IJELS Educating for the Future

International Journal of Education & Literacy Studies
ISSN: 2202-9478
www.ijels.aiac.org.au

AIAC Flourishing Creativity & Literacy

Digital Storytelling in Secondary School Turkish Courses in Turkey*

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ARTICLE INFO

Article history
Received: July 10, 2019
Accepted: October 26, 2019
Published: October 31, 2019
Volume: 7 Issue: 4

Conflicts of interest: None
Funding: None

ABSTRACT

This study aimed to evaluate the digital story-telling activities in Secondary School Turkish textbooks and curriculum. It also sought to determine the learners and teachers' opinions about digital storytelling activities. The study was designed using the basic qualitative model. The research had two different study groups consisting of students and Turkish language teachers. The data were obtained through the 2018 Turkish curriculum, Turkish textbooks and interview forms. Content and descriptive analysis techniques were used. According to the results, a total of eight learning objectives were found in the 2018 Turkish Curriculum about story writing skills. However, there were no learning objectives related to digital storytelling. No text and activity related to the ability to create digital stories were encountered in the textbooks. Most of the teachers stated that the activities that would be done by creating digital stories would contribute to the language development of the students, and that the ability to create digital stories should be included in the Turkish curriculum. It was found that most of the students wanted to have digital story production activities in Turkish courses, and that they would be interested in preparing their stories with computers. They preferred creating a story by computers instead of writing a story in traditional ways.

Key words: Digital Storytelling, Secondary School Language, Textbook Evaluation, Writing, Turkish

INTRODUCTION

Writing is very valuable as it helps students understand how language parts come together (Banat, 2007). Written expression is an important area of the Turkish curriculum accordingly. When writing a text, the author should manage complex processes such as planning, taking into account the needs and perspectives of readers, and creating content from interrelated events. Managing such a process is a challenge for most students. Considering the technological age and preferences of today's generation as a requirement of the technological age, the curriculums designed for traditional teaching need to be updated using the digital tools available. When the importance of writing skills at every stage of the learning process, problems related to writing skills and the data related to the multimedia texts preferred by the today's generation are evaluated as a whole, the necessity of new expansions related to writing skills is clearly seen.

The development of writing skills in Primary School should be based on the principle of simple to complex. Writing is already a complex skill to master. In developing this skill, it would be pragmatic to develop event essay writing in general and stories in particular. High level of efficiency will be obtained in the development of writing skills. Event essay writing is relatively easier for children to write than poetry or informative texts. Therefore, it would be a rational choice to choose the simple type of writing in the beginning of education. Instead of trying to develop the writing through complex types, it is necessary to develop the writing skill through types that are relatively easy to read and write. One of the types of creative writing is writing stories (Shorofat, 2007). It encourages students to use their imagination and write about events related to their lives or imaginary events, if not literary (Arı, 2008). In almost every nation's history, texts that begin with oral tradition and become written are examples of the type of story, even if they were not initially discriminated (Eronat, 1995). Abbott (2002) stated that the story is generally understood as having the basic properties of an event or events, chronologically progressing over time and being conveyed through some medium. In the Turkish Language Institution dictionary (2019) a story is described as "oral or written expression of an event; prose describing actual or fictionalized events". Stories make it possible to present any opinion or to give any message more quickly and effectively (Laçin-Şimşek, 2019). As stories reflect the realities of life, they are important in preparing children to

Published by Australian International Academic Centre PTY.LTD.

http://dx.doi.org/10.7575/aiac.ijels.v.7n.4p.169

life (Batur & Yücel, 2012). Children need to write stories to have fun, to develop aesthetic expression, to explore the functions and values of writing, to stimulate imagination, to clarify thoughts, to seek identity, and to learn to read and write (Tompkins, 1982). In this century, it is inevitable to go beyond traditional methods in order to achieve these goals. Internet and other types of information technology have expanded the literacy that we know. As a matter of fact, due to technological developments, literacy has moved away from traditional materials and has become digital (Aytaş & Kaplan, 2017). In this context, digital stories, which include many of the 21st century literacy skills, offer a different perspective on story writing skills (Baki & Feyzioğlu, 2017). Digital stories are generally defined as narratives that are formed by combining the art of storytelling with various multimedia tools such as audio, visual and video (Robin, 2006; 2008). In digital storytelling, individuals do not become listeners, but they shape their stories, interact with their stories, and use information and communication technologies as storytelling tools. In this respect, digital storytelling differs from traditional storytelling (Dörner, Grimm & Abawi, 2002). By accompanying words and multi-media effects, children have oppurtunities to express themselves creatively and learn to integrate the traditional literacy of writing with the digital literacy (Burke & Kafai, 2010). And also, in the creation of a new digital story the six cognitive objectives of Bloom Taxonomy can be achieved (Psomos & Kordaki, 2012).

Digital media technologies are used to create a digital story (Vinayakumar, Soman & Menon, 2018). When literature related to digital storytelling is examined, it is seen that digital stories are mostly created with desktop software such as Windows Movie Maker, Windows Photo Story or iMovie (Barrett, 2006; Doğan, 2007; Hung, Hwang, & Huang, 2012; Lasica, 2006; Microsoft, 2010; Sadik, 2008; Wang & Zhan, 2010; Xu, Park, & Baek, 2011; Yang & Wu, 2012). Recently, block-based coding has been used from kindergarten to twelfth grade to introduce digital storytelling to students (Moenig & Harvey, 2012; Resnick, Maloney, Monroy-Hernández, Rusk, Eastmond, Brennan et al., 2009). Coding is a new form of literacy that can enhance traditional literacy. Digital storytelling with coding offers a new medium through which children can exercise the composition skills they learned within traditional literacy (Burke, 2012). In programming environments, like *Storytelling Alice* and *Scratch*, users can create their stories by associating block codes with each other (Burke & Kafai, 2010).

Essex (1997) considers the stories as an important element in the curriculum. He stated that stories can be used as a tool to entertain students and improve their language skills. In addition, when the studies are examined, it is seen that digital storytelling affects the students' academic achievements (Barrett, 2006; Hung et al., 2012; Yang & Wu, 2012; Kahraman, 2013), motivation (Hathorn, 2005; Robin, 2006; Doğan, 2012; Sadik, 2008; Hung et al., 2012; Hero, 2013), problem-solving skills (Hung et al., 2012), creative thinking skills (Wu & Yang, 2008) positively in general. There are countless ways digital stories can be used in education. An impressive, multimedia-rich digital story can be used to attract students' attention and increase their interest in discovering new ideas (Robin, 2006). It can be used in educational environments to enable students and teachers to develop information gathering and problem solving skills and the ability to work collaboratively (Robin, 2008). It can be used as a material for teaching (Kurudayıoğlu & Bal, 2014). It can also be used to provide students with different perspectives (Toki & Pange, 2014).

This study describe story, digital environment and programming skills, as one of the fundamental skills of our age. In this case, it is important to reveal what teachers and students think about it. Studies in the field of programming education are new in our country (Özçınar, Yecan & Tanyeri, 2016). It is expected that our study provides an opinion on the use of programming and digital stories in language education.

Objectives and Research Questions

In this context, the aim of this study is to evaluate the digital storytelling activities in Secondary School Turkish textbooks and curriculum. For this purpose, the sub-problems of the research are presented as follows:

1. How are digital storytelling activities presented in the Secondary School Turkish Curriculum?
2. How are digital storytelling activities presented in the Secondary School Turkish textbooks?
3. What are the opinions of Secondary School Turkish teachers about coding and digital storytelling activities through coding?
4. What are the opinions of Secondary School sixth grade students about coding and digital storytelling activities through coding?

METHOD

This study is a basic qualitative study conducted in order to evaluate the digital storytelling activities in Turkish textbooks and the curriculum. Also, it aimed to determine the Secondary School students' and Turkish language teachers' opinions about digital storytelling activities. The survey model is used in this study. Survey models are research approaches that aim to describe a past or present situation as it is.

The data were obtained through document analysis and interview method. Document analysis involves the analysis of written materials containing information about the event or facts that are intended to be investigated (Şimşek, 2009). If someone wants to learn one's opinions or feelings on a subject, the most appropriate method is to get information from him or her. It is possible to learn one's thoughts, feelings or views more accurately within the framework of free answers to open-ended questions. In this context, interview is suggested as a research technique that will provide data of different quality and depth compared to other methods (Türnüklü, 2000).

Content and descriptive analysis techniques were used in the analysis of the data. Content analysis is done to determine the existence of certain words or concepts within a set of text

or text (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2016). In the descriptive analysis, the findings are summarized, interpreted and presented to the reader (Yıldırım & Şimşek, 2008).

Participants

The study group consists of 41 Turkish teachers working in public schools and 84 6th grade students. The teachers were selected according to the easily accessible sample selection technique. The easily accessible sample selection technique gives speed and practicality to the study (Yıldırım & Şimşek, 2008). The students were selected by purposive sampling selection technique. In purposive selection technique, the most appropriate units are taken into account, which are thought to best serve the research purpose (Baştürk & Taştepe, 2013). So, the students in the study group consisted of students who learned computer programming skills in Informatics and Technology course.

Materials and Instrumentation

The data of the study were obtained by examining the 2018 Secondary School Turkish curriculum and the text and activities in Turkish textbooks used in the Secondary Schools in the 2018-2019 academic year and also by the interview forms prepared to determine the opinions of teachers and students about digital storytelling activities through coding. To this end, semi-structued interview was data collection method for the current study. As the teachers were from different schools, the interviews lasted about three weeks. Following are the interview questions which the teachers answered:

1. Do you think that the activities that will be done by coding in Turkish courses will contribute to language development of your students? Please explain.
2. What do you think about coding in Turkish curriculum and introduction of coding as a course? Please explain.
3. Do you think digital storytelling through coding is appropriate for Turkish courses? Please explain.
4. Have you ever done digital storytelling activities with your students before? If your answer is "yes", how was the attitude of your students? Please explain.
5. What are your opinions when you compare the story-writing activities that you do in the classroom and the digital storytelling activities through coding? Please explain.

The interviews with the students took place within a time frame of two days. Following are the interview questions which the students answered:

1. Do you want to have coding activities in Turkish classes? Please explain the reasons.
2. Are you interested in preparing your own digital story through coding in Turkish classes? Please explain the reasons.
3. Have you ever created a story through coding on the computer before? If your answer is "Yes", explain how you feel.
4. Do you prefer to write stories using pen and paper in Turkish classess or create digital stories through coding? Please explain.

Validity and Reliability

The concepts that are accepted in quantitative and qualitative research about validity and reliability are different. McMillan (2000, as cited in Büyüköztürk et al., 2016) explains that the most important criterion used in the evaluation of qualitative research is the credibility and reliability of the data, the analysis of the data and the results.

In this context, the questions in the interview forms were decided together with three field experts. The data were evaluated by three Turkish language field experts. Sharing the data obtained from qualitative research with the experts and receiving feedback from them increase the reliability of the research (Glesne & Peshkin, 1992).

Data Analysis

Secondary School Turkish curriculum and Turkish textbooks were analyzed based on their presentation of story writing skills and digital storytelling skills. Three field experts in Turkish expressionistically and individually analyzed the curriculum and the textbooks at first, and then, discussed findings to arrive at an agreement. The data obtained from document analysis and semi-structured interview forms were analyzed by content analysis and thematic coding. In the study, the attainments of the writing skills of the 2018 Secondary School Turkish course curriculum were examined in terms of the digital storytelling skills and the data obtained from the textbooks were interpreted and shown in tables. With the data obtained from the content analysis and thematic coding through the semi-structured interview forms, the codes were combined under the headings determined and sub-categories were formed.

FINDINGS

Presentation of Digital Storytelling Activities in the Turkish Curriculum

Within the framework of the first sub-problem of the study, the writing objectives in the Secondary School Turkish curriculum were examined. The objectives related to story writing skills are shown in Table 1.

When the findings obtained from the 2018 Turkish curriculum were examined, it was found that there were attainments of story writing skills at all grade levels. Six in the 5th grade and seven in the 6th, 7th and 8th grades, a total of eight attainments were found. However, there were no objectives in all grade levels related to the ability to create a digital story.

Presentation of Digital Storytelling Activities in the Turkish Textbooks

Within the framework of the second sub-problem of the study, the texts and activities related to the ability to create digital stories in Secondary School Turkish textbooks were analyzed.

As the results in Table 2 show, at the 5th and 8th grade levels, there is only one textbook belonging to Ministry of Education (MOE) publishing house. At the 6th grade level, there

Table 1. The objectives in the curriculum related to story writing skills

The writing attainments	**Grade-level**			
The attainments related to story writing skills	**5**	**6**	**7**	**8**
The students write narrative texts.	✓	✓	✓	✓
The students apply writing strategies.	✓	✓	✓	✓
The students write the process steps of a work.	✓			
The students arrange what they write.	✓	✓	✓	✓
The students share what they write.	✓	✓	✓	✓
The students determine the appropriate title for the content of his / her writing.	✓	✓	✓	✓
The students write a work according to process step.		✓	✓	✓
The students use the forms of expression in his / her writings.		✓	✓	✓

Table 2. Findings related to secondary school Turkish textbooks

Grade-level	**Total number of the texts in the textbook**	**The number of the texts related to the ability to create a digital story**	**Total number of the activities in the textbook**	**The number of the activities related to the ability to create a digital story**
5 (Moe)	40	-	248	-
6 (Moe)	40	-	232	-
6 (A private publishing house)	40	-	312	-
7 (Moe)	40	-	267	-
7 (Moe)	40	-	248	-
8 (Moe)	40	-	242	-

are two textbooks belonging to MOE publishing house and a private publishing house. At the 7th grade level, there are two textbooks both of them belonging to MOE publishing house.

No texts and activities related to the ability to create a digital story were found in Secondary School Turkish textbooks. In general, texts and activities about the use of e-mail, secure internet addresses, e-books and computer use were found in textbooks. In the textbook of a 6th grade private publishing house, detailed explanations about story and story writing were given. It is worth noting that artificial intelligence and robotics were mentioned in the same textbook.

Opinions of Turkish Teachers about Coding and Digital Storytelling Activities

The findings of the third sub-problem of the study, "What are the opinions of Secondary School Turkish teachers about coding and digital storytelling activities through coding?" are shown from Table 3 to Table 6. Five questions were asked to the Turkish language teachers during the semi-structured interview to determine the opinions of them about coding and digital storytelling activities.

The question, "Do you think that the activities that will be done by coding in Turkish courses will contribute to language development of your students? Please explain.", is addressed to the teachers. Thirty-one of the teachers stated that they would contribute; seven of them stated that they would not contribute, one of them was undecided and three of them did not have any idea. In Table 3, the analysis of the opinions of the teachers who make explanations is given.

Teachers' opinions on the effect of coding activities on language development of the students were grouped under five categories (Table 3). Many of the teachers who thought that they would contribute to language development stated that the attention of the students will be drawn more easily under the category of "The attractiveness of technology" (n=9). Two of the seven teachers who did not think they would contribute to language development made explanations and stated that coding activities would lead to less social interaction.

The question, "What do you think about coding in Turkish curriculum and introduction of coding as a course? Please explain." is addressed to the teachers. Twenty-four of the teachers stated that coding should enter Turkish curriculum and should be introduced as a course, five of them stated that coding should be a course apart from Turkish curriculum, three of them stated that it should be an elective course, five of them stated that it should not enter Turkish curriculum and should not take place as a course. Also, two of the teachers were undecided. The analysis of the answers is given in Table 4.

Teachers' opinions about coding in Turkish curriculum and introduction of it as a course were grouped under seven categories. Most of the teachers who think that coding should be introduced to the Turkish curriculum and take part as a course, explain that it is necessary to prepare students for the technology age under "Preparing students to the future" (n=5) category. Also, they stated that necessary equipment should be provided for coding training under "Provision of infrastructure for schools" (n=5) category.

Table 3. Teachers' opinions about the effects of coding activities on students' language development

Code	Category	Frequency	Sample description
The effect of coding activities on language development	The attractiveness of technology	9	**T11:** Nowadays, students spend their time on computers. If there are suitable activities for these devices, it will contribute to language development.
	Developing higher order thinking skills	8	**T26:** Yes. Coding develops analytical thinking, different perspectives and creativity which are important for the turkish course.
	Ensuring permanence	3	**T13:** Yes. Notions and visuals are linked to each other to ensure permanence of learning.
	Inadequacy of traditional methods	3	**T33:** Yes, i do. Turkish lessons have been taught by classical methods for many years, and this situation is no longer enough for today's children who are growing up with technology and learning fast and easy. New methods are needed.
	Inadequacy of social interaction	2	**T37:** It does not sound appealing that our children, who are asocial and are withdrawn by the misuse of information technologies and social media, will become more social and use their mother tongue better with tablets, computers and e-books.

Table 4. Teachers' opinions about coding in Turkish curriculum and introduction of it as a course

Code	Category	Subcategory	Frequency	Sample description
Coding education and curriculum	Entering turkish curriculum and taking place as a course	Preparing students to the future	5	**T1:** It would be very nice. It is necessary to prepare students to the future, to integrate them with information technologies.
		Provision of infrastructure for schools	5	**T30:** It would be a positive development. Computer environments should be prepared in schools.
		Training of teachers	2	**T4:** I would love to. I want the teachers to have the necessary training.
		Being useful for the course	2	**T15:** I would like it because of its attractiveness and its visuality.
	Being a course apart from turkish curriculum	Preparing students to the future	2	**T36:** It should be given as a separate course. The world of the future will be shaped with coding.
		Giving by expert	2	**T28:** although it is related to the turkish lesson, it is more accurate to be given by experts.
	Not to enter turkish curriculum and not to take place as a course	Finding unrelated to turkish lesson	2	**T10:** It should be included in the curriculum of information technologies course instead of the turkish curriculum.

Two out of five teachers, who thought that coding should be a course apart from Turkish curriculum, stated that this training should be given in order to prepare students for the future. The opinions of five teachers who think that coding should not enter Turkish curriculum and not take place as a course are categorized as "given by expert" (n=2) and "finding unrelated to Turkish lesson" (n=2).

The question, "Do you think digital storytelling through coding is appropriate for Turkish lessons? Please explain." is addressed to the teachers. Thirty-six of the teachers stated that it was suitable; three of them stated that it was not suitable, and two of them did not have any ideas on this subject. The analysis of the answers is given in Table 5.

Thirty-six of the teachers' opinions who stated that the preparation of digital stories on the computer was suitable for Turkish lessons were grouped under seven categories. Most of the opinions were gathered under "Motivation" category (n=7) and teachers expressed that the preparation of digital stories through coding would motivate students by increasing interest in the course.

The question, "Have you ever done digital storytelling activities with your students before? If your answer is "yes",

Table 5. Teachers' opinions on digital storytelling through coding in Turkish course

Code	Category	Frequency	Sample description
Digital storytelling through coding in turkish lesson	Motivation	7	**T1:** It is suitable for motivating students.
	Appealing to multiple senses	3	**T8:** It is suitable. More sense organs come into play.
	Providing effective learning	3	**T4:** It is suitable. In our age, children are extremely interested in computers. Therefore, learning will be more effective because they will benefit from their areas of interest in creating a digital story.
	Developing higher order thinking skills	3	**T16:** It is suitable. It can help to think analytically.
	Going beyond traditional methods	3	**T33:** I think it is suitable. The activities for students will not only consist of a few lines written in textbooks, but will give them a whole new dimension to get them excited.
	Visuality	2	**T14:** The story will be supported with visual elements that are interesting and encouraging.
	Catching the era	2	**T7:** It could be good to catch the era.

Table 6. Comparison of traditional story writing and digital storytelling

Code	Category	Frequency	Sample description
Comparison of traditional story writing and digital storytelling	Drawing attention	11	**T3:** Digital story will be useful because it is important in terms of attracting attention.
	Creating a creative product	7	**T9:** I think that there will be more original and creative works because it will attract the attention of students having different intelligence types.
	More willing students	4	**T19:** Active participation and writing motivation would be high.
	Learning with fun	4	**T16:** Students don't enjoy writing. The writing activity can become more fun when they write on the computer.
	Developing higher order thinking skills	3	**T21:** It develops higher order thinking skills through using different skills.

how was the attitude of your students? Please explain.", is addressed to the teachers. All teachers stated that they did not make any digital storytelling activities. A few of the teachers stated that they did not have enough knowledge on this subject, and that they wanted to do it if they would like to do so.

Finally, the question "What are your opinions when you compare the story-writing activities that you do in the classroom and the digital storytelling activities? Please explain." is addressed. 11 of the teachers stated that they were unable to compare because they had no experience in digital storytelling activity. The analysis of the answers is given in Table 6.

Five categories were determined when the opinions of the teachers who make explanations were analyzed. The opinions were mostly gathered under the category of "Drawing attention" (n=11) and teachers stated that digital story would attract attention in the lessons. Under "Creating a creative product" category, seven teachers stated that the writing activities would be more creative.

Opinions of Students about Coding and Digital Storytelling Activities

The findings of the forth sub-problem of the study, "What are the opinions of Secondary School sixth grade students about coding and digital storytelling activities through coding?" are shown from Table 7 to Table 10. Four questions were asked to the sixth grade students during the semi-structured interview to determine the opinions of them about coding and creating digital stories through coding.

The question "Do you want to have coding activities in Turkish classes? Please explain the reasons." is addressed to the students. 54 of the students said "Yes" and 28 of them said "No". The analysis of the opinions of the students who make explanations is given below.

According to Table 7, the opinions of 54 students who want to have coding activities in Turkish courses are grouped under the category of "Making the lesson fun" (n=11) and these students expressed that Turkish courses would be more fun thanks to coding activities. 28 of the students who did not want coding activities in Turkish lessons stated that they did not find Turkish courses suitable for coding activities.

The question, "Are you interested in preparing your own story through coding on computer in Turkish courses? Please explain the reasons." is addressed to the students. Sixty-seven of the students said "yes", fifteen were "no", and one was undecided. The analysis of the opinions of the students who make explanations is given in Table 8.

Table 7. Students' opinions about coding activities in Turkish lessons

Code	Category	Subcategory	Frequency	Sample description
Coding in turkish lessons	Reasons for doing coding activities in turkish courses	Making the lesson fun	11	**S29:** Yes, I want to have more fun.
		Wanting to do more coding activity	3	**S7:** Yes. Because I want more coding activities.
		Increasing success	2	**S1:** Yes, I would like to increase my success.
		Finding useful	2	**S67:** Yes, I'd like it because it is useful for us.
		Ensuring permanence of the course	2	**S46:** Yes, I do. The animation is more permanent.
	Reasons for not doing coding activities in turkish courses	Finding not suitable	7	**S65:** No. Because I like writing and learning through textbooks. This is the feature of the information technology class. If it's used in every class, we get bored and it becomes worthless.

Table 8. Students' opinions about preparing digital story through coding in Turkish courses

Code	Category	Subcategory	Frequency	Sample description
Story through coding in turkish lessons	Reasons for preparing digital stories through coding in turkish courses	Making the lesson fun	9	**S6:** Yes. Because the Turkish course is very boring and writing a story through coding would be fun.
		Making writing easy	7	**S11:** Yes. We can write easier.
		Enjoying coding	2	**S28:** Yes. Because I like coding.
	Reasons for not preparing digital stories through coding coding in turkish courses	Wasting time	3	**S34:** No. It is waste of time.

Table 9. Feelings about the story created through coding

Code	Category	Frequency	Sample description
Feelings	Happy	4	**S35:** Yes. I was happy that I created a good story.
	Having fun	3	**S46:** Yes. I had so much fun. It could be nice if it's done more.
	Excited	2	**S56:** Yes. I felt happy and excited.
	Good	2	**S6:** Yes. I created a story about an astronaut and felt good.

Sixty-seven students who want to prepare a digital story through coding in Turkish courses and explain reasons stated their opinions under the category of "Making the lesson fun" (n=9) most. "Making writing easy" and "Enjoying coding" are the other reasons. Fifteen students who do not want to prepare a digital story through coding in Turkish courses and explain reasons stated their opinions under the category of "Wasting time" (n=3) most. These students stated that this would cause a waste of time in the lessons.

The question, "Have you ever created a story through coding on the computer before? If your answer is "Yes", explain how you feel." is addressed to the students. Seventeen out of eighty-four participants answered "Yes". The analysis of the opinions of the students who make explanations is given below.

Seventeen of eighty-four students stated that they prepared digital story through coding. In the face of this data, an interview was held with the IT teacher and he stated that they did not make story writing activities. He commented that the students who answered "Yes" might perceive the games they designed in the course as a story. Another idea is that students might have designed a story with their own computers at home. According to Table 9, students who created story through coding were mostly "Happy" (n=4). Some of the students who answered "No" made statements like "No but I would like to do it".

Finally, the question "Do you prefer to write stories using pen and paper in Turkish courses or create digital stories through coding? Please explain." is addressed to the students. Fifty-eight of the students stated that they would prefer creating stories through coding, seventeen of them stated that they would prefer writing stories using pen and paper, and six of them said "I prefer both". The analysis of the opinions of the students who make explanations is given below in Table 10.

Fifty-eight students who prefers writing stories through coding on computer stated their opinions under the category of "Writing easier" (n=13) most. These students stated that

Table 10. Students' reasons to prefer to write stories using pen and paper or digital stories through coding on computer

Code	Category	Subcategory	Frequency	Sample description
Writing environment	Reasons to prefer to create stories through coding	Writing easier	13	**S8:** Computer. It's easier to write and you can write more in less time.
		Being fun	6	**S6:** Computer. Because it is more fun.
		Health problems	4	**S84:** I want it through coding because my hand gets tired with the pen.
		Beatiful writing	2	**S16:** Better with the computer. Because we can write more beautiful.
		Performing requests	2	**S83:** I prefer writing stories through coding on computer. Because we can do everything we want while coding on the computer.
	Reasons to prefer to write stories using pen and paper	Enjoying writing	3	**S23:** I prefer pen and paper. I like writing.

writing would be easier in this way. The opinions of fourteen students who preferred to write stories in the traditional way were mostly collected under the category of "Enjoying writing" (n=3) and these students expressed that they liked writing using pen and paper.

DISCUSSION

In line with the data obtained from the first sub-problem, "How are digital storytelling activities presented in the Secondary School Turkish Curriculum?" eight objectives related to story writing skills were found in the 2018 Secondary School Turkish Curriculum. There were no objectives related to digital storytelling.

Nowadays, the importance of digital skills is seen by the changes made in the curricula of various countries. Various countries, large and small, developed and developing, are working to benefit from training coding in their education systems. European Schoolnet has reported the inclusion of coding training in national, regional or school curricula of twenty-one European countries. Sixteen of these countries (Austria, Bulgaria, Czech Republic, Denmark, Estonia, France, Hungary, Ireland, Lithuania, Malta, Spain, Poland, Portugal, Slovakia and the United Kingdom) have been found to integrate coding at national, regional or local level. It is stated that the Flemish Region of Belgium and Finland are working to include coding in the core curriculum. Belgium Walloon Region, Netherlands and Norway stated that coding did not take part in the curriculum and they had no study on this issue (Balanskat & Engelhardt, 2015). As a result of many discussions in the field of education, such as the poor results of PISA, in 2017 the Swedish Ministry of National Education changed the national program and digital skills and coding took part both in general and in specific areas (Heintz, Mannila, Nordén, Parnes, & Regnell, 2017).

In line with the second sub-problem, "How are digital storytelling activities presented in the Secondary school Turkish textbooks?" of the study, six Secondary school textbooks used in the 2018-2019 academic year were examined. In the textbooks, text and activities related to the digital literacy skills have been encountered, but no text or activities related to the digital storytelling have been found. In relation to this finding obtained from our research, Duran and Ertan-Özen (2018) do research on how digital literacy skills take place in primary and Secondary School textbooks used in 2017-2018 academic year. It is stated that primary and Secondary School textbooks contain texts and activities related to digital literacy skills. Also, in the study conducted by Hasler Foundation, it was determined what kinds of strategies were applied to computer science including informatics and coding in the countries designated for the study group. In Poland, Slovakia and Slovenia, it is stated that textbooks are among the strategies used (Guerra, Kuhnt & Blöchliger, 2012).

In line with the data obtained from the third sub-problem, "What are the opinions of Secondary School Turkish teachers about coding and digital storytelling activities through coding?" a total of 5 codes and 20 categories of these codes have emerged. With the code of "the effect of coding activities on language development", categories of "the attractiveness of technology", "developing higher order thinking skills", "ensuring permanence", "inadequacy of traditional methods" and "inadequacy of social interaction" have emerged. With the code of "coding education and curriculum", categories of "entering Turkish curriculum and taking place as a course", "being a course apart from turkish curriculum" and "not to enter turkish curriculum and not to take place as a course"; with the code of "digital storytelling through coding in Turkish lesson", categories of "motivation", "appealing to multiple senses", "providing effective learning", "developing higher order thinking skills", "going beyond traditional methods", "visuality" and "catching the era" have emerged. Also, with the code of "comparison of traditional story writing and digital storytelling " categories of "drawing attention", "creating a creative product", "more willing students", "learning with fun" and "developing higher order thinking skills" have emerged.

In the code of "the effect of coding activities on language development", opinions were collected under the category of "the attractiveness of technology" (n=9). Under the code of "coding education and curriculum", it is stated that in order to prepare the students for the future and depend-

ing on the provision of the necessary infrastructure for the schools, coding education should be included in the Turkish Language curriculum and take part as a course (n=25) or it should be a course apart from Turkish curriculum (n=5). In addition, it was stated that coding education should not be included in the Turkish curriculum and take part as a course depending on the teaching of coding by an expert (n=5). The opinions of the teachers who found appropriate for the digital storytelling activities by coding in Turkish courses and explain their reasons (n=37) were collected under the category "motivation" (n=7) under the code of "digital storytelling through coding in Turkish lesson". It was also observed that forty-one teachers who participated in the study did not make any digital storytelling activity. Therefore, eleven of the teachers stated that they were unable to compare because they had no experience in digital storytelling activity under the code of "comparison of traditional story writing and digital storytelling". Other teachers stated that digital stories would be more attractive (n=11).

Teacher opinion on coding activities was also reported in a study by Bradley (2017) and it was stated that according to shared experiences about coding activities in 8th grade English course, coding did not seem appropriate to English course, but coding was actually a language with its own vocabulary. Also, in the literature, it was seen that there were studies about the opinions of IT teacher candidates (Pala & Mıhcı-Türker, 2019; Yükseltürk & Altıok, 2016) and IT teachers (Mıhcı-Türker & Pala, 2018; Göksoy & Yılmaz, 2018; Gültepe, 2018; Odacı & Uzun, 2017) on coding education. In this context, conducting our research with Turkish language instructors is also important in the literature.

In line with the data obtained from the forth sub-problem, "What are the opinions of Secondary School sixth grade students about coding and digital storytelling activities through coding?" a total of 4 codes and 10 categories of these codes have emerged. With the code of "coding in Turkish lessons", categories of "reasons for doing coding activities in Turkish courses" and "reasons for not doing coding activities in Turkish courses" have emerged. With the code of "story through coding in Turkish lessons", categories of "reasons for preparing digital stories through coding in Turkish courses" and "reasons for not preparing stories through coding in Turkish courses"; with the code of "feelings", categories of "happy", "having fun", "excited" and "good" have emerged. Also, with the code of "writing environment", categories of "reasons to prefer to create stories through coding" and "reasons to prefer to write stories using pen and paper" have emerged.

According to the opinions of fifty-four students who made a statement from eighty-four students, it was seen that coding activities were required to be done in terms of "*increasing success, finding useful, making the lesson enjoyable and ensuring permanence of the course*" under the code of "coding in Turkish courses". The opinions of twenty-eight students who did not want to do coding activities in Turkish classes were collected under the subcategory of "finding not suitable" according to their statements (n=7).

Sixty-seven students who want to do digital storytelling activity through coding in Turkish courses are grouped under the category of "reasons for preparing stories through coding in Turkish courses" in terms of *"enjoying coding, making the lesson fun and making writing easy"*. Fifteen students who do not want to create digital story through coding think that time will be wasted.

The opinions of seventeen students who previously created a digital story through coding on the computer and expressed their feelings were grouped under the category of "happy" (n=4) most. Seventeen of the eighty-four students who participated in the study stated that they prepared a digital story with coding. It is thought that students may have perceived the games they have designed in IT courses as a story or might have designed a story with their own computers at home. Fifty-eight of the students stated that they prefer to create stories through coding and seventeen of them prefer writing stories using pen and paper. The opinions of the students who prefer to create stories with coding under the "writing environment" code were collected under the category "writing easier" (n=13). The opinions of the students who preferred to write stories in the traditional way were collected under the category "enjoying writing" (n=3) according to their statements.

Positive student opinions towards coding education are supported by various studies in the literature. Wang, Hwang, Liang and Wang (2017) tried to determine the opinions of experimental group using an online peer assessment based system and control group on coding with 166 9th grade students. The results showed that the students in the experimental group had better coding knowledge and skills as well as more positive learning attitude and critical thinking awareness than the control group. Sırakaya (2018) stated that students were happy to have coding education, found the coding education interesting and fun according to the results of the study conducted to determine the views of twenty-one Secondary School students about block-based coding education. They also think that block-based coding education will have a positive effect on creativity, logical thinking, problem solving, and school success.

According to the findings, it is found that there is no digital storytelling skills in the textbooks and writing skills of Turkish Secondary School curriculum. It is thought that the necessary arrangements should be made in this regard. Writing activities are carried out in a traditional structure in schools. Accordingly, writing is not seen as an attractive activity by children. While digital environments attract their attention, not to benefit from these environments in language development means to miss the opportunity. In addition, according to the results of the study, it can be said that the opinions of teachers and students are generally positive against coding education. So, it is suggested that teachers and students should be introduced to coding education which is one of the 21st century skills.

CONCLUSION

As the results of analysis showed, digital storytelling has not been integrated in Turkish language curriculum in Turkey. In addition to this, there is no digital storytelling skill in Turkish language textbooks. Teachers have never experienced digital storytelling but they approach integrating coding in the

curriculum. Most of the students' opinions also support digital storytelling activities through coding. Digital storytelling attracts the students in comparison with traditional writing.

In searching for ways to create curriculum based on 21st century skills, educators must take advantage of computer science. Espeacially, the authors of the textbooks need to be sure that the texts and the activies they choose really are able to motivate students. Teachers should leverage students' traditional conception of writing onto new media platforms to both meet them with new technologies and make them active learners.

Certainly the limited number of teachers and students involved with our study means it offers a glimpse of digital storytelling in Turkish classes. The study is limited to the data collected from curriculum, textbooks and the interview forms, also.

Further examination can be done with Secondary School students as a case study. It can be explored how coding can tap into students' storytelling abilities.

REFERENCES

Abbott, H. P. (2002). *The Cambridge introduction to narrative.* Cambridge: The Cambridge University Press.

Arı, G. (2008). *Öğrencilerin hikâye edici metinlerinin çözümleyici puanlama yönergesine göre değerlendirilmesi (6. ve 7. sınıf örneği)* (Doktora tezi). Marmara Üniversitesi, İstanbul.

Aytaş, G., & Kaplan, K. (2017). Medya okuryazarlığı bağlamında yeni okuryazarlıklar. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD)*, *18*(2), 291-310.

Baki, Y., & Feyzioğlu, N. (2017). Dijital öykülerin 6. Sınıf öğrencilerinin öykü yazma becerilerine etkisi. *International Online Journal of Educational Sciences*, *9*(3), 686-704.

Balanskat, A., & Engelhardt, K. (2015). Computing our future: Computer programming and coding-Priorities, school curricula and initiatives across Europe. Erişim adresi: http:// fcl.eun.org/documents/ 10180/14689/ Computing+ our+future_final.pdf/746e36b1-e1a6-4bf1-8105-ea27c0d2bbe0

Banat, S. (2007). *The effect of a program based on the process approach and learning style on developing EFL writing skills among Jordanian secondary stage students* (Unpublished doctoral dissertation). Amman Arab University for Graduate Studies, Amman.

Barrett, H. C. (2006). Researching and evaluating digital storytelling as a deep learning tool. In C. Crawford, et al. (Eds.), Proceedings of Society for Information Technology and Teacher Education International Conference 2006 (pp. 647– 654). Chesapeake, VA: AACE.

Baştürk, S., & Taştepe, M. (2013). Evren ve ömeklem. S. Baştürk (Ed.), *Bilimsel araştırma yöntemleri* içinde (s. 129-159). Ankara: Vize Yayıncılık.

Batur, Z., & Yücel, Z. (2012). Ahmet Efe'nin çocuk hikâyelerinde değer eğitimi ve hikâyelerin Türkçe eğitimine katkısı. *Electronic Turkish Studies*, *7*(4), 1031-1049.

Bradley. L. (2017). *Coding in English class? Yes! And in your class, too!* Erişim adresi: https://ww2.kqed.org/education/2017/06/22/coding-in-english-class-yes-and-in-your-class-too/.

Burke, Q. (2012). The markings of a new pencil: Introducing programming-as-writing in the middle school classroom. *Journal of Media Literacy Education, 4*(2), 121-135.

Burke, Q. & Kafai, Y. B. (2010). Programming & storytelling: opportunities for learning about coding & composition. In Proceedings of the 9th International Conference on Interaction Design and Children, Spain.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2016). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Yayıncılık.

Doğan, B. (2012). Educational uses of digital storytelling in K-12: Research results of digital storytelling contest (DISTCO) 2012. In P. Resta (Ed.), Proceedings of Society for Information Technology & Teacher Education International Conference 2012 (pp.1353–1362). Chesapeake, VA: AACE.

Doğan, B. (2007). *Implementation of digital storytelling in the classroom by teachers trained in a digital storytelling workshop* (Doctoral dissertation). University of Houston. Accessed from the ProQuest Dissertations and Theses database. (UMI No. 3272583).

Dörner, R., Grimm, P., & Abawi, D. F. (2002). Synergies between interactive training simulations and digital storytelling: a component-based framework. *Computers & Graphics, 26*(1), 45-55.

Duran, E. & Ertan-Özen N. (2018). Türkçe derslerinde dijital okuryazarlık. *Türk Eğitim Dergisi, 3*(2), 31-46.

Eronat, K. (1995). *Türk hikâyeciliği ve Rasim Özdenören* (Yüksek lisans tezi). Fırat Üniversitesi, Elazığ.

Essex, C. (1997). Teaching creative writing in the elementary school. Erişim adresi: https://files.eric.ed.gov/fulltext/ED391182.pdf.

Glesne, C. & Peshkin, A. (1992). *Becoming qualitative researchers an introduction*. London: Longman Group Ltd.

Göksoy, S. & Yılmaz, İ. (2018). Bilişim teknolojileri öğretmenleri ve öğrencilerinin robotik ve kodlama dersine ilişkin görüşleri. *Düzce Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *8*(1), 178-196.

Guerra, V., Kuhnt, B. & Blöchliger, I. (2012). Informatics at school–worldwide: an international exploratory study about informatics as a subject at different school levels. Erişim adresi: http://fit-in-it.ch/sites/default/files/small_box/study_informatics_at_school_-_worldwide.pdf.

Gültepe, A. (2018). Kodlama öğretimi yapan bilişim teknolojileri öğretmenleri gözüyle öğrenciler kodluyor. *Uluslararası Liderlik Eğitimi Dergisi (ULED), 2*(2), 50-60.

Hathorn, P. P. (2005). Using digital storytelling as a literacy tool for the inner city middle school youth. *The Charter Schools Resource Journal, 1*(1), 32-38.

Heintz, F., Mannila, L., Nordén, L. Å., Parnes, P., & Regnell, B. (2017). Introducing programming and digital competence in Swedish K-9 education. In *International Conference on Informatics in Schools: Situation, Evolution, and Perspectives* (pp. 117-128). Springer, Cham.

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.

Kahraman, Ö. (2013). *Dijital hikâyecilik metoduyla hazırlanan öğretim metoduyla hazırlanan öğretim materyallerinin öğrenme döngüsü giriş aşamasında kullanılmasının Fizik dersi başarısı ve motivasyonu düzeyine etkisi* (Doktora tezi). Balıkesir Üniversitesi, Balıkesir.

Kurudayıoğlu, M., & Bal, M. (2014). The Usage of Digital Storytelling in Mother Language Education. *Sakarya Üniversitesi Eğitim Fakültesi Dergisi, 28,* 74-95.

Laçin-Şimşek, C. (2019). What Can Stories on History of Science Give to Students? Thoughts of Science Teachers Candidates. *International Journal of Instruction*, *12*(1), 99-112.

Lasica, J. D. (2006). *Digital storytelling: A tutorial in 10 easy steps*. Erişim adresi: http://www.techsoup.org/learningcenter/training/archives/page10096.cfm.

Microsoft. (2010). *Tell a story, become a lifelong learner: Microsoft, digital storytelling teaching guide.* Erişim adresi: http://www.learning-v.jp/dst/images/microsoft.pdf.

Moenig, J. & Harvey, B. (2012). BYOB build your own blocks (a/k/a SNAP!). Erişim adresi: http://byob. berkeley. edu/.

Odacı, M. M. & Uzun, E. (2017). Okul öncesinde kodlama eğitimi ve kullanılabilecek araçlar hakkında bilişim teknolojileri öğretmenlerinin görüşleri: bir durum çalışması. 24-26 Mayıs, *Uluslararası Bilgisayar ve Öğretim Teknolojileri Sempozyumu*, 718-725.

Özçınar, H., Yecan, E. & Tanyeri, T. (2016). *Öğretmen gözüyle görsel programlama öğretimi.* 3. Uluslararası Eğitimde Yeni Yönelimler Konferansı, *Proceediıng book*, 71- 79.

Pala, F. K., & Mıhcı-Türker, P. (2019). Öğretmen adaylarının programlama eğitimine yönelik görüşleri. *Journal of Theoretical Educational Science*, *12*(1), 116-134.

Psomos, P., & Kordaki, M. (2012). A supporting framework for the creation of digital stories and learning programming by the students within Kodu, Scratch and Storytelling Alice. In *Society for Information Technology & Teacher Education International Conference* (pp. 1419-1424). Association for the Advancement of Computing in Education (AACE).

Resnick, M., Maloney, J., Monroy-Hernández, A., Rusk, N., Eastmond, E., Brennan, K., & Kafai, Y. (2009). Scratch: programming for all. *Communications of the ACM*, *52*(11), 60-67.

Robin, B. (2008). Digital storytelling: a powerful technology tool for the 21st century classroom. *Theory into practice, 47*(3), 220-228.

Robin, B. (2006). The educational uses of digital storytelling. In *Society for Information Technology & Teacher Education International Conference* (pp. 709-716). Association for the Advancement of Computing in Education (AACE).

Sadik, A. (2008). Digital storytelling: a meaningful technology-integrated approach for engaged student learning. *Education Tech Research Dev, 56*, 487-506.

Shorofat, A. (2007). *The effect of using the brainstorming strategy on developing ninth grade students' creative writings skills in Arabic language* (Unpublished doctoral dissertation). The University of Jordan, Amman, Jordan.

Sırakaya, M. (2018). Kodlama eğitimine yönelik öğrenci görüşleri. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi, 37*(2), 79-90.

Şimşek, H. (2009). Eğitim tarihi araştırmalarında yöntem sorunu. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, *42*(1), 33-52.

Toki, E. I. & Pange, J. (2014). Ict use in early childhood education: Storytelling. *Bridges/Tiltai*, *66*(1), 183-192.

Tompkins, G. E. (1982). Seven reasons why children should write stories. *Language Arts, 59*(7), 718-721.

Türk Dil Kurumu. (2019). Güncel Türkçe Sözlük. Erişim adresi: http://sozluk.gov.tr/.

Türker, P. M., & Pala, F. K. (2018). Ortaokul öğrencilerinin, öğretmenlerin ve öğrenci velilerinin kodlamaya yönelik görüşleri. *İlköğretim Online*, *17*(4), 2013-2029.

Türnüklü, A. (2000). Eğitim bilim araştırmalarında etkin olarak kullanılabilecek nitel bir araştırma tekniği: Görüşme. *Kuram ve Uygulamada Eğitim Yönetimi*, *24*(24), 543-559.

Vinayakumar, R., Soman, K. P., & Menon, P. (2018). Digital Storytelling Using Scratch: Engaging Children towards Digital Storytelling. In *2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT)* (pp. 1-6). IEEE.

Wang, S. & Zhan, H. (2010). Enhancing teaching and learning with digital storytelling. *International Journal of Information and Communication Technology Education (IJICTE)*, *6*(2), 76-87.

Wang, X.M., Hwang, G.J., Liang, Z.Y., & Wang, H.Y. (2017). Enhancing Students' Computer Programming Performances, Critical Thinking Awareness and Attitudes towards Programming: An Online Peer-Assessment Attempt. *Educational Technology & Society*, *20*(4), 58–68.

Wu, W. C., & Yang, Y. T. (2008). The impact of digital storytelling and of thinking styles on elementary school students' creative thinking, learning motivation, and academic achievement. In *Society for Information Technology & Teacher Education International Conference* (pp. 975-981). Association for the Advancement of Computing in Education (AACE).

Xu, Y., Park, H. & Baek, Y. (2011). A new approach toward digital storytelling: an activity focused on writing sef efficacy in a virtual learning environment. *Educational Technology & Society, 14*(4), 181-191.

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. *Computer & Education, 59*(2), 339-352.

Yıldırım, A. & Şimşek, H. (2008). *Sosyal bilimlerde nitel araştırma yöntemleri (6.Baskı)*. Ankara: Seçkin Yayınları.

Yükseltürk, E., & Altıok, S. (2016). Bilişim teknolojileri öğretmen adaylarının programlama öğretiminde Scratch aracının kullanımına ilişkin algıları. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, *12*(1), 39-52.