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DIGITAL STORYTELLING EXPERIENCES OF PRE-SERVICE TEACHERS: AN ACTION RESEARCH*

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ABSTRACT

The purpose of this research is to examine the digital storytelling experiences of preschool pre-service teachers. In the study, an action research from qualitative research designs was used. Furthermore, collaborative action research from the types of action research in the research was used. The research group of the study was formed in the academic year 2014-2015 in the Aegean Region with eight teacher candidates who are studying in the last grade of the Preschool Teacher Education Department at a state university. In the process, firstly, pre-service teachers were informed about digital storytelling by researchers, and examples of programs and applications were introduced. Afterwards, pre-service teachers created their own digital story and practiced in internship schools. Semi-structured interview forms and unstructured observation forms prepared by researchers were used to obtain data in the study. In the analysis of the obtained data, the content analysis method used in qualitative researches was used. In line with the answers given by the pre-service teachers to the interview questions, the following topics were defined: "definition of digital story", "preparatory stage", "emotional state during application", "application stage that can be effective", "student reaction", "contributions to pre-service teachers ". By analyzing the records of the observations, "the affective state observed during the application", "observed application phase" and "observed student reaction" were obtained. According to the results obtained, it was determined that the action plan developed in this study was successfully applied and that it was possible to apply a new and active method before graduating to pre-service teachers. However, it has been determined that some pre-service teachers are experiencing problems while preparing digital stories and not finding the visuals and checking the students during the lesson.

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STRUCTURED ABSTRACT

Purpose

Digital storytelling which is commonly used abroad has not used so often in Turkey, and this situation generates the problem status and studying this new method with pre-service teachers was regarded necessary. Thus, allowing pre-service teachers to gain experiences about digital storytelling both theoretically and practically was aimed in this study.

Method

In this study, action research, which is one of the qualitative research designs, was used. In the study, "collaborative action research", which is one of the action research types was used. In this study, a deep interaction was formed between the researcher and the executive pre-service teachers, and a new method was implemented by pre-service teachers.

The study group of the study was formed by eight pre-service teachers who are final year undergraduate students in the department of Preschool Teaching of a state university in Aegean Region in 2014-2015 academic year. Criterion sampling, which is one of the purposive sampling, was used in this study. During the selection process of the pre-service teachers, some criterion was taken into consideration, such as taking the course "Teaching Practice II", participating to the research voluntarily, and not having any information related to the digital storytelling method before the research.

In order to collect data in the research, semi-structured interviews and unstructured observations were carried out by the researchers. In the process of preparing the interview form, the related literature was searched primarily, and then interview questions were developed in the light of the obtained information. Two academic members' opinions were taken as an expert opinion, and a number of questions were edited and some of them were deleted. At the end of the pre –implementation with two people, some of the questions were edited and final version of the form was obtained. Accordingly, whether the interview form is suitable for the working group, and serves a purpose of the research was evaluated.

Collecting the research data was performed in two steps. In the first step, the researchers observed digital storytelling activities of the pre-service teachers and kept a record of observations. In the second step, interviews with pre-service teachers were done. Interviews were done with the pre-service teachers individually and these interviews took almost 20 minutes. Permission was asked for from the pre-service teachers to record their voices, and the interviews were recorded.

Because the pre-service teachers did not have any prior knowledge with regard to this method, detailed information was given to them by the researchers. Later, Microsoft Photo Story 3 software enabling the pre-service teachers to prepare their digital stories was introduced. How they will prepare digital stories with this software was demonstrated with examples. During the implementation process, two teacher candidates

every week, and totally eight teacher candidates performed digital storytelling activities in practice schools for four weeks. The researchers kept records of observations by watching the activities of pre-service teachers for four weeks. During the observations and keeping observation records, student-teacher behaviors, students' focusing on the digital story, evaluation activity of the pre-service teacher were observed, focused, and the actualization of these elements were evaluated.

Content analysis method used in qualitative research was utilized for data analysis. The main objective in content analysis is to reach concepts and relationships which can clarify collected data. Within this scope, data is tried to be defined through content analysis, and the possible hidden realities in data are tried to be displayed.

Discussion and Conclusions

This study is a try of an action research. During the research process, whether the pre-service teachers have information related to digital storytelling was identified, model practices were introduced, an action plan was developed, and the implementation of "digital storytelling" method was conducted. It was identified that while the pre-service teachers were defining the digital storytelling, they pointed out that digital stories include audio- visual elements, and they are digitalization of the traditional stories. The pre-service teachers mentioned that they completed the stages of selecting the topic of story, finding pictures, adding background music, and vocalization during the preparation of the digital stories. Pre-service teachers mentioned that they were satisfied, excited and hesitated with the student interest during the implementation step of digital storytelling. It can be concluded that digital storytelling affected pre-service teachers in a positive way. All of the pre-service teachers utilized their digital stories in development stage of the lesson, however half of the pre-service teachers mentioned that digital storytelling can be effective in every stages of the lessons while the others mentioned that it can be effective only in the beginning and evaluation stages of the lesson. It was observed that the pre-service teachers showed their digital stories to the students after they and the students had a chat related to the topic. Pre-service teachers performed digital storytelling method in the development stage of the lesson, but they also mentioned that this method can be effective in every stage of the lesson. Pre-service teachers mentioned that their students showed interest and attention to the digital stories. Besides, the results obtained from the observation records have also shown that the students were interested in digital stories. Pre-service teachers stated that digital storytelling method improved their technological competencies, and let them gain to be able to perform different activities and developed their creativity. Pre-service teachers have stated that they had difficulties mostly in finding the relevant pictures in the digital storytelling process. Searching the pictures generally on the internet is the reason for this situation. Only one of the pre-service teachers drew his/her own pictures; others used the pictures they obtained from internet. In conclusion, it can be stated that the action plan generated in this study was implemented successfully, and a skill for practicing a new and active method was gained to pre-service teachers before they graduate.

Suggestions

In accordance with the results obtained in this research, it is seeen as a necessity that the practices about active teaching methods such as digital storytelling, which pre-service teachers are able to use with their technological, pedagocical professional knowledge, must be increased. Pre-service teachers can be provided to have enough educational competency within this context. Besides, pre-service teachers should be guided to use active teaching methods as part of life in teacher practice period in traineeship schools. Pre-service teachers are thought to gain the essential skills and competencies before their professional life begins by the cooperative studies to be conducted by faculty members, teachers and pre-service teachers about the implementation and practices of active teaching methods.

Keywords: Storytelling, digital storytelling, action research, pre-service teacher

ÖĞRETMEN ADAYLARININ DİJİTAL ÖYKÜLEME DENEYİMLERİ: BİR EYLEM ARAŞTIRMASI

ÖZET

Bu araştırmanın amacı okul öncesi öğretmen adaylarının dijital öyküleme deneyimlerini incelemektir. Araştırmada nitel araştırma desenlerinden eylem araştırması kullanılmıştır. Araştırmada eylem araştırması türlerinden işbirlikli eylem araştırması kullanılmıştır. Araştırmanın çalışma grubunu 2014-2015 eğitim-öğretim yılında Ege Bölgesi'nde bir devlet üniversitesinde Okul Öncesi Öğretmenliği Ana Bilim Dalı son sınıfta öğrenim görmekte olan sekiz öğretmen adayı oluşturmuştur. İşlem olarak öncelikle öğretmen adaylarına araştırmacılar tarafından dijital öyküleme hakkında bilgi verilmiş, program ve uygulama örnekleri tanıtılmıştır. Daha sonra öğretmen adayları kendi dijital öykülerini oluşturarak staj okullarında uygulama yapmışlardır. Araştırmada verilerin elde edilmesi amacıyla araştırmacılar tarafından hazırlanan yarı yapılandırılmış görüşme formu ve yapılandırılmamış gözlem formları kullanılmıştır. Elde edilen verilerin analizinde nitel araştırmalarda kullanılan içerik analizi yöntemi kullanılmıştır. Öğretmen adaylarının görüşme sorularına verdikleri cevaplar doğrultusunda "dijital öykülemenin tanımı", "hazırlık aşaması", "uygulama sırasındaki duyuşsal durum", "etkili olabilecek uygulama aşaması", "öğrenci tepkileri", "öğretmen adaylarına katkıları", "yaşanılan sorunlar" temaları oluşturulmuştur. Gözlem kayıtlarının analiz edilmesi ile ise "uygulama sırasında gözlenen duyuşsal durum", "gözlenen uygulama aşaması" ve "gözlenen öğrenci tepkileri" temaları elde edilmiştir. Elde edilen sonuçlara göre bu araştırmada geliştirilen eylem planının başarıyla uygulandığı ve öğretmen adaylarına mezun olmadan önce yeni ve aktif bir yöntemi uygulama becerisinin kazandırıldığı belirlenmiştir. Bununla birlikte bazı öğretmen adaylarının dijital öykü hazırlarken görselleri bulmada ve ders esnasında öğrencileri kontrol etmede sorunlar yaşadıkları belirlenmiştir.

Anahtar Kelimeler: Öyküleme, dijital öyküleme, eylem araştırması, öğretmen adayı

INTRODUCTION

Rapidly emerging technology occupies an important part of lives of the individuals. In this era of information and technology, bank ATMs, parking meters, moving stairways, elevators, computers used inevitably in the houses and in any sectors, different various equipments and machines ranging from small house appliances to bigger ones force us to have a certain accumulation of knowledge (Cakır ve Oktay, 2013). Today, as a result of individuals' meeting with technology at an early age, a number of competences in respect to technology are began to be acquired even before starting the school. Duran and Topbasoglu (2015) have stated that the students of this era have the characteristics of the first generation growing up with technology from pre-school till university. This condition has brought about innovations and developments in the field of education. Students' expectations and needs caused the usage of technology almost inevitable so teachers are taking the era in which their students experience into consideration in setting the educational environments and in selecting the teaching materials and methods. Digital age generates new roles for the teachers, who are the practitioners of education in the classrooms, and teachers' knowledge, skills and competences are gaining importance in this process gradually (Yaman, Demirtas and Aydemir, 2013). Within this context, it is vital for pre-service teachers to get technological competences. In order to reach to the success they desire in their professional life, pre-service teachers primarily must acknowledge the role of technology in education, and have the necessary skills to able to use these technologies because when pre-service teachers start their professional life, they will meet a group which is composed of the students closely connected with technology (Erdemir, Bakirci and Eyduran, 2009).

Turgut and Kisla (2015) have stated that the storytelling method, which is used in various fields, has changed, and this situation enabled the generation of digital storytelling. Today, digital storytelling is one of the active methods combining learning and technology in accordance with today developments. According to the views Jakes and Brenna (2005) support, digital storytelling is the process of writing a story and then generating a visual story by means of including multi-media elements such as sound, visual and music to the story. Digital storytelling is one of the methods which will enable the students to participate actively, encourage them to learn entertainingly, and enhance the permanence of learning. Digital storytelling, as an innovative approach toward teaching and learning, combines human creativity with technology, and provides generating student-centered and technologically rich, interactive teaching and learning environments (Smeda, Dakich and Sharda, 2010). Thanks to this method, students are able to find the opportunity both to follow course content within the frame of hierarchy and fiction formed by the story and to watch the course with interest with the visual and audio elements in the story. Akin and Cecen (2015) remark that teaching based on multimedia can help students benefit from the education and participate to the educational environment actively. In this context, it can be said easily that digital storytelling is an effective method which will enable students to learn effectively. In the related literature, there are studies which suggest that digital storytelling is an effective method increasing academic success of the students, and improving their attitudes towards to the course (Demirer, 2013; Hung, Hwang and Huang, 2012; Kahraman, 2013; Yang and Wu, 2012; Yoon, 2013). Besides, Xu, Park and Baek (2011) have indicated that digital storytelling method has got the potential of facilitating teaching and learning in the classroom. Ceylan and Birinci (2013) have stated that education can be personalized more through digital storytelling, and learners' attention can be directed to content easily.

Digital storytelling which is commonly used abroad has not used so often in Turkey, and this situation generates the problem status and studying this new method with pre-service teachers was regarded necessary. Thus, allowing pre-service teachers to gain experiences about digital storytelling both theoretically and practically was aimed in this study.

METHOD

Research Model

In this study, action research, which is one of the qualitative research designs, was used. Action research is conducted by the people in the application personally such as a principal working at school, a teacher, an educational specialist or an engineer, a director, a planner, a human resources specialist working for different types of companies (Yildirim and Simsek, 2013). Johnson (2015) has stated that an action research can be used for three purposes: analyzing a teaching method, a problem or a field interested. In this research, a new method is studied with pre-service teachers, and their implementing and performing processes were analyzed in depth.

In the study, ‘’collaborative action research’’, which is one of the action research types was used. In collaborative action research, many researchers from schools and universities meet up and work on educational problems. The objective of such an action research is to utilize the specialty of those who are cooperating and to constitute the continuity of the dialogues between the people from different fields of education (Derince and Ozgen, 2015). In this study, a deep interaction was formed between the researcher and the executive pre-service teachers, and a new method was implemented by pre-service teachers.

Study Group

The study group of the study was formed by eight pre-service teachers who are final year undergraduate students in the department of Preschool Teaching of a state university in Aegean Region in 2014-2015 academic year.

Criterion sampling, which is one of the purposive sampling, was used in this study. Purposive sampling is generating the sampling from the people, incidents, objects or situations having the characteristics identified for the problem (Buyukozturk, Cakmak, Akgun, Karadeniz and Demirel, 2013). During the selection process of the pre-service teachers, some criterion was taken into consideration, such as taking the course ‘’Teaching Practice II’’, participating to the research voluntarily, and not having any information related to the digital storytelling method before the research.

The pre-service teachers (PT) participating to the research were defined as PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8 according to the response order. The findings regarding demographic characteristics of the study group are demonstrated in Table 1.

Table 1. Demographic Charecteristics of the Pre-service Teachers Forming the Study Group

Demographic Characteristics					
Pre-service Teachers	**Gender**	**Age**	**Grade Point Average**	**Faculty**	**Grade**
PT1	Female	24	2.82	Education	4
PT2	Female	23	2.70	Education	4
PT3	Female	22	2.90	Education	4
PT4	Female	21	2.98	Education	4
PT5	Female	22	3.16	Education	4
PT6	Female	23	2.82	Education	4
PT7	Male	22	2.52	Education	4
PT8	Male	22	3.17	Education	4

When Table 1 is analyzed, it can be seen that six of the pre-service teachers are female, two of them are male, their ages vary between 21-24, and their grade point averages vary between 2.52 and 3.17.

Data Collection Instruments

In order to collect data in the research, semi-structured interviews and unstructured observations were carried out by the researchers.

In the process of preparing the interview form, the related literature was searched primarily, and then interview questions were developed in the light of the obtained information. Researchers determined on the questions by discussing. Two academic members' opinions were taken as an expert opinion, and a number of questions were edited and some of them were deleted. At the end of the pre –implementation with two people, some of the questions were edited and final version of the form was obtained. Accordingly, whether the interview form is suitable for the study group, and serves a purpose of the research was evaluated.

Yildirim and Simsek (2013) have stated that observation is the most common method of collecting data in qualitative research. Also in this research, unstructured observation technique was used. Unstructured observation begins with selecting an environment and entering there, and continues with observation and recording. As long as the research proceeds, the quality of observation changes. The focus requiring more selective observation and allowing research questions to be relevant is clarified (Punch, 2014). In this study, the behaviors of the pre-service teachers and students in the process were recorded.

Data Collection

Collecting the research data was performed in two steps. In the first step, the researchers observed digital storytelling activities of the pre-service teachers and kept a record of observations. In the second step, interviews with pre-service teachers were done. Interviews were done with the pre-service teachers individually and these interviews took almost 20 minutes. Permission was asked for from the pre-service teachers to record their voices, and the interviews were recorded.

Procedure

Johnson (2015) has stated that action research is a cyclical process and demonstrated this process as below:

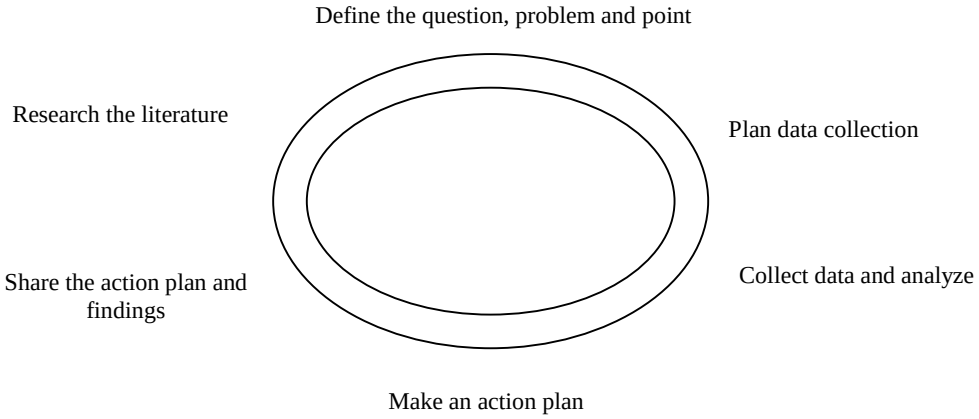

Figure 1. *Action Research Cycle*

Johnson (2015) pointed out that the steps in the action research cycle may change during the process, and these steps in the cycle might take form according to the condition of the research. In the action research, the procedures of literature review, defining the questions/problem/point of interest, planning the collection of data, making an action plan, collecting data, analyzing data, sharing action plan and findings were completed respectively.

In Table 2, 'Action Plan Schedule', which was formed for the timing of implementations to be performed according to the research's action plan, is shown:

Table 2. Schedule for Action Plan

Process	Activity	Date
Pre Implementation	Informing about digital storytelling The process of generating digital story by Microsoft Photo Story 3	30.03.2015
Implementation	Digital Storytelling Activity by PT3 and PT4 in the practice school	10.04.2015
Implementation	Digital Storytelling Activity by PT8 and PT2 in the practice school	17.04.2015
Implementation	Digital Storytelling Activity by PT1 and PT6 in the practice school	24.04.2015
Implementation	Digital Storytelling Activity by PT5 and PT7 in the practice school	08.05.2015
Post implementation	Conducting interviews with pre-service teachers	11.05.2015 12.05.2015

As it can be seen in Table 2, digital storytelling method was introduced to the pre-service teachers before the implementations. Because the pre-service teachers did not have any prior knowledge with regard to this method, detailed information was given to them by the researchers.

Later, Microsoft Photo Story 3 software enabling the pre-service teachers to prepare their digital stories was introduced. How they will prepare digital stories with this software was demonstrated with examples. During the implementation process, two teacher candidates every week, and totally eight teacher candidates performed digital storytelling activities in practice schools for four weeks. The researchers kept records of observations by watching the activities of pre-service teachers for four weeks. During the observations and keeping observation records, student-teacher behaviors, students' focusing on the digital story, evaluation activity of the pre-service teacher were observed, focused, and the actualization of these elements were evaluated. After the implementations were completed, interviews were conducted with the teacher candidates individually.

Data Analysis

Content analysis method used in qualitative research was utilized for data analysis. The main objective in content analysis is to reach concepts and relationships which can clarify collected data. Within this scope, data is tried to be defined through content analysis, and the possible hidden realities in data are tried to be displayed. The basic procedure in content analysis is to gather similar data within the scope of specific concepts and themes, and to interpret this by organizing in a manner that readers are able to understand easily (Yildirim and Simsek, 2013).

In order to prevent from data loss during the interviews conducted with teacher candidates, interviews were recorded with a tape recorder. Transcription of data transferred to the computer was done, and data of which transcription was completed was analyzed by using content analysis. Texts were read line-by-line by the researchers, and related decoding was generated. Codes were gathered later, and common characteristics were identified, so common themes, forming the outline of the findings, were tried to be reached. In the analysis of unstructured observations, notes taken by the researchers were checked firstly. In-class observations were checked once the implementation was completed, and possible data loss was tried to be prevented by adding the observation notes of the researchers. The notes kept for observation records were transferred to the computer, and as in interview records, were read, and decoding was done. Content analysis was done, and common themes were tried to be obtained through decoding.

Validity and Reliability of the Research

Persuasiveness, transmissivity, consistency, confirmability, which are used in qualitative research, were analyzed for the validity and reliability processes of the research.

Persuasiveness: Reporting gathered data in detail and explanation for how the researcher reached the results are of the important criteria of validity in a qualitative research (Yıldırım, 2010). In this study, while data obtained from the researcher was being presented, example responses of the participants were introduced too. While these excerpts were taken, excerpting from the examples related to the ideas reflecting the overall responses was paid attention.

Transmissivity: Two methods are suggested to enhance the transmissivity of qualitative research. The first of these is description; the second is purposeful sampling (Erlandson, Haris, Skipper and Allen, 1993: qtd.in: Yildirim and Simsek, 2013). Detailed descriptions were made in order to increase the transmissivity. Data collection processes, characteristics of the participants, according to what type of criteria the participants were selected, how obtained data was analyzed was demonstrated in detail. Besides, data variations were provided by using typical sampling, one of the purposeful sampling methods, and this situation promoted transmissivity of the research.

Consistency: Responses of the candidate teachers to the interview questions were encoded by two researchers independent of each other in order to ensure the consistency of the research. Value for the percentage of concordance of codes formed independently was analyzed. In order to calculate

the percentage of concordance, the equality of P=(Nax100)(Na+Nd) (P: percentage of concordance, Na:amount of concordance, Nd: amount of discordance),which was stated by Miles and Huberman, was used. The percentage of concordance calculated by the researchers was found as 73.2%. This value is thought to indicate that the research is consistent.

Confirmability: The researcher is expected to confirm the results he/she obtained with data gathered continuously, and to present a reasonable explanation to the reader (Yildirim and Simsek, 2013). In this regard, the data set was encoded twice in different times by one of the researchers, and the rate of concordance was calculated as 74%. This value is thought to have provided the confirmability of the research.

FINDINGS

This section includes the interviews conducted with pre-service teachers, and findings obtained from the analysis of observation records. As a result of the analysis, the themes, such as ‘’definition of digital storytelling’’, ‘’preparation stage’’, ‘’affective condition during the implementation’’, ‘’implementation stage which might be effective’’, ‘’student reactions’’, ‘’contributions to preschool teachers’’ were generated in accordance with the pre-service teachers responses to the interview questions. By analyzing the observation records, the themes such as ‘’affective condition observed during the practice’’, ‘’observed practice stage’’ and ‘’observed student reactions’’ were obtained.

Definition of Digital Storytelling

Codes and frequencies related to the definition of digital storytelling are demonstrated in Table 3.

Table 3. Codes and Frequencies for the Definition of Digital Storytelling

Codes	*f*	Participants
Audio-visual elements	5	PT1, PT2, PT5, PT6, PT7
Digitalization of the stories	4	PT2, PT4, PT5, PT8
Belongs to us	3	PT1, PT2, PT3
Process	2	PT2, PT5
Novel	1	PT1

When Table 3 is analyzed, it can be seen that pre-service teachers have stated mostly ‘’audio-visual elements’’ and ‘’digitalizing of stories’’ with regard to the definition of digital storytelling. Moreover, pre-service teachers also mentioned that digital storytelling is process which belongs to them, and which is an unusual practice.

‘’ Digital storytelling is the presentation of a standard story book by enriching it with more visuals, background music, songs and vocalization…’’ (PT5)

‘’It is digitalizing of the stories in an era technology dominates. ‘’ (PT8)

Preparation Stage

Codes and frequencies related to the preparation stage are shown in Table 4.

Table 4. Codes and Frequencies Related to Preparation Stage

Codes	*f*	Participants
Pictures	7	PT2, PT3, PT4, PT5, PT6, PT7, PT8
Background Music	4	PT3, PT4, PT5, PT7, PT8
Topic	4	PT1, PT5, PT6, PT7
Vocalization	4	PT3, PT4, PT6, PT7
Assistance	3	PT1, PT2, PT8
Familiar Characters	1	PT1
Research	1	PT2

Just as Table 4 is analyzed, it can be concluded from the pre-service teachers' responses that the stages of ''pictures'', ''background music'', ''topic'', ''vocalization'' came into prominence. Besides, some of the pre-service teachers also pointed out the stages of getting help, selecting the familiar characters and doing a research.

'' I wanted to focus on the problem of drinking milk. For my story, I prepared my pictures which are attention-grabbing and suitable for the message I desire to give…(PT5)

''Later, I found the pictures, added them and I vocalized, added background music…'' (PT8)

''First of all, I decided on my topic. My topic was hard and soft concepts. I thought about how to present these concepts to the children, I preferred my and the children's favorite characters for my story…'' (PT1)

Affective Condition during the Practice

Codes and frequencies related to the affective condition theme are shown in Table 5.

Table 5. Codes and Frequencies related to the Affective Condition during the Performance

Codes	*f*	Participants
Satisfaction from students' interest	5	PT2, PT5, PT6, PT7, PT8
Excitement	3	PT5, PT6, PT7
Hesitation	3	PT3, PT4, PT8
Happiness	1	PT7
Normal	1	PT4

When Table 5 is analyzed, it can be seen that pre-service teachers' emotions such as ''satisfaction from students' interest'', ''excitement'', ''hesitation'' were prominent while they were showing their digital stories. Besides, some of the pre-service teachers stated that they felt happy, and some felt normal.

'' I liked grabbing the students' attention…'' (PT2)

''Presenting a product I worked in every stage was exciting…'' (PT5)

''I often thought whether the children are able to understand, or they are listening, but will they have any problems in understanding the stories…'' (PT3)

As a result of the observation records, codes and frequencies of affective condition theme observed during the practice are shown in Table 6.

Table 6. Codes and Frequencies Related to Affective Condition Observed during the practice

Codes	*f*	Participants
Satisfaction from students' interest	8	PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8
Excitement	3	PT5, PT6, PT7
Hesitation	3	PT3, PT4, PT8

All of the pre-service teachers have showed their happiness and pleasure by nodding their heads in a positive meaning or smiling that they are happy to see that the students enjoyed watching the digital story. Three of the pre-service teachers showed some behaviors which might indicate their hesitation. The reason for this hesitation might be resulted from the problem of the noisy atmosphere in the classroom, and pre-service teacher's classroom management problems. As it can be seen easily, interview findings and observation records show parallelism with each other.

Implementation Stage which can be Effective

The codes and frequencies related to the theme of implementation stage which can be effective are shown in Table 7.

Table 7. Codes and Frequencies Related to the Implementation Stage which can be Effective

Codes	*f*	Participants
Effective in every stage	4	PT4, PT5, PT6, PT7
Effective in the development	2	PT3, PT8
Effective in the introduction	1	PT2
Effective in the evaluation	1	PT1

When Table 7 is analyzed, the idea that digital stories can be effective in every stage of the lesson is very prominent. On the other hand, it is also evident that some pre-service teachers think that they can be effective in the introduction, development, and evaluation stages of the lesson.

''...I think, they can be successful in every stage of the lesson.'' (PT7)

''...I think, it can be more reasonable to use them in the development stage of the lesson. In the ıntroduction of the lesson, students cannot internalize. If digital story is showed in the development stage of the lesson after the prior knowledge is taught, the concept can be reinforced. '' (PT8)

'' ...We are practicing a story activity mostly in the introduction stage of the lesson, so the digital story can be effective to grab the students' attention in the beginning stage of the lesson.'' (PT2)

''...I think, it can be implemented in every stage of the lesson. It can be presented in the beginning while the subject is being told. However, it will be more effective in the evaluation stage.'' (PT1)

When the findings obtained from in class observations, it was observed clearly that all of the pre-service teachers used catechism method in the beginning stage of the lesson in order to enable the students to speak more, they used questions of the concept, which enable students to show their prior knowledge, they listened to the students' answers, and then they presented the digital story as an activity in the development stage of the lesson. The observed codes and frequencies related to the implementation stage are shown in Table 8.

Table 8. *Observed Codes and Frequencies Related to the Implementation Stage*

Codes	*f*	Participants
Development	8	PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8

When the findings obtained from observations and interviews are compared, it is apparent that pre-service teachers mentioned that digital storytelling is an effective activity in the beginning stage of the lesson (PT2), in the evaluation stage of the lesson (PT1) and in every stage of the lesson (PT4 PT5, PT6, PT7), however the pre-service teachers implemented storytelling activity only as an development stage activity. This situation indicate the discrepancy between the findings of observations and interviews.

Student Reactions

The codes and frequencies related to the theme of student reactions are shown in Table 9.

Table 9. Codes and Frequencies Related to the Student Reactions

Codes	*f*	Participants
Interest and Attention	5	PT2, PT3, PT6, PT7, PT8
Satisfaction	4	PT1, PT3, PT5, PT7
Appreciation	2	PT1, PT2
Curiosity	2	PT1, PT3
Repitition	1	PT5

When Table 9 is analyzed, pre-service teachers mentioned that the common responses of the students are ‘’interest and attention’’ and ‘’satisfaction’’. Besides, some of the pre-service teachers mentioned that students liked digital stories, they are curious about them and they would like to watch them again.

‘’…they generally watched the stories with interest, responded to my questions, and liked the stories generally. ..’’ (PT2)

‘’…The sounds affected the students while they were watching it. A man voice, a woman voice, and the pictures affected the children. Story’s being active but not stable was effective. They were curious about the next picture. They asked questions. They were satisfies while they were watching…’’ (PT1)

When the findings related to what the behaviors of the students are in the classroom and what they did, the codes and frequencies related to the observed student responses are shown in Table 10.

Table 10. Codes and Frequencies Related To The Observed Student Responses

Codes	*f*	Participants
Interest and Attention	8	PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8
Noise	3	PT1, PT3, PT5
Bored With Repetition	5	PT1, PT3, PT4, PT6, PT7

As it can be seen in Table 10, according to the observation findings, the digital story was watched with interest and attention in all classes. On the other hand, it was also observed that some of the students wanted to go out for water-WC demands, and there was a problem of noisy atmosphere resulting from the audio system. At the end of the story, the students answered ‘Yeeees’’ ‘’Let’s watch it again’’ to the question ‘Did you like the story?’’, but boredom started in five of the classes. The students showed their boredom by their hand and arm movements with their friends, by moving on their seats, and by talking to each other.

Contributions to the Pre-service Teachers

The codes and frequencies related to the theme of contributions of digital storytelling to pre-service teachers are shown in Table 11.

Table 11. Codes and Frequencies Related to the Contributions to Preseschool Teachers

Codes	*f*	Participants
Technological Sufficiency	4	PT2, PT3, PT4, PT5
To be able to practice different activities	4	PT2, PT6, PT7, PT8
Creativity	3	PT1, PT5, PT7
To be suitable for the student level	2	PT1, PT6
Problem solving	1	PT1

When Table 11 is analyzed, it can be concluded that the contributions such as ‘’technological sufficiency’’ and ‘’ to be able to practice different activities’’ become prominent. Besides, the pre-service teachers also pointed out that their creativity developed, they can reach to the student level easily, and their problem solving skill improved.

‘’I think, I improved myself. I did different things. For instance, I did the voice recording easily in this way which added me technological practicality.’’ (PT3)

‘’ Apart from the existing materials, preparing a new activity suitable for the level of children let me start a desire to create different activities.’’ (PT6)

Problems Encountered

Codes and Frequencies related to the theme of problems encountered are shown in Table 12.

Table 12. Codes and Frequencies Related to the Encountered Problems

Codes	*f*	Participants
Finding the visuals	4	PT2, PT3, PT4, PT8
Student Controlling	2	PT1, PT5
Encountered any problems	2	PT6, PT7

When the Table 12 was analyzed, the pre-service teachers had difficulties mostly in ‘’finding visuals’’ stage. Besides, some of the pre-service teachers mentioned that they had difficulties in controlling the students. Some of the pre-service teachers mentioned that they didn’t have any problems.

‘’ I had some difficulties. Writing the story is easy but finding the appropriate picture for the story is difficult because there can be a serious problem, when the connection between the pictures and the story…(PT8)

‘’ I did not encounter with any problems while I was preparing it. I had difficulties in trying to let the students focus and having answers for the questions in the evaluation stage of the lesson.’’ (PT5)

‘’ I did not encounter any problems.’’ (PT6)

DISCUSSION, RESULT AND SUGGESTIONS

This study is a try of an action research. During the research process, whether the pre-service teachers have information related to digital storytelling was identified, model practices were introduced, an action plan was developed, and the implementation of ‘’digital storytelling’’ method was conducted.

It was identified that while the pre-service teachers were defining the digital storytelling, they pointed out that digital stories include audio- visual elements, and they are digitalization of the traditional stories. While Figa (2004) defines digital storytelling as the presentation of the subject depending on the voice, sound, display, video, music and the text in an interactive digital media, Wang and Zhan (2010) define it as the presentation of traditional storytelling in a modern manner. It can be said that pre-service teachers learnt the concept of digital storytelling with a good level at the end of this action research.

The pre-service teachers mentioned that they completed the stages of selecting the topic of story, finding pictures, adding background music, and vocalization during the preparation of the digital stories. Arslan (2013) defines the stages of forming a digital story as defining the starting point, composing scenario, defining audio-visual materials, generating the digital story adding audio-visual materials and presentation of the story. Accordingly, it can be said easily that the pre-service teachers used all of the stages of digital story composing. It is considered that the pre-service teachers acquired the stages of composing a digital story in frame of an action plan.

Pre-service teachers mentioned that they were satisfied, excited and hesitated with the student interest during the implementation step of digital storytelling. It can be concluded that digital storytelling affected pre-service teachers in a positive way. Besides, Gocen (2014) identified in his study that the anxiety level of the pre-service teachers who were educated according to the digital storytelling method. The reason might be that they were working with a method which is different from the other methods encountered before, and which is giving a responsibility. The pre-service teachers' feeling hesitation has parallelism with this results.

All of the pre-service teachers utilized their digital stories in development stage of the lesson, however half of the pre-service teachers mentioned that digital storytelling can be effective in every stages of the lessons while the others mentioned that it can be effective only in the beginning and evaluation stages of the lesson. It was observed that the pre-service teachers showed their digital stories to the students after they and the students had a chat related to the topic. Pre-service teachers performed digital storytelling method in the development stage of the lesson, but they also mentioned that this method can be effective in every stage of the lesson. It can be predicted that when more opportunities of digital storytelling practices are provided to the pre-service teachers, they will use this method effectively in different stages of the lesson.

Pre-service teachers mentioned that their students showed interest and attention to the digital stories. Besides, the results obtained from the observation records have also shown that the students were interested in digital stories. Similarly, in a study with preschool students administered by Akbulut, Ciftci, and Polat (2013), it was identified that the students were interested in the story, and were excited while they were watching it. In this respect, Ceylan and Birinci (2013) stated that digital storytelling will enable the students to canalize their attention to the subject. According to the other results obtained from observation records, it was identified that some students make noise because they wanted to express their demands loudly. Another result is that they would like to watch the digital stories again. Students asked for the story again but while they were watching it, they were not interested in it and they got bored. Some students mentioned that they wanted to continue with different stories by saying ''Are there any other stories….Let's not watch the same story''.

Pre-service teachers stated that digital storytelling method improved their technological competencies, and let them gain to be able to perform different activities and developed their creativity. In a research conducted by Demirer (2013), the students mentioned that they became more competent, self confident in preparing an activity with a computer as a result of the digital storytelling practices. In the literature related to this issue, there are some studies indicating that digital

storytelling can improve using the skills related to research and technology (Dogan, 2007; Sadik, 2008; Wang and Zhan, 2010). Moreover, in the study administered by Karakoyun (2014), pre-service teachers pointed out that their creativity developed because they created individual scenarios.

Pre-service teachers have stated that they had difficulties mostly in finding the relevant pictures in the digital storytelling process. Searching the pictures generally on the internet is the reason for this situation. Only one of the pre-service teachers drew his/her own pictures; others used the pictures they obtained from internet. This situation might have resulted from the fact that pre-service teachers has not enough knowledge about the software they can use to draw pictures, or their self-competency for using internet educationally is low.

In conclusion, it can be stated that the action plan generated in this study was implemented successfully, and a skill for practicing a new and active method was gained to pre-service teachers before they graduate. Moreover, the problems encountered with during the implementation process were defined, and it was thought that paying attention to these findings will contribute to the action plans to be developed in the studies in the future.

In accordance with the results obtained in this research, it is seeen as a necessity that the practices about active teaching methods such as digital storytelling, which pre-service teachers are able to use with their technological, pedagocical professional knowledge, must be increased. Pre-service teachers can be provided to have enough educational competency within this context. Besides, pre-service teachers should be guided to use active teaching methods as part of life in teacher practice period in traineeship schools. Pre-service teachers are thought to gain the essential skills and competencies before their professional life begins by the cooperative studies to be conducted by faculty members, teachers and pre-service teachers about the implementation and practices of active teaching methods.

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