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Research

The Effects of the Digitally Supported Multimodal Print Texts on Students' Summarization Skills

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Abstract:

The aim of this study is to analyse the effects of the multimodal texts created from print texts through the addition of digital mode on the students's summarizing skills. Through the ROAR the digital modes were integrated into the print texts and the multimodal texts were produced. There are two such texts, one of them is an informative text, and the other one is a narrative text. The participants of the study were 128 seventh-gradesecondary school students from Antalya province (Türkiye) whose ages range between 12 and 13. They were randomly assigned to the experimental and control groups. At the pre-test step both groups read and summarized the print texts. In the post-test step the experimental group read and summarized the multimodal texts created by adding a digital mode whereas the control group the print texts. The results showed that there was a significant difference in favor of the experimental group in the total scores and content scores concerning the informative and narrative texts. On the other hand, it is found that the form and style scores from the informative and narrative texts did not differ significantly between the groups. In addition, in the post-test results of the experimental group, there was a significant difference in favor of the narrative text. - The results show that the use of the multimodal texts haspositive effects on the participants' summarizing skills.

Keywords: Use of technology in education, Turkish language education, reading education, multimodal texts, summarizing

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INTRODUCTION

The main purpose of reading activity is to understand the target text. Understanding the text involves along many mental processes. The individual's ability to identify, understand, remember, and express the information in the text after the reading process is among these mental processes. Remembering the text after reading it and re-presenting it by removing unnecessary details are related to an individual's summarization skills. In the Turkish Language Association's current Turkish dictionary (2023) defines summarizing as the activity of telling the content of writings, topics, or movies using fewer words, giving their essence, or making them shorter. Summarizing is the ability to create content based on a source text. Students reach the main idea by extracting details from the text they read. They then create a new text by expressing the main idea and side ideas in their own sentences. (Eggen & Kauchak, 1992). Thus, summarizing is a process that includes the following subskills: recognizing the significant parts of a text (Epçaçan, 2018; Garner, 1987; Karada, 2019; Westby et al., 2010), eliminating the less significant parts (Kurnaz & Akaydn, 2015; Kuşdemir & Güneş, 2014; Raju & Allarpu, 2017; Wormeli, 2004), identifying the main idea ofthe text (Karatay & Okur, 2012; Klein, 1988; Slavin, 2013; Williams, 2007) and paraphrasing the significant parts shortening them in a new form (Demirel, 1999; Demirel & Şahinel, 2006; Gupta & Lehal, 2010; Karatay & Okur, 2012; Kurnaz & Akaydın, 2015; Kuşdemir & Güneş, 2014; Raju & Allarpu, 2017; Slavin, 2013; Ülper & Karagül, 2011; Westby et al., 2010; Wormeli, 2004). In other words, summarization is a skill that involves the process of reading and selecting the important parts of the source text and reconstructing it in a semantically integrated and consistent way with the original structure of the text (Çetinkaya et al., 2020). Senemoğlu (2018) states that although summarizing is a cognitive product, it is also closely related to the act of narration.

Summarizing helps to understand texts (Deneme, 2009). In the summarizing skill, the readers are expected to select important information, coherently organize this information, and report it in their own words (Fiorella & E-Mayer, 2015; Friend, 2001; Ježek & Steinberger, 2008). What a good reader should have is the ability to infer from the text, identify the keywords related to the text, and find the main idea of the text (Azizoğlu & Okur, 2020), and all these are required for a good summarizing act. Van Dijk and Kintsch (1983) argue that summarizing is closely related to -making sense of texts. Because the most important stage of a quality summarization is the understanding of the text (Pečjak & Pirc, 2018). The reader's or listener's ability to -shorten a text to its main points refers to the fact that they have a good grasp of the text content, while their inability to summarize the text may indicate that they have misunderstood the text (Cho, 2012; Kim, 2001). Summarizing is one of the most significant elements of reading and writing skills (Graham & Perin, 2007). Therefore, summarizing can help the students understand the text and at the same time, to clarify an unclear topic (Anderson et al., 1991). In addition, summarizing helps students form general definitions from the text, produce statements that relate ideas, and identify unimportant information (Eggen & Kauchak, 2010).

In Türkiye the skill of summarizing is included in the learning objectives of the Turkish language course program (Ministry of National Education, 2018) for the fifth through eighth grades under the framework of the listening and reading skills. The specific learning objectives concerning summarizing are given as follows: "*Students summarize what they have listened/watched"* and *"Students summarize what they have read*". In addition, for grades 7 and 8. there is also a learning objective under the reading skill of "*Students make use of reading strategies*" as follows: "*Students are provided to use*

reading methods and techniques by browsing, summarizing, taking notes, marking, and discussing". There is also another related objective for the grades of 7 and 8. under the writing skills, namely students make use of writing strategies as follows: "*Students could make use of various writing methods and techniques such as note taking, summarizing, free writing, controlled writing, writing by choosing from the pool of words and concepts, writing from a text and writing using the senses*". It is seen that summarization skill is related to various linguistic skills, and therefore, the multimodal texts can be used in summarization related activities since such texts can appeal to different linguistic skills.

Multimodal texts have two more modes in terms of linguistics (vocabulary, grammar, written language features, etc.), visual (color, drawing, motion, and still image etc.) and audio features, (sound, music effects, rhythm etc.), gestures (facial expression, body language etc.) and spatial features (proximity, direction, location, size, order etc.) (Anstey & Bull, 2010; Shanahan, 2013). Walsh (2006) states that multimodal texts are texts in which both modes are used to make sense of texts. Bearne and Wolstencroft (2007) define such texts as texts in which text, words, still and motion images are used simultaneously. The common point in the related literature is that print texts, visuals, animations, speech sounds, music and graphics are each a mode. In printed texts before the twentieth century, the meaning was primarily conveyed through writing (Lewis, 2001). However, after the twentieth century, in addition to writing, modes such as pictures, graphics and drawings began to be used in texts. With the rapid adoption of technology in every field, digital texts produced with digital modes (video, sound, image, animation, etc.) and such texts have - started to be used. In addition, the features of physical and digital texts are combined with augmented reality technology (Danaei et al., 2020; Tobar-Munoz et al., 2017). Given that texts with physical and digital modes appeal to multiple senses, such texts can contribute to the ability to summarize. These texts, which activate both reading and listening/watching skills in the same text, can support comprehension skills, and the development of comprehension can have positive effects on students' summarization skills (Berkeley et al., 2010). In this context, the study aims to examine the effect of multimodal texts created by adding digital modes to-print texts on students' summarization skills. In line with this aim, the study attempts to answer the following research questions:

RQ1: What is the effect of digitally supported multimodal print texts and multimodal print texts on students' summarization scores?

RQ2: What is the effect of different text types on the student's summarization scores?

METHOD

Research Research Model

The study was designed as quasi experimental research with pre-test and post-tests with experimental and control groups. The main purpose of the experimental research is to test the cause-effect relationships between the dependent and independent variables (Büyüköztürk et al., 2019). The quasi-experimental design was preferred in this study, which was carried out to determine the effects of texts in physical and digital modes on students' summarization skills.

Participants

The participants of the study were 128 seventh grade secondary school students from Antalya province (Türkiye) whose ages range between 12 and 13. The sample size was determined using the G*Power program. Participants voluntarily participated in the study. Prior to the study, necessary

permissions were obtained from the school administration, and informed consent forms were obtained from the parents of the students. After granting the permissions, 64 of the students were randomly assigned to the experimental group and the remaining 64 students to the control group. The descriptive data about the participants are given in Table 1.

Table 1

Demographical Information About the Participants

Demographical information		Experimental group		Control group	
		n	%	n	%
Age	12	24	37.5	21	32.81
	13	40	62.5	43	67.19
Gender	Boy	31	48.4	29	45.3
	Girl	33	51.6	35	54.7
Experience -with using a tablet	Users	62	96.9	63	98.4
	Non-users	2	3.1	1	1.6
Having a tablet	Having	48	75	45	70.3
	Not having	16	25	19	29.7

Data Collection Tools

Digital modes were added to the print texts to create multimodal texts. The first two texts were identified from the seventh-grade textbooks based on the views of two field specialists. One of these texts was an informative text and the other was a narration. Both texts can be considered multimodal in the sense that they contain written and visual materials. The relevant digital content was then investigated. In order to integrate the digital content in a video format that would reflect the plot of the text, the existing sounds in the video were eliminated. Next, audio recordings of the places identified in the text were taken, and the recordings were videotaped. The part of the text that was recorded on video was removed from the reading text. Thus, there was no difference in the flow of the text. The ROAR Augmented Reality application was used to integrate digital content into printed texts. The image in the text and the video created on ROAR's website are matched (Figure 1). In this way, the images in the text can be animated in the video format by using the ROAR application through a technological device.

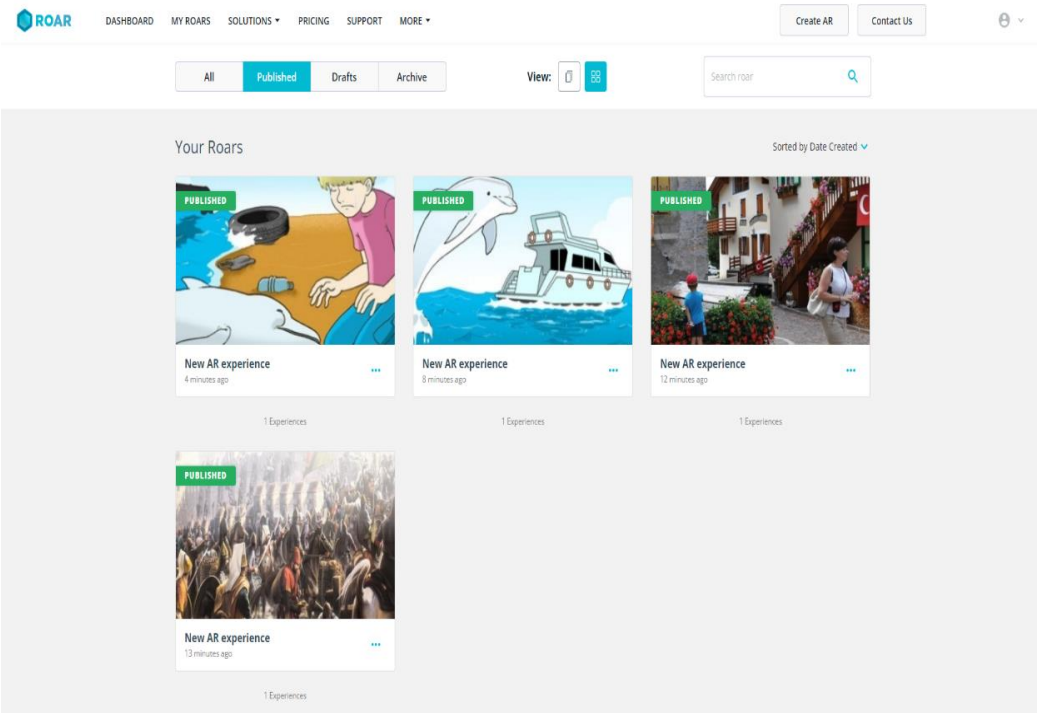

Figure 1. *Images Matched via the ROAR Application Website*

After the completion of the integration of the texts from the 7. grade textbook with the digital content the pre-test step was initiated. During this process, the university first obtained permission from the ethics committee, and then the Antalya Provincial Directorate of National Education granted application permission. Then, the school where the implementation would be carried out was determined. The implementation was planned to be carried out in the Turkish language course. Within the scope of the plan, the school administration and Turkish teachers were informed about the application. In addition, the activity to be used in the implementation was introduced to them. The teachers were with the researcher in the classroom during the implementation. The regular course process took place between the pre-test and post-test periods. During the pre-test period, the students in the experimental and control groups read the printed texts and wrote summaries of the texts. After the data were obtained, the activities were carried out with different texts using tablets so that the experimental group could join the activity comfortably. Through these activities, it was aimed that the experimental group would feel comfortable in the reading activity that they would perform using a tablet in the post-test phase. In the process, no intervention was made in the control group. In the post-test phase, the experimental group read the printed texts created through the ROAR application. These texts were read via tablets that could provide a digital mode. The control group read only printed texts. After the summary writing activity, the post-test data of both groups were collected. The summaries produced by the participants in the pre and post-test steps were evaluated using the scoring key for the summaries developed by Benzer et al. (2016). The scoring key has the following dimensions: format (paper layout; number of paragraphs; grammar, punctuation, typos) with; content (semantic integrity, introductory sentence, plot, secondary ideas, points about details, use of keywords, main idea); and style (use of tenses, direct quotations or direct references to the original text). The author and two field experts participated in the evaluation process. The Kendal's W coefficient of the agreement was used to calculate inter-rater reliability.

Data Analysis

In the data analysis first the kurtosis and skewness values of the pre-test and post-test data were calculated. The results are given in Table 2 and Table 3.

Table 2

Skewness Kurtosis Coefficients of the Pre-Test Results of the Experimental and Control Groups

	Group	N	Skewness	Kurtosis
Total score for the informative texts	Experimental	64	.058	-.163
	Control	64	-.651	-.040
Form of the informative text	Experimental	64	-.335	-.429
	Control	64	-.336	-.624
Content of the informative text	Experimental	64	-.076	.151
	Control	64	-.478	-.569
Style of the informative text	Experimental	64	-.030	-.356
	Control	64	.200	-.546
Total score for the narrative texts	Experimental	64	.426	-.335
	Control	64	-.328	.029
Form of the narrative text	Experimental	64	-.455	-.299
	Control	64	-.533	.004
Content of the narrative text	Experimental	64	.466	-.479
	Control	64	-.081	-.773
Style of the narrative text	Experimental	64	-.164	-.814
	Control	64	.000	.002

Table 3

Skewness Kurtosis Coefficients of the Post-Test Results of the Experimental and Control Groups

	Group	N	Skewness	Kurtosis
Total score for the informative texts	Experimental	64	-.651	-.040
	Control	64	-.255	-.410
Form of the informative text	Experimental	64	-.336	-.624
	Control	64	-.588	-001
Content of the informative text	Experimental	64	-.478	-.569
	Control	64	-.158	-.293
Style of the informative text	Experimental	64	.200	-.546
	Control	64	-.044	-.057
Total score for the narrative texts	Experimental	64	-.328	.029
	Control	64	.126	-.096
Form of the narrative text	Experimental	64	-.533	.004
	Control	64	-.450	-.191
Content of the narrative text	Experimental	64	-.081	.773
	Control	64	.314	.410
Style of the narrative text	Experimental	64	.000	.002
	Control	64	-.015	-.581

Given that the skewness kurtosis coefficients are between -1 and +1, it is possible to state that the data has a normal distribution (Huck, 2012). As the skewness and kurtosis coefficients are close to zero, it can be argued that the data distribution approaches normality. The data from the pre- and post-test period show that the results are in the range between -1 and +1. In order to reveal any difference between the experimental and control groups, the independent samples t-test was employed. The dependent samples t-test was used to determine whether there was a statistically significant difference between the pre-test and post-test scores of the experimental and control groups in terms of in-group patterns. The Cohen d was calculated to determine the effect size of this difference. As stated above, the Kendal's W coefficient of the agreement was used to calculate inter-rater reliability. For the pre-test it was found to be .937, and fort he post-test it was found to be .956.

Ethical Considerations

In this study, all rules stated to be followed within the scope of the"Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. None of the actions stated under the title "Actions Against Scientific Research and Publication Ethics", which is the second part of the directive, were not taken.

Ethical review board name: Akdeniz University Rectorate Social and Human Sciences Scientific Research and Publication Ethics Committee

Date of ethics review decision: 20.12.2022

Ethics assessment document issue number: 2022/491

RESULTS

The data obtained from the pre-test showed that there was no significant difference in the 95% confidence interval between the scores of the students in the two groups. This is also true for the two types of text and the three sub-dimensions of summarization (form, content, and style) (Table 5). The results of the post-test indicate that there is a significant difference between the scores of the students in the dimensions of total score in informative text, form in informative text, total score in narrative text and form in the narrative text (Table 6). In addition, the pre-test and post-test mean scores and standard deviations of the groups are given in Table 5.

Table 4

Mean and Standard Deviation

			Ön test		**Son test**	
	Group	N	Mean	Sd	Mean	Sd
Total score for the informative texts	Experimental	64	26.2031	3.04558	28.1563	2.19826
	Control	64	26.9375	3.26538	27.0000	3.13708
Form of the informative text	Experimental	64	7.1406	1.20669	7.2344	1.17841
	Control	64	7.4219	1.10991	7.3438	1.15770
Content of the informative text	Experimental	64	14.2344	2.59879	16.1406	1.82459
	Control	64	14.7344	3.13831	14.8438	2.66797
Style of the informative text	Experimental	64	4.8281	.70271	4.7813	.76571
	Control	64	4.7813	.62915	4.8125	.55990

Total score for the narrative texts	Experimental	64	26.2500	3.50962	28.8594	2.17392
	Control	64	27.4375	3.38003	27.6094	3.23482
Form of the narrative text	Experimental	64	7.4688	1.11225	7.4375	1.06719
	Control	64	7.5625	.99003	7.5781	1.02050
Content of the narrative text	Experimental	64	13.8750	2.89224	16.4219	1.92564
	Control	64	14.8750	3.13961	15.0156	2.60946
Style of the narrative text	Experimental	64	4.9063	.83035	5.0000	.73463
	Control	64	5.0000	.59094	5.0156	.65446

When the pre-test results of the students in the experimental and control groups were examined, it was found that the data had a normal distribution. Therefore, the independent groups' t-test was employed to determine whether there was a significant difference between the pre-test results of the experimental and control groups. The results of the test are shown in Table 5.

Table 5

Pre-test Independent Groups t-test Results of the Experimental-Control Groups

	t	*p*
Total score for the informative texts	-1.316	.191
Form of the informative text	-1.372	.172
Content of the informative text	-.982	.328
Style of the informative text	.398	.692
Total score for the narrative texts	-1.950	.053
Form of the narrative text	-.504	.615
Content of the narrative text	-1.944	.054
Style of the narrative text	-.736	.463

As can be seen in Table 5 the scores of the groups did not significantly differ for the following dimensions: total score for informative texts (t (126) = -1.316, p=0. 191), form of the informative texts (t (126) = -1.372, p=0.172), content of the informative texts (t (126) = -.982, p=0.328), style of the informative texts (t (126) = .398, p=0.692), total score for narrative texts (t (126) = -1,950, p=0. 053), form of the narrative texts (t (126) = -,504, p=0.615), content of the narrative texts (t (126) = -1.944, p=0.054) and style of the narrative texts (t (126) = -.736, p=0. 463). These findings show that there is no significant difference between the summarization scores of the two groups at the pre-test stage.

When the post-test results of the students in the experimental and control groups were examined, it was found that the data had a normal distribution. Therefore, the independent groups t-test was employed to determine whether there was a significant difference between the post-test results of the experimental and control groups. The results of the test are shown in Table 6.

Table 6

Post-test Independent Groups t-test Results of the Experimental-Control Groups

	t	*p*	Cohen *d*
Total score for the informative texts	2.415	.017	0.426
Form of the informative text	-.530	.597	-
Content of the informative text	3.210	.002	0.567
Style of the informative text	-.264	.793	-
Total score for the narrative texts	2.566	.011	0.453
Form of the narrative text	-.762	.448	-
Content of the narrative text	3.469	.001	0.613
Style of the narrative text	-.127	.899	-

Table 6 shows that in the following dimensions the experimental group had significantly higher scores: total score for informative texts (t (126) = 2.415, p=0.017), content of the informative texts (t (126) = 3.210, p=0.002), total score for narrative texts (t (126) = 2.566, p=0. 011) and content of the narrative texts (t (126) = 3.469, p=0. 001). However, the scores of the groups are found not to differ significantly in the following dimensions: the form of the informative texts (t (126) = -.530, p=0.597), style of the informative texts (t (126) = -.264, p=0.793), the form of the narrative texts (t (126) = -.762, p=0. 448) and style of the narrative texts (t (126) = -.127, p=0.899). The effect sizes were identified for the dimensions that were found to significantly differ between the groups. A weak effect size was found for the following: total score for the informative texts (0.426) and total score for the narrative texts (0.453. A medium effect size was found for the dimensions of the content of the informative text (0.567) and the content of the narrative text (0.613) (Cohen, 1988).

Table 7

Pre- and Post-Test Dependent Sample t-test Results of the Experimental Group

	t	*p*	Cohen *d*
Total score for the informative texts	-4.938	.000	0.632
Form of the informative text	-.800	.427	-
Content of the informative text	-5.221	.000	0.666
Style of the informative text	.536	.594	-
Total score for the narrative texts	-6.161	.000	0.814
Form of the narrative text	.306	.760	-
Content of the narrative text	-6.517	.000	0.838
Style of the narrative text	-1.000	.321	-

As can be seen in Table 7, the significant in-group differences in the experimental group are seen in the following: total score for the informative texts (t (126) = -4.938, p=0. 000), content of the informative text (t (126) = -5.221, p=0.000), total score for the narrative texts (t (126) = -6.161, p=0.000) and content of the narrative text (t (63) = -6.517, p=0.000). However, there was no significant difference

for the following dimensions: the form of the informative text (t (126) = -.800, p=0.427), style of the informative text (t (126) = .536, p=0.594), the form of the narrative text (t (126) = .306, p=0.760) and the style of the narrative text (t (126) =-1.000, p=0.321). For the dimensions which were found to significantly differ between the groups, the effect sizes were identified. There was a medium effect size for the total score for the informative texts (0.632) and content of the informative text (0.666). A strong effect size was found for the total score for the narrative text (0.814) and the content of the narrative text (0.838) (Cohen, 1988).

Table 8

Pre- and Post-Test Dependent Sample t-test Results of the Control Group

	t	***p***
Total score for the informative texts	-.201	.681
Form of the informative text	.671	.841
Content of the informative text	-.353	.504
Style of the informative text	-.341	.725
Total score for the narrative texts	.413	.735
Form of the narrative text	-.151	.721
Content of the narrative text	-.359	.880
Style of the narrative text	-.163	.871

Table 8 indicates that the control group do not have any difference in terms of the pre- and post-test scores in relation to the following: total score for the informative texts (t (63) = -.201, p=0.681), the form of the informative text (t (126) = .671, p=0.841), content of the informative text (t (126) = -.353, p=0.504), style of the informative text (t (126) = -.341, p=0.725), total score for the narrative texts (t (126) = .413, p=0.735), the form of the narrative text (t (126) = -.151, p=0.721), thecontent of the narrative text (t (126) = -.359, p=0.880), and style of the narrative text (t (126) = -.163, p=0.871). These findings show that there is no significant difference between the summation levels of the control group at the pre-test and post-test periods.

Table 9

Pretest and Posttest Dependent Sample t-test Results of the Experimental and Control Groups by Text Type

	Experimental group				**Control group**			
	Pret-test		**Post-test**		**Pret-test**		**Post-test**	
	t	*p*	t	*p*	t	*p*	t	*p*
Total score for the informative-narrative texts	-.101	.916	2.598	.012	-1.786	.079	-1.718	.091

In order to determine how the intervention made during the study differs based to the text type, the dependent sample t-test was employed, and the results are shown in Table 9. Table 9 indicates that there was no difference in the pre-test results of the experimental group based on the

text type (t (63) = -.101, p=0.916), but in the post-test results a significant difference was found in favor of the narrative text for the experimental group (t (63) = 2.598, p=0.012). In addition, there was no difference between the pre-test (t (63) = -1786, p=0.079) and post-test (t (63) =-1.718, p=0.091) summarization scores of the control group based on the text type.

DISCUSSION

The goal of this study is to look at how adding digital modes to printed texts makes multimodal texts and how that affects how well students can sum up what they read. Unlike previous studies, multimodal texts that combine physical and digital modes were preferred by using augmented reality technology instead of printed or digital multimodal texts. In the pre-test phase of the study, the experimental and control groups read and summarized the multimodal texts consisting of text and visuals in the printed textbooks. The results showed that there was no significant difference between the summarization scores of the two groups. When the post-test results were examined, it was found that there was a significant difference in favor of the experimental group in the total scores and content scores of the informative and narrative texts. On the other hand, it was found that the scores for the dimensions of the form in the informative text, the style in the informative text, form in the narrative text, and the style in the narrative text did not differ significantly between the groups. Also, the size of the effect was looked at for the dimensions that were found to be different in a significant way. A weak effect size was found for the total scores of informative and narrative texts, and a moderate effect size in the content scores of informative and narrative texts. When the results are evaluated in general, it is seen that students who read digitally supported multimodal print texts have higher summarization scores than students who read only print multimodal texts. Previous studies have also reported that these texts support the text comprehension of the students (Çetinkaya Özdemir & Akyol, 2021; Danaei et al., 2020; Tobar-Munoz et al., 2017). It is also found that the audio and video support provided in multimodal texts can contribute to student understanding (Cahyaningati & Lestari, 2018).

When the findings are analyzed, it is seen that there is no difference between the groups in terms of the form and style of both text types. The categories of form included"paper layout, number of paragraphs and grammar, punctuation, spelling errors". It is acceptable that the intervention does not have any impact on these topics. Because adding a digital mode to the text cannot be expected to affect the paper layout in the summaries written by the students. In addition, it is found that there is no significant difference in the stylistic dimension, which includes the headings of "use of tense suffixes, direct quotation or imitation". It was valid for both informative text and narrative text. In short, the findings did not differ by text type.

The current results show that multimodal texts prepared by adding digital modes to printed texts support summarization skills regardless of text type. In addition, it is found that the intervention made in the content dimension, which is the sub-dimension of summarizing and covers the titles of "meaning integrity, introductory sentence, plot, side thoughts, about details, use of keywords, a main idea", produced positive results. When the effect size of both text types in the content dimension is calculated in the pretest-posttest results of the experimental group, it is seen that there is a strong effect size. Therefore, it can be stated that the multimodal texts used in the study support comprehension, **as evidenced by** the increase in the scores which are related to the understanding of the text. Indeed, there is evidence that multimedia content supports the comprehension of texts (Kao et al., 2016). This situation can be explained by the activation of multiple senses with the digital mode

added to the printed text. Therefore, the text supported by audio and visual elements appeals to both reading and listening/watching skills. In some studies, it is reported that students who listen to the same text understand better than students who read it (Çetin, 2019; Çetin & Bulut, 2020; Yıldırım, Yıldız, Ateş & Rasinski, 2010). Based on these findings, it is possible to argue that listening skills may have supported the text comprehension.

Adding a digital mode to the printed texts may have contributed to the concretization of the elements in the text, thus supporting the student's understanding. In this context, considering the summaries written in the pre-test phase based on the Küçük Yunus text, it was found that some students explained the death of the dolphin by hitting a barrel. However, in the text, the main idea is about the chemical waste, and it is aimed to explain that the dolphin died due to- waste in the sea. Therefore, it can be stated that the students had difficulty in finding the main idea. In different studies, similar findings are reported arguing that students have difficulty finding the main idea of the texts (Kudret & Baydik, 2016). In order to reach the main idea, the text must first be understood and assimilated, and if it is implicitly given, the main idea should be understood from the details (Uysal & Pala, 2022; Yazıcı Okuyan & Gedikoğlu, 2011). It is found that a significant part of the students in the experimental group who misunderstood the message became more successful in the post-test phase. It is thought that the reason for this is the video support that highlights the sea pollution which is integrated into the text. Similarly, Boshrabadi and Biria (2014), who conducted-research on multimodal texts, stated that videos provide readers with an overview and background information about the content of the text. Therefore, all modes work together to reveal the meaning of the text to the readers (Svärdemo Åberg & Åkerfeldt, 2017) and contribute to the understanding process.

When the results are considered in the context of the text type, it is seen that there is no difference between the informative and narrative text types in the in-group pre-test evaluations. In addition, the post-test results of the control group also show that there is no difference between the summarization scores depending on the text type. Similar findings were also reported by Çetin (2019) who conducted a study on a sample of the 8th-gradestudents. However, the general agreement in the related studies is that the type of text affects the ability to summarize (Dilidüzgün, 2013). In some of the studies conducted with different sample groups, informative texts came to the fore (Karatay & Okur, 2012; Okur, 2011), while in others, narrative texts (Bulut, 2013) came to the fore. As a result of the intervention carried out in this study, a significant difference was found in favor of the narrative text summarization scores of the experimental group. Therefore, it can be said that although digitally supported multimodal print texts contribute to the students' summarizing scores for the informative texts, they contribute more to the summarizing of the narrative texts.

CONCLUSION and RECOMMENDATIONS

This study was done to find out how adding digital modes to printed texts makes multimodal texts and how that affects how well students can summarize. When the sub-dimensions of summarization were examined, it was seen that the intervention supported students in total and content scores, while it did not make a difference in form and style scores. Also, the developed texts helped students summarize both informative and narrative texts. However, they helped them more with narrative texts. So, it's best to do similar studies with large samples to make sure that the results can be applied to a wide range of situations. These studies should look at how developing texts using different digital modes affects the ability to summarize printed texts, collect in-depth qualitative data

to find out why multimodal texts are helpful, and add these texts to textbooks to help students learn how to summarize.

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