



# THE EFFECT OF MACROSTRUCTURE AND SUPERSTRUCTURE TEACHING ON SUMMARIZATION ACHIEVEMENT

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## Abstract

*Selecting and remembering the necessary information from rapidly increasing information requires summarization skills. Research on improving students' summarization skills has focused on deletion, generalization, and reconstruction strategies. However, direct teaching of these strategies does not yield successful results. For this reason, researchers have turned to teaching summarization based on understanding the text. Knowing the macrostructure and superstructure of the text can help understand the text and select the information to be included in the summary. The aim of this study is to determine the effect of macrostructure and superstructure teaching on summary writing achievement. The study was conducted in a one-group pretest-posttest design and lasted for 6 weeks. The study was conducted with 22 seventh grade students in a public secondary school. The data were collected with a total of 132 summary texts in which students summarized five stories. The summaries of texts were scored with the Text Summary Evaluation Rubric (TSEER). As a result of the study, significant differences were obtained in summarization achievement in favor of the posttest. Based on this result, it is recommended that macrostructure and superstructure teaching be included in programs and course books. This study is limited to narrative texts. In future studies, whether the achievement in summarization narrative and informative texts differs and how long it takes for different age groups to develop their achievement in summarization of different types of texts can be examined based on text structure teaching.*

**Keywords:** Macrostructure teaching, superstructure teaching, summarization achievement, seventh grade students

## Introduction

Innovations in the world of information and technology and the ability to spread information across the world in seconds have made it easier to access information. However, understanding the information presented, selecting the important ones, and remembering them when necessary have become important skills in order to benefit from the rapidly increasing accumulation of knowledge. An effective way of developing these skills is teaching summarization. Summarization is the "reductive transformation of the source text into a summary text by condensing the content through selection and/or generalization about what is important in the source." (Sparck Jones, 2007, p. 6). Summarization is a multi-layered skill that involves both comprehension and expression skills. For this reason, it should not be considered as a skill that students can acquire without training.

While teaching summarization, students should be explained what they should do before, during and after summarization and guidance should be provided to support their learning. The basic stages of summarization are comprehending the text, selecting or creating important information, shortening the text without losing the main message, and writing fluently in their own words. In this respect, summarization is primarily based on reading comprehension. There is a reciprocal relationship between summarization and reading comprehension. Good

readers write good summaries (Bahap Kudret & Baydık, 2016; Pirc & Pecjak, 2018), teaching summarization strategies increases reading comprehension (Belet, 2005; Dollins, 2012; Graham & Hebert 2010; Khathayut & Karavi, 2011; Khoshsima & Rezaeian Tiyar, 2014; Nelson, Simith & Dodd, 1992; Nurhayati & Fitriana, 2018; Pakzadian & Rasekh, 2012; Sucita & Hukom, 2022). Bahap Kudret and Baydık (2016) found a positive, moderate relationship between reading and summarization achievement. However, reading comprehension and understanding the text for summarization are not the same. Writing summaries is not a natural consequence of understanding and remembering the text; it is necessary to use deliberate processing strategies for summarization as well as comprehension (Hidi & Anderson, 1986). The process of selecting particularly important propositions and reducing them, in which propositions are deliberately condensed through various higher-order transformations, is a key feature of reading for summarization (Winograd, 1984 as cited in Hidi & Anderson, 1986).

In the process of teaching summarization, first of all, analyzing good and bad summaries and starting with the completion of incomplete summary texts will provide a concrete view of what can be included in the summary (Blanchard & Root, 2004). After the summary structure is introduced, summarization strategies can be taught. The deletion, generalization, selection and construction strategies developed by Kintsch and van Dijk (1978) are frequently used in teaching summarization strategies. According to Kintsch and van Dijk (1978), summarization is the technique of creating the macrostructure of the text by identifying its important points. The macrostructure is a structure that preserves the general meaning and structure of the original text but is stripped of details. According to this model, each sentence that forms the basis of the text and the relationship between sentences constitutes the microstructure. Deletion, generalization, and construction operations are applied to create a macrostructure from a microstructure. In the deletion process, a sentence is deleted if it is insufficient to represent the whole and creates a coincidental connection with other sentences. In generalization, similar concepts related to the same concept area in the text are generalized. In structuring, the propositions in the text are evaluated and transferred to a new set of propositions.

Deletion, generalization, and construction are the ultimate goals of summarization. However, research shows that teaching summarization based only on these strategies does not produce very successful results. Students have difficulty in selecting important information (Özçakmak, 2015; Friend, 2001), deleting unimportant information (Garner, 1982) or construction (Kim, 2001). In the experimental study conducted by Aydın (2022), secondary school students were taught deletion, generalization, and construction strategies. As a result of the study, it was determined that students did not show improvement in any of these strategies. Rather than teaching "deletion, generalization and reconstruction" strategies directly, the researchers focused on text comprehension studies for summarization. In summarization teaching, it is tried to improve the ability to select important information by using text-oriented questions (Boğa, 2019), mind maps (Aksoy, 2022; Aulia, 2017), story maps (Arslan, 2017; Şahin, 2012) or thinking about the text, associating ideas with each other (Friend, 2001). The common feature of these studies is content-based summarization. Content-based summarization is a summarization technique based on the main content of the text (Cahyono, 1996). This "summarization technique is able to improve student's comprehension and their summaries skill especially in cases of finding the main ideas, committing plagiarism and committing distortion" (Khathayut & Karavi, 2011, p. 7).

The results obtained from the literature review have shown that it is important to develop comprehension for summarization purposes in summarization teaching. In order to achieve this, this study adopted a summarization teaching process supported by the teaching of strategies for identifying the macrostructure and superstructure that make up the text. The macrostructure is a structure that takes the text as a whole, reflects the general meaning of the text and constitutes the content of the text. Without creating the macrostructure of the text, it is impossible to

make semantic organization by eliminating complex information and to perceive the general meaning of the text (van Dijk & Kintsch, 1983). Working on macrostructure is important for both understanding the text and determining the elements to be summarized. This is because in macrostructure, the main topic is the most basic structure, and determining the main topic of a text and the subtopics that lead to this topic is essential for understanding the text. The elements of macrostructure that ensure the coherence of the text in terms of its topic include the title, topic sentence, keywords, main and auxiliary thoughts/events, content schema, topic change determinants and a conclusion sentence.

The type of text determines which information should be included in the summary text (Dilidüzgün, 2013, p. 51). For this reason, it is important to conduct summarization teaching based on text types. The genre-specific structuring of the text is the superstructure of the text. The superstructure of narratives consists of "setting, initiating event, internal response, attempt, consequence, and reaction" (Stein & Glenn, 1979 as cited in Chen & Su, 2012, p. 186). The setting element includes time and place; initiating the event is the main problem, attempt is the main character's first reaction to the main problem, consequence is whether the main character solves the problem or not, and the reaction is the main character's response to the consequence (Chen & Su, 2012). All of these elements should be included in the summary of a narrative text. Recognizing the genre-specific structure of narrative texts is useful for determining what should be included in the summary.

The next stage in summarization teaching is writing the summary. At this stage, writing skills come into play. Writing an original text is based on planning the basic ideas and details, but summary writing is based on comprehension, evaluating, condensing, and transforming the original text (Hidi & Anderson, 1986). When writing a summary, it is possible to sort the selected or created sentences according to the subject/event order, to make them into a coherent whole by using transitional link expressions, to write with one's own sentences, to put a new title, to ensure time coherence and to check the consistency between the summary and the source text.

Teaching summarization is a part of foreign language teaching and mother tongue education. In the Turkish Language Teaching Programme, summarization is included both as a reading and writing strategy and as a learning outcome. However, deletion, generalization and construction strategies are not included in the curriculum and course books. Students are asked to write a summary within the framework of the instruction "summarize the text" in the course books. However, students are not shown how to do this, and they are not given regular feedback on their summaries (Aydın, 2022). Students' receiving feedback is an important factor in the development of summarization skills (Özdemir, 2018). As a result of the lack of regular teaching, summarization problems are seen at all levels from primary school to university. Students fail to distinguish important information from unimportant information (Aktaş & Bayram, 2017; Aydın, 2022; Bahap Kudret & Baydık, 2016; Erdem, 2012; Karatay & Okur, 2012; Özçakmak, 2015), frequently include quotations in their summaries (Çıkrıkçı, 2008), and do not use the tense of expression correctly (Sulak & Arslan, 2017). It is possible to transform unsuccessful summaries into ideal summaries by teaching summarization strategies. There are many studies confirming this claim (e.g. Aksoy, 2022; Anderson & Hidi, 1989; Arslan, 2017; Aulia, 2017; Boğa, 2019; Cahyono, 1996; Friend, 2001; Özdemir, 2018).

Experimental studies on teaching summarization strategies are generally conducted with university students and are generally aimed at summarization informative texts in a foreign language (e.g. Aulia, 2017; Bahrami & Rahimy, 2022; Febriani et al., 2019; Friend, 2001; Khathayut & Karavi, 2011; Kim, 2001; Li, 2016). It is seen that experimental studies on the summarization of informative texts in the mother tongue were conducted at the primary school level (Armbruster et al., 1987; Arslan, 2017; Özdil, 2019; Westby et al., 2010) and secondary school level (Aydın, 2022; Çıkrıkçı, 2008). Summarization teaching based on narrative text

structure teaching was conducted with primary school students (Hellmann & Ehri, 2020) and university students (Chen & Su, 2012). There is no experimental study focusing on both the macrostructure and the superstructure of narrative texts conducted in the mother tongue and with secondary school students. The study is important because it will fill this gap in the literature.

### *Research Problem*

Identifying the elements that make up the macrostructure of the text can be a way of distinguishing important information from unimportant information in summarization. Macrostructure elements are presented in an order specific to the text type, that is, according to the superstructure of the text. Macrostructure and superstructure information can be guiding in determining what to include in the summary. In the literature review, it is seen that no summarization study has been conducted to teach strategies for these two structures together. Knowing these structures may reduce the problems encountered in summarization.

### *Research Focus*

The focus of the research is to determine how knowing the macrostructure and superstructure of narrative texts affects secondary school students' summarization achievement.

### *Research Aim and Research Questions*

This research aims to examine the effect of summarization teaching supported by teaching macrostructure and superstructure determination strategies on the development of secondary school students' achievement in summarization narrative texts. The subject was addressed with two research questions:

1. How is the weekly development of secondary school students' achievement in summarization narrative texts after summarization teaching supported macrostructure and superstructure identification strategies?
2. What is the effect of teaching macrostructure and superstructure on summarization narrative texts achievement?

## **Research Methodology**

### *Research Design*

The research was conducted with one group pretest-posttest model which is one of the one group pre-test post-test designs. In this design, an independent variable is applied to a group. Measurements are made before and after the treatment. If the posttest scores are greater than the pretest scores, it is accepted to be from the independent variable (Karasar, 2009). The experimental process of the research lasted 6 weeks in the spring term of the 2021-2022 academic year. The study was conducted for 2 lesson hours per week. In the first week, pretest data were taken, and no training was given. In the second week, the process of teaching summarization strategies was started, and in the third and subsequent weeks, studies were continued for the strategies in which the students did not show improvement. The experimental process was completed when the summarization achievement exceeded the average in all criteria. The experimental process is explained in detail below.

*Study Group*

The study group of the research consists of 7th-grade students studying in a public school. The experimental process was carried out with students taking the "Authorship and Writing Education" course in the spring term of the 2021-2022 academic year. The class size was 30, but the study was completed with 22 students due to 6 students who were absent some weeks and 2 students who did not want to participate in the study. 13 boys and 9 girls, a total of 22 students participated in the study voluntarily. Approval for the research was received from Bartın University Social and Human Sciences Ethics Committee. The ethics committee approval number is 2022-SBB-0034.

*Data Collection Tools*

The data of the study were collected with a total of 132 summary texts in which students summarized 5 stories. In determining the texts to be summarized, 10 stories suitable for the level of secondary school students, with easy and medium difficulty levels of readability were determined by the researchers. The determined stories were presented to two Turkish language teaching experts. The experts analyzed the texts in terms of the criteria of having clear macrostructure and superstructure features and being suitable for the level of students. The 5 narrative texts that both experts found appropriate according to all criteria were used in the study. The medium difficulty story named Kırmızı Pabuçlar (Red Shoes) was used in the pretest and posttest. Information about the summarized stories is presented in Table 1 in the order of weekly study.

**Table 1**  
*Information about the Summarized Stories*

Week	Text	Number of Words	Author	Readability Level
1	Kırmızı Pabuçlar (Red Shoes) (Pretest)	605	Nehir Tunaz	Moderate
2	Kaynatılmış Tohum (Boiled Seed)	752	Murat Ertan	Easy
3	Portakal (Orange)	813	Mustafa Çiftçi	Easy
4	Kaşağı (Grooming Brush)	698	Ömer Seyfettin	Easy
5	Son Kuşlar (Last Birds)	576	S. Faik Abasıyanık	Moderate
6	Kırmızı Pabuçlar (Red Shoes) (Posttest)	605	Nehir Tunaz	Moderate

*Text Summary Evaluation Rubric*

The summaries of the above texts were scored with the Text Summary Evaluation Rubric (TSER). The scores obtained were used as the achievement score for the summarization of narrative texts. The rubric was developed by Benzer et al., (2016). The rubric includes 12 criteria related to "form, content and style" dimensions. The criterion of "side thoughts/events" in the content criteria of the rubric was excluded from the analysis because it covers the criterion of "plot". The criterion of "writing a new title", which is directly related to the content of summary texts, was added. The rubric is presented in Table 2.

**Table 2**  
*Text Summary Evaluation Rubric*

Theme	Criteria	Inadequate (1p.)	Need to Improve (2p.)	Successful (3p.)
<b>SHAPE</b>	1. Paper order	Paper order is not respected.	Paper order is not respected partially.	Paper order is sufficient and placed in the center.
	2. Paragraph number	Summary text consists of 7 or more paragraphs.	Summary text consists of 4-6 paragraphs.	Summary text consists of 1-3 paragraphs.
	3. Grammar, punctuation, spelling	6 and more grammar, punctuation, and spelling mistakes have been made.	3-5 Grammar, punctuation, and spelling mistakes have been made.	1-2 Grammar, punctuation, and spelling mistakes have been made.
<b>CONTENT</b>	4. Writing a new title	The title is not written.	The title of the source text is written verbatim.	A new title has been added to the summary.
	5. Content integrity	Content integrity is not respected.	Content integrity is not respected partially.	Content integrity is satisfied.
	6. Introduction sentence	There is no introduction sentence.	Introduction sentence is inadequate.	The introduction sentence gives the topic of the text.
	7. Plot	In summary, topic and event order are not paid attention to.	In summary, the topic and event order were messed up.	In summary, the topic and event order are given in the correct way.
	8. Details	Unnecessary details and unrelated information to the topic are written.	Unnecessary details and unrelated information to the topic are given less.	Details and unrelated information with the topic aren't given.
	9. Use of keywords	Keywords have not been mentioned.	Some of the keywords have not been mentioned.	All keywords have been mentioned.
	10. Main idea	The main idea has not been issued.	The main idea has been issued partially.	The main idea has been determined.
<b>STYLE</b>	11. Use of time suffixes	Time suffixes have been used as incompatible.	Some of the time suffixes have been used as incompatible.	Time suffixes have been used as compatible.
	12. Direct citation or imitation	It consists of direct citation or imitations from the main text.	It consists of fewer sentences, which makes direct citations or imitations from the main text.	It is written with the expression of the reader.

### *Procedure*

Week 1: No training on summarization strategies was applied. Students summarized the *Kırmızı Pabuçlar* (Red Shoes) text based on their existing knowledge. These summaries were used as a pretest of summarization achievement.

Week 2: Narrative text superstructure was introduced. Information was given about the macro scale structure elements such as topic sentence, main idea sentence, title, keywords, topic change determinants, conclusion sentence and content scheme. These were exemplified in a story they had previously studied in the textbook. Deletion, generalization, and construction

strategies were introduced, and a sample study was carried out on the same story. Based on the criteria in the rubric, a summary text structure was introduced. Successful and unsuccessful examples were selected from the summaries of the first week and shown on the smart board and the reasons why these examples were successful or unsuccessful were discussed. Then, the evaluations of the previous week's summaries with the rubric were given to the students. Finally, the students summarized the story of Kaynatılmış Tohum (Boiled Seed) within the framework of the information they learned.

Week 3: The detailed evaluation of the Kaynatılmış Tohum text with the rubric was distributed to the students to see their mistakes. In addition, successful, average and unsuccessful examples were projected on the screen. In the first two weeks, it was observed that the most common problems of the students were not starting the summary with an introductory sentence reflecting the topic and not providing integrity of meaning, including details and direct quotations. Information was given on these issues and the story of the previous week was worked on. The students were asked to look at their summaries with a critical eye and share the mistakes they found. Finally, they were asked to summarize the story called Portakal (Orange).

Week 4: Examples of successful, average, and unsuccessful summaries of the previous week were discussed. The evaluations made with the rubric were given to the students to see the strengths and weaknesses of their summaries. It was determined that the students could not show enough improvement in the criteria of ensuring the integrity of meaning, including the topic sentence in the introduction, using keywords, plot, and main idea. The narrative text structure, subject change determinants and the elements that make up the content scheme of the text were analyzed on the story of the previous week. In order to determine the keywords, it was explained that they should pay attention to the title of the text, the most frequently repeated words, the topic and main idea sentences, and the sentences expressing the changes in the protagonist's reactions, thus the changes of the main event. The keywords of the story titled "Portakal" were determined and how they could summarize the text with just keywords was illustrated. It was emphasized how using transition and connecting expressions when writing a summary ensures fluent expression. The students summarized the text called Kaşığı (Grooming Brush) within the framework of the information they learned.

Week 5: After examining the sample summaries of the previous week and distributing the rubrics to the students, studies were carried out on the subjects that the students could not improve. The problems seen in the previous week continued to be seen. The topics emphasized in the previous week were repeated in the story of Kaşığı. Students summarized the Son Kuşlar (Last Birds) story.

Week 6: Examination of the previous week's sample summaries and evaluations made with rubrics were distributed to the students. In the summaries of the previous week, problems were identified in terms of grammar, punctuation, spelling mistakes, integrity of meaning and consistent use of tense suffixes. Work was carried out on student summaries to correct errors on these issues. In addition, the number of students who failed in the criteria of introductory sentence, plot, details, keywords, and main idea increased compared to the previous week. In these subjects, analyses were made on the story of the Son Kuşlar (Last Birds). However, it was decided to complete the experimental process since the average score of 2 and above was seen in all criteria. The summary of the Kırmızı Pabuçlar (Red Shoes) was written as the final test.

### *Data Analysis*

In order to determine the weekly development of summarization skills, frequency analysis was performed using the measures in the rubric. Since the summarization achievement scores were not normally distributed, the Wilcoxon Signed Ranks Test, one of the nonparametric tests, was used to determine whether there was a significant difference between the pre and post test data.

*Reliability*

The students' summaries collected as pretest and posttest were coded by two raters based on the criteria in the rubric. The agreement between the coding of the raters was analyzed by Cohen's Kappa Analysis. The kappa value is between -1 and +1. As the value approaches +1, the level of agreement between the raters increases and weakens as it approaches -1. Kappa value agreement scores are <.00 weak, .00-.20 insignificant, .21-.40 moderate, .41-.60 generally compatible, .61-.80 high and .81-1.00 very high (Landis & Koch, 1977). In this study, it was determined that the pretest scores were generally compatible with the 1st and 3rd criteria, highly compatible with the 2nd and 12th criteria and very highly compatible with the other criteria; the posttest scores were highly compatible with the 12th criterion and very highly compatible with all other criteria.

**Research Results**

*Results Related to the Weekly Development of Students' Summarization Achievements*

To explore the weekly development of students' summarization achievements descriptive analysis was conducted. The analysis results are seen in Table 3. and Table 4.

**Table 3**  
*Weekly Development of Summarization Achievement*

		Form					Content					Style	
		1.Paper order	2.Paragraph number	3.Grammar, punctuation, spelling	4.Writing a new title	5.Content integrity	6.Introduction sentence	7.Plot	8.Details	9.Use of key words	10. Main idea	11. Use of time suffixes	12.Direct citation or imitation
Week 1	Inadequate	10	3	19	3	10	21	10	15	10	21	14	19
	Need to Improve	11	8	1	10	12	1	10	7	12	1	7	1
	Successful	1	11	2	9	0	0	2	0	0	0	1	2
Week 2	Inadequate	3	2	7	0	10	15	7	10	7	9	12	10
	Need to Improve	11	10	8	1	11	6	14	8	13	6	8	10
	Successful	8	10	7	21	1	1	1	4	2	7	2	2
Week 3	Inadequate	2	2	5	0	10	16	8	9	10	16	6	9
	Need to Improve	11	8	9	0	9	6	9	8	11	5	8	9
	Successful	9	12	8	22	3	0	5	5	1	1	8	4
Week 4	Inadequate	2	2	7	0	5	7	2	3	3	4	4	5
	Need to Improve	7	6	9	0	12	2	12	10	11	7	8	9
	Successful	13	14	6	22	5	13	8	9	8	11	10	8
Week 5	Inadequate	3	2	7	0	4	8	5	4	5	6	3	6
	Need to Improve	8	9	5	1	8	2	8	11	8	3	8	7
	Successful	11	11	10	21	10	12	9	7	9	13	11	9
Week6	Inadequate	2	0	3	0	3	2	2	3	4	2	3	5
	Need to Improve	5	1	7	0	5	2	5	6	5	1	4	5
	Successful	15	21	12	22	14	18	15	13	13	19	15	12



When the summaries of the 1st week are analyzed, the most successful criteria are the number of paragraphs ( $f=11$ ) and putting a new title ( $f=9$ ). There are no successful students in the criteria of integrity of meaning, introductory sentence, details, use of keywords and main idea. The number of successful students in the criteria of paper layout ( $f=1$ ), use of tense suffixes ( $f=1$ ), grammar, punctuation, spelling errors ( $f=2$ ), plot ( $f=2$ ) and direct quotation or imitation ( $f=2$ ) is quite limited.

It is seen that 21 students are successful in the criterion of putting a new title in the summaries written by the students in the second week and there are no summaries evaluated as inadequate in the related criterion. In the criterion of the main idea, in which there are no successful students in the first week, 7 students are successful. The number of summaries evaluated as inadequate in the introductory sentence ( $f=15$ ) and the use of tense suffixes ( $f=12$ ) is high. There is an improvement in all of the criteria compared to the first week, however, the number of successful students in the criteria of the integrity of meaning ( $f=1$ ), plot ( $f=1$ ), introductory sentence ( $f=1$ ), use of time affixes ( $f=2$ ), direct quotation or imitation ( $f=2$ ) is quite low.

In the summaries of the third week, it is seen that all of the students ( $f=22$ ) put a new title to their summaries. There is no successful student in the introductory sentence criterion. The number of successful students in the use of keywords ( $f=1$ ) and main idea ( $f=1$ ) criteria is quite low. While 1 student was successful in the main idea criterion in the third week, 11 students were successful in the fourth week.

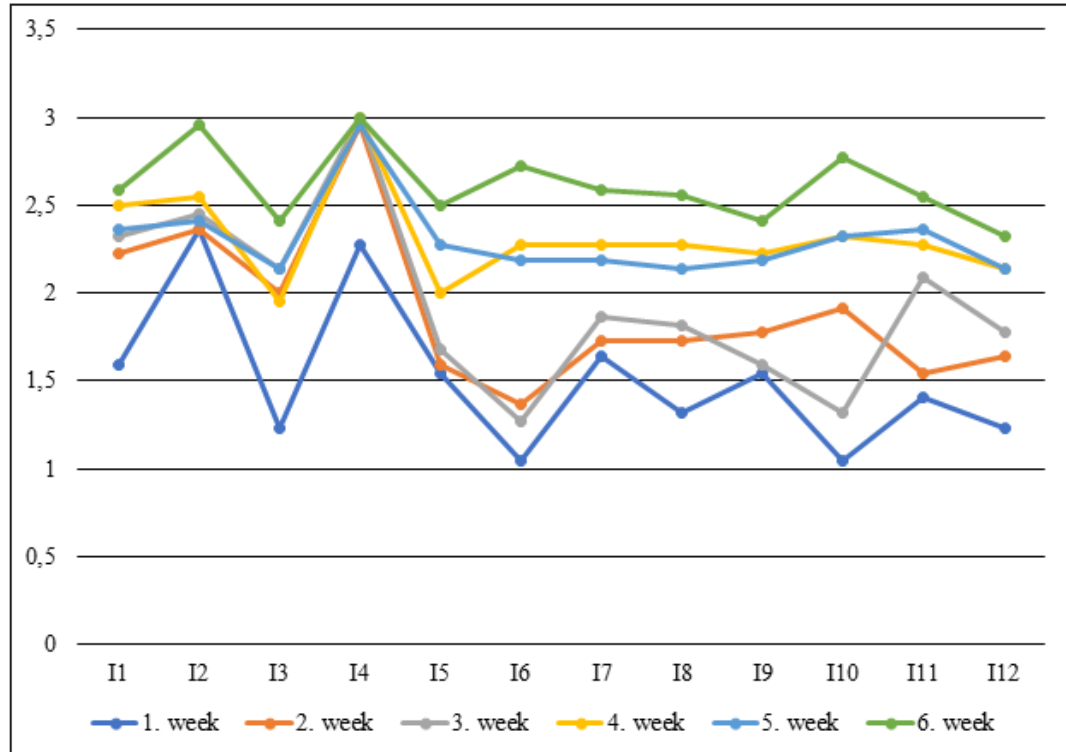
In the fourth week, the percentage of success (100 %) is repeated in the criterion of putting a new title. The lowest number of successful students is found in the criterion of integrity of meaning ( $f=5$ ). In all other criteria, the number of successful students is improved. In the introductory sentence criterion, where there were no successful students in the third week, there are 13 successful students in the fourth week. While one student was successful in the main idea criterion in the third week, this number is eleven in the fourth week.

In the fifth week summaries, the number of insufficient students in the criteria of introductory sentence ( $f=8$ ), plot ( $f=5$ ), details ( $f=4$ ), keywords ( $f=5$ ) and main idea ( $f=6$ ) increased compared to the previous week.

In the sixth week summaries, it is seen that the number of students who are successful in the criteria of putting a new title ( $f=22$ ), number of paragraphs ( $f=21$ ), main idea ( $f=19$ ) and introductory sentence ( $f=18$ ) is quite high. Although the level of success is at the top in all criteria as of the sixth week, there are students who are evaluated as inadequate in criteria other than the number of paragraphs and putting a new title. The criterion with the highest number of inadequate students ( $f=5$ ) is direct quotation or imitation.

The weekly course of summarization achievement determined according to the average scores obtained from the rubric in which text summaries were evaluated is given in Figure 1. The first 3 items of the rubric are about the format properties of the summary, items 4-10 are about the content and the last two items are about the style.

**Figure 1**  
*Weekly Development of Summarization Achievement*



The results of the 6-week training period are shown in different colors. The dark blue line in Figure 1 represents the 1st week of the pretest scores and the green line represents the 6th week of the posttest scores. In the first week of the study, the scores obtained from summarization the text with an appropriate number of paragraphs ( $\bar{X} = 2.36, SD = 0.73$ ) and putting a new title to the summary text ( $\bar{X} = 2.27, SD = 0.70$ ) are above 2. The scores obtained from other criteria are below 2. In the 1st week, the lowest scores are obtained for starting the summary text with an introductory sentence that reflects the topic ( $\bar{X} = 1.05, SD = 0.21$ ) and ending the text with a sentence that gives the main idea ( $\bar{X} = 1.05, SD = 0.21$ ). In the second week, improvement is observed in all items. All format features of the abstract are above 2 points. Items 4-10 in the content features of the text and items 11 and 12 in the stylistic features continue to remain below 2 points. In the third week, the scores of the criteria related to form features continue to increase and are above 2 points. The score obtained from the criterion of putting a new title to the summary text ( $\bar{X} = 3, SD = 0.00$ ) is at the highest level. In the fourth week, the scores of all criteria except the criterion of compliance with grammar, spelling and punctuation rules ( $\bar{X} = 1.95, SD = 0.79$ ) are above 2. Although all of the scores are above 2 in the fifth week, it is noteworthy that there is a decrease in the criteria of paper layout (-0.14), number of paragraphs (-0.14), putting a new title (-0.05), introductory sentence (-0.0909), use of keywords (-0.05), plot (-0.09), and details (-0.14). In the 6th week, when the research was completed, and the post-test data were obtained, an increase was realized in all criteria.

The averages of the students' summarization achievement during the 6-week training period were examined and the data are presented in Table 4.

**Table 4**  
*Weekly Averages of Summarization Achievement*

Week	N	$\bar{X}$	SD	Min.	Max.
1	22	1.52	.30	1.08	2.17
2	22	1.90	.42	1.25	2.83
3	22	1.94	.43	1.33	2.92
4	22	2.31	.50	1.17	3.00
5	22	2.30	.49	1.42	3.00
6	22	2.61	.40	1.33	3.00

As seen in Table 4, the lowest mean is at week 1 ( $\bar{X} = 1.52$ ,  $SD = 0.30$ ) and the highest mean is at week 6 ( $\bar{X} = 2.61$ ,  $SD = 0.40$ ). In weeks 1, 2 and 3, the mean of achievement is below 2. In weeks 4, 5 and 6, the achievement average is above 2. While the mean achievement of the summaries increases during the first 4 weeks, the mean achievement of the summaries in the 5th week ( $\bar{X} = 2.30$ ,  $SD = 0.49$ ) decreases (-0.01) compared to the previous week ( $\bar{X} = 2.31$ ,  $SD = 0.50$ ). When the averages of summarization achievements between weeks are examined, the highest increase (+0.38) is between the 1st and 2nd week.

*Results Related to the Effect of Teaching Macrostructure and Superstructure on Summarization Narrative Texts Achievement*

The Wilcoxon signed-rank test was conducted to explore the effect of teaching macrostructure and superstructure on summarization narrative texts achievement, and the results are presented in Table 5.

**Table 5**  
*Pretest-Posttest Difference in Summarization Achievement*

Posttest - Pretest	N	Mean Rank	Sum of Ranks	Z	p
Negative Ranks	1	1.00	1.00	-3.97	.001
Positive Ranks	20	11.50	230.00		
No difference	1				

As seen in Table 5, in the post-test, one student's achievement is lower than in the pre-test, and one student's achievement is the same. In the post-test, 20 students increase their achievement. When the students' summarization achievement was compared between the posttest and pretest, it was determined that summarization achievement showed a significant difference in favor of the posttest ( $Z = -3.97$ ,  $p < .01$ ). According to this result, teaching macrostructure and superstructure is effective in summarization narrative texts achievement.

## Discussion

In this research, it was explored how strategies based on determining the macrostructure and superstructure characteristics of the text affect the achievement of text summarization. As a result of the research conducted for 6 weeks in a single group pretest and posttest design, text summarization achievement showed significant differences in favor of the posttest.

It is noteworthy that in the first week of summarization achievement, there were no students who were successful in the criteria of semantic integrity, introductory sentence, details, use of keywords and main idea. Except for the criteria of adding a new title ( $f = 9$ ) and number of paragraphs ( $f = 11$ ), the number of successful students remained limited in other criteria. These results show that students' summarization skills were weak before the summarization strategies training. The reason for this may be that summarization skills are tried to be taught only through activities in course books. In the studies of Şengül (2005), Dilidüzgün (2013), Karadağ (2019), Özdemir and Eroğlu (2022), it was determined that the summarization activities in Turkish course books were insufficient for teaching summarization, indicating that there may be problems in developing summarization skills through activities.

According to the results obtained from the evaluation of summarization achievement, the highest increase in summarization scores (+0.3826) was between the 1st and 2nd weeks. This result is related to the second week of summarization teaching. However, the lowest increase in summarization achievement scores (+0.0417) occurred between the 2nd and 3rd weeks. This finding shows that the rate of development of summarization achievement does not follow a regular course and it is important to repeat the applications to reach the desired level of development.

The students who were evaluated as "successful" in summarization achievement, semantic integrity and use of tense suffixes increased every week. However, students who were evaluated as inadequate in the semantic integrity criterion remained stable in the first three weeks. Semantic integrity is a criterion based on the solid establishment of grammatical connections and the use of appropriate transition and connection expressions. Data from the first three weeks show that students had difficulty providing transition and connection points in their summary texts. In the study conducted by Deneme (2008) with secondary school students, it was determined that the students had problems in providing semantic integrity in their summaries.

It was determined that although the students' achievement in summarization in the six-week training period increased in the use of details and keywords, they could not reach the desired level. Problems with deleting details and using keywords show that students have difficulty distinguishing important information from unimportant information. In different summarization studies conducted with secondary school students, it was determined that there were problems in the strategies of deleting unnecessary information and separating important information from unimportant information (Aktaş & Bayram, 2017; Aydın, 2022; Bahap Kudret & Baydık, 2016; Çıkrıkçı, 2008; Erdem, 2012; Karatay & Okur, 2012; Özçakmak, 2015). Deletion is the most fundamental strategy in macrostructure construction rules (Brown & Day, 1983). The development of this strategy requires a long-term process.

In the results of the posttest of summarization achievement, it is seen that the least success was in the direct quotation and imitation criteria. In this criterion, 5 students were evaluated as inadequate, 5 students needed improvement and 12 students were evaluated as successful. The fact that students transfer information from the source text to their summary texts through direct quotation and imitation shows that they have problems in their ability to express it in their own words. In the study conducted by Çıkrıkçı (2008), it was determined that secondary school students frequently included direct quotations in their summary texts. Along with the direct quotation and imitation criteria, the criterion with the lowest number of successful students in the posttest was grammar, punctuation, and spelling errors. In the summaries examined, it was observed that students made especially the use of capital letters, letter errors and missing punctuation. The findings coincide with the findings of Sügümlü's (2020) study, which examined the application levels of secondary school students' spelling and punctuation rules. Grammar, spelling, and punctuation include the basic rules of Turkish. In order to eliminate the relevant deficiencies, students can internalize the relevant rules by using them throughout their lives.

When the weekly averages of summarization achievement were examined, a regular increase was observed in the first four weeks, while a decrease was observed in the fifth week averages. The text “Last Birds” was used in the fifth week summaries. The fact that the readability level of the text is medium difficulty may be the reason for the decrease in the average. Hellmann and Ehri (2020) determined in their study with fourth grade students that more successful summaries were obtained from easier texts. Also, this story, unlike others, is a situation story. Another reason for the decrease in averages may be that students are more accustomed to event stories. In the first three weeks of the research, the average summarization achievement scores were below 2. The average score remained below 2 in all 6 criteria in which the summary text was evaluated in terms of content. The content criteria of the summary are directly related to reading comprehension skills. It can be said that the average being below 2 in content criteria during a three-week period is an indication that students have problems in understanding and transferring what they read. In Özdemir's (2018) study, it was observed that the summarization achievement of Turkish teacher candidates reached an average of over 2 points in all criteria in the 3rd week. The secondary school students in this study increased over 2 points in all criteria in the 5th week. This result shows that the age factor is effective in the development of summarization achievement. As a matter of fact, in the study conducted by Brown et al., (1983) with student groups of different ages, it was determined that the age factor was effective in summarization achievement. The average, which rose above 2 by the fourth week, rose above 2.5 in the 6th week of the research. At the end of the sixth week, the highest average was recorded in all criteria. Considering the success averages obtained in the research and the results of other studies, it can be said that it is important to make planning in connection with the development characteristics of student groups when determining the duration of summarization strategies training.

## Conclusions and Implications

In this study, the effect of summarization teaching based on determining the macrostructure and superstructure features of the text on the achievement of narrative text summarization was investigated. As a result of the research, a significant difference in summarization achievement was seen in the pre-test and post-test averages in favor of the post-test. An evaluation was made with 12 criteria regarding form, content, and style. Achievement has increased on all of these criteria. The least increase in criteria was seen in grammar, spelling, punctuation, and direct quotation and imitation criteria. The rate of successful students in these criteria was 54.5%. 59% of students were successful in details and keyword usage, and at least 68% were successful in other criteria. However, it was observed that students had difficulty when switching from an easy level to a medium difficulty level and from an event story to a situation story. These conclusions provide valuable implications for both educational practice and further research.

In order to improve students' summarization achievement, reading education should not be carried out only with questions about the meaning of the text. Teaching should be done on the elements that make up the macrostructure of the text and how these elements are arranged in the text according to their superstructure characteristics. The elements that make up the macrostructure of the text are the title, topic sentence, keywords, main and supporting ideas/events, content scheme, topic change markers and conclusion sentence. Depending on the superstructure of the text, these elements can be found in different parts of the text and different linguistic markers can be used. Analyzing the text in terms of these elements will contribute to the understanding of the text and is also important in determining which elements will be included in the summary. The research has shown that students need to study the texts repeatedly to determine the topic sentence, keywords, plot, and main idea and include them in the summary. It has been observed that these studies should continue for at least 4 weeks with 7th grade secondary school students.

Based on the research results, it is recommended that text structure criteria be included in the main language teaching program and repeated with different texts for a long time. Teachers should guide students in the summarization process and structure summarization education gradually. During the summarization process, they should clearly tell students what they need to do and be a model in showing them how to do it. Providing feedback in noticing the mistakes or truths made during the summarization process positively affects the students' achievement. Therefore, teacher and peer feedback should be offered.

This research is limited to narrative texts and secondary school students. There may be differences in determining summarization achievement depending on text types and the student's level. In further research, whether the achievement of summarization narrative and informative texts differs can be examined based on text structure teaching. Determining how long it takes for different age groups to develop narrative text summarization achievement is also one of the issues that need to be investigated.

The readability level of the texts and the organization of their content have an impact on the achievement of summarization. In summarization research, a transition should be made from easy texts to difficult texts. In the selected texts, the content should be presented in accordance with the genre characteristics.

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### Declaration of Interest

The authors declare no competing interest.

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