

## Constructivist Based Story Writing Training: A Mixed Method Research\*

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### ABSTRACT

The research aims to improve the fictional story writing skills of primary school students within the framework of constructivism and narratology. The research model was structured as an embedded design, incorporating the qualitative process within the experimental design of the mixed-method research. According to the results, narrative elements, story organization, and post-test story writing total scores of the experimental group students increased. Similarly, an increase was found in the post-test story writing total scores in the control group. Although no significant difference was found between the pre-test total story writing scores of the experimental and control groups, the experimental group showed a greater increase in post-test scores compared to the control group. When the qualitative data were analyzed, it was determined that the experimental group students' awareness of story writing increased significantly more than that of the control group students. These results show that constructivist-based story-writing training improves fictional story-writing skills.

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### Statement of Publication Ethics

Marmara University, Institute of Educational Sciences Research and Publication Ethics Committee decided that the research was ethically appropriate with the decision of the ethics committee dated 09.09.2022 and numbered 07-21 approval.

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The authors contributed equally to the article.

### Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### References

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## Introduction

### Constructivist Approach

Constructivism, initially articulated by Socrates two millennia ago as "knowledge being only perception" (Şimşek, 2004, p. 117), was later expressed by Giambattista Vico as *verum ipsum factum*: "to know something is to have made it and to be able to explain it" (Glaserfeld, 1984, p. 27). Kant (1993, p. 13), in his seminal work *Critique of Pure Reason*, posited that knowledge begins with experience. Piaget's cognitive constructivism, an epistemological approach that gained prominence in the last quarter of the 20th century (Arslan, 2007, p. 58), posits that knowledge does not represent an independent reality but rather serves an adaptive function (Glaserfeld, 2007, p. 3). This approach is predicated on the individual's active construction of knowledge based on their experiences (Hanley, 1994, p. 2). According to Piaget, individuals utilize their existing mental schemas and thought structures, reorganizing them when confronted with new information that is incompatible with their current understanding. In this manner, they resolve the cognitive dissonance by developing new schemas. In essence, constructivism is defined as the assimilation of new information with prior knowledge, thereby facilitating new learning. Students engage in a constructive process wherein they actively construct and organize knowledge (Bruning, Schraw & Norby, 2014, pp. 213-214; Scholnik, Kol & Abarbanel, 2016, p. 14; Slavin, 2015, pp. 31-32).

Another prominent approach is social constructivism. Emphasizing the social origins of cognition and the profound influence of social interaction on learning, Vygotsky's educational philosophy underscores the interplay between human rationality and the external world (Liu & Matthews, 2005, p. 398). Vygotsky emphasized the crucial role of social interaction between learners and their environment in the learning process (Pritchard, 2009, p. 24). Children learn about the world they live in through adults (Vygotsky, 2018, p. 54).

According to Glaserfeld, who was influenced by Giambattista Vico and Piaget, radical constructivism concerns the individual's subjective construction of reality within the human mind (Öztürk, 2014, p. 91; Glaserfeld, 1989b, p. 124). According to Vico, the construction of knowledge is not limited to an objective reality that is neither experienced nor known. Knowledge, in Vico's view, should represent a perceived reality that is considered to exist independently of the individual (Glaserfeld, 1995a, p. 3).

### Narratology: Narrative and Story

Narratological studies commenced in 1966, although the term "narratology" itself was first coined by Tzvetan Todorov in 1969 (Dervişcemaloğlu, 2014, p. 29). Fludernik (2005, p. 36) delineates the history of narratology as comprising two primary periods: the first encompassing the foundational work of Todorov, Barthes, and Greimas, and the second marked by the contributions of Gérard Genette, F. K. Stanzel, Mieke Bal, Seymour Chatman, Gerald Prince, and Susan Lanser. It should be noted that narratology theorists such as Henry James, Wayne Booth, and Mikhail Bakhtin each advanced distinct theories, often employing their own unique terminologies (Çıraklı, 2015, p. 23). Examining definitions of narrative, Chatman (2008, p. 23) asserts that narrative comprises both story and discourse. Jahn (2012, p. 45) offers a similar perspective to Chatman. The story pertains to content, whereas discourse encompasses form and style. Gerald Prince (1982, p. 4) defines narrative as the representation of at least two real or fictionalized events in a temporal sequence, not

necessarily implying a cause-and-effect relationship. Mieke Bal (1999, p. 16) describes narrative in terms of narrator and perspective and considers the elements of narrative as parts of a whole. Consequently, narrative can be defined as the analysis of the interconnectedness of events arranged within a temporal framework. Stories are integral components of these narratives and fall under the purview of narratology, a distinct field of study (Todorov, 2011, p. 59). This narrative style is fundamentally event-based (Karadağ, 2003, p. 86). Forster (1985, p. 128) defines the story as a chronologically ordered sequence of events, positing it as the foundational element of the novel. Stories, centering on human conflict and its chronological resolution, serve as a sociological reflection of a society's values, goals, and beliefs (Stein, 1988, p. 282).

## **Writing**

Writing is a complex skill acquired through the intricate coordination of cognitive and psychomotor processes, honed through consistent practice. Despite its significance, the precise mechanisms by which children produce their initial texts and how this nascent writing relates to the final written product remain relatively unexplored (von Koss Torkildsen, Morken, Helland & Helland, 2016, p. 530). Flower and Hayes (1981) conceptualized the writing process as encompassing three distinct stages: planning, translating (or transcribing), and revising. The 4+1 Planned Writing and Assessment Model comprises several key stages: preparation (which includes techniques such as brainstorming, research, observation, and experience sharing to elicit students' prior knowledge); planning (where the topic and purpose of the writing are established); drafting (where initial text is produced); revising (where the written work is refined and corrected for content, spelling, and punctuation); and publishing (where the final writing is shared through various platforms, such as a classroom board or school website) (Karatay, 2013, pp. 28-30).

## **Research Aim and Research Questions**

In the process of story writing, children often draw upon familiar narratives, either rewriting them or extending them through their own creative elaborations. They are capable of both narrating personal memories and crafting original fictional stories (Tompkins, 2003, p. 50). Naturally, certain discourse types emerge earlier in development than others. For instance, more complex narrative forms, such as novel or short story writing, typically develop later, whereas the narration of personal experiences emerges earlier in childhood (Shiro, 2003, p. 166). Existing literature also indicates that children tend to produce a greater number of personal narratives compared to fictional narratives (Ghezzi, Bijou, Umbreit & Chao, 1987; Allen, Kertoy, Sherblom & Petit, 1994; Shiro, 2003). Children inherently utilize personal narratives more frequently than fictional narratives within their social interactions. This practice facilitates the development of a better structure in personal narratives compared to fictional stories (Peterson, Jesso & McCabe, 1999, p. 65). Berman (1995) posits that while children may demonstrate proficiency in recounting personal experiences, they often encounter challenges in constructing original fictional narratives. This research integrated the thematic approach and constructivism (Ashokan, 2014, p. 49; Çeçen & Çiftçi, 2007, p. 41), enabling students to explore the subject matter in depth within a defined thematic framework, and combined this with narratology, which emphasizes the sequence, unity, and interconnectedness of events in narrative fiction (Rimmon-Kenan, 2005; Chatman, 2008). Addressing the aforementioned challenges, this study aims to enhance the fictional story writing skills of fourth-grade primary school students through an integrated framework encompassing constructivist principles, the thematic approach, and narratological concepts.

The following research questions, both quantitative and qualitative, were formulated to guide this study:

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the experimental and control group students?

➤ What is the awareness of the experimental and control group students about story writing before and after the research?

To further investigate these overarching questions, the following sub-questions were addressed:

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the experimental group students?

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the experimental group students in terms of including narrative elements in their stories?

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the experimental group students in terms of story organization?

➤ Is there a statistically significant difference between the post-test story writing scores and retention test story writing scores of the experimental group students?

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the control group students?

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the control group students in terms of including narrative elements in their stories?

➤ Is there a statistically significant difference between the pre-test story writing scores and post-test story writing scores of the control group students in terms of story organization?

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➤ Is there a statistically significant difference between the pre-test story writing scores of the experimental and control group students in terms of story organization?

➤ Is there a statistically significant difference between the post-test story writing scores of the experimental and control group students?

➤ Is there a statistically significant difference between the post-test story writing scores of the experimental and control group students in terms of including narrative elements in their stories?

➤ Is there a statistically significant difference between the post-test story writing scores of the experimental and control group students in terms of story organization?

➤ How is the awareness of the experimental and control group students about story writing before the research?

➤ How is the awareness of experimental and control group students about story writing after the research?

## Methodology

## Research Design

This research, designed to enhance constructivist-based story writing skills in primary school children, employed an embedded mixed methods design, with the qualitative data collection and analysis integrated into the overarching experimental framework. The quantitative component of the study utilized a quasi-experimental design with pre-test and post-test measurements and a control group. Concurrently, the qualitative phase involved the administration of a story writing awareness assessment before and after the quantitative intervention to provide a deeper understanding of student perspectives. The experimental group's intervention was facilitated by the researcher, while the control group's instruction followed the regular curriculum and was delivered by the classroom teacher. The research was conducted over a nine-week period, from April 10, 2023, to June 9, 2023, excluding the time dedicated to the administration of data collection instruments.

## Publication Ethics

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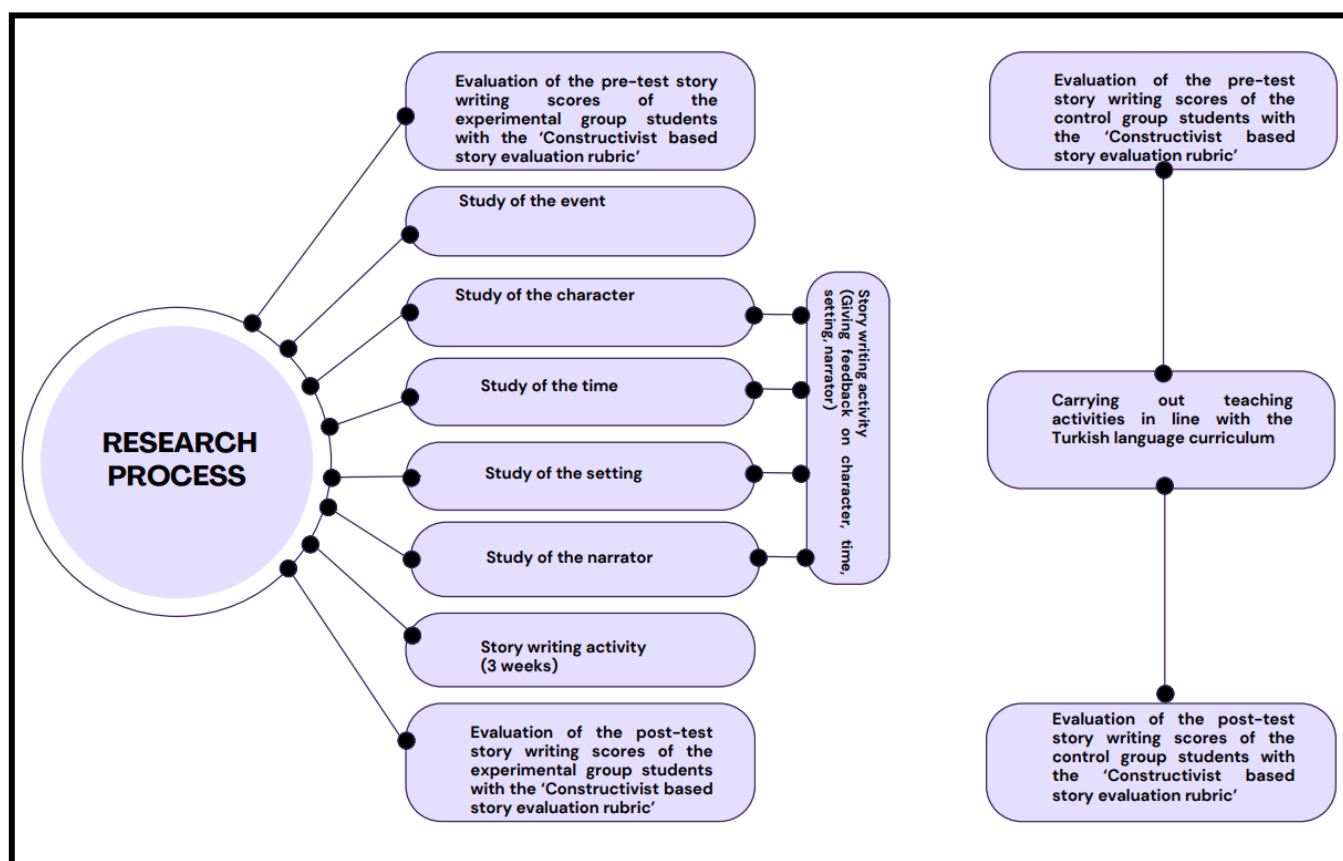
## Participants

The research was carried out with a total of 44 students in the experimental group and the control group, who were studying in the 4th grade in a primary school in Istanbul. The participants comprised 43 fourth-grade students from two different classes in a primary school located on the European side of Istanbul. To determine the experimental and control groups, all fourth-grade classes (A, B, C, D, E, F, G) at the school were assigned to write a story with the theme of animals. The resulting stories ( $f_A=17$ ,  $f_B=17$ ,  $f_C=23$ ,  $f_D=20$ ,  $f_E=21$ ,  $f_F=23$ ,  $f_G=20$ ) were assessed using the "Constructivist-Based Story Evaluation Rubric." Based on both the rubric scores and the first-semester Turkish course grade point averages for the 2022-2023 academic year, classes B and D, which exhibited the lowest and most similar grade point averages, were selected and paired. Class D was randomly assigned to the experimental group, and class B to the control group.

## Research Process

Prior to developing the experimental materials, a comprehensive literature review was conducted, focusing on constructivist learning principles and narratological theory. Aligned with the tenets of constructivist pedagogy, activities were designed to promote student agency and active participation, with the teacher serving as a facilitator rather than a didactic instructor. The theme of "animals" was selected to provide a focal point and enhance student concentration during the story writing process. Key narrative elements—event, character, time, setting, and narrator perspective—were identified and incorporated into the instructional design, drawing upon established narratological frameworks. Interactive activity pages were created using the digital design platforms Canva and Story Jumper.

The research process is illustrated in Figure 1 below.



**Figure 1.** Research Process

The experimental group received the intervention over a nine-week period from April 10 to June 9, 2023, while the control group continued with their standard Turkish language curriculum during the same timeframe. After completing instructional activities focused on narrative character elements, students began writing stories and receiving feedback.

Each week, students responded to different initiating event prompts such as "The bat came out of the cave one morning," "The house cat saw the stray cat through the window," and "They came to Africa to film a documentary." These story writing assignments were completed as homework. The researcher collected the stories, provided feedback based on narrative elements, and returned them to students. Students who incorporated the feedback and revised their work shared their updated stories with the researcher.

Following instruction on narrative elements (event, character, time, place, and narrator), students participated in three weeks of in-class story writing activities. The first activity involved a whole-class exercise using the prompt "Bees said they would not make honey." The class collaboratively completed a story planning template on the smart board and wrote a story with full class participation.

For the second activity, students worked in groups of four with the prompt "The aircraft landed hard." Each group jointly completed the story planning template, wrote their collaborative story, and received evaluation afterward. The third activity required independent work, with students individually planning and writing stories based on the prompt "The turtle drank water from the river."

The experimental group's instructional activities were organized into three categories: individual activities, group activities, and whole-class activities. Examples of these activities and excerpts from student stories are provided below.



**B. OLAYIN FARKINA VARMA**

✓ Öğrencilerinizden resimleri öncelik sonralık sırasına uygun sıralamalarını isteyiniz.

1. Karışık verilen resimleri olayın gerçekleştiği sıraya göre sırala.



1. Karışık verilen resimleri olayın gerçekleştiği sıraya göre sırala.



✓ Öğrencileriniz sıralama yaparken aşağıdaki sorularla zihinsel şemalarını harekete geçiriniz:

✓ Sabah olduğunu nasıl anlarız?

✓ Sabah uyanınca sırayla neler yaparız?

✓ Resimlerdeki kedide dikkatinizi çeken nedir?

✓ Size göre kedi neden ağlamaktadır? Bunu nasıl anladınız?

✓ Öğrencilerinizin sıralamalarını kontrol ediniz.

✓ Farklı sıralama yapan öğrenciniz varsa nedenini gerekçelendirmesini isteyiniz.

✓ Öğrencilerinizden resimlerde anlatılan olayı arkadaşlarına anlatmalarını isteyiniz.

2. Sıraladığınız resimleri tekrar incele. Olayı arkadaşlarına anlat.

**BİREYSEL ÇALIŞMA**

**5. HAFTA****C. MEKÂNİ BETİMLEME**

✓ Resmi yansıtınız.

✓ Öğrencilerinizden resmi anlatmalarını isteyiniz.

6. Gördüğün resmi anlat.

✓ Sorularla yönlendirme yapınız.

✓ Burası neresi olabilir?

✓ Gördüklerini detaylı olarak anlatır mısın?

✓ Öğrencilerinizi "Kiremit kırmızı değirmen gökyüzünün mavisine değişiyordu." "Yeşilin tonlarını yansıtan ağaçlar pamuk şekeri bulutlarla kucaklaşıyordu." şeklinde betimlemeler yapmaya yönlendiriniz.

✓ Burada hangi hayvanlar yaşıyor olabilir?

✓ Bu hayvanlar ne tür olaylar yaşıyorlardır?

**SINIF ETKİLEŞİMLİ ÇALIŞMA**



- ✓ Öğrencilerinize kış uykusundan uyanan aylarla ilgili haberi okumasını söyleyiniz.
- ✓ Daha sonra "Ayı Popi" isimli öyküyü okumalarını isteyiniz.

### GRUP ÇALIŞMASI

#### Kış uykusundan uyanan aylar için Nemrut Dağı'na yiyecek bırakıldı

Bitlis'in Tatvan ilçesindeki Nemrut Dağı'nın zirvesinde bulunan Nemrut Krater Gölü çevresinde yaşayan bazı aylar için doğaya yiyecek bırakıldı.

14 Mart 2023



Bitlis'in Tatvan ilçesindeki Nemrut Dağı'nın zirvesinde bulunan Nemrut Krater Gölü çevresinde yaşayan bazı aylar için doğaya yiyecek bırakıldı. Geçen yıl ki yaz sezonu boyunca Nemrut Krater Gölü'ne ziyaretçi gelen yerli ve yabancı turistlerin kendi elleriyle besledikleri iki yavru boz ayı, kış mevsiminin araya girmesiyle birlikte uzunca bir süre kış uykusuna yattılar. Kentte havaların yavaş yavaş soğumasıyla birlikte Nemrut Dağı'nın zirvesi başta olmak üzere yüksek kesimlerdeki karlar da erimeye başladı. Havaların yavaş yavaş ısınmaya başladığı Bitlis'te vatandaşlar uzun bir süredir kış uykusunda olan yavru boz ayıları unuttu. Yaz sezonu boyunca ayları kendi elleriyle besleyen vatandaşlar, aylar için yeniden olduğu Nemrut Dağı'nda adı. Mayıs ayına rağmen kar kalınlığının halen yer yer 10 metreyi bulduğu Nemrut Dağı'na çıkan vatandaşlar, kış uykusundan uyanmış olma ihtimaline karşı aç kalmalarını diye iki boz ayı yavrusu için Nemrut Dağı'na yiyecek bıraktı.

Tekir Orman'ında da kış hazırlıkları yazdan başlayıyordu. Kimi hayvanlar yiyeceklerini yuvalarına taşıyor kimileri ise yuvalarında depolamak için fazla besleniyorlardı. Ayı Popi ve ailesi de bu hayvanlardandı. Bütün kış yetecek kadar yiyeceği yemeli, enerjilerini depolamalıydı ancak bir sorun vardı. Ayı Popi yemek yemeyi sevmiyor, etraftaki çiçeklerle karnını doyurmaya çalışıyordu. Annesi ısrarla beslenmesi gerektiğini söylese de Popi, annesini dinlemiyordu. Günler günleri kovaladı. Kasım ayında bir salı günü öğleden sonra Popi ve ailesi kış geçirecekleri mağaraya doğru yola koyuldular. İki gün süren yolculuktan sonra mağaralarına vardılar. Hepsi çok yorulmuştu. Kendilerine uygun bir köşe bulup vakit kaybetmeden uykuya daldılar. Ayı Popi de başına geleceklerden habersiz uykuya daldı.

Ocak ayının ilk pazartesi bir gürültüde mağarada. Ayı Popi'nin midesinden geliyordu bu gürültü. İlk önce anlam veremedi Popi. Rüyada sandı kendisini. Gözlerini açtığında mağaradaki herkes uyuyordu. Sağa döndü, sola döndü, koyun saydı, yine de bir türlü uykuya tutmadı. Çok acıktığından uyumayı beceremiyordu.

Yaz aylarını düşünürken birden, O sıcak Ağustos'a gitti aklı. Ne sıcak ne güzel günlerdi. Etraf yiyecek doluydu. Annesinin ona, kışın sert geçeceğini söylediği günü düşünürdü. "Keşke bolca yeseydim de enerji depolasaydım," dedi. "Sadece çiçekle beslenmek nedir?" diye kendine kızdı. Düşüldü düşüncelerden irkildi ve mağarada olduğunu hatırladı tekrar. Tüm ailesi derin bir uykudaydı. Bahara bir hayli vakit vardı. Bir çözüm bulmalıydı. Bir çözüm bulup karnını doyurmalı ve yeniden uykuya yattı.

Biraz ürkek biraz da umutsuz mağaradan başını uzattı. Gördüğü manzara onu hem büyüledi hem de korkuttu. Her yer bembeyazdı. Kar yağmıyordu ama gökyüzü kapalıydı. Yavaş yavaş mağaradan çıktı. Patika yol karlarla kaplanmış ancak bir ayı için geçmesi çok da zor bir yol değildi. Biraz ilerledikten sonra uzakta iki insan gördü. Onları korkutmamak için bir taşın arkasına geçip beklemeye başladı. İnsanlar etrafı bir şeyler bırakıyorlardı. Bir süre sonra geldikleri yoldan geri dönüp gözden kayboldular. Ayı Popi, insanların ne bıraktığını merak edip oraya doğru yürümeye başladı. Yaklaşıkça gördükleri karışında güllerine inanamadı. Bir sürü balık karışında duruyordu.

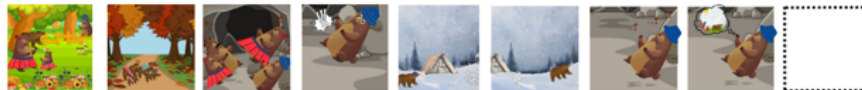
"Kışın hayvanlar aç kalmam diye yiyecek bırakmaya gelmişler demek ki," dedi. Ah şu insanlar... Bazıları doğaya zarar verirken bazıları da ne kadar iyi yürekli," diye geçirdi içinden. Balıklarla karnını doyurdu. Hepsinin bitirmesi için ki aç olan başka hayvanlar da beslenebildi bu balıklarla. Tok bir halde mağaraya geri döndü. Köşesine çekildi ve uykuya daldı. Rüyasında mart ayı gelmişti. Artık uyanma vaktiydi. Annesi Ayı Popi'yi uyandırmaya çalışıyor, o gözlerini açmıyordu. "Ne uykucu çocuk," dedi annesi Ocak ayında Popi'nin uyanacağını bilmeden. "Ne zamanında yemek yiyor ne zamanında uyanıyor," diye ekledi. Yavrusunu kucağına alıp mağaradan hep birlikte çıktılar. Doğa uyanıyor, etraf yeşilleniyor, bahar yaz müddeliyordu. Birden irkildi Popi. Gözlerini araladı. "Hımm, sadece bir rüyaymış, çok uykum var. Annem beni uyandırana kadar gülerimi açmayacağım," diye düşündü ve bahara dek sürece derin bir uykuya daldı.

#### B. ZAMANDA SIÇRAMA YAPMA

- ✓ Öğrencilerinizi sınıf sayınıza göre eşit gruplara ayırınız.
- ✓ Öyküye ait "zaman çizgisini" ve resimleri dağıttınız.
- ✓ Resimleri karışık dağıtmaya dikkat ediniz.
- ✓ Öyküye ait resimleri sıralamalarını ve olayların gerçekleştiği zamanları öyküden bularak zaman bölümüne yazmalarını isteyiniz.

2. Aşağıda Ayı Popi isimli öyküde gerçekleşen olaylar sıralı biçimde verilmiştir.

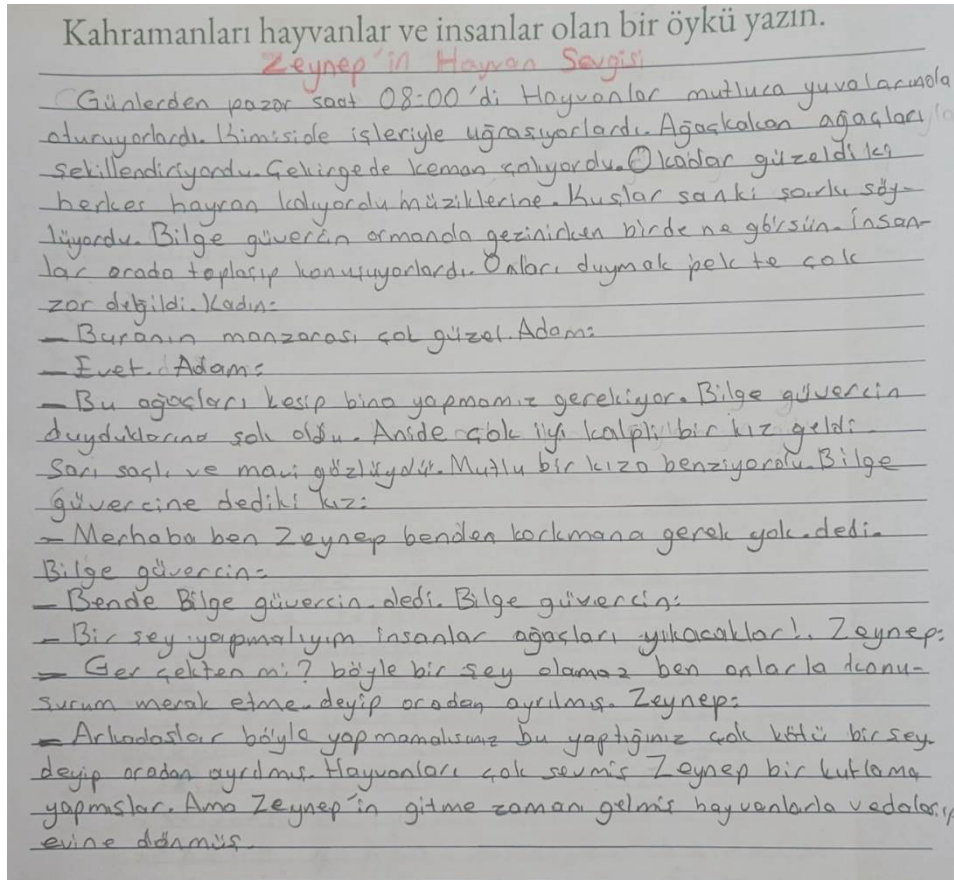
- ✓ Öyküye ait resimleri olayların sırasını dikkate alarak yapıştırınız.
- ✓ Öyküye göre olayların ne zaman gerçekleştiğini olayların altındaki boş olan bölümlere yazınız.



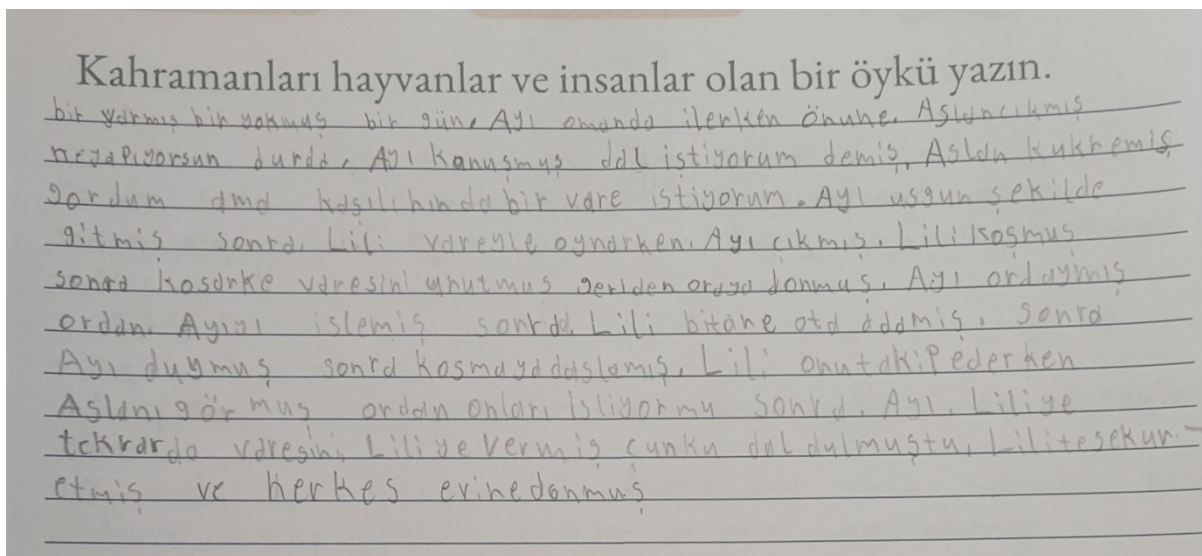
- ✓ Öyküde kırmızı yazı ile yazılmış bölüme dikkat çekiniz.
- ✓ Zamanda yaşanan kışın ve Ayı Popi'nin zamanda geri sıçramasını buldurmaya çalışınız.



**Figure 2.** Examples of Activities Implemented with the Experimental Group and Corresponding Teacher Instructions



**Figure 3.** Examples of Stories Written During the Pre-test Phase of the Research



**Figure 4.** Examples of Stories Written During the Post-test Phase of the Research

## **Data Collection and Analysis**

### **Constructivist-Based Story Evaluation Rubric**

A valid and reliable analytical rubric was developed specifically for this research to assess constructivist-based story writing at the primary school level. The development process involved 30 fourth-grade students from a primary school in Istanbul who wrote stories on topics of their choice. To ensure inter-rater reliability, both the researcher and a classroom teacher independently scored these stories. Pearson's product-moment correlation coefficient was calculated to assess inter-rater agreement and determine the rubric's validity in measuring the intended construct. Additionally, Cronbach's alpha ( $\alpha$ ) was used to evaluate the internal consistency of the inter-rater scoring, while Cohen's kappa coefficient quantified the level of agreement between the two raters. The analysis yielded a valid and reliable rubric suitable for evaluating primary school students' story compositions.

### **Data Collection: "How Do I Write My Story?" Form**

The "How Do I Write My Story?" instrument was designed as an open-ended questionnaire to assess story writing awareness among both experimental group students engaged in the intervention and control group students following the standard Turkish Language Teaching Programme (2019). During development, feedback was obtained from four classroom teachers. Initially containing three questions, the form was subsequently refined to a single, open-ended question. A pilot test was conducted with five fourth-grade students, after which final revisions were made before implementing the form in the main study.

### **Quantitative and Qualitative Data Analysis**

For quantitative analysis, parametric tests were employed after confirming data normality. Qualitative data were analyzed using content analysis with MAXQDA 2022 software. The two data types were analyzed independently. The Shapiro-Wilk test determined that pre-test story writing scores of both experimental and control groups ( $SW = .930$ ,  $df = 21$ ,  $p > .05$ ;  $SW = .915$ ,  $df = 21$ ,  $p > .05$ ) and post-test scores ( $SW = .971$ ,  $df = 21$ ,  $p > .05$ ;  $SW = .934$ ,  $df = 21$ ,  $p > .05$ ) were normally distributed. Further analysis of skewness and kurtosis values confirmed that all score distributions fell within the -1.500 to +1.500 range, which according to Tabachnick and Fidell (2013) indicates normal distribution. Based on these findings, parametric tests were selected for data analysis. Dependent samples t-tests were used to analyze pre-test and post-test scores within each group, while independent samples t-tests compared scores between groups. Cohen's kappa coefficient assessed inter-rater reliability by quantifying agreement between raters (Cohen, 1960, p. 38).

Analysis of Cohen's kappa coefficients revealed excellent agreement ( $\kappa = 0.94$ ) for the experimental group's pre-test scores, and strong agreement for the experimental group's post-test scores ( $\kappa = 0.81$ ), control group's pre-test scores ( $\kappa = 0.82$ ), and control group's

post-test scores ( $\kappa = 0.83$ ). These results demonstrate high inter-rater reliability across all assessments.

For qualitative data analysis, although narrative element themes were predetermined, new themes emerged from student responses. Six themes were identified from the experimental group's post-test responses: event, character, time, space, story organization, and language and presentation. The codes within each theme were quantified and presented using frequencies and percentages. Due to limited responses in the experimental group's pre-test and the control group's pre- and post-tests, comprehensive thematic analysis was not feasible; therefore, only frequencies and percentages of identified codes are presented for these datasets.

## Results

### Story Writing Scores of Experimental Group Students

A statistically significant difference was found between the experimental group's pre-test and post-test story writing scores, favoring the post-test ( $t(22) = -8.09, p < .05$ ). It was seen that there was an increase between the students' pre-test ( $\bar{X}_{\text{Pre-test}} = 1.41$ ) and post-test story writing scores ( $\bar{X}_{\text{Post-test}} = 2.15$ ).

Statistically significant differences favoring the post-test were found between the pre-test and post-test scores for the following narrative elements: relationship between narrative elements ( $t(22) = -4.74, p < .05$ ), event ( $t(22) = -5.00, p < .05$ ), character ( $t(22) = -5.52, p < .05$ ), time ( $t(22) = -6.57, p < .05$ ), and setting ( $t(22) = -3.76, p < .05$ ). When the pre-test and post-test results of the students were analyzed, it was observed that there was an increase in the mean scores of relationship between narrative elements ( $\bar{X}_{\text{Pre-test}} = 1.52$ ;  $\bar{X}_{\text{Post-test}} = 2.21$ ), plot ( $\bar{X}_{\text{Pre-test}} = 1.56$ ;  $\bar{X}_{\text{Post-test}} = 2.17$ ), character ( $\bar{X}_{\text{Pre-test}} = 1.17$ ;  $\bar{X}_{\text{Post-test}} = 2.08$ ), time ( $\bar{X}_{\text{Pre-test}} = 1.43$ ;  $\bar{X}_{\text{Post-test}} = 2.52$ ), setting ( $\bar{X}_{\text{Pre-test}} = 1.82$ ;  $\bar{X}_{\text{Post-test}} = 2.21$ ).

There was a statistically significant difference between pre-test and post-test exposition ( $t(22) = -4.05; p < .05$ ), climax ( $t(22) = -5.72; p < .05$ ), resolution ( $t(22) = -5.10; p < .05$ ) scores in favour of the post-test. It was seen that there was an increase in the mean scores of exposition ( $\bar{X}_{\text{Pre-test}} = 1.47$ ;  $\bar{X}_{\text{Post-test}} = 2.17$ ), climax ( $\bar{X}_{\text{Pre-test}} = 1.26$ ;  $\bar{X}_{\text{Post-test}} = 2.00$ ), resolution ( $\bar{X}_{\text{Pre-test}} = 1.08$ ;  $\bar{X}_{\text{Post-test}} = 1.86$ ).

When the results of the post-test and retention test story writing scores were examined, it was found that there was no statistically significant difference between the post-test and retention test story writing scores ( $t(22) = -1.67; p > .05$ ). It was seen that there was an increase between the post-test ( $\bar{X}_{\text{Post-test}} = 2.15$ ) and retention test story writing scores ( $\bar{X}_{\text{Retention-test}} = 2.31$ ).

### Story Writing Scores of Control Group Students

A statistically significant difference was found between the control group's pre-test and post-test story writing scores, favoring the post-test ( $t(20) = -2.29; p < .05$ ). It was seen that there was an increase between the students' pre-test ( $\bar{X}_{\text{Pre-test}} = 1.36$ ) and post-test story writing scores ( $\bar{X}_{\text{Post-test}} = 1.52$ ).

No statistically significant differences were found between the pre-test and post-test scores for the following narrative elements: relationship between narrative elements ( $t_{(20)} = -1.14$ ;  $p > .05$ ), character ( $t_{(20)} = -0.32$ ;  $p > .05$ ), time ( $t_{(20)} = -1.10$ ;  $p > .05$ ) and setting ( $t_{(20)} = -0.00$ ;  $p > .05$ ). There was a statistically significant difference between event ( $t_{(20)} = -2.82$ ;  $p < .05$ ) score in favour of post-test. It was seen that there was an increase between the mean scores of relationships between narrative elements ( $\bar{X}_{\text{Pre-test}} = 1.47$ ;  $\bar{X}_{\text{Post-test}} = 1.61$ ), event ( $\bar{X}_{\text{Pre-test}} = 1.33$ ;  $\bar{X}_{\text{Post-test}} = 1.61$ ), time ( $\bar{X}_{\text{Pre-test}} = 1.61$ ;  $\bar{X}_{\text{Post-test}} = 1.76$ ). However, there was a decrease between the students' character pre-test and post-test mean scores ( $\bar{X}_{\text{Pre-test}} = 1.23$ ;  $\bar{X}_{\text{Post-test}} = 1.19$ ). The mean score for the setting element remained constant from pre-test to post-test ( $\bar{X}_{\text{Pre-test}} = 1.76$ ;  $\bar{X}_{\text{Post-test}} = 1.76$ ).

While there was no statistically significant difference between the pre-test and post-test exposition ( $t_{(20)} = -1.67$ ;  $p = .05$ ) and resolution ( $t_{(20)} = -1.36$ ;  $p > .05$ ) scores, there was a statistically significant difference between the climax ( $t_{(20)} = -2.03$ ;  $p < .05$ ) scores in favour of the post-test. It was seen that there was an increase between the mean scores of the students' exposition ( $\bar{X}_{\text{Pre-test}} = 1.42$ ;  $\bar{X}_{\text{Post-test}} = 1.71$ ), climax ( $\bar{X}_{\text{Pre-test}} = 1.04$ ;  $\bar{X}_{\text{Post-test}} = 1.33$ ), solution ( $\bar{X}_{\text{Pre-test}} = 1.04$ ;  $\bar{X}_{\text{Post-test}} = 1.19$ ).

### Pre-test Story Writing Scores of Experimental and Control Group Students

The results of the independent samples t-test comparing the pre-test story writing scores of the experimental and control groups are presented in Table 1.

As shown in Table 1, there was no statistically significant difference between the pre-test story writing scores of the experimental and control groups ( $t_{(42)} = 0.51$ ;  $p > .05$ ).

It was seen that there was not a large difference between the mean story writing scores of the experimental group and control group students ( $\bar{X}_{\text{Experimental Group}} = 1.41$ ;  $\bar{X}_{\text{Control Group}} = 1.36$ ).

**Table 1.** Independent Samples t-test Results for Pre-test Story Writing Scores of Experimental and Control Groups

	Groups	N	$\bar{X}$	SS	t	df	p
Pre-test	Experimental Group	23	1.41	0.34	0.51	42	0.60
	Control Group	21	1.36	0.28			

\* $p < .05$

The results of the independent samples t-tests comparing the pre-test scores for narrative elements between the experimental and control groups are presented in Table 2.:

According to Table 2, it was determined that there was no statistically significant difference between the pre-test relationship between narrative elements ( $t_{(42)} = -0.27$ ;  $p > .05$ ), event ( $t_{(42)} = -0.76$ ;  $p > .05$ ), character ( $t_{(42)} = -0.51$ ;  $p > .05$ ), time ( $t_{(42)} = -1.21$ ;  $p > .05$ ) and setting ( $t_{(42)} = 0.38$ ;  $p > .05$ ).

There were no statistically significant differences between the groups on the pre-test scores for: relationship between narrative elements ( $\bar{X}_{\text{Experimental Group}} = 1.52$ ;  $\bar{X}_{\text{Control Group}} = 1.57$ ), event ( $\bar{X}_{\text{Experimental Group}} = 1.56$ ;  $\bar{X}_{\text{Control Group}} = 1.42$ ), character ( $\bar{X}_{\text{Experimental Group}} = 1.17$ ;

$\bar{X}_{\text{Control Group}} = 1.23$ ), time ( $\bar{X}_{\text{Experiment Group}} = 1.43$ ;  $\bar{X}_{\text{Control Group}} = 1.61$ ), setting ( $\bar{X}_{\text{Experiment Group}} = 1.82$ ;  $\bar{X}_{\text{Control Group}} = 1.76$ ).

**Table 2.** *Independent Samples t-test Results for Pre-test Narrative Element Scores of Experimental and Control Groups*

Narrative Elements	Groups (Pre-test)	N	$\bar{X}$	SS	t	df	p
Relationship Between Narrative Elements	Experimental Group	23	1.52	0.51	-0.27	42	0.78
	Control Group	21	1.57	0.67			
Event	Experimental Group	23	1.56	0.50	0.76	42	0.45
	Control Group	21	1.42	0.67			
Character	Experimental Group	23	1.17	0.38	-0.51	42	0.60
	Control Group	21	1.23	0.43			
Time	Experimental Group	23	1.43	0.50	-1.21	42	0.23
	Control Group	21	1.61	0.49			
Setting	Experimental Group	23	1.82	0.49	0.38	42	0.70
	Control Group	21	1.76	0.62			

\* $p < .05$

Independent groups T-Test results of the pre-test story organization scores of the experimental and control group students were shown in Table 3:

As shown in Table 3, there were no statistically significant differences between the experimental and control groups on the pre-test scores for ( $t_{(42)} = 0.27$ ;  $p > .05$ ), climax ( $t_{(42)} = 1.74$ ;  $p > .05$ ), solution ( $t_{(42)} = 0.50$ ;  $p > .05$ ).

It was seen that there was not a high difference between the mean scores of the experimental group and control group students in terms of exposition ( $\bar{X}_{\text{Experiment Group}} = 1.47$ ;  $\bar{X}_{\text{Control Group}} = 1.42$ ), climax ( $\bar{X}_{\text{Experiment Group}} = 1.26$ ;  $\bar{X}_{\text{Control Group}} = 1.04$ ), resolution ( $\bar{X}_{\text{Experiment Group}} = 1.08$ ;  $\bar{X}_{\text{Control Group}} = 1.04$ ).

**Table 3.** *Independent Samples t-test Results for Pre-test Story Organization Scores of Experimental and Control Groups*

Story Organization	Groups (Pre-test)	N	$\bar{X}$	SS	t	df	p
Exposition	Experimental Group	23	1.47	0.66	0.27	42	0.78
	Control Group	21	1.42	0.50			
Climax	Experimental Group	23	1.26	0.54	1.74	42	0.09
	Control Group	21	1.04	0.21			
Resolution	Experimental Group	23	1.08	0.28	0.50	42	0.61
	Control Group	21	1.04	0.21			

\* $p < .05$

### Post-test Story Writing Scores of Experimental and Control Group Students

The results of the independent samples t-test comparing the post-test story writing scores of the experimental and control groups are presented in Table 4.

As shown in Table 4, there was a statistically significant difference between the post-test story writing scores of the experimental and control groups, favoring the experimental group ( $t_{(38)} = 4.48$ ;  $p < .05$ ).



It was seen that there was an increase between the mean story writing scores of the experimental group and control group students ( $\bar{X}_{\text{Experimental Group}} = 2.15$ ;  $\bar{X}_{\text{Control Group}} = 1.52$ ).

**Table 4.** *Independent Samples t-test Results for Post-test Story Writing Scores of Experimental and Control Groups*

	Groups	N	$\bar{X}$	SS	t	df	p
Post-test	Experimental Group	23	2.15	0.55	4.48	38	0.00*
	Control Group	21	1.52	0.37			

\*p<.05

Independent groups T-Test results of the post-test narrative elements scores of the experimental and control group students were shown in Table 5:

As presented in Table 5, statistically significant differences favoring the experimental group were found between the post-test scores of the experimental and control groups for all narrative elements: relationship between narrative elements ( $t_{(42)} = 2.68$ ;  $p < .05$ ), event ( $t_{(42)} = 3.66$ ;  $p < .05$ ), character ( $t_{(42)} = -4.49$ ;  $p < .05$ ), time ( $t_{(42)} = 4.13$ ;  $p < .05$ ) and setting ( $t_{(42)} = 2.62$ ;  $p < .05$ ).

The experimental group demonstrated significantly higher mean post-test scores compared to the control group for all narrative elements: relationship between narrative elements ( $\bar{X}_{\text{Experiment Group}} = 2.21$ ;  $\bar{X}_{\text{Control Group}} = 1.61$ ), event ( $\bar{X}_{\text{Experiment Group}} = 2.17$ ;  $\bar{X}_{\text{Control Group}} = 1.52$ ), character ( $\bar{X}_{\text{Experiment Group}} = 2.08$ ;  $\bar{X}_{\text{Control Group}} = 1.19$ ), time ( $\bar{X}_{\text{Experiment Group}} = 2.52$ ;  $\bar{X}_{\text{Control Group}} = 1.76$ ), setting ( $\bar{X}_{\text{Experiment Group}} = 2.21$ ;  $\bar{X}_{\text{Control Group}} = 1.80$ ).

**Table 5.** *Independent Samples t-test Results for Post-test Narrative Element Scores of Experimental and Control Groups*

Narrative Elements	Groups (Post-test)	N	$\bar{X}$	SS	t	df	p
Relationship Between Narrative Elements	Experimental Group	23	2.21	0.79	2.68	42	0.01*
	Control Group	21	1.61	0.66			
Event	Experimental Group	23	2.17	0.65	3.66	42	0.00*
	Control Group	21	1.52	0.51			
Character	Experimental Group	23	2.08	0.79	4.49	37	0.00*
	Control Group	21	1.19	0.51			
Time	Experimental Group	23	2.52	0.66	4.13	42	0.00*
	Control Group	21	1.76	0.53			
Setting	Experimental Group	23	2.21	0.59	2.62	42	0.01*
	Control Group	21	1.80	0.40			

\*p<.05

The results of the independent samples t-tests comparing the post-test scores for story organization components between the experimental and control groups are presented in Table 6.

As presented in Table 6, statistically significant differences favoring the experimental group were found between the experimental and control groups on the post-test scores for all story organization components: exposition ( $t_{(42)} = 2.03$ ;  $p < .05$ ), climax ( $t_{(42)} = 3.73$ ;  $p < .05$ ), solution ( $t_{(42)} = 3.76$ ;  $p < .05$ ).

The experimental group demonstrated significantly higher mean post-test scores compared to the control group for all story organization components: exposition ( $\bar{X}_{\text{Experiment Group}} = 2.17$ ;  $\bar{X}_{\text{Control Group}} = 1.71$ ), climax ( $\bar{X}_{\text{Experiment Group}} = 2.00$ ;  $\bar{X}_{\text{Control Group}} = 1.33$ ), resolution ( $\bar{X}_{\text{Experiment Group}} = 1.86$ ;  $\bar{X}_{\text{Control Group}} = 1.19$ ).

**Table 6.** *Independent Samples t-test Results for Post-test Story Organization Scores of Experimental and Control Groups*

Story Organization	Groups (Post-test)	N	$\bar{X}$	SS	t	df	p
Exposition	Experimental Group	23	2.17	0.77	2.03	42	0.04*
	Control Group	21	1.71	0.71			
Climax	Experimental Group	23	2.00	0.60	3.73	42	0.00*
	Control Group	21	1.33	0.57			
Resolution	Experimental Group	23	1.86	0.75	3.76	34	0.00*
	Control Group	21	1.19	0.40			

\*p<.05

### Story Writing Awareness of Experimental Group Students

The pre- and post-intervention story writing awareness of the experimental and control group students was assessed using the open-ended questionnaire "How Do I Write My Story?". Frequencies (*f*) and percentages (%) were used to present the distribution of codes.

When the pre-test story writing awareness of the experimental group students was analyzed, the students stated that they designed their stories in their minds while writing their stories (*f*=16). They stated that they determined the subject of the story, determined the characters (*f*=5), wrote the title (*f*=4), specified the setting, evaluated/corrected the story (*f*=3), structured the story within the framework of the event, wrote in accordance with punctuation marks, started the story like a fairy tale, determined the plot (*f*=2), planned the story, specified the time and followed the spelling rules (*f*=1).

The post-intervention story writing awareness of the experimental group was categorized into six themes: event, character, time, setting, story organization, and language and presentation. When their awareness of the "plot" theme was analyzed, the students stated that they established a relationship between events at the highest rate (*f*=17) while writing their stories. Establishing a causal relationship between events (*f*=16) was another point that students paid attention to in the story writing process. However, they also stated that they structured the story within the framework of the event (*f*=7) and determined the event before writing the story (*f*=6). When their awareness of the "character" theme was analyzed, it was in the form of introducing the physical properties of the characters (*f*=14). This code was closely followed by introducing the characters with their personality traits (*f*=13). Determining the characters before starting to write a story (*f*=8), naming the characters and introducing the characters in general without taking any characteristic as a basis (*f*=5) were the other codes found in the theme. When their awareness of the "time" theme was analyzed, the students stated that they specified the time while writing their stories (*f*=11), and this code was followed by describing the properties of the time in which the story took place (*f*=9). In the "setting" theme, they stated that they presented the setting (*f*=11) and mentioned the setting (*f*=4). Regarding the "story organization" theme, responses included: the character encountering a problem (*f*= 11), the character resolving the problem (*f*= 10), planning the story and selecting a narrator perspective (*f*= 7), avoiding a fairy-tale opening and crafting a conclusion (*f*= 6), evaluating/revising the story (*f*= 4), the character

attempting to solve the problem, and initiating the story with a specific narrative element ( $f = 3$ ). Within the "language and presentation" theme, students mentioned writing a title for the story ( $f = 5$ ), adhering to spelling rules ( $f = 3$ ), ensuring the legibility of their writing ( $f = 2$ ), and maintaining consistent verb tense throughout the story.

### Story Writing Awareness of Control Group Students

Analysis of the control group's pre-intervention story writing awareness revealed that the most frequent response ( $f = 19$ ) was that students mentally planned their stories during the writing process. They stated that they evaluated/corrected the story ( $f=8$ ), identified the characters and wrote in accordance with punctuation marks ( $f=7$ ), wrote a title ( $f=6$ ), and paid attention to the legibility of their writing ( $f=5$ ). Additional responses, in descending order of frequency, included: naming the characters, adhering to spelling rules, determining the event ( $f = 3$ ), planning the story, the character encountering the problem ( $f = 2$ ), the character attempting to solve the problem, the character resolving the problem, crafting a conclusion, avoiding a fairy-tale opening, describing characters' physical attributes, mentioning the setting, structuring the story around the central event, and specifying the time ( $f = 1$ ).

Analysis of the control group's post-intervention story writing awareness indicated that the most frequent response ( $f = 15$ ) remained that students mentally planned their stories while writing. Other post-intervention responses included: using correct punctuation ( $f = 9$ ), evaluating/revising the story, identifying characters ( $f = 8$ ), determining the story's topic and writing a title ( $f = 5$ ), and naming characters and mentioning the setting ( $f = 4$ ). Additional responses, with a frequency of one or two, included: specifying the time, describing characters' physical attributes, determining the event, adhering to spelling rules ( $f = 2$ ), avoiding a fairy-tale opening, structuring the story around the central event, the character encountering a problem, the character attempting to solve the problem, and ensuring the legibility of the writing ( $f = 1$ ).

## Discussion

### Changes in Learning of Experimental Group Students

The study revealed statistically significant improvements in the experimental group's post-test scores compared to their pre-test scores in the following areas: overall story writing (total score), all measured narrative elements (relationship between narrative elements, event, character, time, and setting), and all components of story organization (exposition, climax, and resolution). It was seen that the mean scores of story writing (total mean); in the narrative elements section, "relationship between narrative elements, event, character, time, space"; in the story organization section "exposition, climax, resolution" increased.

Furthermore, the qualitative analysis demonstrated a substantial shift in the experimental group's story writing awareness. Pre-intervention awareness was characterized by thirteen distinct codes, whereas post-intervention awareness encompassed six overarching themes and a total of twenty-seven codes, including event, character, time, setting, story organization, and language and presentation.

Consequently, the findings suggest that the constructivist-based story writing training had a demonstrably positive impact on both the students' story writing skills and their metacognitive awareness of the story writing process.

It was determined that there was no statistically significant difference between the post-test writing scores and retention test story writing scores of the experimental group students. It was seen that the students' post-test retention test story writing score average increased compared to the post-test story writing score average. This slight increase suggests that the positive effects of the intervention were, to some extent, maintained over the two-week period following the conclusion of the study.

### **Changes in Learning of Control Group Students**

The control group exhibited statistically significant improvements from pre-test to post-test in overall story writing scores (total score), as well as in the specific scores for the event (within the narrative elements section) and climax (within the story organization section) components.

However, no statistically significant differences were found between the control group's pre-test and post-test scores for the remaining narrative elements (relationship between narrative elements, character, time, and setting) or for the exposition and resolution components of story organization. It was seen that the mean scores of story writing (total mean); the mean scores of "relationship between narrative elements, event, time" in the narrative elements section; the mean scores of "exposition, climax, resolution" increased compared to the pre-test mean scores. However, the post-test mean score for "character" decreased compared to the pre-test mean score, while the mean score for "setting" did not change.

The statistically significant improvements observed in the event and climax scores suggest that the control group students, even without the specific intervention, may have focused on establishing relationships between events and developing a more coherent narrative structure, particularly in the climax of their stories. There was no significant difference in favour of the post-test in character and setting scores. This suggests that the control group students did not demonstrate improvement in their ability to develop characters or utilize setting effectively in their stories. These findings may indicate challenges faced by the control group students in defining character traits and integrating relevant setting details into their narratives.

When we look at the pre-test story writing awareness of the control group students, it was seen that their pre-test story writing awareness consisted of "twenty codes", while their post-test story writing awareness consisted of seventeen codes. This finding aligns with previous research by Kaynaş and Anılan (2014), who found that fifth-grade students often struggled to effectively incorporate key story elements (e.g., main character, setting, time, initiating event, goal, initiative, result, reaction) into their written narratives. While the standard Turkish curriculum may have had a limited positive impact on the control group's story writing skills, the minimal change in the identified codes between the pre-test and post-test suggests that it did not substantially enhance their metacognitive awareness of the story writing process.

### **Changes between Experimental and Control Group Students' Learning**

It was determined that there was no statistically significant difference between the pre-test story writing scores (total score) of the experimental group and control group students; "relationship between narrative elements, event, character, time and setting" in the narrative elements section; and "exposition, climax, resolution" in the story organization section.

There was no significant difference between the mean scores of the experimental group and control group students in pre-test story writing (total score); "relationship between narrative elements, event, character, time and setting" in the narrative elements section; "exposition, climax and resolution" in the story organization section. This result showed that the groups were involved in the process under similar conditions before the research.

In contrast to the pre-test findings, a statistically significant difference emerged between the experimental and control groups' post-test story writing scores (total score), favoring the experimental group. This significant difference extended to all measured narrative elements (relationship between narrative elements, event, character, time, and setting) and all components of story organization (exposition, climax, and resolution), with the experimental group consistently outperforming the control group. The mean scores of the experimental group students in the post-test story writing (total score); "relationship between narrative elements, event, character, time, setting" in the narrative elements section; "exposition, climax, resolution" in the story organization section increased compared to the control group students.

In their awareness of the event theme, the experimental group students stated that they established a relationship between events while writing their stories. Furthermore, they highlighted the establishment of causal connections between events and the structuring of the narrative around a central event. McKeough, Palmer, Jarvey, and Bird (2007) stated that children between the ages of 8-10 can construct their texts around a plot in their texts. Another view was that they determine the event before writing the story. In a study conducted by Berman and Slobin (1987), a group of native speakers of English, German, Hebrew, and Turkish, consisting of 3-year-olds, 5-year-olds, 9-year-olds, and adults, were asked to create a story with a series of events consisting of 24 pictures named *Frog! Where are you?* While 3-year-olds only described the pictures, older narrators combined the sentences in a causal and temporal framework. In a similar study conducted by Bamberg and Marchman (1990), it was found that children in all age groups (5 years, 9 years and adults) sequenced the events in the story linearly, but younger children were less competent in identifying the episodes of the story. Aksu-Koç (1993), in a study with Turkish-speaking children and adults, observed a developmental progression in narrative skills: 3-year-olds primarily described individual pictures, 5-year-olds began to sequence events temporally, 9-year-olds and adults constructed narratives with hierarchically organized and temporally ordered episodes. These studies had shown that narrative skills develop from childhood to adulthood. However, a programme that includes constructivist-based story writing training, such as the one applied in this study, leads to the development of narrative skills including plot.

Within the "character" theme of the qualitative data, the experimental group students most frequently mentioned describing the physical appearance of their characters. This code was closely followed by introducing the characters with their personality traits, identifying the characters before starting to write a story, naming the characters and introducing the characters in general. This finding resonates with earlier work by Stein and Glenn (1979, p. 118), who observed that while younger children (first and second graders) tend to focus on physical characteristics, actions, and repeated requests when constructing characters, older children begin to incorporate more complex behavioral sequences into their character portrayals. McKeough and Genereux (2003), in their research examining the distribution of the structure and content of the stories written by students aged 6-12 according to age groups, state that students in the 8-10 age group elaborate the characters and events more in their stories and begin to construct increasingly complex plots consisting of characters with more complex situations. Cowie (1985), in his research, found that in stories written by 113



children aged between 7 and 11 years, indicating the psychological characteristics of the characters increased with age. While studies by Coşkun (2005) and Yılmaz (2008) indicate that fifth- and sixth-grade students generally include main characters in their stories, they also highlight a common limitation: a lack of detailed character description.

The experimental group students stated that they stated time and described the characteristics of time while writing their stories in their awareness of the theme of time. Yasul (2014) found in his study that 4th grade primary school students stated the element of time in their stories, but the rate of students who described time clearly and in detail was low. Özcan's (2005) research, analyzing stories from both children and adults, further supports the developmental nature of temporal awareness in narratives, finding that the sophistication of temporal expression increases with age. Duran and Bitir (2020) investigated the specific types of temporal references used by primary school students. They found that the use of broader time categories (e.g., period/time period and seasons) decreased with grade level, while the use of more specific time categories (e.g., time of day and year/date) increased. Fourth-grade students in their study primarily used year/date, time of day, and days of the week as temporal markers.

Accordingly, the element of time varies from macro-time to micro-time as children approach the abstract operations period.

Within the "setting" theme, the experimental group students most frequently reported both introducing and specifying the setting of their stories.

Regarding post-intervention story organization awareness, the experimental group students frequently mentioned key narrative elements such as the character encountering a problem, the character resolving the problem, pre-planning the story, selecting a narrator perspective, and crafting a conclusion. This emphasis on story organization aligns with Canals-Botines's (2020) assertion that children's understanding of narrative structures is a significant factor in the development of their story writing abilities. Showing the students the narrative structure by first reading a short story or watching a film, asking them to write a story, asking them to analyse each other's stories by changing the stories and checking whether they were suitable for the narrative structure would make it easier to write stories within the framework of the narrative structure.

Children's stories about past events tell us a lot about their memory. Children who produce better narratives about a previously experienced event are not mistaken about the event in their autobiographical memory when asked misleading questions about that event, but children who produce good narratives about other events they have not experienced can be manipulated by misleading questions (Kulkofsky & Klemfuss, 2008, p. 1454). Verbal inputs given by caregivers and teachers influence children's narrative development (Zhang, 2009, p. 12). Young children talking about their experiences with adults plays a role in the development of autobiographical memory. When adults relate their experiences to a child, they teach children how to remember their personal experiences: what kinds of events are memorable, which aspects of these events are memorable, how to arrange events in temporal order, how to make inferences about causality, how to evaluate human behavior (Mullen & Yi, 1995, pp. 407-408). According to Karatay (2011, p. 1037), the teacher was a guide who coordinates with students for a systematic and planned process, while the student was at the center and active. The teacher's role was to observe and evaluate the students and ensure that they do not move on to the next stage without completing one stage. In the light of these results, when constructivist-based story writing education was compared with the Turkish curriculum process, it was possible to say that the story writing skills and awareness of the experimental group students improved.

### Conclusion

In the study, a constructivist approach was adopted to help students learn how to use narrative elements and structure their stories within the framework of process-based writing. According to the results, the experimental group students showed greater improvement in both average scores and awareness compared to the control group. The findings indicate that constructivist-based story writing training effectively enhanced the story writing skills and awareness of 4th-grade primary school students. A statistically significant difference in favor of the experimental group was found between the post-test total story writing scores of the experimental and control groups. Additionally, significant differences were observed in specific areas: the relationship between narrative elements (event, character, time, and setting) and the story organization components (exposition, climax, and resolution). Furthermore, the mean post-test total story writing score of the experimental group, as well as their mean scores in the narrative elements section (relationship between event, character, time, and setting) and the story organization section (exposition, climax, and resolution), showed an increase compared to the control group.

### Suggestions

Within the scope of the research, in the story writing training, students were given written feedback, and they were enabled to use narrative elements in their stories. New studies can be conducted on story writing education with a process-based writing approach in which feedback strategies are systematically applied. Writing education in primary school should be planned in accordance with the process-based writing approach. The activities in the content of the experiment file applied in the experimental group were prepared in three different categories as individual activity, group activity and class activity. It was observed that students were active in group activities. Therefore, collaborative learning and process-based writing approach can be used together in the development of writing skills. Since narratology constitutes a theoretical background in story writing education, it is recommended that teachers should have proficiency in narratology for students to use narrative elements effectively, story theories for story organization and narrative development in children.

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