

Synthesis of Research on Students' Ability to Summarize Text

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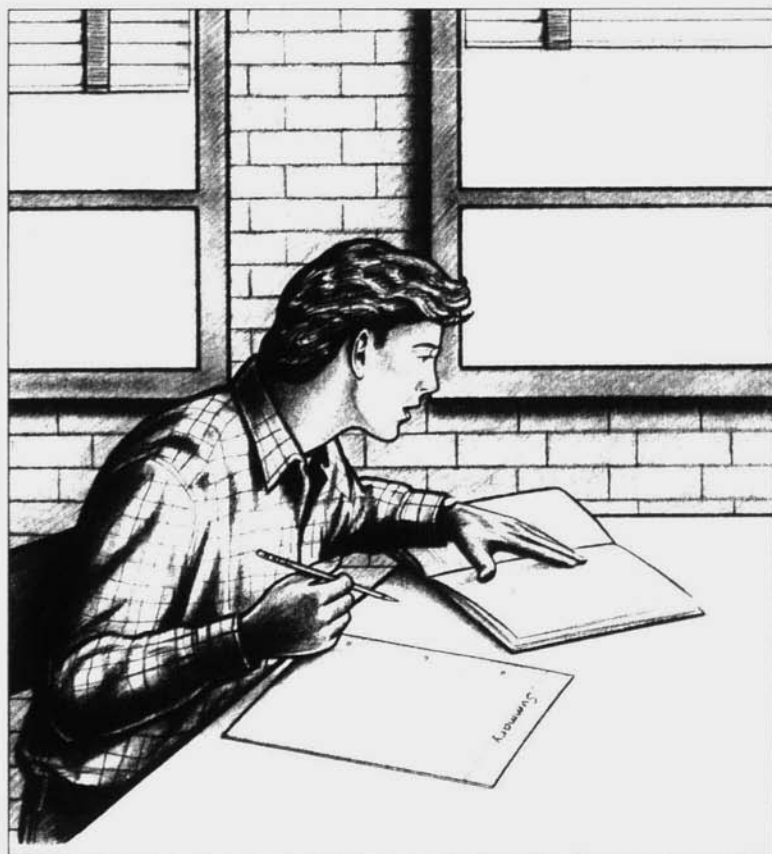
A great deal of research activity by psychologists and educators has focused on the text summarization skills of learners. This literature has shown that even older learners are not particularly adept at summarizing text. They experience difficulty in reducing text to its gist in the absence of space constraints (Brown, Day, and Jones, 1983), or even in using superordination consistently to eliminate detail and redundancy (Brown, Campione, and Day, 1981). Some less proficient readers highlight information of personal interest in the summaries rather than emphasizing textually important information (Winograd, in press). In this article, we will review summarization research and suggest ways that teachers can help students improve their text summarization skills.

Summarization Research

Brown and Day (1983), using a summarization model proposed by Kintsch and van Dijk (1978), analyzed summaries written by children and adults. From these analyses, they identified six basic rules of summarization:

1. Deletion of trivial material.
2. Deletion of redundant material.
3. Substitution of a superordinate term for a list of times or actions (that is, using flower for daisy, rose, violet).
4. Substitution of a superordinate action for a list of components of that action (that is, using "Mary went to New York" for "Mary left the house, Mary went to the bus station, Mary bought a ticket").

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5. Selection of a topic sentence.
6. Invention of a topic sentence.

Brown and others (1983) believe that these six basic rules seem to capture the essence of the methods of condensation actually used by students when engaged in the formal task of summarizing. With these summarization rules identified, Brown and her colleagues decided to investigate three variables concerning summarization: (1) the age levels at which students can effectively use the condensation rules; (2) whether students

use the rules more efficiently when they are asked to write a constrained summary (a summary using a specified number of words); and (3) whether students plan ahead, condense important information into as few words as possible, and include this important information when writing a summary.

Brown and Day (1983) asked 5th graders, 7th graders, 10th graders, and college students to summarize two expository texts, which were written so that five of the six summarization rules could be used. Students were

asked to read the texts three times and then to write what they thought was a good summary of the texts. They were then asked to write a constrained summary using only 60 words. The results showed that 5th graders knew how to delete trivial and redundant elements of text but that only the older students were able to use the complex summarization rules. Tenth graders and college students, however, had difficulty with the invention rule. Brown and others (1983) conducted the same experiment with junior-college students and found that this age group performed at the same level as the 7th graders in the first experiment.

In another study Brown, Day, and Jones (1983) investigated students' ability to plan ahead, their sensitivity to important elements in text, and their condensation of important information when writing a summary. Fifth graders, 7th graders, 11th graders, and college students were given two narrative stories and told to take them home and learn them perfectly—that is, to remember all of the ideas in the story but in their own words. One week later, students were asked to write a summary for one of the two stories, and also to write two constrained summaries of it, one using 40 words and the other using 20 words. Before writing the constrained summaries, students were reminded that they could write on the story, use scratch paper, and do anything else they found helpful in preparing their summaries. Lastly, the students were asked to divide the idea units from the other story into four groups corresponding to how important they were to the theme.

Results of this study were that the 7th graders, 11th graders, and college students could identify the important ideas in text and include them in their summaries, whereas the 5th graders displayed this sensitivity to importance

only in their 20-word summary. The majority of the older students paraphrased text information but did not adhere to the temporal sequencing of the text. Lastly, when compared to the younger students, more 11th grade and college students planned how they were going to write their summaries.

Winograd (1984) wanted to determine if there was a difference between good and poor 8th graders' use of the following strategic skills while summarizing expository text: (1) awareness of the task demands, (2) ability to

identify important text information, and (3) ability to transform text into its gist. Students were first interviewed to determine what they knew about the summarizing process. Following the interview, students read six different expository passages, answered five multiple-choice questions for each passage, wrote a 60-word summary, rated the relative importance of each sentence in each passage, and selected the five most important sentences from each passage.

Winograd concluded that most 8th graders knew that a summary should

Highlights of Research on Text Summarization Skills

To summarize textual matter, students must be able to:

1. Ferret out trivial material.
2. Delete repetitious material.
3. Substitute a general term for a list of specific items.
4. Combine a list of actions into a broader, single action.
5. Select a topic sentence.
6. Create a topic sentence.

Students in the 5th and 7th grades are able to perform skills 1 and 2, while older students are more adept at skills 3 through 5 but have trouble with skill 6.

In general, 5th graders can identify important ideas, but only when asked to write extremely brief summaries. Older students are able to paraphrase but may change the sequence of events or ideas. Compared to younger students, high school and college students are better able to plan ahead how to write summaries.

Poor readers in the 8th grade have difficulty identifying what adults consider to be important ideas in a passage and cannot perform the six skills adequately. Elementary students may select more interesting ideas at the expense of important information; 2nd graders emphasize a neat appearance over relevant content.

Teachers can help students develop skills in summarizing by teaching them the characteristics of a good summary and having them practice writing summaries and assessing the qualities of other summaries.

“... 8th graders knew that a summary should include the most important ideas from a passage, but some of them found it difficult to identify what adult readers considered important.”

include the most important ideas from a passage, but some of them found it difficult to identify what adult readers considered important. Poor readers used a different criteria in that importance in a story was based on whatever captured their interest. This same group of 8th graders failed to use or used ineffectively the six summarization rules. These results suggest that the ability to identify important text information is an underlying strategic skill that enhances the summarization process.

The research so far investigated students' ability to generate a concise, written summary. Garner and Hahn (1983) wanted to determine at what age level students could recognize a well-written summary. Students in grades two, four, and six were asked to read and listen to an expository text about meteors and then to review three videotapes of confederate 5th grade students describing and reading "their" text summaries. The confederates had been trained to use researcher-prepared cue cards to first tell how they would go about writing a summary and then to read the summaries they had written. In this manner "bad," "less good," and "good" summaries were presented. After viewing the three videotapes, the 2nd, 4th, and 6th graders were told to rank the videotaped performances and to justify their ranking decisions.

The "bad" summary displayed high-interest, low-importance information (that is, "Car tires sometimes seal themselves") as determined in consensual validation by expert readers. All information in the "bad" summary was reproduced in verbatim fashion from the original meteor text. The "less good" summary displayed a classic "copying and deleting" plan (Brown and others, 1982) in that it was an overlong, verbatim rendering of nearly all of the first half of the text.

The confederate reported, "I ran out of space" as an explanation for excluding important information in the second half of the text. The only improvement over the "bad" summary was that some high-interest, low-importance information was deleted. The "good" summary displayed just central information, often reworded, from all parts of the meteor text. Ideas were combined, topic sentences were invented, and some revision was presented. Only this summary was an example of application of the deletion, superordination, and topic-sentence rules discussed in the research literature (for instance, Brown and Day, 1983).

Most grade four and grade six students were able to rate the "bad" summary as least acceptable, although they sometimes preferred the long, verbatim "less good" version to the succinct, integrated "good" product. The 2nd graders did not perform as successfully. Most preferred the "bad" version to the other two products. It was concluded that learners at this early age do not recognize a good summary; they selected a product that stressed "neat" information at the expense of salient material. Many learners at the upper grade levels need some refinement of their understandings of ideal summaries.

We can conclude, then, that students in grades five and seven are deficient in substituting superordinate terms for lists of items or actions in text and in selecting topic sentences for summary inclusion. These same students also show insufficient planning, condensing, and revising when writing a summary. Poor readers in the 8th grade have difficulty using textual cues to differentiate central from peripheral-text information and in using the summarization rules to reduce a text to its gist. College students routinely miss opportunities to invent topic sentences for summaries.

Suggestions for Teachers

Teachers may want to consider teaching text summary in three phases: (1) recognizing a good text summary, (2) writing text summaries, and (3) assessing the efficiency of written summaries.

To help students recognize a good summary, teachers could develop summary scripts using criteria similar to those we established. Students would read these teacher-developed summaries and then state why a summary is "good" or "poor." Teachers could then list on a chart the characteristics of a "good" summary.

Following the recognition phase, teachers should then teach students how to write acceptable summaries, perhaps by using the summarization rules developed by Hare and Borchardt (in press). These summarization rules are similar to Brown and

Day's (1983) rules, but the language of the Hare and Borchardt rules is more child-oriented. For instance:

1. Include no unnecessary detail.
2. Collapse lists.
3. Use topic sentences.
4. Integrate information.
5. "Polish" the summary.

Students should be given extensive practice and feedback in using each of the five rules. Ideal materials for this second phase of instruction would be a variety of expository passages ranging from 200 to 400 words.

The third phase would be to teach students how to conduct an "efficiency rating" on their own written summaries (see Garner, 1982). Before students can perform an efficiency rating, the teacher needs to choose three or four expository passages and have four or five other teachers rate all of the sentences in each passage. They can do this by first reading the text and then rating each sentence in the passage as 3 for very important information that should appear in some form in a text summary; 2, for moderately important information that might or might not appear in a text summary; or 1, for unimportant information that should not appear in any form in a text summary. The ratings for each sentence are totaled and the sentences receiving the highest ratings by the group of teachers are classified as "the most important text information."

To conduct their own summary efficiency ratings, students count the number of statements in their summaries that match the most important information bits identified by the teachers. The sum of these numbers then serves as the numerator for the efficiency rating. Next, students count the number of words in their written summaries, this number serves as the denominator in the efficiency rating. The higher the rating, the more efficient the summary. Students could try

to modify their summaries by reducing the number of words by combining ideas, or including more important pieces of information and less detail) to increase their efficiency ratings.

Students' proficiency in this important academic activity can improve when teachers model the production and evaluation of text summaries and provide feedback and extensive practice for students (Duffy, 1982). □

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