoyable. In some studies, in the literature (Baki, 2015; Shirtless & Pullu, 2017; Hung, Hwang & Huang, 2012; İnceelli, 2005; Kocaman-Karoğlu, 2016; Tatlı & Aksoy, 2017; Wang & Zhan, 2010), it was also stated that courses based on digital storytelling technique are fun. Finally, in this study, the primary school teacher recommended the use of digital storytelling in the learning environment. Some studies in the literature (Dogan & Robin, 2008; Karakoyun, 2014; Kocaman-Karoğlu, 2014, Kocaman-Karoğlu, 2016; Sadik, 2008) suggested that teachers who have experienced this technique should also benefit from this technique in the future. In conclusion, the digital storytelling technique is considered as satisfying in terms of making the lesson fun and interesting.

In line with these results of the study, the following suggestions can be made:

- Collaborative practices in which students will communicate at a high level should be carried out in distance education.
- Digital storytelling can be used in terms of enabling students to work collaboratively and individually, enabling successful group work, creating positive feelings, making the learning process fun, and contributing to it.
- Considering the technological problems encountered in the use of the digital storytelling technique, trainings that will increase the technological literacy of the students should be carried out.
- Different studies on the digital storytelling technique can be conducted and compared with the results of present study. In this context, considering the limitations of the research, researches can be carried out especially at primary school level.

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#### AUTHOR CONTRIBUTION

First author has given final approval of the version to be published. The second author have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data. The third author have been involved in drafting the manuscript or revising it critically for important intellectual content.

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