THE EFFECT OF DIGITAL MATERIALS ON LISTENING COMPREHENSION LEVELS OF SECOND GRADE ELEMENTARY STUDENTS

Burcu GEZER, Hüseyin ANILAN

Abstract: The purpose of the research is to reveal the effect of digital materials on the listening comprehension levels of second grade elementary school students. The study sample consisted of 50 second grade students in a elementary school located in Eskisehir. During the 8-weeks intervention period, Turkish lessons were performed with digital materials in the experimental group. In the control group, Turkish lessons were conducted without using digital materials. In the research, parallel design is used. Quantitative datas were obtained by Listening Comprehension Test developed by the researcher. Qualitative datas were obtained by the diaries of students and researcher, the semi-structured interviews of students and teacher. In this study, it was concluded that digital materials positively affect students' understanding of what they listened to, and increased their attention and motivation. In this context, it was determined that using digital materials can have positive contributions for developing listening skills.

Key words: Primary school; Listening skill; Digital materials; Listening comprehension; Second grade

1. Introduction

Listening is a complex process in which sounds and speech are interpreted in mind. This process consists of hearing, attention intensification and interpretation stages. Listening is different from hearing, it requires mental processes such as attention, concentration and interpretation. Therefore, listening is a purposeful mental activity (MEB 2005). Listening begins in the womb before birth. Other language skills are acquired after birth. Since listening skill is an innate skill, it is not taken into consideration as much as other language skills. Yet skills do not develop spontaneously and without any effort; training is required to develop each skill (Dogan 2009). Therefore, training studies should be carried out for the development of listening skill. Funk & Funk (1989) stated that most of the teachers believe that listening naturally improves and they do not need to teach listening. The relevant literature clearly shows that listening skills can and should be taught (Funk & Funk 1989). Listening should be considered as a learnable and teachable language skill (Celenk 1999). Early listening education is the way to raise good listeners who can set goals for listening, listen carefully and reach a result from what they listen to (Bulut 2013). Researchers argue that students should be given regular listening training and this training will be very useful for the individual (Funk & Funk 1989).

Lessons to improve listening skill are usually carried out through reading the listening text by the teacher or with a relevant audio material (CD, cassette, etc.). However the listener tries to grasp the meaning of what they hear in any conversation with their eyes and ears. Listening is a reaction to visual and auditory effects (Ergin & Birol 2000). Students can learn better in learning environments where pictures and words are presented together, compared to learning environments consisting only of words (Mayer 2001). Adding visual elements to the narrative increases the recall of what is narrated from 14% to 38% (Pike 1989, as cited in Bilen 2010). Using sight and hearing together makes learning more permanent. Using audio-visual materials in lessons makes learning easier. The use of visuals in listening education enables students to learn easier and better (Winn 1988). Recent research

emphasized that teachers should design meaningful activities to encourage active learning and increase students' interest and motivation (Pintrich & Schunk 2002; Svinicki 2004; Chang 2005, as cited in Yang & Wu 2012). The bringing of a video projector into the classroom increases both the interest of the student and provides a better presentation for the teachers (Gary 2007, as cited in Sejdiu 2017). Moving pictures or videos are educational materials that can present objects, facts, events, and processes with their original movements and sounds in the best and most interesting way (Cilenti 1988). The use of videos is also very useful in the development of listening skills. Videos provide both visual and auditory learning and make education enjoyable, and are more useful than audio tapes (Hengirmen 1994).

In order to increase students' attention and motivation in listening education, technological advances and digital materials can be used, which are innovative, offer great potential for learning and teaching. Appropriate teaching in listening comprehension makes it easier for students to find out what they are listening to, reduces listening anxiety and makes the listening process efficient. Therefore, using teaching strategies, methods, techniques and tools suitable for the needs of the age will be appropriate in listening education. Timmerman (2000) stated that different learning-teaching methods and techniques are used to achieve better results in learning and teaching, and that these methods and techniques are not sufficient; that learning-teaching can be more successful when supported by technology (as cited in Halat 2007). Students can use technologies to learn effectively and practically; teachers can use it to collect, present information and prepare teaching material about student progress (Smaldino et al. 2015).

Digital learning materials are based on digital components; educational programs, multimedia tools, and systems accessible through the internet are examples of digital learning materials (Moonen 1999). Digital material can be defined as teaching material; it has the features of viewing, sharing, changing, storing and accessibility and is usually created using information and communication technologies (Gocen Kabaran 2019). Today, digital materials can be easily prepared. Thanks to computers and the internet, free or paid many software have been developed in which we can prepare digital materials. Software such as Vyond, Powtoon, Kahoot, Mentimeter, Socrative, Animoto, Animaker, Alice, Scratch, Cartoon Maker, Quizizz, Padlet, Thinglink, Storybird allow to create digital materials. However, to place the students in a class full of digital materials and wait for their development is not enough. In order for digital materials to be effective, they must be compatible with the information and must reflect the information strongly. Digital materials are deemed not effective per se; as long as they are not designed in a way that is flexible, interesting and authentic, they will not be of much use to students and teachers alike (Sejdiu 2017).

Purpose of the research

The main purpose of this research is to determine the effect of digital materials on the comprehension levels of primary school second grade students. Accordingly, this research addresses and answers the following sub-problems:

- Does the use of digital materials positively affect students' listening skills and achievements according to the activities envisaged by the program?
- How does the use of digital materials in developing listening competencies affect students' interests and motivations?
- What are the views of students and teachers about the use of digital materials?

2. Method

2.1. Research design

In this research, which aims to determine the effect of digital materials on the comprehension levels of the primary school second grade students, the mixed research method in which quantitative and qualitative research methods are used, has been applied. Using quantitative and qualitative research methods together gives the researcher the opportunity to complement the deficiencies that may arise

from using one method with a variety of data that can be obtained with the other method. In this research, convergent parallel design one of the mixed research methods was used. Qualitative and quantitative methods are of equal weight in parallel design. The purpose of the parallel design is to obtain various data by using qualitative and quantitative methods together and by making a comparison (Yildirim & Simsek 2016).

Parallel design was preferred to obtain various data directly related to the research questions. According to the parallel design, in the research process; firstly, quantitative and qualitative research questions were determined and then, quantitative and qualitative data collection tools were developed. After the quantitative and qualitative data were collected, they were analyzed, compared, correlated and interpreted.

2.2. Participants

The study sample consisted of second grade students in a middle level primary school in terms of socioeconomic and sociocultural in Eskisehir, Turkey. As it was difficult to re-group second grade students in the school where the research was conducted, groups were chosen randomly one of the classes as an experimental group and the other as a control group. There are thirty-five students in the classes whose profile and number are equal. In the experimental and control groups, the number of students was equalized by considering the pretest success scores. Accordingly, the experimental group of the research consisted of 25 students and the control group consisted of 25 students.

2.3. Data collection instruments

In the research, different quantitative and qualitative data collection tools have been used to collect, diversify, support, compare, integrate, generalize and explain the data. Using different data collection tools increases the validity and reliability of the results (Yildirim & Simsek 2016).

2.3.1. Personal information form

In order to obtain information about the students in the experimental and control groups participating in the research, a “Personal Information Form” was prepared in line with expert opinions. The personal information form contains personal questions within the scope of the research subject and aims to obtain the necessary information about the students. The demographic characteristics of the students from experimental and control group are presented in Table 1.

Table 1. The demographic characteristics of the experimental and control group students

Questions	Variables	Groups			
		Experimental		Control	
		f	%	f	%
Gender	Female	12	48	15	60
	Male	13	52	10	40
Number of Siblings in the Family	1	3	12	5	20
	2	11	44	13	52
	3	8	32	5	20
	4	1	4	2	8
	5	0	0	0	0
	6	2	8	0	0
Is there a TV at home?	Yes	23	92	25	100
	No	2	8	0	0
If there is a TV at home, how many hours do you watch TV a day?	0-2 hours	20	80	15	60
	3-4 hours	4	16	6	24
	5-6 hours	0	0	3	12
	7 and more hours	1	4	1	4
Is there internet at home?	Yes	20	80	23	92
	No	5	20	2	8
Do you have a library at home?	Yes	17	68	20	80
	No	8	32	5	20

Questions	Variables	Groups			
		Experimental		Control	
		f	%	f	%
Do you listen to music?	Yes	16	64	24	96
	No	9	36	1	4
Are parents reading books etc. at home?	Yes	9	36	17	68
	No	16	64	8	32
Did your mother or father or someone else tell you fairy tales etc. before you started school?	Yes	15	60	18	72
	No	10	40	7	28
How often do you go to the cinema?	Every month	7	28		40
	Less often	10	40		56
	Never	8	32		4
How often do you go to the theater?	Every month	1	4		20
	Less often	8	32		52
	Never	16	64		28

2.3.2. Listening comprehension test

In the research, "Listening Comprehension Test" was developed in order to measure the comprehension levels of students. It has been used as pre-test, post-test and retention test. After preparing the 25 sample questions, they were presented to experts, then 61 students in the second grade in a primary school were selected as pilot and item analysis was done with the collected data. Item difficulty and item discrimination calculations were made for item analysis. To elucidate, item difficulty index indicates the correct response rate of each item. Additionally, the item difficulty index ranges from 0 to 1 and it is asked to be around 0.50 (Gonen et al. 2011). As the item difficulty index gets closer to 0, the item gets harder, and when you get closer to 1, the item gets easier (Atilgan et al. 2007). Moreover, item difficulty index is described as items with a value of at 0.20 and below are quite difficult. To illustrate, items with a value between 0.21-0.40 are difficult, items with a value between 0.41-0.60 are moderately difficult, items with a value between 0.61-0.80 are easy, items with a value of 0.81 and above are quite easy (Cohen et al. 2010, as cited in Sahin et al. 2018). The item discrimination index, nonetheless, is the degree of separation between those who have properties expected to be measured in a test and those who do not. The item discrimination index takes a value between -1 and +1 and the item discrimination index is asked to be as close to +1 as possible (Atilgan et al. 2007). If the item discrimination index is 0 or negative, the item can't be included in the test; if it is 0.40 or higher, it is very good and does not need to be corrected; if it is between 0.30-0.40, it does not need to be corrected; if it is between 0.20-0.30, it can be used or corrected exactly; if it is less than 0.20, it should not be used or corrected (Turgut 1992, as cited in Gonen et al. 2011). As a result of the item analysis, item discrimination indices of the items no 2, 4, 7, 17 and 25 were less than 0.20; accordingly, items 2, 4, 7 and 17 were corrected and item 25 was removed from the test. Since the item difficulty indexes of the items 3 and 12 were below 0.20 and the item difficulty index of the item 22 was above 0.81, these items were corrected. After the item analysis, the test was presented to the expert opinion and items of the test were determined that the items 20 and 23 were not suitable for the level of the students; item 20 was corrected, and item 23 was removed from the test. Accordingly, item analysis and expert opinions have been completed, and the test consists of 23 items.

2.3.3. Student diaries

Student diaries are the about their application experiences, feelings and thoughts, they allow to see applications from a student perspective. During the research, student diaries were collected from the experimental group after each application. Students' diaries were qualitatively analyzed.

2.3.4. Researcher diary

The researcher diary includes researchers' observations, comments and explanations; in short, it entails individual notes covering the research process. The diaries kept in the research process were used to support the research findings.

2.3.5. Semi-structured interview

In the research, semi-structured interviews were conducted in order to determine the opinions of the students and the classroom teacher about the application. In such interviews, the researcher plans the questions he or she wants to ask in advance, but the researcher can shape the flow of the interview with different questions according to the course of the interview and provide a detailed explanation of the person's answers (Turnuklu 2000). Before starting the interviews, each participant was given the necessary information about the interview and the interviews were conducted one-to-one with each participant.

2.4. Data collection procedures

In this study, which tries to determine the effect of digital materials on listening comprehension in Turkish language, a quasi-experimental design with experimental and control group was used. The intervention in the experimental group lasted eight weeks: two hours a week, a total of 16 lesson hours. In the experimental group, digital materials were used. No digital material was used in the control group. Information on data collection in this study is shown in Figure 1.

Figure 1. Application of data collection tools

Information on the preparation of digital materials used in the study is shown in Figure 2. According to this; after determining the texts to be used in the research; Digital materials for texts were started to be created by the researchers with web-based software. Animations and activities of the texts prepared with web-based software have been accepted as digital material.

Figure 2. *Creation Stages of Animations for Texts*

Some scenes from the digital materials prepared for the research are given in Figure 3.

Figure 3. *Animation scene examples*

Ready software used in the creation of digital materials for each text used in the experimental group are given in Table 2 in detail.

Table 2. *Web-based software used in the creation of digital materials*

Text Name	Tools used in creating animations	Tools used in creating digital events
Little Penguin	Vyond	Emaze
Forests	https://www.youtube.com/watch?v=sq2gyM08zY	Mentimeter
Where Did The Tomatoes In My Basket Come From?	Vyond	Mentimeter
Traffic	Vyond	Kahoot
The Farmer and His Sons	Powtoon	Emaze
What is Money?	Powtoon	Socrative
Selin and Pelin	Tondoo - Movie Maker	Powtoon
Athlete	Powtoon	Pawtoon

2.5. Data analysis

In the analysis of the quantitative data obtained as a result of the research, SPSS 24 program was used. In order for the data to account for a normal distribution, the values of central tendency measurements must be close or equal to each other; the skewness and kurtosis coefficients must take one of the values between -1 and +1. In addition, the histogram graph of the data should show normal distribution (George et al. 2010, as cited in Kayisdag 2018). Accordingly, the central tendency and propagation measures, histogram graphics, skewness and kurtosis values of the tests in the experimental and control groups were scrutinized. As a result, it was determined that the data showed normal distribution. Therefore, parametric tests were employed while analyzing the data. In the analysis of the data in this research, dependent sample t test was used to compare pretest, posttest and retention tests of one group; independent sample t test was used to compare the tests of the experimental and control groups (Hayran & Hayran 2011).

Besides, descriptive analysis was used in the analysis of qualitative data in the research. In the descriptive analysis, the data obtained are organized and interpreted within the framework of certain themes, and direct quotations are frequently included in this analysis (Yildirim & Simsek 2016). In this research, questions were accepted as themes. The qualitative data obtained in the research were arranged according to the themes. In order to present opinions about the implementation process effectively, where necessary, direct quotations were made from teacher and student interviews as well as from researcher and student diaries.

3. Findings

In this part of the research which has to do with investigation of the effects of digital materials on the comprehension levels of primary school second grade students, findings collected after eight weeks of application are included.

The first sub-problem of the research deals with the question of “Does the use of digital materials affect students’ listening skills and achievements positively according to the activities envisaged by the program?” With regard to the answer to the question, the pre-test, post-test and retention test scores of the experimental and control group students were compared separately among the groups and the independent sample t test was used for this purpose.

The mean values, standard deviation values, degree of freedom, t value and significance level of the experimental and control group students’ pretest scores obtained from Listening Comprehension Test are presented in Table 2.

Table 2. *Comparison of pretest scores by experimental group and control group*

Groups	N	$\bar{x}$	SD	df	t	p
Experimental Group	25	41,00	2,550	41,248	0,000	1,000
Control Group	25	41,00	3,916			

As a result of the pretest, equalization was made in the number of students in the experimental and control groups and on average. In Table 2, the number of students in the groups is 25, and the pretest means of the groups are 41.00. According to Table 2, it can be figure out that the levels of comprehension of the groups are similar.

The mean values, standard deviation values, degree of freedom, t value and significance level of the experimental and control group students' posttest scores drawn from Listening Comprehension Test are presented in Table 3.

Table 3. Comparison of posttest scores by experimental group and control group

Groups	N	$\bar{x}$	SD	df	t	p
Experimental Group	25	45,04	3,272	48,000	2,951	0,005
Control Group	25	42,04	3,889			

When Table 3 is examined; the average of the posttest scores of the students in the experimental group is 45.04; but the average of the posttest scores of the students in the control group is 42.04. There is statistically a significant difference between the posttest scores of the experimental and control groups according to the significance level of $p < 0.05$.

The average values, standard deviation values, degree of freedom, t value and significance level of the experimental and control group students' retention test scores obtained from Listening Comprehension Test are presented in Table 4.

Table 4 Comparison of retention test scores by experimental group and control group

Groups	N	$\bar{x}$	SD	df	t	p
Experimental Group	25	45,16	3,064	48,000	2,241	0,030
Control Group	25	42,92	3,947			

When Table 4 is examined, the average of the retention test scores of the students in the experimental group is 45.16; whereas the average of the retention test scores of the students in the control group is 42.92. Once again, statistically speaking, a remarkable difference can be observed between the retention test scores of the experimental and control groups based upon the significance level of $p < 0.05$.

The second sub-problem of the research grapples with “How does it affect the interest and motivation of students to use digital materials in listening education?” The answer to the question was explained by descriptive analysis. In line with the data gathered from the semi-structured interviews with the experimental group students and their teacher, and the diaries kept by the experimental group students and the researcher during the application process; two themes were created: the effect of the digital material using on students interests and motivations.

Figure 1. Descriptive analysis themes within the scope of the second sub-problem

The use of digital materials in Turkish lessons attracts students' attention and affects their motivation in the lesson. It was observed that the interests of the students were in the form of “interest in Turkish

lessons” and “interest in videos used in Turkish lessons”. The following statements were found in the diaries and interviews about how the use of digital materials in listening education in Turkish lesson affects students’ interests:

“It attracted my attention.” (S.S.I.13, 10.04.2019)

“I liked the video very much. I was never bored in the lesson. The lesson was very good. The video was great. Turkish lesson was very good.” (S.D.22, 11.03.2019)

“I liked the video in Turkish lesson, I liked the questions, I liked the activities, I liked everything we did in the lesson.” (S.D.7, 18.02.2019)

“The videos were nice. The questions were good. Everything was perfect!” (S.D.6, 08.04.2019)

“It affected me differently, as if I had never seen it. Actually, I saw such a lesson, but it affects me as if I was learning for the first time. I already like those videos.” (S.S.I.1, 10.04.2019)

“It caught my attention. I love it. I was very curious about how the questions are.” (S.S.I.8, 10.04.2019)

“It made me pay attention to the lesson. I wondered.” (S.S.I.6, 10.04.2019)

“They are excitedly waiting for the lesson to start, they are wondering. Of course, we are in the age of technology so they follow with much more interest, love and curiosity.” (S.S.I.T, 12.04.2019)

In the above statements, it was asserted that the use of digital material in listening education attracted students’ attention, encouraged them and aroused their curiosity. It is also stated that students love animated videos and digital activities prepared for texts, and thus learn by having fun in class.

The use of digital materials in Turkish lessons attracts students' attention and affects their motivation in the lesson. It was observed that the motivations of the students were gathered under the sub-themes of "attention" and "curiosity". The following statements were found in the diaries and interviews about how the use of digital materials in listening education in Turkish lesson impacts students’ motivations:

“Today, I was looking forward to watching the video. I was also looking forward to answering questions.” (S.D.20, 18.02.2019)

“I wanted to answer questions today. I was afraid that the teacher would not see me because of my friends and I was excited. Thank you for answering.” (S.D.19, 08.04.2019)

“Although I was sick, I had a lot of fun in lesson. The music was very nice. Turkish lesson is my favorite lesson.” (S.D.13, 25.03.2019)

“Today, our Turkish lesson was incredible. The video was most beautiful...” (S.D.11, 02.04.2019)

“I have so much fun doing this lesson.” (S.D.21, 11.03.2019)

“Including normal students in the classroom, 2 mainstreaming students, 2 foreign students (who speak Turkish) and a student who never speaks Turkish; all students were very eager to answer questions from digital events.” (R.D., 11.03.2019)

As seen in the statements above when digital materials are applied, students willingly participate in the lesson, they do not get bored during the lesson, they have fun in the lesson and thus they have highly motivated.

The third sub-problem of the research, addresses the question of “What are the opinions of the students and the teacher about the use of digital materials?” The answer to the question can be justified by descriptive analysis. According to the data obtained from the semi-structured interviews with the experimental group students and their teacher, and the diaries kept by the experimental group students and the researcher during the application process; the opinions of the students and the teacher about the use of digital materials were gathered under two themes as positive and negative opinions.

Figure 2. Descriptive analysis themes within the scope of the third sub-problem

It is understood that teacher students have “positive” and “negative” views about the use of digital materials. As regarding positive opinions, students consider lessons fun and the videos used in the lessons effective. This is highlighted by the following opinions:

“I liked this program. I liked the questions very much. This program was exactly what I had dreamed of. This program was for me. I loved this lesson.” (S.D.16, 25.02.2019)

“The video is very very beautiful. I think this is my choice, one hundred percent. I think it was so much fun and everything was fine.” (S.D.5, 18.02.2019)

Some students also underlined the fact that the lessons were more understandable using the videos.

“I would like other lessons to be like that. Because we understood it better and it would be better.” (S.S.I.11, 11.04.2019)

Students also upheld that they want to use digital material not only in Turkish lessons but also in other lessons.

“I liked the video very much. It was very very nice. I wish there were videos in every lesson.” (S.D.12, 18.03.2019)

in spite of the benefits, students think that the constant use of digital materials can be “boring” and “limit” creativity.

“Has a negative one side, maybe we limit children who can think very broadly.” (S.S.I.T, 12.04.2019)

The excessive use of digital materials can have a negative effect also on students’ health.

“Because if we look at it a lot, our eyes may deteriorate.” (S.S.I.10, 10.04.2019)

The negative opinions of teacher and students about the use of digital material are very few compared to their positive opinions. There are only two students who gave negative opinions; they uttered that they love digital materials but do not want digital materials to be used continuously. Similarly, the classroom teacher stated that digital materials should be used, but they can limit students’ imagination.

3. Discussion, Conclusion and Suggestion

This research has reached the following results: using digital material caused a significant difference in the comprehension level of students’ listening, increased considerably their interest and motivation towards listening; the opinions of the experimental group students and their teacher about the use of digital materials were generally positive. The results of this research are similar to those of previous research. Kulik et al. (1980) concluded that teaching with animation method takes less time and brings more success than traditional teaching method in their study. Furthermore, Shea (2000) examined the effect of video-based instruction on students’ attitude towards the lesson, reached the conclusion that video-based education motivated students against the lesson, and observed that there was an increase in students’ academic achievement and participation in the lesson. In the study conducted by Ozdener

& Esfer (2009), it was observed that the students who watched videos based on ELVES method showed positive attitudes towards the lesson and there was more improvement in their listening skills compared to other students. Akdemir (2010) stated that video has a more effective use compared to audio materials in the development of listening skill in his study. Inac (2010) also deduced that teaching with animation method is more successful than traditional method in his study. In another similar study, Wuttipong (2014) reached the results that video materials improve students' comprehension skills and increase their motivation and interest in the lesson. Additionally, in their study, Lin & Duy (2014) derived that video-based internet materials have an effect on students' comprehension skills in English lessons. In her study, Gocen (2014) inquired the effect of digital storytelling method on students' academic success and learning strategies; concluded that digital storytelling method positively affects academic success and that learning strategies are more effective than Powerpoint presentations. Besides, Cakir (2015) emphasized in his study, the usefulness and impact of video use in developing the skill of listening to Turkish as a foreign language; he determined that the listening made using video was more successful than the listening made only by using the audio. Cigerici (2015) elicited in his study that the recruitment of listening activities based on digital stories improves students' comprehension skills and develops their positive attitude towards listening. Likewise, Yesiltas & Turan (2015) have drawn the conclusion in their study that computer software increases students' academic success and positively affects their attitudes towards the lesson. Elsewhere in an analogous probe, Akaydin (2016) came up with the point that animations have positive effects on students' academic success and attitude towards the lesson. In line with the above inquiries, Kurt (2018) scrutinized the effect of animation and story usage on student success in concept teaching in Turkish lesson, it reached the conclusion that the use of animation and story positively affects students' success, and that students love animations and stories.

As another confirming study, Gungormus (2007) found in the study that games used in web-based education have a positive effect on students' success and permanence of learning. Kazu & Yavuzalp (2008) stated in their investigation that teaching software will positively affect student success in research. Moreover, Emrahoglu & Bulbul (2010) stated that animations and simulations positively affect students' academic success in their study. In his detailed analysis, Akalan (2012) referred to this fact that the computer aided teaching approach increases the academic success of students compared to the traditional teaching approach. Gulen & Demirkus (2014) concluded in their study that visual materials increase the success of students. Additionally, Vural Ozkip (2009) drew the conclusion that computer assisted instruction is more effective in increasing students' internal and external motivation than traditional teaching method. In a similar study, Ates et al. (2006) concluded in their study that computer-assisted instruction significantly increased students' attitude towards computer and lesson. As a stamp of approval to the above, Gursoy (2017) found in study that students' interest in video lessons is high and that video use has positive effects on student motivation. Demirkan (2017) stated that children had fun while learning with computer aided systems in the study. Kablan et al. (2013) were of the opinion that teaching materials facilitate learning, increase interest and desire, and provide active learning. On the other hand, Vatansever Bayraktar (2015) elicited that the study that using tools and materials in the classroom will make the learning-teaching process effective and efficient. Conforming to the previous studies, Sirakaya (2015) declared that the augmented reality learning material, embodied abstract subjects, helped them to understand the subjects, increased academic success, and also increased students' interest and motivation towards the course. Last but not least, Veyis (2016) deduced that multimedia materials have positive effects on academic success and attitude towards the course. Analogously, the findings obtained from these studies comply with the findings gained in this research. In other words, this study came to the conclusion that digital materials have enhanced students' understanding of listening, attracted their attention and consideration, and increased their motivation towards listening.

In this research, the effect of digital materials on the comprehension levels of primary school second graders was investigated. In line with the findings obtained in the research, the following conclusions were reached:

Taking into account the first sub-problem of the research, "Does the use of digital materials affect students' listening skills and achievements positively according to the activities envisaged by the

program?” The pre-test, post-test and retention test scores of the experimental and control group students were compared separately between the groups and in these comparisons, the independent sample t test was used. As a result, it has been found that the use of digital materials affects students’ listening skills and achievements positively according to the activities in the curriculum and this effect is permanent.

The second sub-problem of research was: “How does it affect the interest and motivation of students to use digital materials in listening education?” and the third sub-problem was: “What are the opinions of the students and the teacher about the use of digital materials?” The answers to these problems, in semi-structured interviews with experimental group students and teacher, in the diaries kept by the experimental group students and the researcher during the application process were investigated. When the data were analyzed, it was concluded that the use of digital material in listening education attracted the attention of students. The students were influenced by digital materials and it was determined that their interest in listening in Turkish lesson increased thanks to digital materials. It was determined that, when digital materials are used, the students did not get bored with the lesson, were very eager to participate in the lesson, had fun in the lesson and thus were of high motivation during the lesson.

According to the results of the research, the following suggestions can be presented:

- In the research, it was found that the digital materials used were effective in improving students’ listening skills. In this context, digital materials can be used for listening studies.
- According to the results of the research, the use of digital materials has enabled students to develop positive thoughts about Turkish lessons and has increased their interest and motivation towards listening. Accordingly, digital materials can be utilized in Turkish lessons.
- In the research process, animations of the texts in Turkish lesson were attractive to students and they watched them with pleasure. For this reason, animations can be applied in Turkish lessons.
- During the research process, students willingly took part in the digital activities related to the texts in the Turkish lesson. On account of this, digital activities can be prepared in Turkish lessons.
- The effects of digital materials on other language skills can be examined.
- Research into the use of digital materials can be carried out on courses such as mathematics, foreign languages, science and social sciences, so to speak.

References

- Akalan, M. E. (2012). The effect of instructional technologies and material development course prepared with computer assisted programmed instruction method to students’ academic achievements and student views (Master thesis). Gazi University, Ankara.
- Akaydin, B. B. (2016). The effect of animation-supported 5E learning model on 4th grade social studies achievement (Master thesis). Kocaeli University, Kocaeli.
- Akdemir, A. S. (2010). Authentic video as an advance organizer to listening skill (Master thesis). Ataturk University, Erzurum.
- Ates, A., Altunay, U., & Altun, E. (2006). The effects of computer assisted English instruction on high school preparatory students’ attitudes towards computers and English. *Journal of Theory and Practice in Education*, 2(2), 97-112.
- Atilgan, H., Kan, A., & Dogan, N. (2007). *Measurement and evaluation in education*. Ankara: Ani Press.
- Bilen, E. (2010). Using cinema films in teaching Turkish to foreigners. I. Yazar (Ed), III. International World Language Turkish Symposium Proceedings Book (167-170), Izmir.

- Bulut, B. (2013). The effect of active listening training on listening comprehension, reading comprehension and vocabulary (Master thesis). Adnan Menderes University, Aydin.
- Bulut, S. (2018). Analyzing practices with children's books in preschool settings within the context of creating a reading culture (Doctorate thesis). Ankara University, Ankara.
- Celenk, S. (1999). The effect of effective listening training on listening comprehension, 4. National Educational Sciences Congress Proceedings 2. Eskisehir: Anadolu University Education Faculty Publications, 386-395.
- Cigerci, F. M. (2015). The use of digital stories to develop listening skills in the primary school fourth grade Turkish course (Doctorate thesis). Anadolu University, Eskisehir.
- Cihangir, Z. (2004). Listening skill in interpersonal communication. Ankara: Nobel Press.
- Cakir, A. (2015). Use of video in Turkish as a foreign language for listening skill activity (Master thesis). Canakkale Onsekiz Mart University, Canakkale.
- Cilenti, K. (1988). Educational technology and teaching. Ankara: Kadioglu Press.
- Demirkan, S. (2017). Use of computer assisted animations in teaching first aid and an application example: Fifth grades (Master thesis). Beykent University, Istanbul.
- Dogan, Y. (2009). Suggested activities to improve speaking skill. *Journal of Turkish Educational Sciences*, 7(1), 185-204.
- Ekiz, D. (2003). Introduction to research types and methods in education. Ankara: Ani Press.
- Emrahoglu, N., & Bulbul, O. (2010). Simulations and animations effects in computer assisted instruction on academic success and retention when teaching of optic unit in physics at 9. Class. C.U. *Journal of Social Sciences Institute*, 19(3), 409-422.
- Ergin, A., & Birol, C. (2000). Communication in education. Ankara: Ani Press.
- Funk, H. D., & Funk, G. D. (1989). Guidelines for developing listening skills. *The Reading Teacher*, 42(9), 660-663.
- Gocen Kabaran, G. (2019). Development of an in-service training program for digital material design and evaluation of its effectiveness. <https://prezi.com/eccagwz4m-by/dijital-materyal-tasarimina-yonelik-bir-hizmet-ici-egitim-programinin-gelistirilmesi-ve-etkililiginin-degerlendirilmesi/> Accessed 25 June 2019.
- Gonen, S., Kocakaya, S., & Kocakaya, F. (2011). A study on developing an achievement test which has reliability and validity on dynamics subject. *YYU Journal of Education Faculty*, 8(1), 40-57.
- Gulen, S., & Demirkus, N. (2014). The effects of visual material on students' achievement in "the solar system and beyond: mystery of space" unit. *YYU Journal of Education Faculty*, 11(1), 1-19.
- Gungormus, G. (2007). The effect of games used in web based education on success and permanency (Master thesis). Gazi University, Ankara.
- Gursoy, S. (2017). The effects of the use of video on language skills improvement and student motivation (Master thesis). Ufuk University, Ankara.
- Halat, E. (2007). Opinions of pre-service teachers about the use of Webquest in mathematics teaching. *Elementary Education Online*, 6(2), 264-283.
- Hayran, M., & Hayran, M. (2011). Basic statistics for health research. Ankara: Omega Press.
- Hengirmen, M. (1994). Foreign language teaching methods and TOMER (Turkish Teaching Center) method. Ankara: Engin Press.
- Inac, E. A. (2010). The effect of using animations on the elementary school students' academic achievement and retention levels in science and technology lesson: 6th, 7th and 8th grades' sample (Master thesis). Canakkale Onsekiz Mart University, Canakkale.

- Kablan, Z., Topan, B., & Erkan, B. (2013). The effectiveness level of material use in classroom instruction: A meta-analysis study. *Educational Sciences: Theory & Practice*, 13(3), 1629-1644. Doi: 10.12738/estp.2013.3.1692
- Kalayci, S. (2008). *SPSS applied multivariate statistics techniques*. Ankara: Asil Press.
- Kayisdag, E. (2018). Evaluation of science and art center's education programs based on student opinions (Master thesis). Eskişehir Osmangazi University, Eskişehir.
- Kazu, I. Y., & Yavuzalp, N. (2008). Teachers' opinions about using instructional software. *Education and Science*, 33(150), 110-126.
- Keles, E. (2013). The effect of questions given before and after listening on fifth graders skills of comprehending what they listen (Master thesis). Canakkale Onsekiz Mart University, Canakkale.
- Kulik J. A., Kulik C. C., & Cohen P. A. (1980). Effectiveness of computer-based college teaching: A meta-analysis of findings. *Review of Educational Research*, 50, 525-544. Doi: 10.3102/00346543050004525
- Kurt, E. (2018). The effect of using animation and story in concept teaching for sixth-grade Turkish courses on achievement (Master thesis). Karadeniz Teknik University, Trabzon.
- Lin, L. F., & Duy, L. D. (2014). The impacts of the video-based internet materials on international students' listening comprehension. *International Journal on Studies in English Language and Literature*, 2(8), 106-115.
- Mayer, E. R. (2001). *Multimedia learning*. Cambridge: Cambridge University Press.
- MEB (Ministry of Education) (2005). *Elementary Turkish lesson curriculum*. Ankara: Milli Eğitim Press.
- Moonen, J. (1999). The design and prototyping of digital learning material: Some new perspectives. *Design approaches and tools in education and training*, 8, 95-111. Doi: 10.1007/978-94-011-4255-7_8
- Orhan, S. (2010). The influence of six thinking hats application on the improvement of speaking skill of 8th grade students of elementary education (Doctorate thesis). Ataturk University, Erzurum.
- Ozdener, N., & Esfer, S. (2009). A comparative study on the use of information technologies in the development of students' ability to comprehend what they listen to and watch. *International Journal of Human Sciences*, 6(2), 275-291.
- Sejdiu, S. (2017). Are listening skills best enhanced through the use of multimedia technology. *Digital Education Review*, 32, 60-72. Doi: 10.1344/der.2017.32.60-72
- Shea, P. (2000). A study of captioned interactive video. *Journal of Educational Computing Research*, 22, 243-263. Doi: 10.2190/3NEY-BNT0-FB28-VBWY
- Sirakaya, M. (2015). Effects of augmented reality applications on students' achievement, misconceptions and course engagement (Doctorate thesis). Gazi University, Ankara.
- Smaldino, S. E., Lowther, D. L., Mims, C., & Russell, J. D. (2015). *Instructional technologies and learning tools* (A. Ari, Translated. Ed.). Konya: Eğitim Press.
- Sahin, F., & Ates, S. (2018). Adaptation of the scientific literacy scale developed for middle school students. *GEFAD / GUJGEF*, 38(3), 1173-1205.
- Telli, E. (2009). The effect of 3D virtual materials on the success of teacher candidates in the course of computer and their attitude towards computer-assisted teaching (Master thesis). Ataturk University, Erzurum.
- Turnuklu, A. (2000). A qualitative research technique that can be used effectively in educational science research: Interview. *Educational Administration: Theory and Practice*, 6(24), 543-559.

- Vatansever Bayraktar, H. (2015). Student motivation and factors affecting motivation in classroom management. *International Periodical for the Languages, Literature and History of Turkish or Turkic*, 10(3), 1079-1100. Doi: 10.7827/TurkishStudies.7788
- Veyis, F. (2016). The effect of teaching Turkish Literature from the National Literature Period using interactive multimedia materials on academic performance and attitudes towards Turkish Literature classes (Doctorate thesis). Ataturk University, Erzurum.
- Vural Ozkip, E. (2009). Effect of computer assisted English teaching on motivation (Master thesis). Nigde University, Nigde.
- Winn, J. (1988). Developing listening skills as a part of the curriculum. *Reading Teacher*, 42(2), 144-146.
- Woottipong, K. (2014). Effect of using video materials in the teaching of listening skills for university students. *International Journal of Linguistics*, 6(4), 200-212. Doi: 10.5296/ijl.v6i4.5870
- Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: a year-long experimental study. *Computers & Education*, 59, 339-352. Doi: 10.1016/j.compedu.2011.12.012
- Yesiltas, E., & Turan, R. (2015). The effect of computer software, designed for social studies teaching, to academic achievement and attitude. *International Journal of Turkish Education Sciences*, (5), 1-23.
- Yildirim, A., & Simsek, H. (2016). *Qualitative research methods in the social sciences*. Ankara: Seckin Press.
- Yilmaz, F. (2014). A Research on the writing activities of Yeni Hitit Turkish for foreigners course book 2. *International Journal of Turkish Education Sciences*, 2(2), 37-48.

Authors

Burcu GEZER, Primary School Teacher, Florya Canada Schools, Istanbul (Turkey).
burcugezer95@gmail.com

Hüseyin ANILAN, Eskisehir Osmangazi University, Faculty of Education, Eskisehir (Turkey).
anilan.huseyin@gmail.com

Acknowledgement

This article was prepared from Burcu Gezer's master's thesis that under the supervision of Huseyin Anilan titled "The Effect of Digital Materials on Listening Comprehension Levels of Second Grade Primary Students".