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## **The Effect of the use of Educational Digital Comics in Primary School Fourth Grade Turkish Course on Students' Writing Skills and Self-Efficiency**

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## **Abstract**

This study aims to examine the impact of educational digital comics on the writing skills and writing self-efficacy of fourth-grade students in Turkish lessons. A quantitative research method, the pre-test-post-test control group quasi-experimental design, was used. The study's participants were 70 fourth-grade students (34 experimental and 36 control groups) from a primary school in Manisa during the 2022-2023 academic year. The sample was chosen using a non-random sampling method, and groups were determined through random selection with the approval of teachers and administrators. Data were collected using the "Writing Self-Efficacy Scale" and the "Writing Skills Rubric". The Writing Skills Rubric was used to assess students' writing abilities, considering factors such as word choice, grammar, readability, and mechanics. The Writing Self-Efficacy Scale was applied at the beginning and end of the process to evaluate the students' self-efficacy in writing, including their writing attitudes, independent writing, reflective writing, and resistance to writing. Data analysis was performed using Kolmogorov-Smirnov normality test, independent sample t-test, dependent sample t-test, and exploratory factor analysis with SPSS software. Results showed that the experimental group, who received instruction using educational digital comics, had higher writing skills and self-efficacy compared to the control group. The study concluded that educational digital comics are effective in improving writing skills, and suggested that such tools could be used to foster creativity and diversity in education. Additionally, it was suggested that digital comics could be used in other subjects and skills as well.

**Keywords:** Writing skill, writing self-efficacy, educational digital comic.

## **Introduction**

Writing, an indispensable tool for communication, is a fundamental language skill acquired during elementary school that remains essential in every aspect of life. In the development of reading and writing skills, writing is the most basic element that is processed in memory and serves as a medium for fulfilling the functions of other skills (Göçer, 2013). The fact that writing is a skill used throughout life makes the development of writing skills significant and necessary. Through writing, thought and creativity can be utilized without limits (Duran, 2010). Many factors influence the development of writing skills. Martinez et al., (2011) emphasize that self-efficacy plays an important role in writing skills and can be used to predict a student's writing performance. Bandura (1994) defines self-efficacy as an individual's thoughts regarding their capacity to plan and execute a task. Bandura (1997) considers self-efficacy to be one of the most important components of volitional mechanisms, placing it above the accumulation of knowledge and skills in a particular area. Additionally, a positive relationship has been established between students' levels of self-efficacy and their ability to acquire a skill or their levels of success (Schunk & Zimmerman, 2007). Therefore, the importance of writing self-efficacy in the development of writing skills cannot be overlooked.

Writing self-efficacy is defined as the process through which an individual demonstrates their writing ability during writing performance (Aydın & Duğan, 2018). A high level of writing self-efficacy in students indicates that they consistently engage in activities to develop their writing skills and continue to improve their writing abilities without giving up, even when they make mistakes (Demir, 2011). By examining writing self-efficacy, the problems students encounter in the skill development process can be clearly identified, allowing for potential solutions to be proposed. In this way, teachers' approaches to students can be shaped

according to the students' self-efficacy regarding writing skills. In recent years, studies in the field of writing self-efficacy have gained momentum in our country (Akar & Özber, 2018). Research conducted to measure students' writing self-efficacy (Manay et al., 2017; Özonat, 2015; Şengül, 2011) generally covers the second stage of primary education. Given that self-efficacy begins to develop in the first stage of primary education and that the development of writing skills accelerates in the fourth grade (Tok & Erdoğan, 2017), it is deemed necessary for these studies to increase focus on fourth-grade students, particularly in the first stage of primary education.

Writing is one of the indispensable means of expression today. As language continues to evolve, the development of means of expression becomes necessary. Additionally, with the advancement of technology, it can be said that oral communication has declined, while written communication has increased due to the abundance and practicality of digital environments. This developmental process of language and technology necessitates the evolution of writing. Writing is actively used in human life for communication, professional purposes, or personal enjoyment. In students' academic lives, it is a skill that is used effectively, making its improvement very important. With the increasing use of writing in various fields, such as social and academic contexts, the importance placed on writing and writing skills is also growing. Each citizen in Türkiye writes at least one official document, and students engage in written expression in academic settings (Arıcı, 2008).

Writing, being one of the four fundamental language skills, is the final step in the skill acquisition process. It plays a unifying role in a cumulative progression. After acquiring listening, speaking, and reading skills, students move on to the acquisition of writing skills through the use of all these skills. The necessity of using other skills for the acquisition of writing makes writing a long, challenging, and significant process. The development of writing skills requires various physical, mental, and emotional attributes, such as intense effort, time, and practice, which is why many students struggle during this process. Fear of failure in writing, feelings of inadequacy, and gaps in knowledge and practice stem from individuals' levels of writing self-efficacy (Güllü & Kuşdemir, 2021). For an individual to perform a task, their belief in their ability and desire to do it must be at a high level. Demir (2013) states that a student with writing self-efficacy who believes in their success and possesses high motivation before starting to write will find the writing process easier.

Writing self-efficacy is an internal process for the individual. When examining the concepts of writing desire and belief in writing ability alongside writing skills, writing self-efficacy emerges. A student's self-efficacy is closely related to their writing skills. Having a high degree of writing self-efficacy increases the likelihood of the student succeeding in writing. In this regard, it is evident that a student's motivation and belief are crucial requirements for elevating writing success. Korkmaz (2015) states that the quality of students' writing skills increases with their writing self-efficacy. For effective use of one's native language, the development of language skills is significant. Throughout the primary education process, the development of the four fundamental language skills requires regular and diligent effort. Language skills do not develop at the same pace or quality for all students. It is noted that students often struggle with the development of writing skills, which is one of the fundamental

language skills. Students frequently face challenges in written expression and experience high anxiety regarding written exams (Özbay, 2011). The development of writing skills progresses more slowly compared to listening, reading, and speaking skills (Demirel & Şahinel, 2006; Göğüş, 1978; Maltepe, 2006; Yalçın, 1998). Addressing certain deficiencies in the teaching process of language skills, utilizing modern methods and techniques, and incorporating practical and meaningful materials into the process are especially important for the development of writing skills.

It has been observed that the writing skills of students in the fourth grade, which is the final level of primary education, are significantly higher compared to students in the first, second, and third grades (Tok & Erdoğan, 2017). This indicates that the development of writing skills increases in the fourth grade. Effectively guiding this skill development will be important for fourth-grade students. To make this development rapid, complete, and effective, it is necessary to keep pace with the advancing era. This way, the doors to practical and effective teaching can be opened, allowing for adaptation to the existing system. It is evident that technology is pervasive in daily life. Integrating the digitalization offered by technology into every aspect of life in the most appropriate way is essential. Utilizing this in the field of education is important for a more effective teaching and learning process. Emerging technology particularly captures the attention of primary school children and ensures that they spend much of their time in the world of technology. This situation restricts the time children allocate to educational activities. It is not about distancing children from the world of technology; rather, it is essential to include technology in the educational process. Increasing internet-supported materials in educational environments is important for diversity, relevance to the era, practicality, and accessibility. Additionally, technology-based digital materials attract students' interest and motivate them in class. It is believed that incorporating educational digital comics into the teaching and learning process will expand the limited time allocated for educational activities alongside technology.

The educational digital comics developed for the research are original creations by the researcher and have not been used in any previous studies, which is significant for the originality of the research. It is believed that this study will provide the researcher, participating teachers, and students with the opportunity to encounter and experience a new material. A review of the literature shows that comics have been the subject of research in areas such as foreign language learning or social studies. Existing studies on the use of comics in Turkish language classes have focused on their use to promote reading enjoyment and their impact on reading skills. Including educational digital comics in a study related to students' writing skills and writing self-efficacy in the context of Turkish lessons is expected to offer a new perspective to research. Additionally, it is anticipated that the study will contribute new methods and techniques to the field, serve as an example for future studies, and promote the widespread use of digital tools in education.

The integration of technology into our era is reflected in education and teaching, facilitating the digitalization of methods and techniques used in this field. Traditional forms of information transfer and rote learning have become obsolete (Aslan et al., 2015). The increasing use of technology in education is prompting researchers to conduct studies in this

area. The presence of media necessitates developing a critical perspective toward various visual elements in our increasingly visual lives. Cihan (2014) states that students should learn the ability to critically analyze and interpret visuals at school to prevent the establishment of a fixed worldview. It is particularly important for these teachings to be implemented in Turkish language classes as the native language. There are considerations on how Turkish lessons can contribute to the ability to critically analyze and interpret visuals. Following this thought, a question arises regarding which tools can be used to enrich verbal expression with visual narration in Turkish classes. At this point, there is a belief that educational digital comics can contribute to developing a critical perspective on visuals and to interpreting them. Comics are a holistic medium where visuality and literary qualities are intertwined. They are defined as a narrative tool formed by the sequential arrangement of images or drawings that convey a desired message in a way that elicits an aesthetic response from the reader (Alsaç, 1994; McCloud, 2019). They capture the reader's attention and facilitate understanding of the plot, allowing them to visualize the story in their imagination. Thus, the reader finds themselves within the narrative structure, opening the door to the limitless possibilities of their imagination through visuals. This structure of comics suggests that when used for educational purposes, they may yield effective results.

The primary aim of this research is to determine the effect of using educational digital comics on the writing skills and self-efficacy of fourth-grade students in Turkish language classes. In line with this objective, answers will be sought for the following questions:

1. Is there a significant difference between the pre-test and post-test average scores of the Writing Self-Efficacy Scale for the experimental group students who were taught using educational digital comics?
2. Is there a significant difference between the pre-test and post-test average scores of the Writing Self-Efficacy Scale for the control group students who were taught without using educational digital comics?
3. Is there a significant difference between the post-test average scores of the Writing Self-Efficacy Scale for the experimental group students taught with educational digital comics and the control group students who continued to be taught without them?
4. Is there a significant difference between the pre-test and post-test average scores of the Writing Skills Rubric for the experimental group students who were taught using educational digital comics?
5. Is there a significant difference between the pre-test and post-test average scores of the Writing Skills Rubric for the control group students who were taught without using educational digital comics?
6. Is there a significant difference between the post-test average scores of the Writing Skills Rubric for the experimental group students taught with educational digital comics and the control group students who continued to be taught without them?

## Method

### Research Model

In this study, which examines the effect of using educational digital comics on the writing skills and self-efficacy of fourth-grade primary school students in Turkish lessons, a quasi-experimental design with pre-test and post-test control groups from quantitative research methods was employed. The difficulty of forming unbiased groups in schools prompts researchers to utilize a quasi-experimental design that allows for matching ready-made groups based on certain variables, enabling unbiased assignment within these groups (Gay et al., 2005). In the pre-test and post-test control group quasi-experimental model, measurements are conducted under equal conditions in two groups that are created without random assignment, before and after the intervention (Karasar, 2016). The design of the study is modeled in Table 1 below.

**Table 1.**

*Research Model*

Groups	Pre-test	Experimental process	Post-test
Experimental	Writing self-efficacy scale	Instruction enriched with educational digital comics	Writing self-efficacy scale
Control	Writing skills rubric	Ministry of National Education [MoNE] curriculum	Writing skills rubric

### Study Group

The study group consists of 70 fourth-grade primary school students studying in the province of Manisa during the 2022-2023 academic year. Among these students, 34 were assigned to the experimental group and 36 to the control group. The participants were selected using a non-random convenience sampling method from a primary school where teachers voluntarily took part in the study. The classes designated as the experimental and control groups were determined by lottery with the approval of teachers and administrators. The sample for the study consists of fourth-grade students studying at a primary school in the Yunus Emre district of Manisa province during the 2022-2023 academic year. The distribution of students in the experimental and control groups by gender is presented in Table 2.

**Table 2.**

*Distribution of Students in the Experimental and Control Groups by Gender*

Group	Female	Male	Total
Experimental	18	16	34
Control	18	18	36

Table 2 shows that the experimental group consists of a total of 34 primary school students, including 18 female and 16 male students, while the control group consists of a total of 36 primary school students, including 18 female and 18 male students. Before the implementation process began, it was examined whether the experimental and control groups were equivalent in terms of the dependent variables. At this stage, the pre-test scores of both groups on the Writing Skills Rubric and Writing Self-Efficacy Scale were compared. To conduct this comparison, the Kolmogorov-Smirnov test was applied to determine whether the data from both groups exhibited a normal distribution. The results of the normality test for the pre-test scores of the Writing Skills Rubric for the experimental and control group students are presented in Table 3 below.

**Table 3.**

*Results of the Normality Test for the Pre-Test Scores of the Writing Skills Rubric for the Experimental and Control Group Students*

Group	Kolmogorov-Smirnov			Skewness	Kurtosis
	Value	SD	p		
Experimental	.123	34	.200	.216	-.333
Control	.141	36	.069	.360	-.681

As seen in Table 3, the pre-test averages of the experimental group on the “Writing Skills Rubric” (Kolmogorov-Smirnov  $Z=.123$ ,  $p>.05$ ) and the control group on the “Writing Skills Rubric” pre-test (Kolmogorov-Smirnov  $Z=.141$ ,  $p>.05$ ) show normal distribution. Following the verification of the normal distribution of the data, the equivalence of the writing skills between the experimental and control groups was investigated. The results of the independent samples t-test indicating the equivalence of the writing skills pre-test scores of the experimental and control group students are listed in Table 4 below.

**Table 4.**

*Results of the Independent Samples t-Test for the Pre-Test Scores of the Writing Skills Rubric for the Experimental and Control Group Students*

Group	n	M	S	SD	t	p
Experimental	34	8.97	2.62	68	1.522	.133
Control	36	8.13	1.91			

Upon examining Table 4, it can be observed that the pre-test scores of the Writing Skills Rubric for both the experimental and control groups are close in value, and there is no significant difference ( $p>.05$ ). Therefore, it is evident that the writing skills of the groups are equivalent according to the measurement tool used.

The results of the normality test for the pre-test scores of the Writing Self-Efficacy Scale for the experimental and control group students are presented in Table 5 below.

**Table 5.**

*Results of the Normality Test for the Pre-Test Scores of the Writing Self-Efficacy Scale for the Experimental and Control Group Students*

Group	Kolmogorov-Smirnov			Skewness	Kurtosis
	Value	SD	p		
Experimental	.096	34	.200	-.191	-.270
Control	.091	36	.200	.177	.063

Upon examining Table 5, it can be seen that the pre-test scores of the experimental group on the “Writing Self-Efficacy Scale” (Kolmogorov-Smirnov  $Z=.096$ ,  $p>.05$ ) and the control group on the “Writing Self-Efficacy Scale” pre-test (Kolmogorov-Smirnov  $Z=.091$ ,  $p>.05$ ) meet the assumption of normality. After confirming the normality of the data, the results of the independent samples t-test for the pre-test scores of the Writing Self-Efficacy Scale for the experimental and control group students are presented in Table 6.

**Table 6.**

*Results of the Independent Samples t-Test for the Pre-Test Scores of the Writing Self-Efficacy Scale for the Experimental and Control Group Students*

Group	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Experimental	34	59.44	8.30	68	1.631	.108
Control	36	56.63	7.06			

Upon examining Table 6, it is observed that there is no significant difference between the pre-test scores of the Writing Self-Efficacy Scale for the experimental and control groups ( $p > .05$ ), indicating that equivalence has been achieved between the groups.

### **Data Collection Tools**

The data for the study were collected using the “Writing Self-Efficacy Scale” developed by the researcher, and the “Writing Skills Rubric” developed by Bulut (2022). The scales and rubrics used are explained under separate headings.

#### **Writing Self-Efficacy Scale**

The data collection tool used to measure the writing self-efficacy of fourth-grade primary school students was developed by the researcher as the Writing Self-Efficacy Scale. This scale, developed by reviewing the relevant literature and conducting necessary validity and reliability analyses, consists of 4 dimensions and 20 items. The highest score that can be obtained from the scale is set at 80, while the lowest score is set at 20. The internal reliability coefficient, assessed as Cronbach’s Alpha, was calculated to be .794.

Before starting the analysis, the results of the Kaiser-Meyer-Olkin [KMO] and Bartlett tests were examined to assess the suitability of the dataset for factor analysis. The KMO coefficient evaluates the adequacy of the sample size for factor analysis (Bulut & Uzunoğlu, 2021). As indicated in the literature, a KMO value above .60 and a significant Bartlett test suggest that the data are suitable for factor analysis (Büyüköztürk, 2003).

According to studies conducted by Kaiser (1974), a KMO value around .50 is considered acceptable, values between .50 and .70 are moderate, values between .70 and .80 are good, and values between .80 and .90 indicate very good adequacy (Çolakoğlu & Büyükekşi, 2014). In this study, the KMO value of the scale was calculated to be .849, and the result of the Bartlett test indicated that the Chi-Square value was significant ( $\chi^2 = 903.504$ ,  $df: 190$ ,  $p < .001$ ). These results indicate that the data are suitable for factor analysis and that the analysis can be conducted reliably.

As a result of the Exploratory Factor Analysis [EFA] conducted during the research process, the collected data were grouped under 4 factors. According to Comrey and Lee (1992), it is emphasized that each factor should contain at least three items, that items should not belong to multiple factors, and that items with a factor loading below .40 should be removed from the scale (Bulut & Uzunoğlu, 2021). Based on these criteria, the remaining 20 items were grouped under 4 factors.



## **Writing Skills Rubric**

In the study, the Writing Skills Rubric developed by Bulut in 2022 was used to measure the writing skills of fourth-grade primary school students. The rubric consists of 5 dimensions, which are named as word choice, grammar, readability, mechanics, and coherence. Each dimension is rated on a scale from 1 to 4. The scoring scale indicates that 1 point is “barely sufficient,” 2 points are “improvable,” 3 points are “sufficient,” and 4 points are “highly sufficient.” The highest score that can be obtained from the rubric is set at 20, while the lowest score is set at 4.

## **Implementation Process**

The school where the study would be conducted was determined using the convenience sampling method, which is one of the non-random sampling techniques. After the school administration and teachers volunteered for the research, they were informed about the researcher and the implementation process. The groups participating in the research were selected without bias using a lottery method from the classes available in the school. The equivalence of the experimental and control groups in terms of writing skills and writing self-efficacy was assessed. The Writing Self-Efficacy Scale, developed by the researcher, was administered to both groups to measure their writing self-efficacy, and the results were analyzed.

To measure the writing skills of the groups, students were asked to write a text on the topic “What Would Happen if There Were No Water?” which was one of the subject headings for that week’s Turkish lesson. The texts collected from both groups were evaluated according to the Writing Skills Rubric developed by Bulut (2022). The evaluation results were uploaded to the analysis program, and necessary analyses were conducted. As a result of the analyses, it was found that both the writing skills and writing self-efficacy of the experimental and control groups were equivalent, and the experimental process commenced.

While the control group continued to have Turkish lessons with their existing classroom teacher, the experimental group received 2 hours of Turkish lessons per week conducted by the researcher. Educational digital comics prepared by the researcher, aligned with the 4<sup>th</sup>-grade Turkish curriculum, were used as topics for the experimental group’s Turkish lessons each week. The comics designated for each week of the 8-week experimental process were transferred to the tablets that students brought to class and were used for writing activities in accordance with the flow and guidelines during the 2-hour Turkish lesson.

Students examined the digital comics, noticed the speech bubbles that needed to be filled in, and organized their work during the allocated time. At the end of the lesson, students sent their completed comics to the researcher. The submitted works were reviewed by the researcher each week. Throughout the implementation process, it was observed that the experimental group students eagerly anticipated the “comic lesson”, which they called this application. This process was carried out over 8 weeks (16 lesson hours) using 8 different educational digital comics prepared for 8 distinct learning objectives. At the end of the implementation process, the writing skills and writing self-efficacy of both the experimental and control group students were re-evaluated.

To measure the writing self-efficacy of the groups, the Writing Self-Efficacy Scale was administered again, and the results were analyzed. To assess the writing skills of the groups, the same topic “What would happen if there were no water?” was given again in the post-test, and they were asked to write texts. The written texts were evaluated according to the Writing Skills Rubric. The pre-test and post-test results regarding the writing skills and writing self-efficacy of the groups were compared, and the necessary analyses were conducted in line with the sub-problems of the research.

### **Data Analysis**

The analysis of the pre-test and post-test data obtained during the research process was conducted using the SPSS software package. The assumptions for the paired samples test, which will be used for the evaluation of pre-test and post-test within subjects, were met as follows:

1. The measurements of the dependent variable must be at least at the interval scale.
2. The difference scores of the two dependent measurement sets must be normally distributed.

To check the normal distributions of the data, Kolmogorov-Smirnov tests were performed. If normal distribution was observed, the paired samples t-test was applied for within-subject pre-test and post-test evaluations, and the independent samples t-test was applied for between-subject pre-test and post-test evaluations. the following assumptions for the independent samples t-test were found to be satisfied:

- The measurements or scores of the dependent variable are at the interval or ratio scale, and the means of the two groups being compared belong to the same variable.
- The measurements of the dependent variable are normally distributed in both groups.
- The mean scores of the samples being compared are independent.
- The variances of the distributions of the measurements are equal for both groups.

Additionally, Exploratory Factor Analysis was conducted for the data collection tools.

### **Ethical Permits of Research:**

In this study, all the rules specified to be followed within the scope of “Higher Education Institutions Scientific Research and Publication Ethics Directive” were complied with. None of the actions specified under the heading “Actions Contrary to Scientific Research and Publication Ethics”, which is the second part of the directive, have been taken.

### **Ethics Committee Permission Information:**

Name of the committee that made the ethical evaluation = Ethics Committee of Educational Research, Aydın Adnan Menderes University Rectorate

Date of ethical review decision = 25.04.2024

Ethics assessment document issue number = 2024/4-VIII

## Findings

This section is written according to the sub-problems of the research. It presents findings related to the impact of educational digital comics on the writing skills and writing self-efficacy of students in the Turkish language course. The six sub-problems of the research are explained under six subheadings. The analyses conducted are presented in tables.

### The Writing Self-Efficacy Difference of the Experimental Group Students

The first sub-problem of the research examines the effect of lessons taught with educational digital comics on the writing self-efficacy of students in the experimental group. To conduct this examination, the pre-test and post-test mean scores of the group were obtained. The assumptions required for the necessary analyses were met under the normal distribution of the data. Paired samples t-test was applied to determine whether the difference between the pre-test and post-test mean scores of the experimental group was significant. The analysis results are presented in Table 7.

**Table 7.**

*Results of the Paired Samples t-Test for the Pre-Test and Post-Test Scores of the Experimental Group Students on the Writing Self-Efficacy Scale*

Experimental	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Pre-test	34	59.44	8.30	33	-3.057	.004
Post-test	34	65.32	7.06			

When Table 7 is examined, the pre-test mean scores of the experimental group students on the Writing Self-Efficacy Scale are calculated as ( $M=59.44$ ;  $S=8.30$ ) and the post-test mean scores are ( $M=65.32$ ;  $S=7.06$ ). Looking at the pre-test and post-test mean scores of the experimental group, a significant difference is observed ( $t_{(33)}=-3.057$ ;  $p<.05$ ). It appears that the Turkish lessons taught with educational digital comics have resulted in a positive increase in the writing self-efficacy of fourth-grade primary school students.

### The Writing Self-Efficacy Difference of the Control Group Students

The second sub-problem of the research investigates the effect of lessons taught without using educational digital comics on the writing self-efficacy of students in the control group. For this purpose, the writing self-efficacy scale was administered as a pre-test and post-test to the group with an 8-week interval. A paired samples t-test was applied to determine whether the difference between the pre-test and post-test scores of the control group was significant. The analysis results are presented in Table 8.

**Table 8.**

*Results of the Paired Samples t-Test for the Pre-Test and Post-Test Scores of the Control Group Students on the Writing Self-Efficacy Scale*

Control	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Pre-test	36	55.69	7.42	35	-.565	.056
Post-test	36	56.94	8.88			

When looking at Table 8, the pre-test mean scores of the control group students on the Writing Self-Efficacy Scale are calculated as ( $M=55.69$ ;  $S=7.42$ ) and the post-test mean scores are ( $M= 48.91$ ;  $S= 9.98$ ). It is observed that there is no significant difference in the pre-test and post-test mean scores of the control group ( $t_{(35)}=-.565$ ;  $p>.05$ ). Therefore, it cannot be said that

the Turkish lessons taught without using educational digital comics created a significant difference in the writing self-efficacy of fourth-grade primary school students.

### **The Writing Self-Efficacy Difference between the Experimental and Control Group Students**

In the third sub-problem of the research, the study investigates whether there is a significant difference between the post-test mean scores of the experimental group students who were taught using educational digital comics and the control group students who continued to be taught without using educational digital comics. For this purpose, the post-test scores of both groups on the writing self-efficacy scale were compared. A paired samples t-test was applied to determine whether the difference between the post-test scores of the experimental and control groups was significant. The analysis results are presented in Table 9.

**Table 9.**

*Results of the Independent Samples t-Test for the Post-Test Scores of the Experimental and Control Group Students on the Writing Self-Efficacy Scale*

Group	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Experimental	34	65.32	7.06	68	4.35	.001
Control	36	56.94	8.88			

When looking at Table 9, the post-test mean scores of the experimental group students on the Writing Self-Efficacy Scale are calculated as ( $M=65.32$ ;  $S=7.06$ ) and the post-test mean scores of the control group students are ( $M=56.94$ ;  $S=8.88$ ). A significant difference is observed between the post-test mean scores of the writing self-efficacy scale for the experimental and control groups ( $t_{(68)}=4.35$ ;  $p<.05$ ). This situation favors the experimental group, suggesting that the Turkish lessons taught with educational digital comics are effective in improving the writing self-efficacy of fourth-grade primary school students.

### **The Writing Skills Difference of the Experimental Group Students**

The fourth sub-problem of the research examines whether there is a significant difference between the pre-test and post-test mean scores of the Writing Skills Rubric for the experimental group students who were taught using educational digital comics. To conduct this examination, the pre-test and post-test mean scores of the Writing Skills Rubric for the group were obtained. The assumptions required for the necessary analyses were met under the normal distribution of the data. A paired samples t-test was applied to determine whether the difference between the pre-test and post-test mean scores of the experimental group was significant. The analysis results are presented in Table 10.

**Table 10.**

*Results of the Paired Samples t-Test for the Pre-Test and Post-Test Scores of the Experimental Group Students on the Writing Skills Rubric*

Experimental	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Pre-test	34	8.97	2.62	33	-12.463	.000
Post-test	34	16.41	2.50			

When examining Table 10, the pre-test mean scores of the experimental group students on the Writing Skills Rubric are calculated as ( $M=8.97$ ;  $S=2.62$ ) and the post-test mean scores are ( $M=16.41$ ;  $S=2.50$ ). A significant difference is observed between the pre-test and post-test mean scores of the experimental group students on the Writing Skills Rubric ( $t_{(33)}=-12.463$ ;

$p < .05$ ). It is evident that the Turkish lessons taught with educational digital comics have resulted in a positive increase in the writing skills of fourth-grade primary school students.

### **The Writing Skills Difference of the Control Group Students**

The fifth sub-problem of the research investigates whether there is a significant difference between the pre-test and post-test mean scores of the Writing Skills Rubric for the control group students who were taught without using educational digital comics. For this purpose, the Writing Skills Rubric was administered as a pre-test and post-test to the control group with an 8-week interval. A paired samples t-test was applied to determine whether the difference between the pre-test and post-test scores of the control group was significant. The analysis results are presented in Table 11.

**Table 11.**

*Results of the Paired Samples t-Test for the Pre-Test and Post-Test Scores of the Control Group Students on the Writing Skills Rubric*

Control	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Pre-test	36	7.25	1.25	35	-8.422	.896
Post-test	36	11.88	3.03			

When looking at Table 11, the pre-test mean scores of the control group students on the Writing Skills Rubric are calculated as ( $M=7.25$ ;  $S=1.25$ ) and the post-test mean scores are ( $M=11.88$ ;  $S=3.03$ ). It is observed that there is no significant difference between the pre-test and post-test mean scores of the control group on the Writing Skills Rubric ( $t_{(35)}=-8.422$ ;  $p > .05$ ). Therefore, it cannot be said that the Turkish lessons taught without using educational digital comics created a significant difference in the writing skills of fourth-grade primary school students.

### **The Writing Self-Efficacy Difference Between the Experimental and Control Group Students**

The sixth sub-problem of the research examines whether there is a significant difference between the post-test mean scores of the Writing Skills Rubric for the experimental group students who were taught using educational digital comics and the control group students who continued to be taught without using educational digital comics. For this purpose, the post-test scores of both groups on the Writing Skills Rubric were compared. An independent samples t-test was applied to determine whether the difference between the post-test scores of the experimental and control groups was significant. The analysis results are presented in Table 12.

**Table 12.**

*Results of the Independent Samples t-Test for the Post-Test Scores of the Experimental and Control Group Students on the Writing Skills Rubric*

Group	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Experimental	34	16.41	2.32	68	6.976	.027
Control	36	11.88	3.03			

When examining Table 12, the post-test mean scores of the experimental group students on the Writing Skills Rubric are calculated as ( $M=16.41$ ;  $S=2.32$ ) and the post-test mean scores of the control group students on the Writing Self-Efficacy Scale are ( $M=11.88$ ;  $S=3.03$ ). A significant difference is observed between the post-test mean scores of the Writing

Skills Rubric for the experimental and control groups ( $t_{(68)}=6.976$ ;  $p<.05$ ). This situation, favoring the experimental group, suggests that the Turkish lessons taught with educational digital comics contributed to the development of the writing skills of fourth-grade primary school students.

## **Discussion and Conclusion**

This study investigates the impact of Turkish lessons taught using educational digital comics on the writing skills and writing self-efficacy of fourth-grade primary school students. The results obtained during the research process are compared and discussed with the findings of similar studies in the field. To evaluate the writing skills of fourth-grade primary school students, a Writing Skills Rubric was used, and the writing contents collected throughout the process were analyzed in terms of word choice, grammar, readability, and mechanics. To assess writing self-efficacy as another variable, the Writing Self-Efficacy Scale was utilized, examining the groups' self-efficacy in terms of writing attitude, independent writing, reflective writing, and writing resistance at the beginning and end of the application process. It was observed that, in the experimental and control groups, which had comparable writing skills and self-efficacy prior to the application, the experimental group demonstrated higher writing skills and self-efficacy compared to the control group after the application.

In the research process, writing skill data were evaluated similarly to the literature in terms of word choice, grammar, readability, and mechanics. Writing skills at the primary school level typically consist of components such as spelling accuracy, word variety, sentence structure, and text organization (Berninger, 2012; Troia, 2016). These components are critical for students to effectively and clearly convey their written texts (Cutler & Graham, 2008). Writing accuracy is associated with the scarcity of spelling and grammar errors in the written text (Puranik & Al Otaiba, 2012). Word variety refers to the student's ability to use different and appropriate words in the text (MacArthur et al., 2015). Sentence structure and text organization enable students to logically sequence and organize their thoughts, providing clear and coherent communication to the reader (Graham & Perin, 2007). Improving these components enhances the overall quality of students' writing skills and supports their academic success (Saddler & Graham, 2005). Research indicates that developing students' writing skills can enhance language skills and learning motivation (Cutler & Graham, 2008; Puranik & Al Otaiba, 2012). Graham and Perin (2007) emphasize that enhancing students' writing skills can boost language skills and learning motivation. Additionally, a study by Cutler and Graham (2008) revealed that improving students' writing skills positively impacts overall language skills and learning motivation. Similarly, evidence presented by Troia (2016) shows that developing writing skills strengthens students' language abilities and increases their engagement in learning processes.

In this study, the effects of educational digital comics on the writing skills and writing self-efficacy of fourth-grade primary school students were examined. The results indicated that the students in the experimental group showed higher levels of writing skills and writing self-efficacy compared to the control group. This finding aligns with previous studies in the literature that emphasize the positive impact of digital technologies on writing development. First, there is strong support in the literature for the use of digital technologies in education to

enhance writing skills (MacArthur et al., 2015; Puranik & Al Otaiba, 2012). MacArthur et al. (2015) found that computer-assisted writing programs improve students' writing quality by encouraging more planning and revision. Similarly, Puranik and Al Otaiba (2012) reported that digital technologies support students' written expression skills and allow them to apply various writing strategies. In this context, the findings of our study are consistent with previous research that highlights the benefits of digital comics in the writing process.

The use of comics as a supportive material for writing skills has been found to be effective in both writing performance and writing self-efficacy. Kusurini et al. (2020) suggested that comics could help students overcome challenges in developing ideas, selecting appropriate vocabulary, and structuring sentences in Japanese writing. Likewise, Selong et al. (2021) found that comics positively impact students' creative writing skills. These studies support our findings, demonstrating that comics enhance students' technical writing skills, such as word choice, grammar, readability, and mechanics, while also fostering a more positive attitude toward the writing process. Additionally, Kolaç et al. (2012) and Yılmaz et al. (2017) emphasized the role of children's literature, particularly comics and digital storytelling, in improving reading and writing skills. Similarly, our study found that educational digital comics positively influence students' writing abilities. Doepker et al. (2018) and Rahayu and Widiastuti (2019) highlighted the role of comics in guided reading processes, showing that comics make writing tasks more engaging and accessible for students. Furthermore, Istiq'faroh et al. (2020) and Montero et al. (2022) found that digital comics significantly enhance students' creativity and writing skills. The findings of our study also suggest that digital comics increase students' interest in the writing process, thereby contributing to their writing development.

As emphasized in the literature, writing skills are an integral part of cognitive development and represent one of the most complex language acquisition processes. Our study highlights the importance of providing structured and effective writing instruction at the fourth-grade level. In line with previous research, our results support the idea that contemporary teaching methods, particularly the integration of digital materials, play a crucial role in writing skill development. In conclusion, this study demonstrates that educational digital comics are an effective tool for improving writing skills and writing self-efficacy. Consistent with the literature, our findings indicate that comics support students' writing processes, increase their motivation, and encourage a more structured approach to writing. Therefore, integrating educational comics into writing instruction could contribute to the enhancement of students' writing abilities.

Based on the information obtained from the literature, it has been established that writing skills emerge as a result of the cumulative advancement of all language skills and are an integral part of cognitive process development. It has been observed that writing self-efficacy, which is closely and directly related to writing skills, plays a significant role in the processes of language acquisition and development. Additionally, it appears crucial to guide the development of writing skills, which tend to increase in fourth grade, in a qualified and accurate manner for fourth-grade students. The importance of using age-appropriate new methods and techniques in the development of writing skills, which is the last and most

challenging skill to acquire among language skills, is supported by studies in the literature. Studies recommend incorporating visual aids, particularly comics, into teaching processes and using such tools to achieve better learning outcomes. All these studies highlight the importance of the concepts used in the research and support the results of the study.

When examining the paragraphs, the mentioned researchers found comic materials suitable for studying writing skills in a manner similar to this study. They identified that comics have a significant impact on developing writing skills. The results of the study suggested that comics, identified as an innovative method that enhances learning outcomes, should similarly be incorporated into skill development and other educational processes.

### **Recommendations**

In this study, educational digital comics were developed by the researcher. To enhance diversity and creativity in the educational environment, students could also be encouraged to design their own comics.

The study found that educational digital comics are effective in the development of challenging skills like writing, making lessons more fluid, clear, and understandable. Based on this, educational digital comics could be developed for subjects or topics that are difficult to comprehend or where maintaining attention is challenging.

The research was conducted specifically for fourth-grade primary school students, where significant improvements in writing skills were observed. Educational digital comics can also be developed for the first-grade period, where writing skills are first acquired, and for other grade levels that continue to develop writing skills.

Due to the visual appeal, fluency, and clarity provided by digital comics, studies could be conducted to examine their impact on skills such as problem-solving, literacy, communication, research, creativity, analytical thinking, and critical thinking.

In this research, the Pixton application was used to develop digital comics in terms of diversity and originality. Various comics can also be developed using more comprehensive, up-to-date, and understandable applications.



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## **BIOGRAPHICAL NOTES**

### **Contribution Rate of Researchers**

Author 1: 60%

Author 2: 40%

### **Conflict Statement**

There is no conflict of interest that the authors will declare in the research.

### **Notice of Use of Artificial Intelligence**

The authors did not utilise any artificial intelligence tools for the research, authorship and publication of this article.



# Eğitsel Dijital Çizgi Roman Kullanımının Öğrencilerin Yazma Becerisine ve Öz Yeterliğine Etkisi

## Özet

Bu araştırmada, ilkokul dördüncü sınıf öğrencilerinin Türkçe dersinde eğitsel dijital çizgi roman kullanımının yazma becerisine ve yazma öz yeterliğine etkisini incelemek amaçlanmıştır. Araştırmada nicel araştırma yöntemlerinden olan ön test-son test kontrol gruplu yarı deneysel desen kullanılmıştır. Araştırmanın evrenini 2022-2023 eğitim-öğretim yılı içerisinde Manisa ilinin ilköğretim 4. sınıfta öğrenim gören öğrencileri oluşturmuştur. Araştırmayı, gönüllü öğretmenlerin olduğu bir ilkokulda öğrenim gören 34'ü deney 36'sı kontrol olmak üzere toplam 70 ilkokul dördüncü sınıf öğrencisi oluşturmuştur. Çalışmanın örneklemini Manisa ili Yunus Emre ilçesine bağlı bir ilkokulda 2022-2023 eğitim-öğretim yılındaki dördüncü sınıf öğrencileri oluşturmuştur. Verilerin toplanması için "Yazma Öz Yeterlik Ölçeği" ve "Yazma Becerisi Rubriği" kullanılmıştır. Araştırma kapsamında bulunan ilkokul dördüncü sınıf öğrencilerinin yazma becerilerini değerlendirmek için Yazma Becerisi Rubriği kullanılmıştır. Diğer bir değişken olan yazma öz yeterliğini değerlendirmek için Yazma Öz Yeterlik Ölçeği kullanılmış, uygulama sürecinin başında ve sonunda grupların öz yeterlikleri yazma tutumu, bağımsız yazma, yansıtıcı yazma ve yazma direnci açısından incelenmiştir. Verilerin analizinde Kolmogorov-Smirnov normallik testi, bağımsız örneklem t-testi, bağımlı örneklem t-testi ve açımlayıcı faktör analizi kullanılmıştır. Bu analizler SPSS paket programı kullanılarak yapılmıştır. Uygulama öncesinde yazma becerisi ve yazma öz yeterliği birbirine denk olarak bulunan deney ve kontrol grubunda uygulama sonrası deney grubunun kontrol grubuna oranla yazma becerisi ve yazma öz yeterliklerinin yüksek olduğu görülmüştür. Araştırma sonucunda; eğitsel dijital çizgi romanların yazma becerisini geliştirmede etkili olduğu ve eğitimde çeşitlilik ile yaratıcılığı artırmak için bu araçların öğrenciler tarafından da tasarlanabileceği, ayrıca dijital çizgi romanların diğer derslerde de becerilerde de kullanılabileceği önerilmiştir.

**Anahtar Kelimeler:** Yazma becerisi, yazma öz yeterliği, eğitsel dijital çizgi roman.

## Giriş

Yazma, iletişim kurmanın vazgeçilmez bir aracı olup, ilkokulda kazanılan ve hayat boyu gerekliliğini koruyan temel bir dil becerisidir. Okuma ve yazma becerilerinin işlenmesinde yazı, bellek üzerinde işlem yapılan en temel unsur olmanın yanı sıra, diğer becerilerin işlevlerini yerine getirmede de bir araçtır (Göçer, 2013). Yazma becerisinin yaşam boyu kullanılması, bu becerinin gelişimini önemli kılmaktadır ve yazma sayesinde düşünce ve yaratıcılık sınırsızca kullanılabilir (Duran, 2010). Yazma becerisinin gelişimini etkileyen birçok faktör bulunmaktadır. Martinez vd. (2011) bu faktörler arasında, yazma öz yeterliğinin yazma becerisinde önemli bir rol oynadığını ve öğrencinin yazma performansını tahmin etmede kullanılabileceğini belirtmiştir.

Yazma öz yeterliği, bireyin yazma performansı sırasında yazma yeteneğini sergileme süreci olarak tanımlanır (Aydın & Duğan, 2018). Yüksek yazma öz yeterliği, öğrencilerin yazma becerilerini geliştirme çabalarını sürdürdüklerini ve hata yapsalar dahi pes etmeden yazma becerilerini geliştirmeye devam ettiklerini gösterir (Demir, 2011). Yazma öz yeterliğini

incelemek, öğrencinin karşılaştığı sorunları anlamaya ve çözüm önerileri üretmeye yardımcı olabilir. Bu, öğretmenlerin öğrencilerin yazma becerisine yönelik yaklaşımlarını öz yeterliklerine göre şekillendirmelerini sağlar. Son yıllarda yazma öz yeterliği üzerine yapılan çalışmalar ülkemizde artmaktadır (Akar & Özber, 2018). Bu alanda yapılan çalışmalar genellikle ilköğretim ikinci kademeyi kapsasa da yazma öz yeterliğinin ilköğretim birinci kademede gelişmeye başlaması ve yazma becerisinin dördüncü sınıfta hız kazanması (Tok & Erdoğan, 2017) nedeniyle, bu tür araştırmaların özellikle dördüncü sınıf öğrencilerine yönelik artması gerektiği düşünülmektedir.

Literatürde, yazma becerisini geliştirmek için dijital hikayelerin kullanılmasıyla ilgili araştırmalar bulunmaktadır (Yılmaz & Üstündağ, 2017). Dijital yöntemlerle yazma becerisini geliştirmeyi çeşitlendirmek ve daha etkili sonuçlar elde etmek için farklı tekniklerin kullanılması gerektiği düşünülmektedir. Eğitsel dijital çizgi romanların bu amaçla başarılı olacağı öngörülmektedir. Çizgi romanlar dijital ortama uyarlanarak pratik ve ulaşılabilir materyaller haline getirilebilir. Yazma becerisinin etkililiği, öğrencilerin yazma becerilerine olan güveni ve duygu ile düşüncelerini sağlıklı bir şekilde aktarmalarıyla doğrudan ilişkilidir. Çizgi romanlar, görsel hafıza, seçici dikkat, anlamlandırma ve bağlantı kurma gibi bilişsel süreçler açısından faydalı olup, yazma becerisi ve yazma öz yeterliğine olumlu katkıda bulunabilir. Araştırmanın problem cümlesi şu şekilde belirlenmiştir: “İlkokul dördüncü sınıf Türkçe dersinde eğitsel dijital çizgi roman kullanımının öğrencilerin yazma becerisine ve öz yeterliğine etkisi nedir?”

Bu araştırmanın temel amacı, ilköğretim dördüncü sınıf Türkçe dersinde eğitsel dijital çizgi roman kullanımının öğrencilerin yazma becerisine ve öz yeterliğine etkisini belirlemektir. Bu amaç doğrultusunda aşağıda verilen sorulara yanıt aranmıştır:

1. Eğitsel dijital çizgi romanlar kullanılarak ders işlenen deney grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği ön test-son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?
2. Eğitsel dijital çizgi romanlar kullanılmadan ders işlenen kontrol grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği ön test-son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?
3. Eğitsel dijital çizgi romanlarla ders işlenen deney grubu öğrencileri ve eğitsel dijital çizgi romanlar kullanılmadan ders işlenmeye devam eden kontrol grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?
4. Eğitsel dijital çizgi romanlar kullanılarak ders işlenen deney grubu öğrencilerinin Yazma Becerisi Rubriği ön test-son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?
5. Eğitsel dijital çizgi romanlar kullanılmadan ders işlenen kontrol grubu öğrencilerinin Yazma Becerisi Rubriği ön test-son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?

6. Eğitsel dijital çizgi romanlarla ders işlenen deney grubu öğrencileri ve eğitsel dijital çizgi romanlar kullanılmadan ders işlenmeye devam eden kontrol grubu öğrencilerinin Yazma Becerisi Rubriği son test puan ortalamaları arasında anlamlı bir farklılık var mıdır?

## Yöntem

### Araştırmanın Modeli

İlkokul dördüncü sınıf Türkçe dersinde eğitsel dijital çizgi roman kullanımının öğrencilerin yazma becerisi ve öz yeterliğine etkisini inceleyen bu çalışmada, nicel araştırma yöntemlerinden ön test-son test kontrol gruplu yarı deneysel desen kullanılmıştır. Ön test-son test kontrol gruplu yarı deneysel modelde, yansız atama yapılmaksızın oluşturulan iki grupta, işlem öncesi ve sonrası eşit şartlarda ölçümler yapılır (Karasar, 2016). Çalışmanın deseni, Tablo 1’de modellenmiştir.

**Tablo 1.**

*Çalışmanın Modeli*

Grup	Ön test	Deneysel işlem	Son test
Deney	Yazma öz yeterlik ölçeği Yazma becerisi rubriği	Eğitsel dijital çizgi romanlarla zenginleştirilmiş öğretim	Yazma öz yeterlik ölçeği Yazma becerisi rubriği
Kontrol		Milli Eğitim Bakanlığı [MEB] programı	

### Çalışma Grubu

Araştırmanın çalışma grubunu, 2022-2023 eğitim-öğretim yılında Manisa ilinde öğrenim gören 70 dördüncü sınıf ilkokul öğrencisinden oluşmaktadır. Bu öğrencilerden 34’ü deney grubuna, 36’sı ise kontrol grubuna atanmıştır. Çalışma grubunu oluşturan deney ve kontrol grubunda yer alan öğrencilerin cinsiyete göre dağılımları Tablo 2’de verilmiştir.

**Tablo 2.**

*Deney ve Kontrol Grubunda Yer Alan Öğrencilerin Cinsiyete Göre Dağılımları*

Grup	Kız	Erkek	Toplam
Deney	18	16	34
Kontrol	18	18	36

Tablo 2’ye göre, araştırmanın deney grubu 18 kız ve 16 erkek öğrenci olmak üzere toplam 34, kontrol grubu ise 18 kız ve 18 erkek öğrenci olmak üzere toplam 36 ilkokul öğrencisinden oluşmaktadır. Deney ve kontrol gruplarının Yazma Becerisi Rubriği ve Yazma Öz Yeterlik Ölçeği ön test puanları normallik testi sonuçları Tablo 3’te yer almaktadır.

**Tablo 3.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Becerisi Rubriği Ön Test Puanlarının Normallik Testi Sonuçları*

Grup	Değer	Kolmogorov- Smirnov		Çarpıklık	Basıklık
		SD	p		
Deney	.123	34	.200	.216	-.333
Kontrol	.141	36	.069	.360	-.681

Tablo 3’te görüldüğü üzere deney grubunun “Yazma Becerisi Rubriği” ön test (Kolmogorov-Smirnov  $Z=.123$ ,  $p>.05$ ) ve kontrol grubunun “Yazma Becerisi Rubriği” ön test (Kolmogorov-Smirnov  $Z=.141$ ,  $p>.05$ ) ortalamaları normal dağılım göstermektedir. Aşağıda

verilen Tablo 4'te deney ve kontrol grubu öğrencilerinin yazma becerisi ön test puanlarının denkliklerini gösteren ilişkisiz örneklem t-testi sonuçları listelenmiştir.

**Tablo 4.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Becerisi Rubriği Ön Test Puanları İlişkisiz Örneklem t-Testi Sonuçları*

Grup	n	M	S	SD	t	p
Deney	34	8.97	2.62	68	1.522	.133
Kontrol	36	8.13	1.91			

Tablo 4 incelendiğinde, deney ve kontrol grubuna ait Yazma Becerisi Rubriği ön test puanlarının birbirine yakın değerlerde görüldüğü, anlamlı bir fark çıkmadığı ( $p > .05$ ) dolayısıyla kullanılan ölçme aracına göre grupların yazma becerilerinin birbirlerine denk olduğu görülmektedir.

Yazma öz yeterlik verilerinin normal dağılımına ilişkin deney ve kontrol grubu öğrencilerinin yazma öz yeterlik ölçeği ön test puanlarının normallik testi sonuçları aşağıdaki Tablo 5'te gösterilmiştir.

**Tablo 5.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Öz Yeterlik Ölçeği Ön Test Puanlarının Normallik Testi Sonuçları*

Grup	Kolmogorov- Smirnov			Çarpıklık	Basıklık
	Değer	SD	p		
Deney	.096	34	.200	-.191	-.270
Kontrol	.091	36	.200	.177	.063

Tablo 5 incelendiğinde deney grubunun “Yazma Öz Yeterlik Ölçeği” ön test (Kolmogorov-Smirnov  $Z = .096$ ,  $p > .05$ ) ve kontrol grubunun “Yazma Öz Yeterlik Ölçeği” ön test (Kolmogorov-Smirnov  $Z = .091$ ,  $p > .05$ ) puan ortalamalarının normallik varsayımını karşıladığı görülmüştür. Verilerin normallik varsayımını karşılamasının ardından deney ve kontrol grubu öğrencilerinin yazma öz yeterlik ölçeği ön test puanları ilişkisiz örneklem t-testi sonuçları Tablo 6'da sunulmuştur.

**Tablo 6.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Öz Yeterlik Ölçeği Ön Test Puanları İlişkisiz Örneklem T-Testi Sonuçları*

Grup	n	M	S	SD	t	p
Deney	34	59.44	8.30	68	1.631	.108
Kontrol	36	56.63	7.06			

Tablo 6. incelendiğinde deney grubu ve kontrol grubunun Yazma Öz Yeterlik Ölçeği ön test puanları arasında anlamlı bir farklılık olmadığı ( $p > .05$ ) ve gruplar arasında denklik sağlandığı görülmektedir.

### **Veri Toplama Araçları**

Çalışmanın verileri araştırmacı tarafından geliştirilmiş olan “Yazma Öz Yeterlik Ölçeği” ve Bulut (2022) tarafından geliştirilen “Yazma Becerisi Rubriği” ile toplanmıştır.

### **Uygulama Süreci**

Çalışma, uygun örnekleme yöntemiyle seçilen deney ve kontrol gruplarının yazma becerileri ve yazma öz yeterliklerini incelemiştir. Araştırmaya katılacak gruplar, ilkokulda



bulunan dördüncü sınıflardan kura yöntemiyle belirlenmiş ve yazma öz yeterliklerini ölçmek için her iki gruba Yazma Öz Yeterlik Ölçeği uygulanmıştır. Yazma becerileri ise “Su Olmasaydı Ne Olurdu?” başlıklı metinle değerlendirilmiş ve metinler Yazma Becerisi Rubriği’ne göre analiz edilmiştir. Deney grubuna 8 hafta boyunca, haftada 2 saat Türkçe dersi, araştırmacı tarafından hazırlanan eğitsel dijital çizgi romanlar üzerinden işlenmiştir. Her hafta öğrencilere çizgi romanlar aktarılmış ve yazı çalışmaları yapılmıştır. Öğrenciler, ders sonunda düzenledikleri çizgi romanları araştırmacıya göndermiştir. Kontrol grubu ise mevcut sınıf öğretmenleriyle derslerine devam etmiştir.

### **Verilerin Analizi**

Araştırma sürecinde elde edilen ön test ve son test verilerinin analizleri SPSS paket programı uygulaması kullanılarak yapılmıştır. Verilerin normal dağılımlarını kontrol etmek amacıyla Kolmogorov-Smirnov testleri yapılmış, normal dağılımının görülmesi halinde denekler içi ön test son test değerlendirmelerinde bağımlı örneklem t-testi ve denekler arası ön test son test değerlendirmelerinde bağımsız örneklem t-testi uygulanmıştır. Ayrıca veri toplama araçları için Açıklayıcı Faktör Analizi uygulanmıştır.

### **Araştırmanın Etik İzinleri:**

Bu çalışmada “Yükseköğretim Kurumları Bilimsel Araştırma ve Yayın Etiği Yönergesi” kapsamında uyulması gerektiği belirtilen tüm kurallara uyulmuştur. Yönergenin ikinci bölümü olan “Bilimsel Araştırma ve Yayın Etiğine Aykırı Eylemler” başlığı altında belirtilen eylemlerin hiçbiri gerçekleştirilmemiştir.

### **Etik Kurul İzin Bilgileri:**

Etik değerlendirmeyi yapan kurulun adı = Aydın Adnan Menderes Üniversitesi Rektörlüğü Eğitim Araştırmaları Etik Kurulu

Etik Kurul Etik inceleme karar tarihi = 25.04.2024

Etik değerlendirme belgesi konu numarası = 2024/4-VIII

### **Bulgular**

#### **Deney Grubu Öğrencilerinin Öz Yeterlik Değişimleri**

Deney grubu ön test-son test puan ortalamaları arasındaki farkın anlamlı olup olmadığını belirlemek için ilişkili örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 7’de sunulmuştur.

**Tablo 7.**

*Deney Grubu Öğrencilerinin Yazma Öz Yeterlik Ölçeği Ön Test – Son Test Puanları İlişkili Örneklem t-Testi Sonuçları*

Deney	n	M	S	SD	t	p
Ön test	34	59.44	8.30	33	-3.057	.004
Son test	34	65.32	7.06			

Tablo 7 incelendiğinde deney grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği ön test puan ortalamaları (M=59.44; S=8.30) ile deney grubu öğrencilerinin son test puan ortalamaları (M=65.32; S=7.06) olarak hesaplanmıştır. Deney grubu öz yeterlik ölçeği ön test-son test puan ortalamalarına bakıldığında anlamlı bir farklılık olduğu görülmektedir ( $t_{(33)}=-$

3.057;  $p < .05$ ). Eğitsel dijital çizgi romanlarla işlenen Türkçe dersinin, ilkokul dördüncü sınıf öğrencilerinin yazma öz yeterliklerinde olumlu bir artış sağladığı görülmektedir.

### **Kontrol Grubu Öğrencilerinin Öz Yeterlik Değişimleri**

Kontrol grubu ön test ve son testleri farkının anlamlı olup olmadığını belirlemek amacıyla ilişkili örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 8’de sunulmuştur.

**Tablo 8.**

*Kontrol Grubu Öğrencilerinin Yazma Öz Yeterlik Ölçeği Ön Test-Son Test Puanları İlişkili Örneklem t-Testi Sonuçları*

Kontrol	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Ön test	36	55.69	7.42			
Son test	36	56.94	8.88	35	-.565	.056

Tablo 8’e bakıldığında kontrol grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği ön test puan ortalamaları ( $M=55.69$ ;  $S=5.93$ ) ve son test puan ortalamaları ( $M=56.94$ ;  $S=8.88$ ) olarak hesaplanmıştır. Kontrol grubu öz yeterlik ön test-son test puan ortalamalarına bakıldığında anlamlı bir farklılık olmadığı görülmektedir ( $t_{(35)}=-.565$ ;  $p > .05$ ). Eğitsel dijital çizgi romanlar kullanılmadan işlenen Türkçe dersinin, ilkokul dördüncü sınıf öğrencilerinin yazma öz yeterliklerinde anlamlı bir fark yarattığı söylenememektedir.

### **Deney ve Kontrol Grubu Öğrencilerinin Öz Yeterlik Değişimleri**

Deney ve kontrol grubu Yazma Öz Yeterlik Ölçeği son testleri farkının anlamlı olup olmadığını belirlemek amacıyla ilişkili örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 9’da sunulmuştur.

**Tablo 9.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Öz Yeterlik Ölçeği Son Test Puanları İlişkiz Örneklem t-Testi Sonuçları*

Grup	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Deney	34	65.32	7.06			
Kontrol	36	56.94	8.88	68	4.35	.001

Tablo 9’a bakıldığında deney grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği son test puan ortalamaları ( $M=65.32$ ;  $S=7.06$ ) ile kontrol grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği son test puan ortalamaları ( $M=56.94$ ;  $S=8.88$ ) olarak hesaplanmıştır. Deney ve kontrol gruplarına ait, öz yeterlik ölçeği son test puan ortalamalarına bakıldığında anlamlı bir farklılık olduğu görülmektedir ( $t_{(68)}=4.35$ ;  $p < .05$ ). Deney grubu öğrencilerinin lehine olan bu durumda, eğitsel dijital çizgi romanlarla işlenen Türkçe dersinin, ilkokul dördüncü sınıf öğrencilerinin yazma öz yeterliklerini geliştirmede etkili olduğu söylenebilmektedir.

### **Deney Grubu Öğrencilerinin Yazma Becerisi Değişimleri**

Deney grubunun Yazma Becerisi Rubriği ön test-son test puan ortalamaları arasındaki farkın anlamlı olup olmadığını belirlemek için ilişkili örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 10’da sunulmuştur.

**Tablo 10.**

*Deney Grubu Öğrencilerinin Yazma Becerisi Rubriği Ön Test-Son Test Puanları İlişkili Örneklem t-Testi Sonuçları*

Deney	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Ön test	34	8.97	2.62			
Son test	34	16.41	2.50	33	-12.463	.000

Tablo 10 incelendiğinde deney grubu öğrencilerinin Yazma Becerisi Rubriği ön test puan ortalamaları ( $M=8.97$ ;  $S=2.62$ ) ile deney grubu öğrencilerinin Yazma Becerisi Rubriği son test puan ortalamaları ( $M=16.41$ ;  $S=2.50$ ) olarak hesaplanmıştır. Deney grubu öğrencilerinin Yazma Becerisi Rubriği ön test-son test puan ortalamalarına bakıldığında anlamlı bir farklılık olduğu görülmektedir ( $t_{(33)}=-12.463$ ;  $p<.05$ ). Eğitsel dijital çizgi romanlarla işlenen Türkçe dersinin, ilkökul dördüncü sınıf öğrencilerinin yazma becerilerine olumlu bir artış sağladığı görülmektedir.

### **Kontrol Grubu Öğrencilerinin Yazma Becerisi Değişimleri**

Kontrol grubunun Yazma Becerisi Rubriği ön test ve son testleri farkının anlamlı olup olmadığını belirlemek amacıyla ilişkili örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 11’de sunulmuştur.

**Tablo 11.**

*Kontrol Grubu Öğrencilerinin Yazma Becerisi Rubriği Ön Test-Son Test Puanları İlişkili Örneklem t-Testi Sonuçları*

Kontrol	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Ön test	36	7.25	1.25			
Son test	36	11.88	3.03	35	-8.422	.896

Tablo 11’e bakıldığında kontrol grubu öğrencilerinin Yazma Becerisi Rubriği ön test puan ortalamaları ( $M=7.25$ ;  $S=1.25$ ) ve Yazma Becerisi Rubriği son test puan ortalamaları ( $M=11.88$ ;  $S=3.03$ ) olarak hesaplanmıştır. Kontrol grubu Yazma Becerisi Rubriği ön test-son test puan ortalamalarına bakıldığında anlamlı bir farklılık olmadığı görülmektedir ( $t_{(35)}=-8.422$ ;  $p>.05$ ). Eğitsel dijital çizgi romanlar kullanılmadan işlenen Türkçe dersinin, ilkökul dördüncü sınıf öğrencilerinin yazma becerilerinde anlamlı bir fark yarattığı söylenememektedir.

### **Deney ve Kontrol Grubu Öğrencilerinin Yazma Becerisi Değişimleri**

Deney ve kontrol grubuna ait Yazma Becerisi Rubriği son testleri farkının anlamlı olup olmadığını belirlemek amacıyla ilişkisiz örneklem t-testi uygulanmıştır. Analiz sonuçları Tablo 12’de sunulmuştur.

**Tablo 12.**

*Deney ve Kontrol Grubu Öğrencilerinin Yazma Becerisi Rubriği Son Test Puanları İlişkisiz Örneklem t-Testi Sonuçları*

Grup	<i>n</i>	<i>M</i>	<i>S</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Deney	34	16.41	2.32			
Kontrol	36	11.88	3.03	68	6.976	.027

Tablo 12’ye bakıldığında deney grubu öğrencilerinin deney grubunun Yazma Becerisi Rubriği son test puan ortalamaları ( $M=16.41$ ;  $S=2.32$ ) ile kontrol grubu öğrencilerinin Yazma Öz Yeterlik Ölçeği son test puan ortalamaları ( $M=11.88$ ;  $S=3.03$ ) olarak hesaplanmıştır. Deney ve kontrol gruplarına ait Yazma Becerisi Rubriği son test puan ortalamalarına bakıldığında anlamlı bir farklılık olduğu görülmektedir ( $t_{(68)}=6.976$ ;  $p<.05$ ). Deney grubu öğrencilerinin

lehine olan bu durum incelendiğinde, eğitsel dijital çizgi romanlarla işlenen Türkçe dersinin, ilkokul dördüncü sınıf öğrencilerinin yazma becerilerinin gelişimine katkıda bulunduğu söylenebilmektedir.

## **Tartışma ve Sonuç**

Bu çalışmada eğitsel dijital çizgi romanlar kullanılarak işlenen Türkçe dersinin ilkokul dördüncü sınıf öğrencilerinin yazma becerilerine ve yazma öz yeterliklerine etkisi incelenmiştir. Araştırma sürecinde elde edilen sonuçlar alanda yapılan benzer araştırma sonuçlarıyla karşılaştırılıp tartışılmıştır. Araştırma kapsamında ilkokul dördüncü sınıf öğrencilerinin yazma becerilerini değerlendirmek için Yazma Becerisi Rubriği kullanılmış ve süreç boyunca toplanan yazma içerikleri; kelime seçimi, dil bilgisi, okunabilirlik ve mekaniklik açısından incelenmiştir. Diğer bir değişken olan yazma öz yeterliğini değerlendirmek için Yazma Öz Yeterlik Ölçeği kullanılmış, uygulama sürecinin başında ve sonunda grupların öz yeterlikleri yazma tutumu, bağımsız yazma, yansıtıcı yazma ve yazma direnci açısından incelenmiştir. Uygulama öncesinde yazma becerisi ve yazma öz yeterliği birbirine denk olarak bulunan deney ve kontrol grubunda uygulama sonrası deney grubunun kontrol grubuna oranla yazma becerisi ve yazma öz yeterliklerinin yüksek olduğu görülmüştür.

Literatürden elde edilen bilgiler doğrultusunda yazma becerisinin bütün dil becerilerinin birikimli bir şekilde ilerlemesinin sonucunda ortaya çıktığı ve bilişsel süreç gelişiminin ayrılmaz bir parçası olduğu ortaya konulmuştur. Yazma becerisi ile karşılıklı ve doğrudan ilişkili olan yazma öz yeterliğinin, dil edinim ve gelişim süreçlerinde önemli bir role sahip olduğu görülmüştür. Aynı zamanda ilkokul dördüncü sınıfta artış gösterdiği görülen yazma becerisinin gelişimini nitelikli ve doğru yönlendirmek dördüncü sınıf öğrencileri için önemli olduğu görülmektedir. Dil becerilerinin en son ve en zor kazanılan becerisi olan yazma becerisi ve yazma öz yeterliğinin gelişiminde çağa uygun yeni yöntem ve tekniklerin kullanılmasının önemi literatürdeki çalışmalarla desteklenmiştir. Çalışmalarda görsel yardımcılarının, özellikle çizgi romanların, öğretim süreçlerine dahil edilmesini ve daha iyi öğrenme sonuçları elde etmek için bu tür araçların kullanımını önerilmektedir. Bütün bu çalışmalar araştırmada kullanılan kavramların önemini ortaya koymakta ve araştırma sonucunu destekler niteliktedir.

## **Öneriler**

Araştırmada eğitsel dijital çizgi romanlar araştırmacı tarafından geliştirilmiştir. Eğitim ortamında çeşitlilik ve yaratıcılığın desteklenmesini artırmak halinde çizgi romanlar öğrencilere de tasarlatılabilir.

Araştırmada eğitsel dijital çizgi romanların yazma gibi gelişimi zor bir beceri gelişiminde etkili olduğu ve derslerin daha akıcı, açık ve anlaşılır geçtiği görülmüştür. Buradan hareketle anlaşılması zor, dikkati sağlamakta zorlanılan ders veya konular için eğitsel dijital çizgi romanlar geliştirilebilir.

Araştırma, yazma becerisi kazanımının yoğun artış gösterdiği ilkokul dördüncü sınıflara yönelik olarak yapılmıştır. Yazma becerisinin ilk kazanım sağlandığı ilkokul birinci sınıf döneminde ve yazma becerisini geliştirmeye devam eden diğer sınıf düzeylerinde eğitsel dijital çizgi romanlar geliştirilebilir.

Dijital çizgi romanların sunduğu görsellik, akıcılık ve kolay anlaşılabilirlik neticesinde; problem çözme, okuryazarlık, iletişim, araştırma, yaratıcılık, analitik düşünme ve eleştirel düşünme gibi becerilere etkisini inceleyen çalışmalar yapılabilir.