

# The Role of Story Maps in Improving Primary School Students' Skills in Determining the Main Idea in Narrative Texts\*

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## Abstract

The purpose of this study is to examine the effect of the story map method applied to fourth-grade primary school students on the students' ability to determine the main idea in narrative texts. The study was conducted within the scope of a quasi-experimental design, one of the quantitative research methods; a matched control group post-test model was used. The sample of the study consisted of a total of 80 students (experiment = 40, control = 40) studying at a public primary school in Antalya, Türkiye. The findings revealed that the students who received education with the story map method showed significantly higher success compared to the control group both at the sub-problem level and in total test scores. The high eta-squared values, in particular, showed that the application has a strong educational effect. This study shows that structured strategies with visual support, such as story maps, are effective for developing the skill of determining the main idea at the primary school level.

## Keywords:

Story map, Reading comprehension, Determining the main idea, Visual learning strategies, Primary school students.

## Introduction

Reading is a foundational cognitive activity that underpins individuals' ability to acquire knowledge, think critically, and express themselves effectively. One of the most essential outcomes of reading is the ability to accurately and meaningfully identify the main idea of a text. This skill plays a crucial role in students' reading comprehension, enabling them to make connections with the text and develop higher-order thinking abilities (Hudson et al., 2021). In narrative texts, identifying the main idea requires an understanding of the relationships among text elements and the ability to draw inferences.

In this context, various instructional strategies are employed in language education to help students improve their ability to identify the main idea. Story maps are visual tools that help students organize key components of narrative texts



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such as characters, setting, and events, supporting a deeper understanding of the story's main idea. This method enables students to move beyond surface-level comprehension and grasp the main idea more effectively (Praveen & Rajan, 2013; Sugandi et al., 2022).

Recent research confirms the positive impact of story maps on reading comprehension, particularly in primary education contexts (Beyhatın & Özdemir, 2023; Prasansaph, 2024). However, few studies have specifically examined their role in main idea identification.

However, most existing studies emphasize general reading comprehension rather than focusing specifically on the skill of identifying the main idea in narrative texts (Guo et al., 2020; Wulandari, 1970). This reveals a significant gap in the literature and highlights the need for targeted research on how structured visual strategies, such as story maps, support the development of main idea comprehension. Moreover, the integration of digital tools into story mapping is still in its early stages, and more empirical evidence is needed to assess their long-term effects and classroom adaptability (Chitsaz et al., 2023). There is also a limited representation of studies conducted in non-English language contexts, such as Turkish, within the international literature. Cultural and linguistic factors influencing strategy effectiveness remain underexplored. A recent meta-analysis by Peng et al. (2023), examining 52 reading comprehension studies, concluded that no single strategy is the most effective in isolation. Instead, the highest learning gains occur when main idea instruction is combined with text structure teaching and retelling practices. These findings highlight the importance of holistic approaches in reading instruction. They also raise new questions about the role of structured strategies like story mapping in teaching the main idea to younger learners. Given these gaps and the growing emphasis on integrated instructional approaches, the need for focused empirical studies has become increasingly evident.

This study aims to address these gaps by examining the effectiveness of the story mapping method in improving fourth-grade students' ability to identify the main idea in narrative texts. In line with these objectives, this study seeks to answer the following research questions:

- Does the story map method significantly improve students' ability to identify the main idea in narrative texts compared to traditional teaching methods?
- What is the extent of the educational impact of the story map strategy on different sub-skills related to main idea identification?
- The findings are expected to provide new

empirical evidence on the integrated use of visual strategies in Turkish language instruction and to offer practical insights for educators and curriculum developers.

## Literature Review

### *The Development of Reading Comprehension Skills at the Primary School Level*

During the primary school years, reading comprehension goes beyond basic language skills to encompass students' ability to make meaning from text and construct knowledge. During this period, students not only improve their decoding (phonics) skills but also vocabulary knowledge, prior knowledge utilization and text comprehension strategies. Duke et al., (2021) emphasize that reading comprehension instruction should begin at an early age, as it is not an automatic process; even fluent readers need explicit guidance supported by skills such as reading fluency, vocabulary, and cognitive flexibility to construct meaning effectively. While Duke et al. (2021) highlight the cognitive mechanisms behind comprehension, Dermitzaki (2025) draws attention to its long-term academic and social implications — both perspectives emphasize the need for structured instruction from early stages.

For this reason, systematic instruction in vocabulary, background knowledge, and text analysis is widely recognized as essential for both comprehension development and academic achievement (Dermitzaki, 2025). As a result, reading comprehension at the primary school level is a competency area that develops gradually through early intervention and the implementation of multifaceted skill-building strategies. These insights highlight the importance of structured and early reading instruction as a foundation for lifelong literacy development.

### *The Skill of Identifying the Main Idea and Instructional Approaches*

The ability to identify the main idea in a text is one of the central components of the reading comprehension process. Students' capacity to grasp the main idea of a narrative or paragraph is closely linked to their ability to comprehend the text at a deeper level. Indeed, studies have shown that students who can identify the main idea and summarize it are able to understand and integrate the information in a more coherent and connected manner (Hudson et al., 2021). While Hudson et al. (2021) highlight the cognitive benefits of main idea identification for deeper comprehension, Williams et al. (2016) emphasize the instructional value of explicitly teaching this skill to support student success. This close link to higher-order comprehension underscores the importance of explicitly teaching main idea identification strategies in the classroom.

Studies emphasize that when teachers explicitly teach strategies for identifying the main idea and summarizing, it provides a strong foundation for the development of reading comprehension skills (Williams et al., 2016). This approach equips students with skills such as distinguishing important information from irrelevant details, expressing the main idea in their own words, and identifying supporting details. Structured questions (e.g., "What is the main idea of this text?") and summarization activities can be used to help students maintain focus. The literature indicates that such strategy instruction enhances elementary students' ability to identify main ideas and improves their overall reading comprehension. Taken together, these findings indicate that well-structured instruction in main idea identification not only enhances students' comprehension skills but also fosters critical thinking and metacognitive awareness.

#### ***The Story Mapping Method: Definition and Theoretical Foundations***

A story map is a type of graphic organizer designed to visually organize the key elements of a narrative text (such as characters, setting, time, plot, conflict, and resolution) within a structured framework. The primary goal of this method is to direct students' attention to the essential components of the story, thereby facilitating their understanding of the storyline and the underlying structure of the text. Indeed, by presenting the plot of a narrative in a visual format, the story map helps students more easily identify and comprehend the critical information within the text (Sugandi et al., 2022). For instance, by mapping out characters, setting, and key events spatially, students can visually trace the narrative flow, which in turn helps them infer the main idea more easily.

Theoretically, story maps align with the constructivist approach to learning, offering a strategy in which students actively analyze and reconstruct the text to build their own understanding. Visual-spatial learning elements also play a significant role in this process. Visual learning refers to the process of acquiring and organizing knowledge through visual representations such as diagrams, charts, and spatial layouts. By transforming textual information into visual form, the story mapping method supports learning through both verbal and visual channels, in line with the dual coding theory. In fact, using graphic organizers helps students process complex information more easily; they can structure their thoughts and identify key relationships within the text, thereby enhancing both comprehension and memory retention (Prasansaph, 2024).

Story maps, as a form of visual learning, facilitate comprehension by externalizing the narrative structure in a spatial and hierarchical format. This visualization reduces cognitive load and enables

students to organize and connect key elements of the story, such as characters, setting, and plot, ultimately supporting the identification of the main idea.

Story maps play a crucial role in making abstract narrative texts more concrete and accessible for students, thus facilitating the overall learning process. The strategy draws theoretical support from Vygotsky's (1978) concept of the zone of proximal development, offering a visual scaffold that, when guided by the teacher, helps learners develop higher-order comprehension skills. Therefore, story maps do not merely support visual learning in a general sense; they function as cognitively efficient tools that organize information in ways that align with how the brain processes and retains visual and verbal input simultaneously. As a result, story mapping emerges as an effective reading comprehension strategy that combines constructivist and visual learning principles. It is grounded in both cognitive theory and pedagogical practice.

#### ***The Role of the Story Mapping Strategy in Experimental Research (Post-2020)***

In recent years, there has been a growing number of experimental studies examining the effectiveness of the story mapping strategy. A review of the post-2020 literature reveals that research conducted in various countries and among diverse student populations has demonstrated significant improvements in reading comprehension as a result of this approach. For instance, a study conducted in Türkiye found that first-grade students who regularly used story maps during lessons showed significantly higher levels of listening and reading comprehension than those in the control group (Beyhatın & Özdemir, 2023).

This study demonstrates that even young children who are at the early stages of developing reading skills can better grasp the main structure of a text and respond more accurately to comprehension questions through the use of story maps. Similarly, a study conducted with middle school students in Indonesia reported that implementing the story mapping strategy led to significant improvements in students' English reading comprehension scores (Sugandi et al., 2022).

In a different context, a single-subject study conducted in Iran with students experiencing reading difficulties and special educational needs also reported that instruction using story mapping led to noticeable improvements in students' reading skills (Chitsaz et al., 2023). The study observed improvements in students' sub-skills following the intervention, including text comprehension, sequencing of main events, and word recognition.

These findings confirm that the story mapping method is both applicable and effective for a wide

range of students, including those in English-speaking contexts as well as learners of English as a foreign language. Nonetheless, while these studies provide detailed evidence on the effectiveness of the method, they have also raised new questions in the literature regarding how variables such as frequency of use, duration, and method of integration influence learning outcomes.

While previous studies have focused on general improvements in overall comprehension or specific sub-skills such as sequencing and vocabulary (e.g., Chitsaz et al., 2023; Sugandi et al., 2022), the present study uniquely centers on students' ability to identify the main idea in narrative texts—a skill closely linked to higher-order comprehension. By targeting this specific dimension, our research highlights how story mapping can enhance not only general understanding but also critical comprehension components in upper primary students.

### *Story Mapping Applications through Digital Tools*

With the advancement of modern educational technologies, there has been a growing body of research on the digital adaptation of graphic organizer strategies such as story mapping. Digital story mapping applications offer several advantages over traditional paper-and-pencil methods: students can create interactive story maps on tablets, computers, or smartboards, drag and drop characters or events from the text into schematic formats, and make adjustments as needed with ease. The literature provides evidence that using mobile software to create story maps can enhance the effectiveness of the strategy. For example, one study reports that students who used story mapping in a digital environment exhibited higher motivation and greater willingness to engage with the strategy compared to those who followed the traditional method (Chitsaz et al., 2023).

Using story maps through digital tools enriches students' visual learning experience by allowing them to incorporate multimedia elements such as images, icons, and color coding, thereby diversifying the learning process. For instance, interactive story map templates available on online platforms offer gamified activities that enable students to drag and drop key elements of the text into their appropriate positions. Such technology-enhanced approaches have been shown to increase engagement, particularly among digital natives, and make the strategy more appealing. However, comprehensive research on the effectiveness of digital story mapping remains limited. While initial findings are promising, questions regarding whether on-screen interaction with text introduces distractions or how it affects long-term learning outcomes still require further investigation.

Nonetheless, the current literature suggests that technology-supported story maps offer an innovative contribution to reading comprehension instruction, especially in blended learning environments. While prior research has predominantly highlighted the motivational advantages of digital story mapping, this study specifically explores its pedagogical effectiveness in enhancing students' main idea identification skills—an essential component of reading comprehension.

## **Method**

### *Research Design*

This study was conducted to examine the effect of story maps on fourth-grade primary school students' ability to identify the main idea in narrative texts. The research adopted a pretest-posttest control group quasi-experimental design with matched groups, which is a subtype of quantitative research methods. Although the study was initially referred to as a post-test-only model, both pretest and posttest measurements were conducted to ensure the equivalence of the groups and to assess the effectiveness of the intervention. While quasi-experimental designs resemble true experimental designs in terms of measuring dependent variables, procedures, and experimental units, they differ in that participants are not randomly assigned to the experimental and control groups (Bulduk, 2003). Among four classrooms with similar average achievement scores in Turkish language courses, two were assigned as the experimental group and two as the control group. To assess both initial equivalence and the effects of the intervention, academic achievement data were collected from all groups before and after the implementation.

### *Study Group*

The study group consisted of a total of 80 fourth-grade students enrolled at a public primary school in the Aksu district of Antalya, Türkiye, during the 2021–2022 academic year. Of these students, 40 were assigned to the experimental group and 40 to the control group. Each group included 22 female and 18 male students. The groups were formed based on the existing classroom structure, with careful attention paid to maintaining a balanced gender distribution.

It was confirmed that the participants had no prior exposure to the story mapping strategy before the implementation of the study.

To ensure group equivalence, students' average grades from Turkish language written exams in the first and second semesters were used as matching criteria. Statistical analyses (Shapiro-Wilk test and Mann-Whitney U test) confirmed no significant

difference in initial academic achievement between the two groups ( $U = 717.000$ ,  $p = .424$ ), indicating baseline equivalence.

### **Data Collection**

In this study, the Reading Comprehension and Main Idea Identification Scale developed by Pilten (2007) was used to assess students' ability to identify the main idea in narrative texts. The scale was developed collaboratively by a Turkish language teacher, an assessment and evaluation specialist, and the researcher.

The first part of the scale served as the primary data collection tool for the study and consisted of open-ended questions designed to evaluate reading comprehension and main idea identification skills in narrative texts.

The scale consisted of eight open-ended questions addressing students' comprehension of narrative text elements such as the main idea, supporting details, characters, setting, and resolution. A sample item is: "What was the main problem in the story? How was it solved?" Responses were scored using a four-point rubric ranging from 0 (no response or irrelevant answer) to 4 (complete and accurate identification with textual justification). The rubric was developed based on expert feedback and was consistently applied by all raters.

To ensure content validity, expert opinions were obtained from two faculty members from the Departments of Classroom Teaching and Turkish Language Education at Gazi University, Faculty of Education.

To ensure the reliability of the scale, it was administered to a group of 67 students from the experimental and control groups. Student responses were independently scored by the researcher, a Turkish language teacher, and a classroom teacher. Inter-rater reliability coefficients were calculated, and the correlation coefficients among the raters ranged between 0.91 and 0.98, indicating that the scale was highly reliable. Ethical approval was obtained for the use of the data collection tool in the study.

### **Implementation Process**

The implementation process of the study was carried out during the second semester of the 2021–2022 academic year. Based on pretest results and teacher evaluations, the classes were assigned to either the experimental or control groups.

Prior to implementation, classroom teachers in the experimental group received training on the story

mapping strategy, including how to integrate it effectively into their instruction. Additionally, the researcher conducted two sample lessons directly in the experimental classrooms to model the implementation and ensure accurate application of the strategy.

The intervention lasted for a total of eight weeks. During this period, eight narrative texts appropriate for fourth-grade students were selected from Turkish language textbooks and children's magazines. In the experimental group, each text was taught through the story mapping strategy. After reading, students engaged in structured analysis of key narrative elements (including plot, characters, setting, problem, solution, and outcome) by completing story map templates designed to visually organize the components of the texts. After reading, students analyzed key narrative elements such as plot, characters, setting, problem, solution, and outcome by completing story map templates designed to visually organize the texts. In the control group, the same texts were taught using traditional instructional methods, without the use of visual or structured strategies. Both groups studied the texts simultaneously, each group following its respective instructional approach.

Throughout the implementation process, no changes occurred in classroom composition or teaching personnel, and the study was completed as planned.

### **Data Analysis**

In the analysis of the data obtained from the study, the initial step involved evaluating the equivalence of the experimental and control groups by using the students' Turkish course written exam scores. The averages of the second written exam in the first semester and the first written exam in the second semester were calculated to form the groups, and distribution characteristics of the scores were then analyzed. For this purpose, measures of central tendency (mean, median, mode), skewness and kurtosis coefficients were computed, and the Shapiro-Wilk test was applied to assess normality.

The results revealed that the scores in the experimental group did not follow a normal distribution ( $p < .001$ ), whereas the control group showed skewness of  $-0.770$  and kurtosis of  $-0.084$ . The Shapiro-Wilk test for the control group indicated that the assumption of normality was met ( $p = .015$ ). Based on these findings, the Mann-Whitney U test was conducted to assess differences in initial levels between the two groups, revealing no statistically significant difference ( $U = 717.000$ ,  $p = .424$ ). This result suggests that the experimental and control groups were academically equivalent at the outset.

Normality tests were also conducted on the data collected through the Reading Comprehension and Main Idea Identification Scale. The analyses based on sub-problems indicated that while some datasets met the normality assumption, others did not. Accordingly, for sub-problems that met the assumption, independent samples t-tests were used, whereas Mann-Whitney U tests were employed for those that did not.

All statistical analyses were performed using SPSS 25.0, and the level of significance was set at .05. Additionally, eta-squared values were calculated to assess the magnitude of the observed differences. For instance, an eta-squared value of 0.60 indicates a large effect size, suggesting that the story map method had a strong educational impact on students' ability to determine the main idea. Descriptive statistics related to the data are presented below (see Table 1).

#### Assumptions and Limitations of the Research Assumptions

The following assumptions were adopted:

- It was assumed that all participating students responded to the measurement tools honestly and attentively.
- The teachers of both the experimental and control groups implemented the instructional process in accordance with the designated teaching methods.
- The "Reading Comprehension and Main Idea Identification Scale" used in the study was assumed to be valid and reliable.
- During the intervention, students were exposed only to the instructional methods assigned to their group and were not influenced by external factors.

#### Limitations

The findings of this study should be interpreted within the scope of the following limitations:

- The study was limited to fourth-grade students at a primary school located in the Aksu district of Antalya, Türkiye, during the second semester of the 2021–2022 academic year.
- The participants consisted solely of fourth-grade students; therefore, the results cannot be generalized to students at other grade levels.
- The duration of the intervention was limited to eight weeks.
- The data collection instrument focused exclusively on measuring students' ability to identify the main idea in narrative texts; other reading comprehension skills were not assessed.
- The implementation of the story map method may have been influenced by the classroom teacher's instructional style and classroom management, potentially affecting the results.
- Differences in the complexity and content of the narrative texts used during the sessions might have introduced uncontrolled variables.

As the study was limited to a short-term intervention, the long-term effects of the story map strategy were not evaluated; therefore, conclusions about its lasting impact cannot be drawn.

#### Ethical Considerations

The research process was conducted in accordance with the principles of scientific research and publication ethics. Prior to implementation, ethical approval was obtained from the Ethics Committee for Scientific Research and Publication in Social and Human

**Table 1.**  
*Descriptive Statistics for the Scores of the Reading Comprehension and Main Idea Identification Scale*

Sub-Problem	Group	Mean	Median	Mode	Skewness	Kurtosis	Shapiro-Wilk p-value
Sub-Problem 1	Experimental Group	4.698	4.75	4.63	-0.585	-0.267	0.075
Sub-Problem 1	Control Group	4.237	4.271	4.63	-0.656	-0.336	0.025
Sub-Problem 2	Experimental Group	4.289	4.417	4.63	-1.623	3.088	0
Sub-Problem 2	Control Group	3.452	3.563	3.63	0.087	0.105	0.678
Sub-Problem 3	Experimental Group	4.437	4.48	4.63	-0.575	-0.696	0.019
Sub-Problem 3	Control Group	3.655	3.729	3.63	-0.456	-0.572	0.177
Sub-Problem 4	Experimental Group	4.126	4.208	4.13	-1.242	2.572	0.004
Sub-Problem 4	Control Group	3.152	3.313	3.75	-0.983	1.843	0.06
Sub-Problem 5	Experimental Group	3.996	4.021	3.88	-0.434	-0.041	0.525
Sub-Problem 5	Control Group	2.758	2.729	3.38	0.251	-0.252	0.728
Sub-Problem 6	Experimental Group	4.172	4.208	3.88	-0.38	0.077	0.727
Sub-Problem 6	Control Group	3.263	3.229	3.38	0.441	0.353	0.715
Sub-Problem 7	Experimental Group	3.806	3.813	4.25	-0.593	0.169	0.288
Sub-Problem 7	Control Group	2.371	2.25	2.17	0.141	-0.52	0.591
Sub-Problem 8	Experimental Group	3.975	4.042	3.75	-0.737	-0.199	0.015
Sub-Problem 8	Control Group	2.75	2.813	2.5	-0.433	-0.426	0.194
Total Score	Experimental Group	41.668	42.542	42.96	-0.674	-0.525	0.012
Total Score	Control Group	32.199	31.833	31.17	-0.079	0.172	0.765

Sciences at Akdeniz University (Decision No: 161, dated 20.04.2022). Additionally, institutional permissions were secured from the school administration and classroom teachers where the study was to be conducted. Written informed consent forms were collected from the parents of the students, and participation was based on voluntary involvement. It was clearly stated to the students that they had the right to withdraw from the study at any time if they wished. Throughout the data collection and analysis process, strict adherence to the principles of confidentiality and anonymity was maintained.

## Findings

### *Findings Related to the First Sub-Problem*

The results indicated that the experimental group outperformed the control group in identifying the main idea and its sub-components, including the problem, events, and resolution. Notably, certain sub-skills—such as identifying the problem and recognizing the resolution—showed greater improvement than others. This may be attributed to the structure of the story map method, which emphasizes the narrative flow and problem-resolution framework, helping students internalize these components more effectively. In contrast, elements like setting or character traits may require different scaffolding strategies, which were less emphasized in the intervention. Table 2 indicates a statistically significant difference in the mean scores of Question 1 between the experimental and control groups,  $t(55.884) = 6.013, p = .001, \eta^2 = .32$ . The mean score of the experimental group ( $M = 4.698$ ) was higher than that of the control group ( $M = 4.237$ ). The calculated eta-squared value indicates a large effect size, suggesting that the story map strategy had a strong educational impact on students' ability to identify the main idea.

### *Findings Related to Second Sub-Problems*

Table 3 shows that there is a statistically significant difference between the experimental and control groups in terms of the mean scores for Question 2,  $t(78) = 7.544, p < .001, \eta^2 = .42$ . The mean score of the experimental group ( $M = 4.289$ ) was higher than that of the control group ( $M = 3.452$ ). The calculated eta-squared value indicates that the difference corresponds to a large effect size.

### *Findings Related to the Third Sub-Problem*

Table 4 reveals that there is a statistically significant difference between the mean scores of the experimental and control groups for Question 3 ( $t(65.923) = 8.187, p < .001, \eta^2 = .46$ ). The experimental group achieved a higher mean score ( $M = 4.437$ ) compared to the control group ( $M = 3.655$ ). The eta-squared value of .46 indicates a large effect size, suggesting that the story map strategy had a strong

practical impact on students' ability to identify the problem in narrative texts.

### *Findings Related to the Fourth Sub-Problem*

Table 5 displays a statistically significant difference in the mean ranks between the experimental and control groups for Sub-Problem 4 ( $U = 171.000, p = .001$ ). The experimental group achieved a notably higher mean rank (56.21) than the control group (24.79). This suggests that the story map strategy effectively enhanced students' comprehension in this specific sub-skill area, reinforcing its potential as a supportive visual aid in narrative structure learning.

### *Findings Related to the Fifth Sub-Problem*

As presented in Table 6, there is a highly significant difference in the mean scores between the experimental and control groups for Question 5 ( $t(78) = 10.938, p < .001, \eta^2 = .61$ ). The experimental group attained a notably higher average score ( $M = 3.996$ ) compared to the control group ( $M = 2.758$ ). With an eta-squared value of .61, this result reflects a very large effect size, underscoring the strong educational impact of the story map strategy on students' ability to grasp this specific narrative element. This finding may indicate that students benefit most when visual tools are aligned with cognitively demanding sub-skills.

### *Findings Related to the Sixth Sub-Problem*

Table 7 demonstrates a statistically significant difference in favor of the experimental group regarding Question 6 ( $t(78) = 8.221, p < .001, \eta^2 = .46$ ). The experimental group's mean score ( $M = 4.172$ ) exceeded that of the control group ( $M = 3.263$ ), indicating a marked improvement in students' comprehension of this narrative component. The eta-squared value (.46) reflects a large effect size, suggesting that the story map intervention effectively supported learners in organizing and interpreting key story elements. This reinforces the pedagogical value of integrating visual scaffolding techniques into language instruction.

### *Findings Related to the Seventh Sub-Problem*

Table 8 reveals a statistically significant difference between the mean scores of the experimental and control groups on Question 7 ( $t(78) = 9.003, p < .001, \eta^2 = .51$ ). The experimental group attained a considerably higher mean score ( $M = 3.806$ ) than the control group ( $M = 2.371$ ). The eta-squared value of .51 signifies a large effect size, indicating that the story map strategy had a strong educational influence on students' ability to process and articulate this sub-skill. This outcome underscores how structured visual tools can facilitate deeper engagement with narrative components, particularly when learners are required to infer and synthesize story meaning.

### Findings Related to the Eighth Sub-Problem

Table 9 shows a statistically significant difference in the mean scores of the experimental and control groups for Question 8 ( $t(78) = 10.837, p < .001, \eta^2 = .60$ ). Students in the experimental group achieved a notably higher mean score ( $M = 3.975$ ) than those in the control group ( $M = 2.765$ ). An eta-squared value of .60 represents a very large effect size, pointing to a substantial educational benefit of the story map strategy in developing students' skills related to this sub-component. Such a result suggests that integrating structured visual tools into reading instruction may significantly enhance learners' ability to comprehend and retain complex narrative elements.

**Table 2.**

*Independent Samples t-Test for the Comparison of Scores on Question 1*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	4.698	0.209	0.461	6.013	55.884	0.001	0.32
Control	40	4.237	0.438					

**Table 3.**

*Independent Samples t-Test for the Comparison of Scores on Question 2*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	4.289	0.437	0.836	7.544	78	0.001	0.42
Control	40	3.452	0.549					

**Table 4.**

*Independent Samples t-Test for the Comparison of Scores on Question 3*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	4.437	0.323	0.781	8.187	65.923	0.001	0.46
Control	40	3.655	0.51					

**Table 5.**

*Mann-Whitney U Test for the Comparison of Scores on Sub-Problem 4 Between Experimental and Control Groups*

Group	<i>n</i>	Mean Rank	<i>U</i>	<i>p</i>
Experimental	40	56.21	171	0.001
Control	40	24.79		

**Table 6.**

*Independent Samples t-Test for the Comparison of Scores on Question 5*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	3.996	0.435	1.238	10.938	78	0.001	0.61
Control	40	2.758	0.568					

**Table 7.**

*Independent Samples t-Test for the Comparison of Scores on Question 6*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	4.172	0.41	0.909	8.221	78	0.001	0.46
Control	40	3.263	0.567					

**Table 8.**

*Independent Samples t-Test for the Comparison of Scores on Question 7*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	3.806	0.653	1.435	9.003	78	0.001	0.51
Control	40	2.371	0.768					

**Table 9.**

*Independent Samples t-Test for the Comparison of Scores on Question 8*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	3.975	0.472	1.21	10.837	78	0.001	0.6
Control	40	2.765	0.526					

**Table 10.**

*Independent Samples t-Test for the Comparison of Total Test Scores*

Group	<i>n</i>	<i>M</i>	<i>sd</i>	Mean Difference	<i>t</i>	<i>df</i>	<i>p</i>	$\eta^2$
Experimental	40	41.668	2.656	9.469	13.142	78	0.001	0.69
Control	40	32.199	3.703					

### Findings Related to the Overall Test Scores

Table 10 demonstrates a statistically significant difference in the total test scores between the experimental and control groups ( $t(78) = 13.142, p < .001, \eta^2 = .69$ ). The experimental group achieved a markedly higher mean total score ( $M = 41.668$ ) compared to the control group ( $M = 32.199$ ). The eta-squared value of .69 indicates a very large effect size, suggesting that the story map intervention had a powerful and comprehensive impact on overall reading comprehension performance. This finding underscores the potential of visual-organizational strategies to yield significant learning gains when systematically implemented in elementary reading instruction.

## Discussion

The findings of this study clearly indicate that the story map strategy significantly enhances fourth-grade students' ability to identify the main idea in narrative texts. Students in the experimental group consistently outperformed their peers in the control group across all sub-problems, and the effect sizes were predominantly high. These results support the conclusion that story mapping functions as a powerful visual learning tool. This finding is consistent with prior research that highlights the contribution of story maps to the comprehension of narrative texts. For instance, a study conducted by Özkara and Şahin (2013) with fifth-grade students reported that those taught using the story map strategy performed significantly better in identifying the main idea compared to students in the control group who were instructed through traditional methods (Özkara & Şahin, 2013). This finding parallels the superiority of the experimental group in identifying the main idea observed in our study. Similarly, studies conducted by Akça (2002) and Işıkdoğan (2009) also emphasized that the story mapping strategy significantly improved students' reading comprehension skills compared to traditional instructional methods.

This positive impact on reading comprehension is also supported by recent studies in literature. In particular, studies conducted in recent years have demonstrated that story mapping enhances students' ability to understand narrative texts and identify main ideas across diverse student populations. For instance, in a study by Alturki (2017) involving sixth-grade students with specific learning disabilities who were learning English as a second language, it was found that group-based story mapping activities significantly facilitated students' comprehension of the texts (Alturki, 2017).

This study is significant in that it highlights the effectiveness of story mapping not only for typically developing students but also for those who require additional support. Other international studies conducted with students with learning disabilities have also reported similar findings. For example, Boulineau et al. (2004) and Gardill & Jitendra, (1999) found that the story map strategy substantially improved students' understanding of story grammar elements and their overall narrative comprehension.

In a study conducted by Hwang and Park (2004) with elementary school students experiencing reading difficulties, it was found that the experimental group receiving story map instruction significantly outperformed the control group in reading comprehension tests. These findings further strengthen the evidence that story mapping is a beneficial instructional strategy for improving narrative text understanding, especially among learners with reading challenges.

Taken together, the existing literature consistently supports the positive influence of story mapping on narrative comprehension and the identification of main ideas. There is broad consensus that this visual and structured approach enhances students' abilities to process and internalize key story elements. However, alongside this consistency, it is also important to address the areas where our findings diverge from or add nuance to prior research.

Notably, some studies have indicated that the effectiveness of story mapping may vary depending on the specific sub-skills being targeted. For instance, in a study by Özkara and Şahin (2013), it was reported that students in the experimental group showed significantly better understanding of core elements such as the main character, setting, and time. However, for sub-skills like identifying supporting or minor characters, there was no significant difference between the experimental and control groups. This suggests that while story maps are generally effective, their impact may be more pronounced in organizing central narrative components than in recalling peripheral details.

In contrast to the aforementioned studies, our research revealed statistically significant differences in favor of the experimental group across all assessment criteria. A likely explanation for this comprehensive effect is the focused nature of our intervention, which specifically targeted the development of students' ability to identify the main idea—a higher-order cognitive skill. The story mapping activities used in our study were systematically designed to support this skill, rather than simply aiding general comprehension.

Identifying the main idea involves extracting the central message or theme of a text, a process that does not always occur spontaneously for young readers. As Pilten (2007) emphasizes, students often require explicit support through metacognitive strategies to accurately and fully determine the main idea. The structured visual framework provided by story maps in our study appears to have facilitated this process by helping students organize key elements of the narrative in a meaningful way, thereby improving both comprehension and inferencing.

In this context, the story map strategy functions as a metacognitive tool by structurally guiding students through the process of identifying the main idea step by step. The high effect sizes observed in this study indicate that such structured support contributes significantly not only in statistical terms but also in pedagogical effectiveness. According to Cohen's (2013) classification, effect sizes of 0.80 and above are considered "large," which suggests that the use of story maps creates a meaningful and practical difference in students' learning outcomes.

One possible reason for this strong effect may be the systematic, well-planned, and intensive implementation of story map instruction in the experimental group. As students repeatedly practiced identifying key narrative elements and the main idea through mapping during the intervention period, they may have internalized the strategy and developed deeper processing skills. In contrast, studies with shorter duration or limited implementation have reported more modest effects. For instance, in a case study conducted by Babyak et al. (2000), where students used story mapping with only a single narrative text, it was found that some core elements were not fully understood, and the overall impact remained limited.

Therefore, the effectiveness of the story mapping strategy may vary depending on the duration, scope, and the specific skills targeted during the implementation. Our findings suggest that a comprehensive and goal-oriented application yields the greatest benefits. When examined in light of the literature on cognitive processes, story maps appear to facilitate the reading comprehension process by supporting both the organization of information and memory retention. In general, graphic organizers help students engage in deeper text processing by presenting information in a visual and hierarchical manner (Jiang & Grabe, 2007).

Specifically, a story map presents the fundamental elements of a narrative—such as characters, setting, time, problem, events, resolution, and main idea—in a structured format. This external organizational tool enables students to select and arrange key information from the text and to visualize the relationships between these elements.

Indeed, Jiang and Grabe (2007) noted that the use of graphic organizers in this way facilitates the processes of text comprehension, memory retention, and establishing connections between pieces of information.

In this regard, story mapping can help reduce students' cognitive load and redirect their attention toward grasping the main idea of the text. The process of creating a story map also encourages students to consistently ask themselves, "What are the key elements of the story? What is the main idea?" while reading. This functions as a form of active reading and metacognitive monitoring strategy. In order to complete the map, students must read the text attentively and distinguish between main and supporting elements. During this process, they focus less on superficial details and more on the deep structure of the text; they discuss relationships between characters, cause-and-effect links within the plot, and the significance of the resolution. As a result, this deeper processing facilitates the identification of the main idea, since all essential components of the

story are mentally organized into a coherent whole. This is supported by the classic study conducted by Amlund et al. (1985), which demonstrated that fifth- and sixth-grade students with both strong and weak reading skills performed significantly better in recalling the story when they used a story map during listening, compared to peers who only listened to the story.

Researchers emphasized that this improvement was linked to the story map's ability to strengthen story memory and highlight key elements. The increased success in identifying the main idea observed in our study can similarly be attributed to this mechanism: students who used story maps were able to internalize the narrative structure more effectively within their mental models, enabling them to grasp the author's intended message or theme with greater clarity. Another important aspect to consider is the functionality of story maps across different student grade levels. While our study was conducted with fourth-grade students and yielded significant benefits at this level, the effectiveness of this strategy is not confined to a specific grade. Research findings suggest that the story mapping method can be adapted for use with various age groups starting from the early years of primary education. For instance, a study by Franciscone (2008) conducted with first-grade students reported that integrating story maps into reading comprehension instruction contributed positively to students' reading performance.

Naturally, as students' age decreases, story mapping applications are expected to be simpler and more visually oriented, with more intensive teacher guidance. Indeed, at preschool and early primary levels (grades 1–2), story maps are typically constructed with visual elements or through teacher-led scaffolding. From grade 4 onwards, however, students increasingly demonstrate the ability to independently identify and record key story elements in writing. Furthermore, the benefits of story mapping continue at the middle school level. In a comparative study conducted with eighth-grade students, Wulandari (2019) found that students who engaged in reading activities using the story map technique showed significant improvement in reading comprehension. The study also revealed that story mapping was as effective as other constructivist techniques, such as mind mapping, in enhancing comprehension. Both strategies led to increased understanding, with no statistically significant difference in their impact.

This finding indicates that story maps can serve as an effective instructional tool not only at the primary level but also in higher grade levels. Moreover, when considering their functionality across different learner profiles, it is important to emphasize the particular value of story maps for students with lower academic performance or special educational needs. The

literature reports noticeable improvements in narrative comprehension following story map instruction among students with learning difficulties (Stetter & Hughes, 2010) or behavioral challenges (Babyak et al., 2000). For instance, in a case study involving four students with problem behaviors, Babyak et al. (2000) observed that story map instruction generally enhanced students' performance on story comprehension questions.

These studies suggest that beyond offering cognitive support, story maps may also be beneficial in helping students structure their attention and stay motivated to learn. Indeed, in our study, an increase in student engagement and motivation was observed within the experimental group. Qualitative observations indicated that students participated enthusiastically in story mapping activities and engaged more deeply with the texts. This supports the notion that story maps are adaptable to students with varying levels and needs, and function effectively across different groups. Based on these findings, several implications can be drawn regarding the integration of the story mapping strategy into the instructional process.

These findings carry important implications for classroom practice. Teachers are encouraged to move beyond traditional reading comprehension methods and integrate story mapping as a core instructional strategy. This includes not only distributing story map templates but also explicitly modeling how to use them effectively. Implementing the gradual release of responsibility model ("I do, we do, you do") can support students in internalizing the technique. Moreover, integrating digital story mapping tools may increase engagement and support learners with diverse needs. Ultimately, teachers should consider story maps not as supplementary aids but as essential tools for developing students' higher-order comprehension skills, particularly in identifying main ideas in narrative texts. First, for the strategy to be effective, it must be implemented in a planned and intentional manner within the classroom setting. Teacher guidance is particularly critical in the initial stages. Jiang and Grabe (2007) also emphasized that for graphic organizers to be beneficial, students must be explicitly taught how to use these tools.

In this context, it is recommended that teachers go beyond merely distributing story maps as worksheets and instead model their use by demonstrating how to complete them step by step, guiding students throughout the process. For optimal integration, the gradual release of responsibility model ("I do, we do, you do") may be particularly effective. Initially, the teacher can read a narrative text aloud to the class and collaboratively fill in the story map on the board, highlighting key elements (a teacher-led guided activity). In the next stage, students can work in groups to map a similar text, and finally, they can

be encouraged to create story maps individually. Such a structured progression allows students to internalize the strategy and apply it independently. As emphasized in Alturki's (2017) study, implementing story maps as a group activity offers students the opportunity to interact with peers, thereby enhancing their meaning-making processes.

Today, it has become possible to create interactive story maps using smart boards, tablet applications, or projection systems. Such digital implementations can be particularly motivating for students who experience attention difficulties or require greater visual stimulation. However, it is essential that pedagogical intent remains at the forefront when integrating technology. What matters most is not whether the map is created digitally or on paper, but whether the student is actively engaged in analyzing the text. Teachers incorporating story mapping into their lesson plans should adopt a holistic approach that includes reading the text, completing the story map, and subsequently engaging in a discussion of the main idea. This approach helps embed the story map activity as a natural part of the instructional flow, allowing students to perceive it not as an additional task, but as an integral component of the reading process. Indeed, the significant effects revealed by our study can be attributed to the regular and purposeful implementation of the strategy. Since the story mapping was applied only in the experimental group and for the duration of the intervention, it produced a noticeable difference; thus, adopting this strategy more permanently in curricula could lead to similar or even more sustained outcomes.

In conclusion, when the findings of our study are considered alongside the relevant literature, it is evident that the story map strategy is highly effective in enhancing fourth-grade students' ability to identify the main idea in narrative texts. The significantly higher performance of the experimental group, coupled with the large effect sizes observed, indicates that this strategy offers not only statistically significant but also educationally meaningful benefits. The consistency of our findings with a broad range of national and international studies further strengthens the credibility and generalizability of the results. As a visual learning tool, story maps support students' cognitive processes by helping them structure information, distinguish the main idea and key elements, and develop a more coherent understanding of the entire text. Particularly in fostering higher-order comprehension skills such as identifying the main idea, the use of story mapping is a pedagogical approach that is widely recommended in the literature (Pilten, 2007; Reed & Vaughn, 2012).

In addition to its direct impact on comprehension, the story map strategy also offers indirect benefits such as increasing student engagement and making the

learning process more enjoyable. In our study, students who used story maps demonstrated noticeably improved attitudes toward reading activities. Previous research also supports this finding. Students using story maps often score higher in reading attitude scales.

This also points to the motivational benefits of the method. Like any instructional strategy, however, the effective use of story maps depends on several factors, such as the level of teacher guidance, the suitability of the selected texts, students' prior knowledge, and time constraints—all of which may influence the extent of the strategy's impact. Nevertheless, the findings of this study suggest that the story mapping strategy can be adopted as a powerful learning tool at the primary school level, both theoretically and practically. These results highlight the significance of visualization and structured strategies in Turkish language education and can inform future research aimed at enhancing reading comprehension skills. Specifically, future studies may explore the long-term effects of story maps on students who struggle with identifying the main idea, their applicability to different genres (e.g., informational texts), or the outcomes of digital story mapping applications. In conclusion, the evidence presented in this study strongly demonstrates that story maps contribute meaningfully to narrative comprehension and significantly improve students' ability to identify the main idea by supporting cognitive processes and increasing student engagement. Incorporating evidence-based strategies such as story mapping into early reading instruction is consistent with both our findings and current educational practices.

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