

# Effect of Digital Writing Workshop Activities on Writing Motivation and Development of Story Writing Skills\*

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## Abstract

The aim of this study is to determine the effect of digital writing workshop activities on fourth grade primary students' story writing skills and writing motivation. The study was carried out in Ankara province during the 2017-2018 academic year. A true experimental design, one of the quantitative research methods, was used in the study. The study group of the research consisted of a total of 30 students (15 in the experimental group and 15 in the control group) studying in the fourth grade of primary school. The Motivation to Write Scale, the Story Elements Evaluation Scale, and the 6+1 Analytical Writing and Evaluation Scale were used as data collection tools for the study. The experimental implementation process lasted 14 weeks. During the implementation, students were asked to write stories using a different digital platform at each stage of the writing process. In the study, t-test for independent groups and ANOVA test were used for the data analysis. The SPSS software program was used for analysis of the data. The findings obtained in the study reveal that with regard to the use of story elements by students who participated in the digital writing workshop implementation and in the dimensions of ideas, organisation, word choice, sentence fluency and spelling in their stories, there was a significant difference in favour of the experimental group. This situation reveals that the digital writing workshop implementation was effective for the improvement of the students' story writing skills. However, it was determined that there was a significant decrease in the writing motivation scores of the experimental group students who participated in the digital writing workshop, whereas there was no significant change in the writing motivation scores of the students in the control group. This situation reveals that, contrary to expectations, the digital writing workshop activities decreased the students' writing motivation.

**Key words:** Digital Writing Workshop, Story Writing Skills, Writing Motivation, Primary School Students

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## INTRODUCTION

Throughout their lives, there are two main aims of people's modes of communication and linguistic activities. One of these is to understand the message given in material that is read or listened to; the other is to convey what is seen and heard to another party as clearly and understandably as possible (Temizkan & Sallabaş, 2009). In order to carry out these aims, individuals need to possess the four basic language skills. However, each individual's interest, wishes and attitudes towards the writing skill, which is very important for individuals' mutual communication and social life, is not the same. Certain variables, such as education received, family environment, and personal characteristics are effective in the emergence of this difference related to writing (Göçer, 2014a).

Writing skill is considered important from two aspects, namely as writer-based and reader-based (Göçer, 2014b). Writing skill is an important skill that needs to be acquired and developed by an individual; for the writer, in terms of sharing what appears in his mind following the things he has read, observed and experienced; and for the reader, in terms of being nourished, having his imagination shaped, and having his life philosophy formed by what he has read.

In learning and developing writing skill, an individual's writing motivation is important. A student's characteristics such as his wish to write, positive attitude towards writing, and effort for producing a good piece of writing are important for his motivation to write. For development of writing motivation, situations such as stimulating students' interest and willingness towards writing, enabling students to have many writing experiences during the process of acquiring the writing habit, and providing students with adequate feedback are important (Karatay, 2014, p.23).

Situations such as problems and negative conditions experienced by students in the writing process, writing processes in which students are not active, and not providing adequate feedback lead to students developing a negative attitude towards writing and a decrease in their writing motivation. In such circumstances, the student is unwilling to write and perceives writing as a difficult skill (Eryaman, 2008). Boscolo & Gelati (2007) reported that students' willingness to write was generally on the decline and that writing exercises were mostly perceived by students as boring, monotonous and difficult. The main reason why writing motivation was not at the desired level can be considered to be because the writing exercises did not attract the students' interest.

Considering that today's children grow up in the digital age, traditional writing methods do not attract children's interest. Today's students, who are called digital natives, grow up using digital media tools like the internet, computers and mobile phones, and have a different way of learning and processing information than the learning styles of their teachers, who mostly grew up in environments where printed resources were used. It is important to know the characteristics of people who learn as digital natives in order to offer them a more effective learning environment. For an effective learning environment, it is necessary to be familiar with the role of technology in students' and teachers' everyday lives (Bilgiç, Duman & Seferoğlu, 2011).

For digital natives, it can be said that speed, visuality and entertainment are important when they are accessing information. At the stage of accessing the desired information, it is observed that digital natives wish to access it rapidly, that there should be visual items, and that its content should include entertaining elements (Karabulut, 2015, p.17). The teaching of writing for these children is approached within the scope of new literacy theory.

New literacy is generally defined as all of the research made for discovering literacy practices created by digital technologies such as blogs, messaging systems, social networks and continually developing technologies (Lankshear & Knobel, 2006; Leu, Leu & Coiro, 2004). New literacy, which is especially important for education, requires certain skills for interpreting information acquired from the internet and other communication technologies (Kiili, Laurinen and Marttunen, 2008; Lankshear & Knobel, 2006).

According to the theory of new literacy, the skills that individuals need to possess are listed as follows:

1. *The new literacies include new skills, strategies, habits and social experiences required by modern information-communication technologies:* Kulikowich (2008, p.179) stated that the new literacies expect students to exhibit a series of processes and performances in order to solve a problem or complete an assignment. According to Leu, Kinzer, Coiro and Cammack (2004), individuals, groups and societies can be successful in the future if they can define the most important problems in the 21st century, access useful information as quickly as possible, evaluate information in the most effective way, synthesise information in the most suitable way while developing the best solutions, and transmitting these solutions to other individuals as clearly as possible.
2. *The new literacies are located at the urban, economic and personal involvement centres in globalising societies:* By force of the new literacies in adaptation to the digital world, Bennett, Matton and Kervin (2008) gave the name “digital natives” to the people of this era. They stated that digital natives possess multidirectional knowledge and skills related to information technologies and that as a result of their growth and experiences together with technology, they possess different learning styles to students of other generations.
3. *The new literacies change as the technologies that define them change:* The fact that visuality has come to the fore in literacy indicates a period in which, as Leu and Kinzer (2000) state, literacy has now changed in accordance with the context of technology.
4. *The new literacies are multidirectional and in order to understand them, need to be regarded in a multidirectional way:* The studies conducted with regard to literacies reveal that new literacy not only evaluates printed texts, but can also evaluate digital material with the new perspectives of the information and communication technologies. According to Teale, Leu, Labbo and Kinzer (2002), the new literacies include word-processor literacy, e-mail literacy and internet literacy.

The new literacies have led to digital writing processes gaining in importance in addition to the traditional writing processes. Digital writing is defined as compositions created to be read or displayed on a computer or other device connected to the internet (National Writing Project, 2010, p.7). Just as digital writing affects our ways of thinking and communication, it also affects our thinking with regard to what writing is and how it is written. The act of writing in digital environments cannot be discussed only in terms of sentences and paragraphs. Since these environments have a multiple structure made up of visual components such as sound, video and graphics, they exhibit a very different structure to that of paper-based writing (Grabill, 2005).

As well as qualities such as increasing students’ interest in lessons and developing their communication skills, digital writing applications surpass traditional writing skills and enable many of the 21st century literacy skills to be put into effect (Gakhar & Thompson, 2007; Robin, 2006; Sylvester & Greenidge, 2010; Verdugo & Belmonte, 2007). Besides these skills, digital writing applications are effective methods for improving writing skills, which are one of the basic language skills (Bogard & McMackin, 2012; Borneman & Gibson, 2011; Daigle, 2008; Dogan, 2007; Gakhar & Thompson, 2007; Gregory & Steelman, 2009; Jonassen, 2003; Kajder, 2004; Kulla-Abbott, 2006; Kulla-Abbott & Polman, 2008; Royer & Richards, 2008; Sylvester & Greenidge, 2010).

The digital writing workshop, which is included among the digital writing applications, combines the new literacies and digital writing tools in teaching the writing process (Hicks, 2009). The digital writing workshop includes the stages of pre-writing preparation, collaborative writing and peer correction, and publication. At the pre-writing preparation stage, it is seen that by doing mini-lessons, students’ participation in pre-writing activities improves their writing quality (Cunningham & Cunningham, 2010). Also at this stage, the student does research related to the subject he is to write

about. At the collaborative writing and peer correction stage, students create a product in a group and give each other feedback during their activities. However, giving feedback in digital environments is different from face-to-face communication, and it takes a lot more time for answers offered in these environments to generate feedback. There are various methods that teachers, students and even people outside class can use to provide feedback in the form of publishing, tagging and commenting. Various tools used in the digital writing workshop make it possible for students to write together in writing domains (Johnson, 2014). At the publication stage, students share the work that they have prepared in domains, such as class blogs, wikis and podcasts, with the reader on digital platforms.

In studies carried out on the subject of digital writing (Serkan & Kılıçkiran, 2018; Yamaç, 2015; Baki, 2015; Foley, 2013; Campbell, 2012), it is seen that digital applications developed students' writing skills, enabled them to produce better-quality texts, and contributed to the development of their new literacy skills. In her study, Toney (2017) examined third grade students' practices in creating a multimodal text in a digital writing workshop. In the study, it was concluded that the digital compositions created by the students were of good quality and that they found favour in communicating their multimodal texts. It was seen that in their independent writing activities, they used multimodal text items in their writing. In their study, Eubanks, Yeh and Tseng (2017) examined the effect of a 21st century writing workshop implementation on second grade primary students' Chinese writing skill and attitude towards writing. As a result of the study, it was concluded that fears towards writing decreased in students who used iPads in the writing workshop. Furthermore, it was stated that following the writing workshop implementation, students' attitudes towards writing and their writing skills improved. Rheault (2015) investigated how a blog writing and digital writing workshop affected students' real/authentic writing experiences. As a result of the study, it was determined that the interactive writing activities increased students' willingness to write and developed their writing performances.

It is seen that studies related to digital writing workshops have generally been made abroad and that research into this subject is lacking in our country. Moreover, in the studies that have been made, the writing motivation dimension is not given enough attention. In this respect, there is a need to examine how digital writing workshops contribute to the development of primary students' writing skills and affect their writing motivation in our country.

### **Aim of the Study**

In this study, the effect of digital writing workshop activities on fourth grade primary students' writing motivation and story-writing skills is investigated. In line with this main aim, answers were sought to the following questions:

1. Is there a significant difference in the story-writing scores of the experimental group subjected to the digital writing workshop application and those of the control group receiving lessons in line with the curriculum according to the joint effect of the group-measurement factors?
2. Is there a significant difference in the writing motivation scores of the experimental group subjected to the digital writing workshop application and those of the control group receiving lessons in line with the curriculum according to the joint effect of the group-measurement factors?

## METHODOLOGY

### Research Model

A true experimental design, one of the quantitative research methods, was used in the study. In this experimental design, the process was designed according to the “pretest/posttest model with control group”. In the study, with the aim of determining the students’ motivation to write, the “Motivation to Write Profile” scale was applied at the start of the process as a pretest. At the same time, to determine their levels in relation to story writing, students were asked to write stories related to the subjects given. A period of one lesson hour was given to each group for each application. A 14-week experimental application process was begun with the students in the experimental group based on the digital writing workshop activities. On completion of the process, posttests were applied to both the experimental group and the control group.

### Study Group

The study group consisted of a total of 30 students attending the fourth grade of a private school in Ankara province during the 2017-2018 academic year. In selecting the school for the implementation, attention was paid to transport facilities, a continually available internet connection and a laboratory or classroom having an adequate number of computers. At the same time, care was taken to ensure that the students who were to take part in the study also possessed technological tools (computer, tablet, etc.) for conducting the research process outside school. The fourth-grade students were required to write stories about the determined subjects. After the stories had been written, students displaying similar characteristics according to the data obtained were assigned randomly to the experimental and control groups. Next, to determine whether or not the groups showed normal distribution, a normality test was performed. As a result of the normality test, it was concluded that the groups showed normal distribution.

Following the analysis, it was seen that there was no difference in pretest scores for story writing and writing motivation between students in the experimental group and those in the control group.

**Table 1. Mean and Standard Deviation Values Related to Pretest Scores in Story Writing and Writing Motivation of Students in Experimental and Control Groups**

	Group	n	X	Sd
Story Components Pretest	Experimental	15	6.93	2.4
	Control	15	7.53	2.3
6+1 Analytical Writing Pretest	Experimental	15	17.9	5.6
	Control	15	18.6	5.2
Writing Motivation Pretest	Experimental	15	56.5	4.1
	Control	15	55.5	6.3

When Table 1 is examined, it is seen that pretest scores of each group were similar to each other. It can be said that the groups were balanced.

The distribution according to gender of students in the experimental and control groups included in the study group of the research is shown in Table 2 below.

**Table 2. Data Related to Study Group**

Groups	Female		Male		Total
	f	%	f	%	
Experimental Group	7	46.6	8	53.3	15
Control Group	8	53.3	7	46.6	15
Total	15	50	15	50	30

When Table 2 is examined, it is seen that the experimental and control groups each consisted of 15 students. In the experimental group, 46.6% of students were girls and 53.3% were boys, while in the control group, 53.3% of students were girls and 46.6% were boys. When the study group of the research is seen, it can be said that gender distribution was normal, and that the two groups were similar to each other in this respect.

### **Data Collection Tools**

The Motivation to Write Profile (Motivation to Write Scale), the 6+1 Analytical Writing and Evaluation Scale, and the Story Elements Evaluation Scale were used as data collection tools in the study.

#### **Motivation to Write Profile (Motivation to Write Scale)**

Developed by Codling and Gambrell (1997) the scale was designed to assess writing motivation of students from 2<sup>nd</sup> grade up to 6<sup>th</sup> grade. It consists of two sections. The first part was designed under the heading of “*scale for determining writing task value and writing self-concept*”, while the second part consists of face-to-face interviews. The scale is made up of a 14-item “writing task value” factor and a 12-item “writing self-concept” factor. The writing task value dimension is divided into three sub-groups, namely narrative writing (3 questions), expository writing (3 questions) and general writing (8 questions). The writing self-concept dimension is similarly divided into three sub-groups, namely narrative writing (4 questions), expository writing (4 questions) and general writing (4 questions). The scale items are arranged as four-response Likert-type questions. Total scores are calculated by scoring the options for items with positively oriented questions from positive to negative as “4-3-2-1”, and by scoring the options for items having negatively oriented questions in the opposite direction.

The study for adapting the Motivation to Write Scale into Turkish was conducted by the researcher in 2018. 230 students attending fourth grade of primary school took part in the adaptation study. The validity and reliability studies were conducted in line with the students’ answers. To determine the construct validity of the Motivation to Write Scale, confirmatory factor analysis (CFA) was performed. The confirmatory factor analysis was carried out with the AMOS (Analysis of Moment Structures) software. As a result of the CFA of the scale, it was determined that the correlation coefficient calculated for the observed variables (items) of the factors (writing task value, writer self-efficacy) ranged between .23 and .75 and that this was significant. Values of RMSEA= .07, RMR= .05, GFI= .83 and CFI= .81 were found. Considering the values obtained as a result of the CFA, it is seen that the fit values of the model were at acceptable levels.

#### **6+1 Analytic Writing and Evaluation Scale**

Developed as the 6+1 Analytic Writing and Evaluation Model by Education Northwest (2006), the scale was adapted to Turkish by Özkara (2007). In the scale, the characteristics necessary for a good-quality piece of writing are given under 7 headings. The headings included in the scale are ideas, organisation, wording, word choice, sentence fluency, spelling and presentation. The pieces of writing produced by the students were evaluated and scored as 5, 3 and 1 by two researchers by considering the criteria for the characteristics found in the 6+1 Analytic Writing and Evaluation Scale. According to the scale, the maximum score that can be obtained from a story is 35.

#### **Story Elements Evaluation Scale**

The Story Elements Evaluation Scale was developed by Harris and Graham (1996) and adapted to Turkish by Coşkun (2005). In the scale, 8 components that make up a story (main character,

location, time, initiating event, aim, approach, conclusion and reaction) are rated with certain score intervals. According to the scale, the maximum score that can be obtained from a story is 19.

### **Data Analysis**

In the analysis of the research data, arithmetic means, frequencies, percentages, standard deviation, and t-test were used. The data obtained in the study were analysed by using SPSS 20.0 statistical software. In the hypotheses and questions related to the study, .05 was set as the level of significance. At the stage of determining group equivalence in the study, t-test was used, and to determine whether or not there were significant differences in story-writing scores according to groups, ANOVA for repeated measures was used.

### **Experimental Research Implementation Process**

During the implementation of the research, within the scope of the digital writing platform application, each stage of the writing process (preparation, planning, creating a draft, review, redaction and publication) was carried out using a digital platform. Before beginning the implementation, information about the study was given to the students in the experimental group. The digital platforms used in the study were chosen by taking the stages of the writing process into consideration. The implementation of the experimental design was devised in two stages under the headings of planning and application.

#### **Planning**

At the planning stage of the research, the following activities were carried out:

- Parental notification
- Determination of experimental and control groups
- Determination of study plan
- Identification of digital platforms to be used in the implementation

Before the student groups were determined, parents of the fourth grade students were informed about the implementation by giving a presentation. After the notification was given to parents, their children were handed out a petition form to ask them whether or not they wished to take part in the research. All parents signed the petition form.

While the experimental and control groups were being determined, all of the fourth grade students (32 persons) were given 4 topics and asked to write stories. The stories written by the students were assessed according to two different scales and the scores were transferred to the SPSS 20.0 software program. As a result of the t-test that was made, the two groups were formed in such a way that there were no differences between them.

The period determined for implementation of the experimental design was planned as 4 lesson hours per week over a 14-week period. During the 4-lesson-hour period applied each week, the lessons were designed as one lesson hour allocated to giving information on the subject of how the story should be written, and the next two lesson hours for students to do practice on digital platforms. The final lesson hour was designated as the group hour, and would be carried out on the basis of students exchanging ideas with their friends in the group about the work they had done and giving each other feedback.

The operation of the writing process was planned as specified in the table below:

**Table 3.Applications Used During Writing Process**

Stage of Writing Process	Application Used	Operation
Preparation	Spider Scribe	Students individually create a mind map related to the topic they have chosen.
Creating a draft	Edmodo	In the virtual classroom they belong to, students share the drafts of the stories they have written with their friends in the group.
Review	Story Jumper	In line with the feedback they have received, students make additions to their stories and write them up.
Redaction	Wikispaces	Students make the final revisions of their stories on their own pages.
Publication	Emaze	Students make the final versions of their stories into a presentation and share them.

### Implementation

At the implementation stage of the research, the following activities were carried out:

- Implementation process
- Teaching story writing skills/operation of the lesson (example lesson plan)
- Completion of the experimental study

Before beginning the experimental study, a story writing form prepared by the researcher was distributed to students in the experimental and control groups. By reading the story writing topics included in the form, the students were asked to write stories about a topic they had selected over a 60-minute period. At a different time, the “Motivation to Write Scale” was also applied to the students. The scores that the students obtained from their stories and the scale were recorded as “*pretest scores*”. During the implementation, the lessons for the experimental group were conducted on the basis of the digital writing workshop application, while the lessons in the control group were taught by the classroom teacher according to the primary school Turkish curriculum. After the experimental study was completed, the story writing form distributed in the pretest was again handed out to the fourth grade primary students in the experimental and control groups. As in the pretest, students again wrote stories in the posttest about a topic included in the form or about any topic they wished. After a certain time, the students responded to the Motivation to Write Scale. In the posttest, students were again each given a period of 60 minutes in which to write their stories. The scores that the students obtained from their stories and the scale were recorded as “*posttest scores*”.

## FINDINGS

The mean scores ( ) and standard deviations (Sd) of students in the experimental and control groups related to the results they obtained in the pretest and posttest for story writing and in the Motivation to Write Scale are included in Table 4.

**Table 4.Descriptive Statistical Results Related to Pretest and Posttest Scores for Story Writing and Writing Motivation**

	Group	N	X	Sd
Story Elements Pretest	Experimental	15	6.9	2.4
	Control	15	7.5	2.3
6+1 Analytic Writing Pretest	Experimental	15	17.9	5.6
	Control	15	18.6	5.2
Writing Motivation Pretest	Experimental	15	56.5	4.1
	Control	15	55.5	6.3
Story Elements Son Posttest	Experimental	15	12.5	3.7
	Control	15	7.6	2.5

6+1 Analytic Writing Posttest	Experimental	15	27.2	6.1
	Control	15	18.2	7.1
Writing Motivation Posttest	Experimental	15	54.5	5.6
	Control	15	55.4	5.2

When Table 4 is examined, it can be understood that the story writing scores of students in the experimental group were higher for both scales in the posttest. However, it is seen that for writing motivation there was no increase in the posttest, and that writing motivation scores of students in the experimental group actually decreased.

### Findings Related to the First Research Question

Is there a significant difference in the story-writing scores of the experimental group subjected to the digital writing workshop application and those of the control group receiving lessons in line with the curriculum according to the joint effect of the group-measurement factors?

**Table 5.Independent Groups t-test for Story Writing Scores**

Group	N	$\bar{X}$	Ss	Sd	T	p
Pretest Experimental	15	24.8	1.93	28	-.479	.636
Pretest Control	15	26.13	1.79			

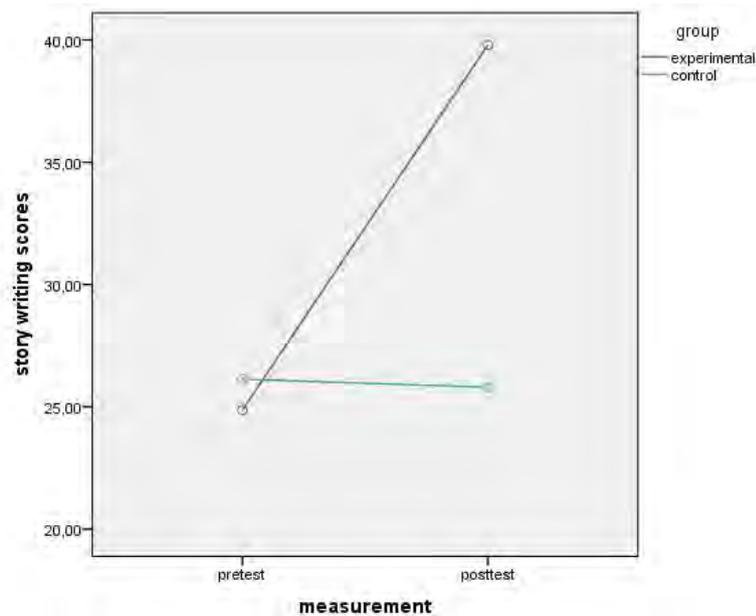
As can be seen in Table 5, no statistically significant difference could be found between pretest story writing scores according to groups ( $t_{(28)}=-.479$ ;  $p=.636$ ).

**Table 6.Two-Factor ANOVA Results for Repeated Measures Related to Pretest-Posttest Story Writing Scores of Experimental and Control Groups**

Source of Variance	KT	Sd	KO	F	p
Between Groups	3897.15	29			
Group (E/C)	608.01	1	608.01	5.17	.03
Error	3289.13	28	117.46		
Within Groups	2366.5	30			
Measure (Pretest-Posttest)	799.35	1	799.35	32.29	.00
Group* Measure	874.01	1	874.01	35.30	.00
Error	693.13	28	24.75		
Total	6263.65	59			

When Table 6 is examined, a statistically significant difference was found between story writing scores of the experimental and control groups [ $F_{(1-28)}= 5.17$ ,  $p<0.05$ ]. When the table is examined in terms of the scale time variable (pretest-posttest), a statistically significant difference was found between story writing scores [ $F_{(1-28)}= 32.29$ ,  $p<0.05$ ]. As can be understood from Table 6, when the table is examined with regard to the joint effect of the scale time (pretest-posttest) and group (experimental and control) variables, a statistically significant difference was found between story writing scores [ $F_{(1-28)}= 35.30$ ,  $p <0.05$ ].

The change in pretest-posttest story writing scores according to groups is shown in Figure 1.



**Figure 1. Graph showing change in story writing scores according to groups and scale time**

It is seen in the graph that in the pretest, story writing scores of the two groups were similar to each other, whereas in the posttest, story writing scores were higher in the experimental group. To understand whether or not the change in scores in the experimental and control groups was significant, t-test for dependent groups and t-test for independent groups were performed.

**Table 7. Dependent Groups t-test for Story Writing Skills Scores**

Group	$\bar{X}$	Ss	Sd	<i>t</i>	<i>p</i>
Pretest Experimental	24.86	1.93	14	-8.69	.000
Posttest Experimental	39.80	2.43	14		
Pretest Control	26.13	1.79	14	.174	.864
Posttest Control	25.80	2.45	14		

As can be seen in Table 7, a statistically significant difference was found between pretest and posttest scores in the experimental group ( $t_{(14)}=-8.69$ ;  $p=.000$ ). In the control group, however, a statistically significant difference could not be found between pretest and posttest scores ( $t_{(14)}=.174$ ;  $p=.864$ ). According to these results, it can be said that the experimental study applied to the experimental group had a positive effect on the students' story writing skills.

### Findings Related to the Second Research Question

Is there a significant difference in the writing motivation scores of the experimental group subjected to the digital writing workshop application and those of the control group receiving lessons in line with the curriculum according to the joint effect of the group-measurement factors?

**Table 8. Independent Groups t-test for Writing Motivation Scores**

Group	N	$\bar{X}$	Ss	Sd	<i>T</i>	<i>P</i>
Pretest Experimental	15	56.53	1.05	28	.57	.56
Pretest Control	15	55.40	1.64			

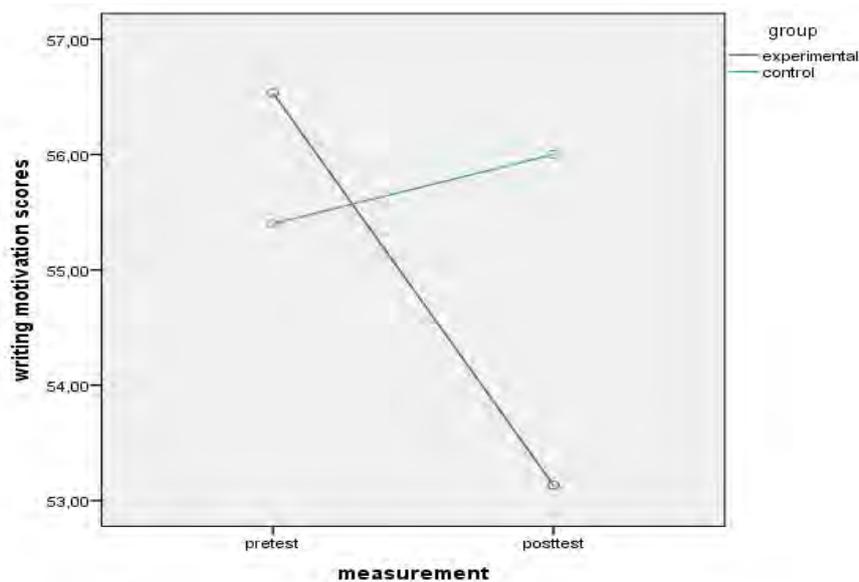
When Table 8 is examined, no statistically significant difference could be found between writing motivation scores according to groups ( $t_{(28)}=.57$ ;  $p=.56$ ).

**Table 9. Two-Factor ANOVA Results for Repeated Measures Related to Pretest-Posttest Writing Motivation Scores of Experimental and Control Groups**

Source of Variance	KT	Sd	KO	F	P
Between Groups	1249.73	29			
Group (E/C)	11.26	1	11.26	.25	.61
Error	1238.46	28	44.23		
Within Groups	374.00	30			
Measure (Pretest-Posttest)	29.40	1	29.40	2.89	.10
Group* Measure	60.00	1	60.00	5.90	.02
Error	284.60	28	10.16		
Total	1623.73	59			

When Table 9 is examined, a statistically significant difference could not be determined between writing motivation scores of the experimental and control groups [ $F_{(1-28)} = .25, p > 0.05$ ]. When the table is examined in terms of the scale time variable (pretest-posttest), a statistically significant difference could not be found between writing motivation scores [ $F_{(1-28)} = 2.89, p > 0.05$ ]. As can be understood from Table 9, when the table is examined with regard to the joint effect of the scale time (pretest-posttest) and group (experimental and control) variables, a statistically significant difference was found between writing motivation scores [ $F_{(1-28)} = 5.90, p < 0.05$ ].

The change in pretest-posttest writing motivation scores according to groups is shown in Figure 2.



**Figure 2. Graph showing change in writing motivation scores according to groups and scale time**

Although there was not a great difference between pretest writing motivation scores, it is seen that the posttest writing motivation scores in the control group emerged as higher, and that the writing motivation scores in the experimental group decreased. To understand whether or not the change in scores in the experimental and control groups was significant, t-test for dependent groups and t-test for independent groups were performed.

**Table 10. Dependent Groups t-test for Writing Motivation Scores**

Group	$\bar{X}$	Ss	Sd	$t$	$p$
Pretest Experimental	56.53	1.05	14	2.75	.01
Posttest Experimental	53.13	1.36	14		
Pretest Control	55.40	1.64	14	-.55	.59
Posttest Control	56.00	1.24	14		

As can be seen in Table 10, a statistically significant difference was found between pretest and posttest scores in the experimental group ( $t_{(14)}=2.75$ ;  $p=.01$ ). However, this difference is due to the fact that writing motivation scores in the experimental group decreased. In the control group, however, a statistically significant difference could not be found between pretest and posttest scores ( $t_{(14)}=-.55$ ;  $p=.59$ ). According to this situation, it can be said that the activities carried out during the experimental study did not have an effect on the students' writing motivation scores.

## CONCLUSION AND DISCUSSION

In the study, with the aim of determining how the digital writing workshop implementation affected story writing skills, the students' story writing performance was assessed twice, once at the beginning and once at the end of the process. The stories were evaluated in terms of the students' use of story elements and the quality of their stories. It was seen in the final assessment that the use of story elements in the students' stories had increased significantly. In terms of the students' writing quality, it was revealed that ideas, organisation, word selection, sentence fluency and spelling had all improved.

In story writing in the traditional way using a paper and pencil, the writer states everything textually. In stories written in interactive environments, however, the "writer" uses computer tools to create visual elements of an imaginative world (Carbonaro, Cutumisu, McNaughton, Onuczko, Roy, Schaeffer, Szafron, Gillis & Kratchmer, 2005). In this process, known as digital writing, texts appear which are created to be read or displayed on a computer or another device connected to the internet (National Writing Project, 2010, p.7). While making up stories in a digital environment, students create multimodal texts by combining multimedia components like writing, pictures and music (Grabill, 2005). In her digital writing workshop study conducted with third grade primary students, Toney (2017) concluded that digital writing workshops are an effective practice for creating multiform texts. The better the written text of a story created in a digital environment is, the better its form produced with digital applications will be. Therefore, for a good digital story created in a digital writing workshop, students first and foremost need to create good-quality written texts.

Other studies revealing that digital writing workshops and digital applications develop writing skills (Dayan & Girmen; 2018; Eubanks, Yeh & Tseng; 2017; Kulla-Abbott, 2006; Rheault, 2015; Toney, 2017; Yamaç, 2015; in, 2013; Zurcher, 2018) show *consistency* with the findings obtained in this study. According to Kulla-Abbott (2006), thanks to digital stories, students better understand the processes of reflection, organisation and feedback. In a study carried out by Xin (2013), it was determined that with digital stories, students experienced improvements in the total number of words, number of complete sentences and number of correct words in their writing. In Zurcher's (2018) writing workshop study carried out with preschool students, it was concluded that both the writing workshop and interactive writing were effective in developing students' basic writing skills. When the studies conducted in the literature are taken into consideration, thanks to students' creation of multiform texts, stories written in a digital environment enable them to create more comprehensive and detailed texts by developing the quality of their writing, the number of words and the story elements.

With the aim of determining how the digital writing workshop implementation affected their writing motivation, the students' writing motivation was assessed twice with the "Motivation to Write Scale", once at the beginning and once at the end of the process. It was revealed that the writing motivation of students who took part in the digital writing workshop activities decreased significantly.

It was determined that scores decreased for both the students' writing task value and writing self-concept, which expresses how they perceive themselves as a writer. For the students in the control group, however, it was concluded that there was no significant change in their writing motivation. While students were creating their first stories at the start of the process, the thought that they could work in a digital environment by adding multimedia items like pictures and music to their stories rather than activities in which they wrote stories using traditional paper and pencil, and that their digital stories would be seen in different environments via the internet, made them enthusiastic about the digital story creation process. However, it was seen that at the second and third story writing stages, the students had difficulty with the applications they were using and that their motivation decreased as the process advanced.

Digital tools selected in educational applications are important for students' participation in tasks and for their motivation. However attractive the features of digital tools might be, students may sometimes prefer not to use these tools. The theory of self-determination is defined as individuals' determination of their behaviour with their own personal beliefs and value judgements, rather than with external factors (social norms, group pressure, etc.), and as individuals' making their decisions by themselves (Budak, 2000). In other words, it means individuals' experiencing a feeling of choice in initiating and organising their own behaviour (Deci, Connell & Ryan, 1989). Certain elements of the theory of self-determination explain how a digital tool affects a student's participation in a task. In the self-determination theory, three basic psychological needs, named autonomy, competence and relatedness, are found.

Of the needs, autonomy is discussed as an individual's initiating his own actions and making his own choices (Andersen, 2000; Williams, Grow, Freedman, Ryan & Deci, 1996). The autonomy need enables a person to direct his activities himself (Reis, Sheldon, Gable, Roscoe & Ryan, 2000). When the autonomy need is considered in terms of the digital writing workshop, it is seen that the possibility for students to choose for themselves the technological applications they are to use will increase their motivation. In the study, however, since the digital applications that the students would use were different at each stage of the writing process, they were determined by the researcher, and the students had to write their stories by using the digital applications that were determined for them. In this process, other alternative digital applications were not offered to them. The applications which were selected by the researcher and which the students were obliged to use seemed not to attract the interest of some students, and caused some students to have difficulty while using them. If a task is very easy or very difficult, students cannot be motivated to be successful (Granito & Chernobilsky, 2012). Students are motivated when they become excited about a task or when they consider the task that they perform to be worthwhile (Linnenbrink & Pintrich, 2003). The fact that the digital applications *were not chosen* by the students limited the need for autonomy, which is important in terms of motivation. The situation led to a decrease in students' motivation. Previous studies (Bao & Lam, 2008; Ree, Nicks & Hamm, 2003) reveal that, irrespective of students' age, giving students the choice of the tasks they are to do and the tools they are to use increases their motivation.

According to self-determination theory, another need that affects students' motivation is competence. The competence need is a person's state of having control over his own life, ability to cope with his problems effectively, and possessing skills for being able to make changes to his behaviour and environment (Deci & Ryan, 1985). In other words, it is about feeling competent when coping with one's environment (Ingledeew, Markland & Sheppard, 2004). At the beginning of the digital writing workshop implementation process, the students' technological literacy was low. Together with the start of the experimental research process, the students both began to learn about digital applications and to acquire some new literacy skills. While the students were creating stories in the digital environment, the researcher assessed the students' competences and gave feedback after every stage of the process. Positive feedback given to students helps students to preserve their feelings of competence and enable them to be motivated, whereas with negative feedback or feedback in which deficiencies are expressed, students' feelings of competence decrease and their motivation is undermined (Ryan & Deci, 2009). Students' difficulty in performing various writing tasks in some applications may have decreased their perceptions of competence. Since students were unable to

obtain feedback from their classroom teachers about the written products they created in the lessons with regard to the quality of their writing, it was seen that they did not have knowledge about their writing performance, either. The students were not conscious about what sort of writers they were. While many students regarded themselves as “a very good writer” in the writing motivation scale pretest applied at the start of the process, it was seen that the answers they gave to the same item had changed to “I regard myself as a bad writer” at the end of the process. Therefore, the explanations that the researcher gave during the process, related to the aspects that needed to be developed in assessments of writing performance, gave students the opportunity to gain awareness and to become knowledgeable about their own competence.

The relatedness need means an individual’s experiencing a sense of belonging to the society he lives in and relating the things that he does to his own life (Kowal & Fortier, 1999). Accordingly, the relevance for a child of a task that is done or a task that is to be completed expresses the fact that it is associated with his own life. The students did not regard the digital writing workshop as an activity expected of them as part of their school activities and lessons, or by their teachers. This situation affected their perspectives on the activities and they did not consider the digital writing workshop to be sufficiently meaningful for themselves. This also hampered the students’ motivation for the tasks they performed.

Another reason why the students’ writing motivation decreased during the digital writing workshop was that they *lacked sufficient experience* related to digital tools and applications. In a study by Martin (2011), two groups, labelled as digital natives and digital immigrants, were given training related to the use of technology in class, and no difference could be found between the two groups in relation to competence for using technological tools. Martin explained this situation as the fact that no matter how much students belong to the digital age, if they do not have *previous knowledge or life experiences* related to how digital tools and applications are used, then using these tools has no meaning and students cannot be motivated for the tasks that they perform.

During the experimental research process, certain difficulties were experienced in the use of digital applications. The written products that were created were realised in an online environment and were recorded there. The problems and difficulties that were experienced had an effect on the students’ motivation and decreased their willingness to work.

Another reason for the decrease in writing motivation may be the fact that the students were subjected to an intensive programme due to receiving full-day education at a private school. During the process, students frequently stated that they could not spare any time for the activities due to exams, ceremonies or social activities, and that this intensive process made them tired.

### **Recommendations**

- Due to the conditions of the present day, it has become imperative for students to acquire new literacy skills. The importance of digital writing applications, which are considered to be an alternative for students with writing difficulty or who are bored with writing, should be emphasised in the curriculum and be integrated into lessons. The need to integrate new reading and writing practices, such as reading and writing in digital environments, using the internet effectively as a learning tool, and creating multiform texts, into the curriculum is regarded as essential. In this way, teachers can also use digital applications as an effective tool for developing writing skills.

- Students can be encouraged to store the work that they do inside and outside school in digital environments. Teachers can reach a much larger target group by storing their students’ work in electronic portfolios. Furthermore, they can provide students with the opportunity to increase their motivation by including in the lessons applications such as wiki writing, blog writing or multimodal text preparation, especially with the aim of monitoring students’ development in the process.

- In this study, a different digital application was used at each stage of the writing process. The digital applications used were selected for their suitability for the writing process by taking the characteristics of the process into consideration. In future studies, other digital applications can be included that are equivalents of the applications used.

- The digital platforms used during the research process were operated on one single type of text (the story). These applications can also be used for different types of text (poems, informative texts, diaries, etc.). Moreover, the design of the research model can also be changed.

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