

## ELEMENTARY PROSPECTIVE TEACHERS' EXPERIENCES REGARDING DIGITAL STORYTELLING

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### ABSTRACT

Today, technology integration has become an important issue in all educational levels since preschool. With the integration of technology in the implementation of the curriculum, the learning of the students becomes permanent and the teaching-learning process is carried out effectively and efficiently. In this regard, teachers need to be prone to technology integration and have these skills. They should gain experience in technology integration and technology integration in the training they receive before the service. Therefore, this study aims to examine the elementary **prospective teachers' views on their experiences about digital storytelling**. Phenomenology design was used in the research. The participants of the researcher consisted of 29 prospective teachers determined according to the principle of volunteering. A questionnaire form consisting of open-ended questions developed by the researchers was used as a data collection tool. The data were analysed through using descriptive analysis. Research findings revealed that prospective teachers had positive opinions about digital storytelling, they would use digital storytelling in life studies and Turkish lessons if they were assigned. Besides, digital storytelling was identified to have contributions to the students, they encountered some problems while preparing digital stories and they had some recommendations for these problems. Various recommendations were developed based on the research results.

**Keywords:** Technology, technology integration, digital storytelling, prospective teacher, phenomenology.

### INTRODUCTION

Today, there is such great progress and advancement in technology. that has affected -education. In recent years, education and business have focused on providing students with some skills that can adapt to the new life, society, economy, and working order created by the digital age (Lemke et al., 2003). These include digital literacy, 21st-century skills, exploratory thinking, effective communication, and high productivity (Jakes, 2006). Along with the concept of "information society" arising from these results, various studies have been conducted on storytelling and writing systems in order to create story-based scenarios in many sectors such as the need and progress in creative production, marketing, advertising, education, simulation, learning, entertainment, and games. More and more writers, content producers and developers in each field use digital storytelling techniques to introduce the philosophy and practices of its companies to people as well as adding interactive content to their systems (Gobel

et al., 2008). In this transformation period, educational institutions realized the digital storytelling process and made an effort to integrate it into educational and instructional activities and transfer it to digital media (Figa, 2004).

**Robin (2008) stated that digital storytelling is “a tool that enables computer users to turn into creative storytellers through traditional operations such as identifying topics, researching, writing text, and developing an engaging story.” According to the compiled definition by Gregori-Signes (2014), digital storytelling is a 2 to 5-minute short story that combines traditional storytelling situations with a wide variety of multimedia tools such as graphic, audio, video, animation, and online publishing digital storytelling is a technology-based pedagogical approach that can be used in schools and derivative educational institutions. It is considered as a very valuable tool that provides flexible and effective educational environment (Gomez et al., 2019). Students encourage effective learning and creativity in digital storytelling, and they create their personal stories using pictures, recordings, and music (Rimando et al., 2015).**

Robin (2008) mentioned that there may be three types of digital stories such as personal stories, stories used for teaching or providing information, and historical stories. Yuruk (2015) (pp. 44-45) explained **these three types as follows: “Personal stories are a type of story that the narrator shares his personal life experiences. These kinds of stories are significant for conveying information to the audience related to differences, cultures, and values. Stories examining historical events are created by presenting the events occurring in the past by means of digital materials. These stories include respect for domestic and cultural values, awareness of today’s opportunities, peace, independence, freedom and patriotism, sensitivity, etc. Informative or instructive stories are the type in which educational content is presented through a digital narrative media. With such stories, various values such as scientific-ness, aesthetics, diligence, justice, right, equality, cleanliness, and wellness can be taught. Creating digital stories consists of seven stages (Robin & McNeil, 2012):**

1. Writing the story text,
2. Creating a story flow chart,
3. Researching images,
4. Voicing the story,
5. Creating the digital story,
6. Evaluation of the digital story,
7. Publication of the digital story.

Upon analysing national and international literature, various studies were identified to be conducted on digital storytelling. The studies mostly found that digital stories positively affected the academic success (Demirer, 2013; Gocen, 2014; Hung et al., 2012; Kahraman, 2013) and attitudes towards the lesson (Demirer, 2013; Gomleksiz & Pullu, 2017; Yang & Wu, 2012; Yoon, 2013), and writing skills (Baki, 2015; Baki, 2019; Foley, 2013; Gakhar, 2007). Considering the studies conducted with prospective teachers **regarding digital storytelling, prospective elementary teachers’ views about their products related to digital children’s literature (Ertem et al., 2019) and their experiences (Anilan et al., 2018; Demirer & Baki, 2018; Gocen-Kabaran et al., 2019; Ozpinar, 2017) were analysed. Unlike these studies, this research attempts to identify prospective elementary teachers’ views on digital storytelling, to determine which lessons they will use when they start their digital storytelling, and why they prefer these lessons as well as examining the contribution of digital storytelling and the problems they encounter while developing digital storytelling.**

Digital storytelling has a remarkable effect on both the story creator and the audience in terms of learning, reflection, and self-discovery potential. This method can be used as a powerful weapon in pedagogical ammo, especially for active learning (Boase, 2008). Digital stories are story-based and have the potential to connect students from many different learning styles to the lesson due to their appeal to many senses and their suitability for both individual and teamwork (Yuruk, 2015). In this regard, the use of digital emulation based on curricula from the primary school years will provide various contributions to students. Teachers need to gain knowledge and experience on this subject in their pre-

service training to apply digital storytelling in a qualified manner. Our age is also called the digital age. With the rapid digitalization experienced unsocial life, the students' adaptation to this process has become a condition that education should primarily resolve. Therefore, digital teachers are needed. While digital teachers use digital technology, they try to develop their digital skills by using digital technology in the teaching-learning process (Goksun-Orhan, 2019). Therefore, this research tried to make an in-depth analysis of the experiences of prospective elementary teachers about digital emulation. **Thus, prospective teachers' knowledge about digital storytelling can be determined. The research results** are deemed important as it will be feedback both for prospective teachers and faculty members working at teacher training institutions. Besides, as there is no such a study specifically published on this subject, this study is expected to fill the gap in the relevant literature.

**This research aims to identify the prospective teachers' views** and their experiences about digital storytelling. In service of this aim, answers to the following questions were sought:

1. **What are the prospective teachers' views about digital storytelling?**
2. **What are the prospective teachers' views about which lesson (s) they will use when they assign and why they prefer to use digital emulation?**
3. **What are the prospective teachers' views about the contribution of the use of digital storytelling in lessons?**
4. **What are the prospective teachers' views about the problems they encounter in the use of digital emulation in lessons?**
5. What are the recommendations of prospective teachers regarding the effective and efficient use of digital storytelling in the lessons?

## **METHODOLOGY**

### ***Research Design***

The research employed the phenomenological design, one of the qualitative research patterns since the **prospective teachers' views about digital storytelling were examined based on the experiences of digital** storytelling. Phenomenological research is a research pattern that aims to highlight individuals' perceptions and experiences from their perspectives (Ersoy, 2016, pp. 55). Creswell and Creswell (2018) emphasized that the experiences and perceptions of the participants regarding the phenomenon investigated in phenomenological research should be revealed.

### ***Participants***

The participants of the research consisted of 29 prospective teachers who were selected by convenience sampling method. The convenience sampling method is the method in which the nearby and easy-to-reach units are selected for sampling (Yildirim, 2019). This sampling method was used in the present study as the participants were selected among the accessible people. Attention was paid to the participants having experience with digital storytelling. Instructional technologies and instructional technologies and material development lessons were presented to the prospective teachers studying in the 2nd, 3rd and 4th grades by the first researcher. In these two lessons, prospective elementary teachers developed digital stories for the elementary school curriculum. In this way, they were provided with experience. Among the participants, 19 are female and 10 are male. Eight of the participants are the 2<sup>nd</sup> graders, 11 in the 3<sup>rd</sup>, and 10 in the 4<sup>th</sup> grade. Participants voluntarily participated in the study.

### ***Data Collection Tool***

The research data were collected with a questionnaire form. Within the scope of the research, the form include demographic information such as gender and grade. Besides, five open-ended questions were **included in the questionnaire to identify prospective teachers' experiences of digital storytelling. The** relevant literature was examined while developing the open-ended questions. To ensure the validity and **reliability of the questionnaire, experts' views** were asked. Hence, a form was prepared for two faculty members who have qualitative research experience and who made a research on digital storytelling. As

a result of the feedback from the field experts, necessary changes were made in the questionnaire form. Then, a pilot study was conducted and the questionnaire was administered to the five prospective classroom teachers. No problem emerged during the implementation. As a result, the form was used in the original application in this way.

### ***Data Collection***

The data of the research were collected between 2 and 6 March 2020. Before collecting the data, the purpose of the research was explained to the participants. Questionnaires were filled in by prospective teachers in approximately 30 minutes. Questionnaires were collected at intervals that would not hinder **the prospective teachers' lessons. Before administering the questionnaire form, the ethical committee** decision (No: 87432956/050.991/88.10) was made and the necessary permission was obtained. The participants were given their consent to participate in the research.

### ***Data Analysis***

Content analysis, one of the qualitative data analysis, was used during data analysis. Content analysis is used to "identify the existence of words, concepts, themes, idioms, characters or phrases in one or more texts and to enumerate them" (Kiziltepe, 2015, pp. 253). Berg (2001) defined the content analysis as "careful, detailed and systematic review and interpretation of a particular material to identify patterns, themes, prejudices, and meanings." Content analysis is conducted in two ways: deductive and inductive. Inductive content analysis was used in this research. In the inductive content analysis, the researcher reads the data, again and again, determining the dimensions that are important for the research, and decoding the data into categories. Grouping similar categories under broad titles go to summarize (Kiziltepe, 2015). In this research, the questionnaire forms were read one by one, and the responses given to each question were carefully read and coded. Later, these codes were brought together to create themes (Bogdan & Biklen, 2003; Saladana, 2015). Within the scope of the research, the data were analysed through Nvivo 11, and the obtained results were presented in figures.

### ***Validity and Reliability***

Various strategies were used in research to ensure validity and reliability. These are:

1. Within the scope of the research, all processes involving the collection, analysis, and interpretation of the data by the researchers were questioned with a critical eye and it was checked whether the obtained results reflected the reality (Yildirim & Simsek, 2016).
2. The participants were confirmed as a result of the research (Guclu, 2019).
3. Research findings were presented to the field experts and their views were taken (Sigri, 2018).
4. The compatibility of the themes and codes was examined by two researchers. In cases where there was no agreement, the researchers talked to each other and reached a compromise (Guler et al., 2014).
5. To increase the reliability of the research, the views of the participants were directly quoted (Guler et al., 2014).

### ***Ethical Measures Taken in the Research***

Ethical issues were respected during the research process. Attention was paid to the participation of the participants in the research according to the principle of volunteering. Before applying the survey form, information was given and their permissions were obtained. They were stated not to be harmed in any way and they were recommended not to write their names on the questionnaire. Within the scope of the research, the anonymity principle was paid attention in direct quotations of prospective teachers, and codes such as PT: 1, M (Prospective Teacher: 1, Male) and PT: 3, F (Prospective Teacher: 3, Female) were used. The research data were confirmed not to be used outside the scope of the research and the data would be kept confidential (Guclu, 2019; Guler et al., 2014; Hammersley & Traianou, 2012).

## FINDINGS

Findings were presented considering the sub-problems of the research. Based on the first sub-problem of the research, the **prospective teachers' views** about digital storytelling were examined and the results of the analysis were presented in Figure 1.



Figure 1. Prospective teachers' views about digital storytelling

Upon analysing the **prospective teachers' views** about digital storytelling, they were found to have positive opinions about digital storytelling. The participants stressed that digital storytelling makes students active in the lessons, attracts their relevancy, increases their motivation, and attracts their attention. In addition, prospective teachers stated that digital storytelling makes the lesson enjoyable and ensures that the lesson is fun, effective, and efficient. Some **prospective teachers' views** are presented below:

*"The digital storytelling method increased our motivation in class. When I become a teacher, when I use it, my students' motivation will increase and they will be more willing. Even when we see digital storytelling in our lessons, our motivation increases."* (PT: 7, F)

*"I think digital storytelling is a great method. When I use the lessons, I pay attention to the lesson and attract more attention. I think the lesson is more fun. Therefore, when I become a teacher, I will use digital storytelling in my lessons."* (PT: 13, M)

Based on the second sub-problem of the research, the **prospective teachers' views regarding the lessons** and why they will use digital storytelling in these lessons were examined and the results of the analysis were presented in Figure 2.

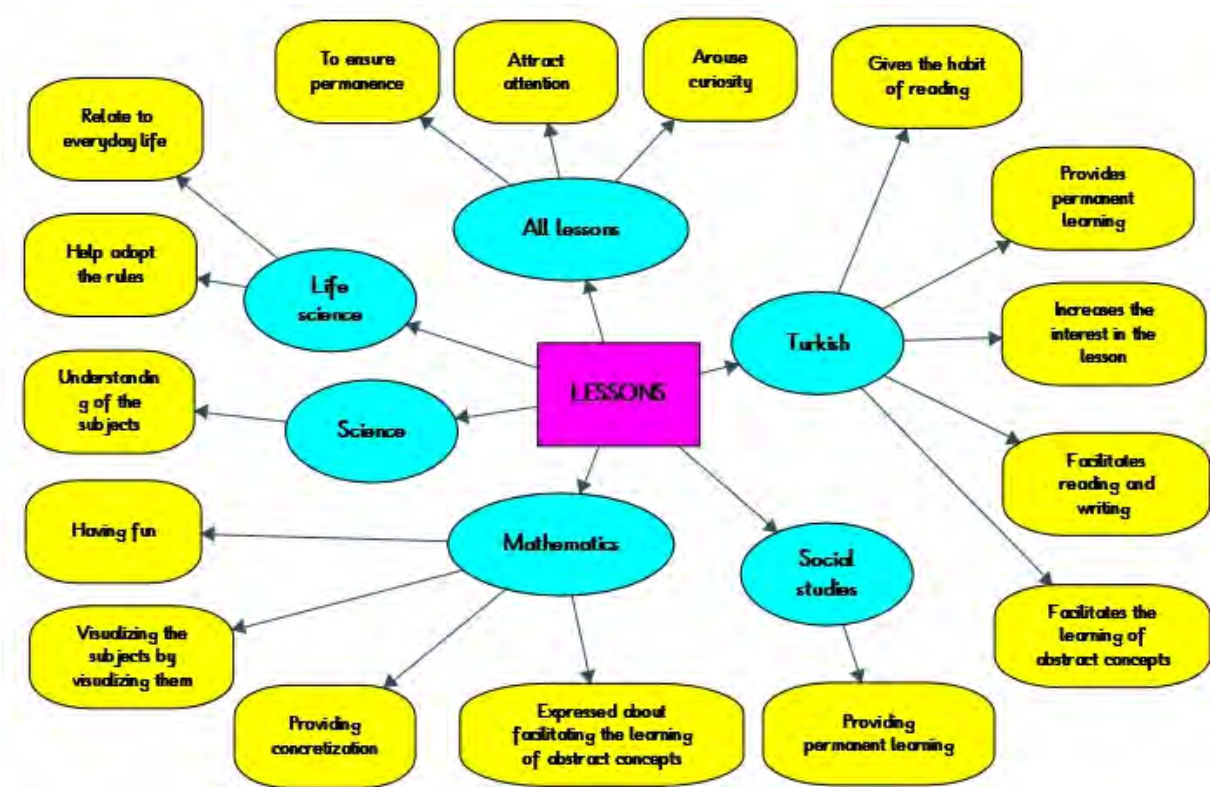


Figure 2. Prospective teachers’ views about which lessons and why they will use digital storytelling in these lessons if assigned

As is seen in Figure 2, prospective teacher noted that they would use digital storytelling in their life, Turkish, mathematics, science, and social studies lessons. Besides, they mentioned that they could use it in all their classes. The findings also showed that prospective teachers would use digital storytelling mostly in life studies and Turkish lessons. The reasons for the use of digital storytelling in life studies lesson by prospective teachers were as such: it helps to relate to everyday life and help adopt to the rules; in the Turkish lesson, it gives the habit of reading, provides permanent learning, increases the interest in the lesson, facilitates reading and writing and facilitates the learning of abstract concepts; in the mathematics lesson, opinions were expressed about facilitating the learning of abstract concepts, providing concretization, visualizing the subjects by visualizing them and having fun. Prospective teachers used it in all lessons to ensure permanence, to attract attention and arouse curiosity. They also stated that they would use them as they provided an understanding of the subjects in science class and ensured permanent learning in social studies class. **Some of the prospective teachers’ views** were as the following:

*"I use digital storytelling in the life science lesson. Because in the life science lesson, there are issues related to daily life. I can explain these issues better with digital storytelling. In this way, they can relate the issues with their daily lives."* (PT: 5, F)

*"When I am assigned as a teacher, I use digital storytelling in all lessons. I think it can be used in every lesson. In this way, I will ensure my students learn permanently."* (PT: 21, F)

The third sub-problem of the research **sought for the prospective teachers’ views on** the contribution of digital storytelling. Figure 3 depicted the related findings.

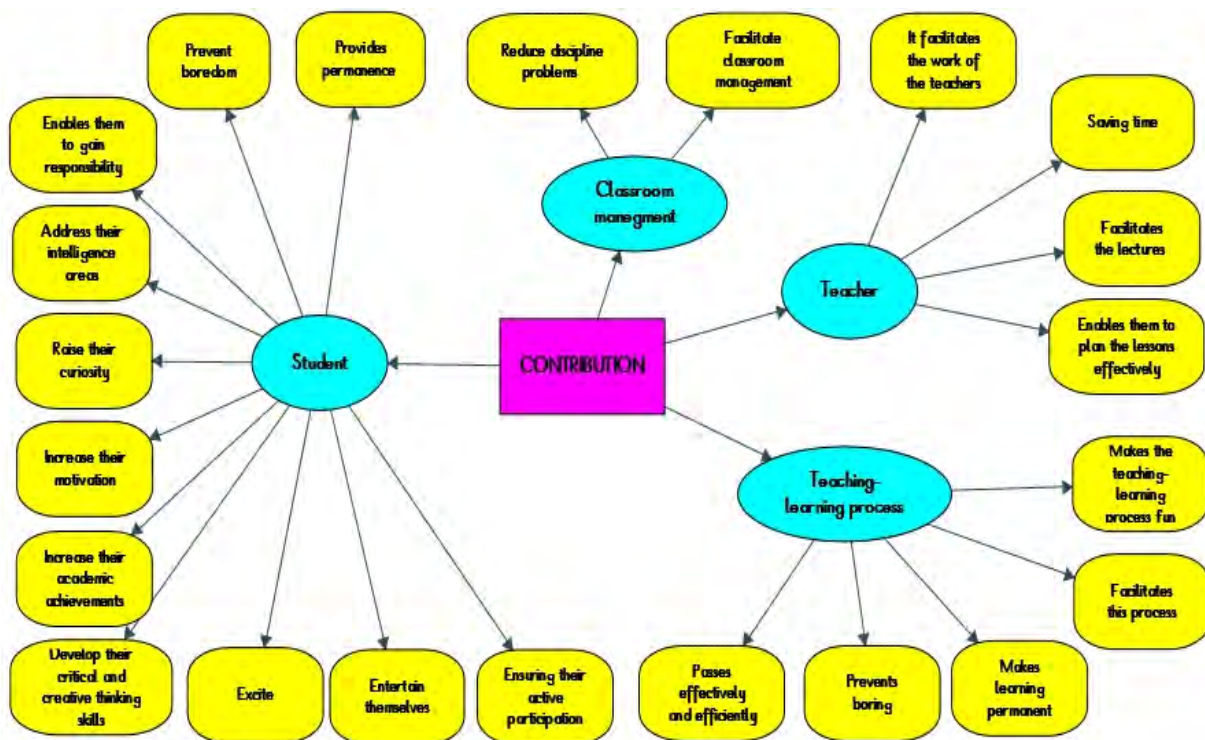


Figure 3. Prospective teachers' views about the contribution of digital storytelling

Figure 3 suggested that the **prospective teachers' views** about the contribution of digital storytelling were gathered under the themes of the student, teaching-learning process, teacher, and classroom management. The participants were of the view that digital storytelling had various contributions to the students. Prospective teachers were identified to emphasize that digital storytelling provides permanence in their learning, enables them to gain responsibility, addresses their intelligence areas, prevents boredom, raises their curiosity, increases their motivation, increases their academic achievements, develops their critical and creative thinking skills, ensures their active participation, excites and entertains themselves. In the classroom management theme, prospective teachers reduce discipline problems and facilitate classroom management; in the theme of the teacher, it facilitates the work of the teachers, saves time, facilitates the lectures and enables them to plan the lessons effectively; In the theme of the teaching-learning process, it makes the teaching-learning process fun, facilitates this process, makes learning permanent, prevents boring and ensures that it passes effectively and efficiently. **Some of the teachers' excerpts were** presented below:

*" I think digital storytelling has many contributions. We experienced them in the lesson. First of all, when we had digital storytelling in the lessons, our motivation increased and we started to listen to the lesson more carefully. "It can take hours to tell an abstract topic. But with a 3-minute story, he explained it in less time." (PT: 17, M)*

*" The process of teaching with digital storytelling method is more effective and productive. I participated more actively in the lesson and I think the lesson was more efficient. We were all watching digital stories and no negative behaviour was displayed. I would get bored and play with my phone if there was another time. I think this is his most important contribution. " (PT: 26, F)*

Based on the fourth sub-problem of the research, **the prospective teachers' views** on the problems faced in digital storytelling were examined and the results of the analysis were presented in Figure 4.

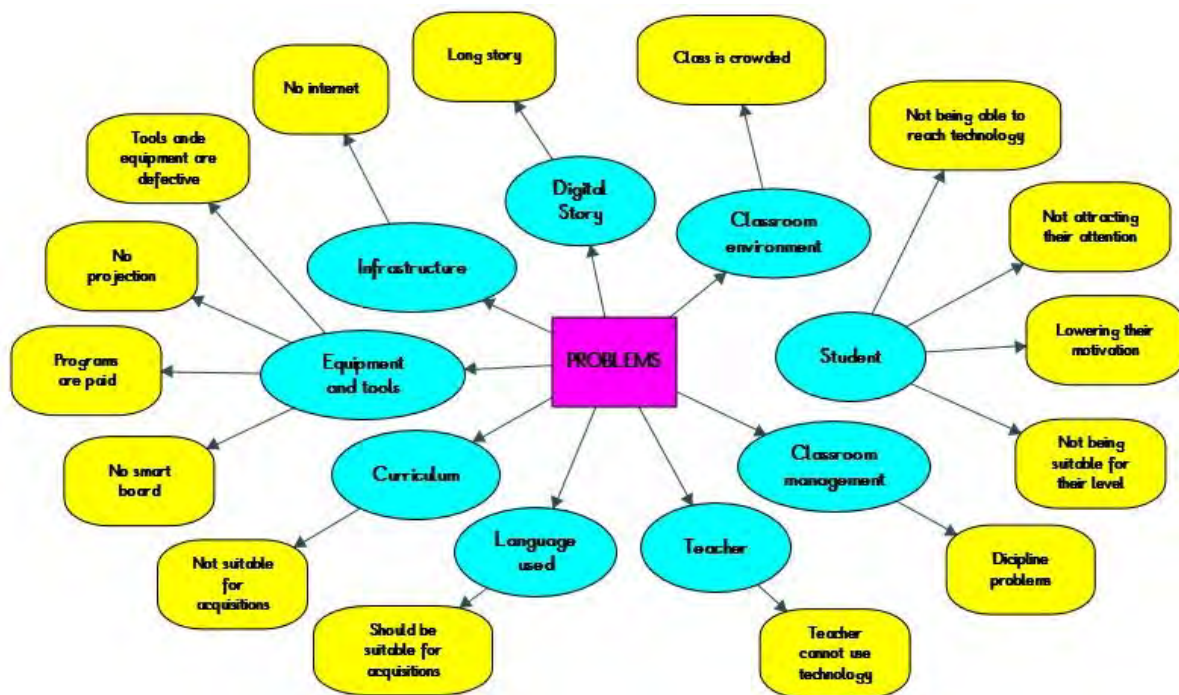


Figure 4. Prospective teachers’ views on the problems faced in digital storytelling

Figure 4 showed that the problems that prospective teachers faced in digital storytelling were gathered in the themes of digital story, classroom environment, student, classroom management, teacher, language used, curriculum, equipment, and tools. Prospective teachers stated that they encountered problems mostly in equipment and student themes in digital storytelling. They also expressed the lack of smartboard and projection, and the programs are not free, tools and equipment are defective in terms of equipment contact; In the theme of the curriculum, the inability to prepare digital storytelling suitable for the acquisitions; lack of internet in the institution in the theme of infrastructure; The theme of the classroom is that the class is crowded; discipline problems in classroom management theme; In teacher theme, the teacher cannot use technology; In student theme, they were determined to have problems such as not being able to reach technology, not attracting their attention, lowering their motivation, and not being suitable for their level. Some of the prospective teachers’ views are given below:

"While preparing digital storytelling, we encountered problems because the programs were paid. We wanted to prepare them in the best way, but we couldn't use them because some programs were too expensive." (PT: 1, M)

"If the teachers are not competent in using technology, they may not want to prepare digital storytelling. They have a great problem especially if they cannot use computers. We also had a problem while preparing digital stories as a group, because a friend could not use the computer very well. " (PT: 12, F)

"The stories in some digital stories were very long. So I couldn't get my attention. I think it's a big problem that the stories in digital stories are too long." (PT: 29, M)

Based on the fifth sub-problem of the research, prospective teachers’ recommendations for digital storytelling to be effective and productive were examined and the results of the analysis were presented in Figure 5.



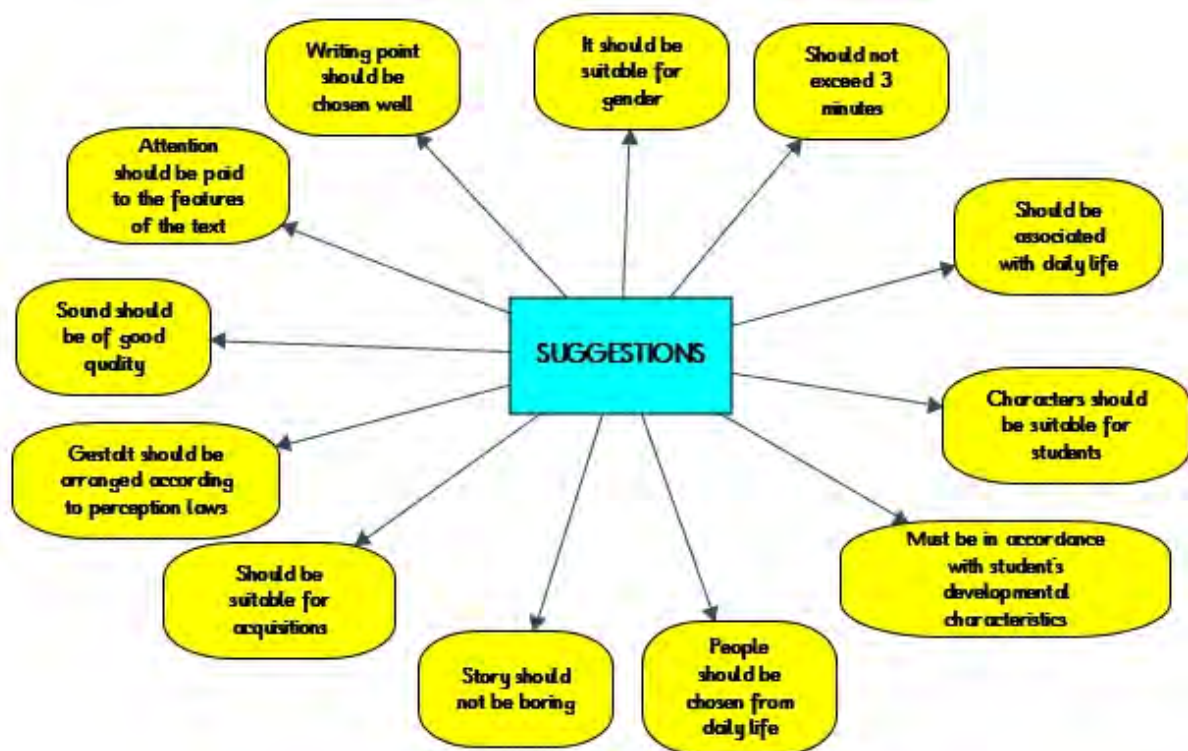


Figure 5. Prospective teachers' recommendations about digital storytelling to be effective and efficient

Figure 5 depicted that prospective teachers should prepare a digital story in a gender-appropriate manner for digital storytelling to be effective and efficient, stories should not exceed 3 minutes, they should be associated with daily life, student development characteristics should be selected, people from daily life should be boring, stories shouldn't be boring, they should be suitable for objectives, Gestalt, they developed their suggestions according to the perception laws, the sound should be high quality, the text features should be paid attention to, the font size should be chosen well and the characters should be suitable for the students. Recommendations of some prospective teachers were given below:

"Certainly, gender should be taken into consideration in digital storytelling. For example, the digital story made by group A. was always arranged for male students. The events and people were always prepared in the attention of men." (PT: 8, F)

"In the lesson, we prepared our digital story according to Gestalt laws, and the lesson was a lot of fun. For this reason, I think all digital stories should be prepared according to Gestalt laws." (PT: 24, M)

"In the unit given to us, we sometimes prepared digital stories according to the wrong achievements. Digital stories should be prepared by considering their achievements. I think it will be more effective in this way." (PT: 28, F)

## DISCUSSION

This research examined the experiences of prospective elementary teachers towards digital storytelling. The research findings revealed that prospective teachers has positive views regarding digital storytelling, and using this method has various benefits. This result is considered as a significant finding of the research since one of the obstacles to technology integration in education is the teachers' attitudes towards technology and their experiences in this regard (Gunuc, 2017). In this respect, prospective teachers' positive views on digital storytelling and their professional experience related to this subject suggested that when they are assigned, they will reduce the problems arising from the teacher at the

point of technology integration in the teaching-learning process. They also pointed out that digital storytelling makes students active in the lessons, attracts their relevancy, increases their motivation, and attracts their attention. Besides research findings suggested that digital storytelling makes the lesson enjoyable and ensures that the lesson is fun, effective, and efficient. It is stated by Konokman-Yavuz (2019) that digital storytelling has many benefits such as providing student participation, facilitating the learning of the subject, providing student-centered teaching, and increasing student **participation. In the research conducted by Karakoyun (2014) and İnan (2015),** prospective teachers concluded that digital storytelling is interesting and fun. These findings are in line with that of the present study.

Research findings unveiled that prospective teachers would use digital storytelling in life science, Turkish, mathematics, science, and social studies lessons if they are assigned. They can be used by prospective teachers in all classes. It was also stated that digital storytelling would be used more in life studies and Turkish lessons. Digital storytelling were thought to be used mostly in Turkish lessons due to its name. However, this method can be used for all lessons. It is promising for the future that prospective teachers state that they will use digital storytelling in other lessons as well. Twenty-first-century skills indicate that individuals' digital self-efficacy should be developed (Brenner, 2014; Dalim et al., 2019). In this respect, prospective teachers mentioned that they will use digital storytelling in many lessons, which will also improve their digital self-efficacy. As the reasons for the use of digital storytelling in life studies lesson by prospective teachers, it helps to relate to everyday life and help adopt the rules; To gain the habit of reading in Turkish lesson, provide permanent learning, increase the interest in the lesson, facilitate reading and writing and facilitate the learning of abstract concepts; In mathematics lesson, opinions were expressed about facilitating the learning of abstract concepts, providing concretization, visualizing the subjects by visualizing them and having fun. Prospective teachers, in all lessons, to ensure permanence, attract attention and arouse curiosity. They noted that they would use them as they provided an understanding of the subjects in science class and providing permanent learning in social studies class.

In the research, the opinions of prospective teachers on the contribution of digital storytelling were also examined. As a result of the research, the opinions of prospective teachers were gathered under the themes of the student, teaching-learning process, teacher, and classroom management. The prospective teachers stated that digital storytelling contributed more to the students. While preparing digital stories by prospective teachers, opinions were stated that they helped them gain permanence and responsibility in their learning, address their intelligence areas, prevent them from getting bored, arouse their curiosity, increase their motivation, increase their academic achievements, develop their critical and creative thinking skills, excite themselves and entertain themselves. In the classroom management theme, prospective teachers reduce discipline problems and facilitate classroom management; in the theme of the teacher, it facilitates the work of the teachers, saves time, facilitates the lectures and enables them to plan the lessons effectively; In the theme of the teaching-learning process, they have developed opinions that it makes the teaching-learning process fun, facilitates this process, makes learning permanent, prevents boring and ensures that it passes effectively and efficiently. Studies showed that digital storytelling increases students' skills such as problem-solving, collaborative learning, motivation, success, and critical thinking (Belet & Dala, 2010; Frazel, 2010). In the research conducted by Schmoelz (2018), digital storytelling was identified to improve students' creativity. Yang and Wu (2012) determined that the result of digital storytelling increases students' academic achievement, critical thinking skills, and learning motivation. The results of all these studies support the views of prospective teachers on the contribution of digital storytelling. In the studies conducted by Gocen-Kabaran, Karalar, Aslan-Altan, and Altıntas (2019), **classroom teachers and** prospective teachers stated that digital storytelling has many contributions. In the study conducted by Long (2011) on prospective teachers, the digital storytelling process was found to be a motivating and valuable experience. All these results are in line with those of this research.

The research also examined the problems that prospective teachers faced in digital storytelling. As a result, the problems were determined as digital story, classroom environment, student, classroom management, teacher, language used, curriculum, equipment, and tools. Prospective teachers stated

that they encountered problems mostly in equipment and student themes in digital storytelling. These were the lack of smartboard and projection, programs are not free, tools and equipment are defective in terms of equipment contact; In the theme of the curriculum, the inability to prepare digital storytelling suitable for the acquisitions; lack of internet in the institution in the theme of tools; The theme of the classroom is that the class is crowded; Discipline problems in classroom management theme; lack of technical competency in teacher contact; In the theme of students, prospective teachers encountered problems such as not being able to reach technology, not attracting their attention, lowering their motivation, and not being suitable for their level. Similar findings emerged in the studies conducted by these researchers (Ozpinar, 2017; Sadik, 2008; Uslupehlivan, Kurtoglu-Erden, & Cebesoy, 2017).

Last but not least, this research analysed the **prospective teachers'** recommendations for digital storytelling to be effective and productive. As a result of the research, digital stories should be prepared by prospective teachers by gender, stories should not exceed 3 minutes, they should be associated with daily life, students should be suitable for development characteristics, people should be selected from daily life, stories should not be boring, they should be suitable for objectives, they should be arranged according to Gestalt perception laws, sound quality suggestions should be taken, attention should be paid to text features, writing point should be chosen well and characters should be suitable for students. Lambert (2013) said that digital stories should have a length of about 2-3 minutes, up to a maximum of 5 minutes. It was stated by Akay (2019) that Gestalt perception principles should be taken into consideration in the principles of designing teaching materials. In the study conducted by Uslupehlivan, Kurtoglu-Erden, and Cebesoy (2017), prospective teachers were determined to make similar recommendations for digital storytelling.

## CONCLUSION

Looking at the overall result of the research, the fact that prospective teachers had positive thoughts about digital storytelling can be shown as the most significant result of the research. Another significant finding was that prospective teachers have many benefits in using digital storytelling in lessons. They stated that they would use digital storytelling in all lessons when they assigned to the profession. The prospective teachers stated that they encountered some problems related to digital storytelling. Upon analysing the relevant literature, similar problems were identified to be experienced in various studies. These results support those of the current study. Prospective teachers developed recommendations about the problems they faced in the use of digital storytelling, which should not exceed 3 minutes, should be associated with daily life, and should comply with student development characteristics. Considering these recommendations, digital storytelling can be used effectively and efficiently in lessons.

## SUGGESTIONS

Based on the research results, the following recommendations were provided:

1. It is useful for faculty members working in teacher training programs to use digital storytelling in their lessons. The use of digital storytelling by prospective teachers has many contributions. Also, using digital storytelling will improve prospective teachers' digital self-efficacy and technology literacy. In this way, it will be contributed to training today's teachers as digital teachers.
2. The problems stated by prospective teachers are experienced in almost all institutions. It will be useful to take the necessary measures to overcome these problems.
3. Studies such as experimental, mixed research, case study, and action research will contribute to the literature.

## REFERENCES

- Akay, C. (2019). Teaching materials. In T. Yanpar-Yelken (Eds.), *Instructional Technologies* (pp.45-64). Ani Publishing.
- Anilan, B., Berber, A., & Anilan, H. (2018). The digital storytelling adventures of the prospective teachers. *Turkish Online Journal of Qualitative Inquiry (TOJQI)*, 9(3), 262-287. <https://doi.org/10.17569/tojqi.426308>
- Baki, Y. (2015). *The effect of digital stories on the sixth grade students' writing process*. [Unpublished doctorate dissertation, Ataturk University, Erzurum].
- Baki, Y. (2019). The effect of digital stories on developing creative writing skills of preservice Turkish language teachers. *Journal of Mother Tongue Education*, 7(4), 964-995. <https://doi.org/10.16916/aded.597269>
- Belet, S. D., & Dala, S. (2010). The use of storytelling to develop the primary school students' critical reading skills: The primary education pre-service teachers' opinions. *Procedia-Social and Behavioral Sciences*, 9, 1830-1834. <https://doi.org/10.1016/j.sbspro.2010.12.409>**
- Berg, B. L. (2001). *Qualitative research methods for the social sciences*. Allyn and Bacon.
- Boase, C. (2008). *Digital storytelling for reflection and engagement: A study of the uses and potential of digital storytelling*. Centre for Active Learning and Department of Education, University of Gloucestershire.
- Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative research for education: An introduction to theory and methods*. Allyn and Bacon.
- Brenner, K. (2014). Digital stories: A 21st-century communication tool for the English language classroom. *English Teaching Forum*, 52(1), 22-29.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Pub.
- Dalim, S. F., Azliza, N. Z. M., Ibrahim, N., Zulkipli, Z. A., & Yusof, M. M. M. (2019). Digital storytelling for 21st century learning: A study on pre-service teachers' perception. *Asian Journal of University Education*, 15(3), 226-234.
- Demirer, V. (2013). *Use of e-storytelling in primary education and its effects*. [Unpublished doctorate dissertation, Necmettin Erbakan University, Konya].
- Demirer, V., & Baki, Y. (2018). Opinions and perceptions of prospective Turkish teachers related to the digital storytelling process. *Journal of Theoretical Educational Science*, 11(4), 718-747. <https://doi.org/10.30831/akukeg.392654>
- Ersoy, A. F. (2016). Phenomenology. In A. Saban & A. Ersoy (Eds.), *Qualitative research Patterns In Education* (pp.81-134). Ani Publishing.
- Ertem, I. S., Ozdemir-Cetinkaya, E., Egin-Gullu, E., & Palabiyik, E. (2019). Opinions of primary school teacher candidates' on preparing digital children literature product experiences. *Turkish Studies Educational Sciences*, 13(27), 723-736. <https://doi.org/10.7827/TurkishStudies.14384>
- Figa, E. (2004). The virtualization of stories and storytelling. *Storytelling Magazine*, 16(2), 34-36.
- Frazel, M. (2010). *Digital storytelling guide for educators*. International Society for Technology in Education.
- Foley, L. M. (2013). *Digital storytelling in primary-grade classrooms*. [Unpublished doctorate dissertation, University of Arizona State, USA].
- Gakhar, S. (2007). *The influence of a digital storytelling experience on pre-service teacher education students' attitudes and intentions*. [Unpublished master's thesis, University of Iowa State, USA].
- Gobel, S., Salvatore, L., & Konrad, R. (2008, November). *StoryTec: A digital storytelling platform for the authoring and experiencing of interactive and nonlinear stories*. In Automated solutions for Cross Media Content and Multi-channel Distribution, 2008. AXMEDIS'08. International Conference on (pp. 103-110).
- Gomez, J., Jaccheri, L., Maragoudakis, M., & Sharma, K. (2019). Digital storytelling for good with Tappetina game. *Entertainment Computing*, 30, 1-9. <https://doi.org/10.1016/j.entcom.2019.100297>
- Gocen-Kabaran, G., Karalar, H., Aslan-Altan, B., & Altintas, S. (2019). In-service and preservice classroom teachers in digital story workshop. *Cumhuriyet International Journal of Education*, 8(1), 235-257. <https://doi.org/10.30703/cije.469461>

- Gocen, G. (2014). *The effect of digital storytelling method on students' academic achievement and learning and study strategies*. [Unpublished master's thesis, Mugla Sitki Kocman University, Mugla].
- Goksun-Orhan, D. (2019). Digitized roles in 21st century skills acquisition. In Y. K. Turel (Ed.), *Instructional Technologies*. (pp.87-110). ASOS Publishing.
- Gomleksiz, M. N., & Pullu, E. K. (2017). The effect of digital stories developed by using Toondoo on **students' academic achievement and attitudes**. *Turkish Studies*, 12(32), 95-110. <https://doi.org/10.7827/TurkishStudies.12717>
- Gregori-Signes, C. (2014). Digital storytelling and multimodal literacy in education. *Porta Linguarum*, 22, 237-250.
- Guclu, I. (2019). *Qualitative research methods in the social sciences*. Nobel Publishing.
- Guler, A., Halicioglu, M. B., & Tasgin, S. (2014). *Qualitative research methods in the social sciences*. Seckin Publishing.
- Gunuc, S. (2017). *Theoretical foundations of technology integration in education*. Ani Publishing.
- Hammersley, M., & Traianou, A. (2012). *Ethics in qualitative research: controversies and contexts*. SAGE Pub.
- Hung, C. M., Hwang, G. J., & Huang, I. (2012). A project-based digital storytelling approach for **improving students' learning motivation, problem-solving competence, and learning achievement**. *Educational Technology & Society*, 15(4), 368-379.
- İnan**, C. (2015). A digital storytelling study project on mathematics course with preschool preservice teachers. *Educational Research and Reviews*, 10(10), 1476-1479. <https://doi.org/10.5897/ERR2015.2247>
- Jakes, D. (2006). *Standards-proof your digital storytelling efforts*. TechLearning.
- Kahraman, O. (2013). *The effect of using teaching materials prepared by digital storytelling method at the engagement of learning cycle on physics course achievement and motivation level*. [Unpublished doctorate dissertation, Balikesir University, Balikesir].
- Karakoyun, F. (2014). *Examining the views of elementary school students and preservice teachers about digital storytelling activities in online environment*. [Unpublished doctorate dissertation, Anadolu University, Eskisehir].
- Kiziltepe, Z. (2015). Content analysis. In F. N. Seggie & Y. Bayyurt (Eds.), *Qualitative research methods, techniques, analysis and approaches*. (pp.253-267). Ani Publishing.
- Konokman-Yavuz, G. (2019). Preparing digital teaching technologies and using them in educational environments: Digital storytelling and digital concept map. In T. Yanpar-Yelken (Ed.), *Instructional Technologies*. (pp.65-98). Ani Publishing.
- Lambert, J. (2013). *Digital storytelling: Capturing lives, creating community*. Routledge.
- Lemke, C., Coughlin, E., Thadani, V., & Martin, C. (2003). *enGauge 21st century skills—Literacy in the Digital Age*.
- Long, B. (2011). *Digital storytelling and meaning making: Critical reflection, creativity and Technology in pre-service teacher education*. In Proceedings of the Digital Storytelling Conference (pp. 1-27).
- Ozpinar, I. (2017). Preservice mathematics teachers' opinions on the use of digital stories and instructional environments**. *Bartın University Journal of Faculty of Education*, 6(3), 1189-1210. <https://doi.org/10.14686/buefad.340057>
- Rimando, M., Smalley, K. B., & Warren, J. C. (2015). Design, implementation, and lessons earned from a digital storytelling project in an undergraduate health promotion theory course. *Journal of Health Education Teaching*, 6(1), 1-10.
- Robin, B. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice*, 47(3), 220-228. <https://doi.org/10.1080/00405840802153916>
- Robin, B. R., & McNeil, S. G. (2012). What educators should know about teaching digital storytelling? *Digital Education Review*, 22, 37-51.
- Sadik, A. (2008). Digital storytelling: A meaningful technology integrated approach for engaged student learning. *Educational Technology Research and Development*, 56(4), 487-506. <https://doi.org/10.1007/s11423-008-9091-8>
- Saladana, J. (2015). *The coding manual for qualitative researchers*. SAGE Publishing.
- Schmoelz, A. (2018). Enabling co-creativity through digital storytelling in education. *Thinking Skills and Creativity*, 28, 1-13. <https://doi.org/10.1016/j.tsc.2018.02.002>

- Sigri, U. (2018). *Qualitative research methods*. Beta Publishing.
- Uslupehlivan, E., Kurtoglu-Erden, M., & Cebesoy, U. B. (2017). Pre-service teachers' digital story creation experiences. *Usak Universitesi Sosyal Bilimler Dergisi*, 10(2), 1-22.
- Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & Education*, 59(2), 339-352. <https://doi.org/10.1016/j.compedu.2011.12.012>
- Yildirim, M. (2019). Sampling and sampling methods. In S. Sen & İ. Yildirim (Eds.), *Research methods in education*. (pp.61-92). Nobel Publishing.**
- Yildirim, A., & Simsek, H. (2016). *Qualitative research methods in the social sciences*. Seckin Publishing.
- Yoon, T. (2013). Are you digitized? Ways to provide motivation for ELLs using digital storytelling. *International Journal of Research Studies in Educational Technology*, 2(1), 25-34. <https://doi.org/10.5861/ijrset.2012.204>
- Yuruk, S. E. (2015). *The effect of digital story based values education on students' attitudes and value acquisition*. [Unpublished master's thesis, Firat Univer