CHAPTER 11

Strategies in Reading Comprehension

Reading comprehension is considered the "essence of reading" (Durkin, 1993). If readers can read the words but do not understand what they are reading, they are not really reading. Reading, at some level, is involved in all academic courses. Students are expected to read a variety of texts and comprehend them in order to gain knowledge. While reading comprehension in schools usually involves understanding textbook assignments, reading comprehension skills can also influence a student's ability to understand written directions, homework assignments, and other literature. The need to comprehend text is not exclusive to academic learning; it is also essential in everyday activities and to be successful in society (Mason et al., 2012). For example, students must acquire strong literacy skills to deal with the flood of information, especially from web-based resources, that they encounter daily. This flood of information requires students to be able to gather, comprehend, evaluate, and synthesize information from a variety of media forms and sources (National Governors Association Center for Best Practices [NGA] and Council of Chief State School Officers [CCSSO], 2010). In addition, it has been estimated that today's youth need more advanced literacy skills (i.e., comprehension of text) than previous generations to keep up with the increasing demands in the workplace (Biancarosa & Snow, 2006). Thus, improving students' reading comprehension can positively impact both educational outcomes and other important aspects of their lives.

Comprehension of text requires a wide variety of skills and cognitive processes. Students must be able to negotiate, manipulate, translate, and construct meaning from written language (King, 1994). Proficient readers not only read fluently, they also construct meaning through their interactions with text (Durkin, 1993). There is a reciprocal interaction between the reader and the ideas or message presented in a particular text. Good readers continuously construct and reconstruct meaning while reading. They are

able to activate background knowledge prior to reading (prereading strategies), to monitor comprehension while reading (during-reading strategies), and to check for understanding after reading (postreading strategies; National Reading Panel, 2000). These strategies are automatic to good readers; however, many of these concepts seem to elude struggling readers, including students with LD. Thus, instruction for struggling readers must address these deficits.

Research on text comprehension demonstrates that students with LD or ADHD can be taught to use comprehension strategies (Bakken, Mastropieri, & Scruggs, 1997; Englert & Mariage, 1991a; Gardill & Jitendra, 1999; Idol, 1987; Johnson, Graham, & Harris, 1997; Johnson et al., 2012; Nelson, Smith, & Dodd, 1992). It is important to teach comprehension strategies in the primary grades; reading comprehension should be emphasized from the beginning rather than waiting until students have *mastered* the prerequisite skills of reading (National Reading Panel, 2000). Effective reading comprehension strategies should be taught explicitly, through direct explanation, modeling, and guided practice. Students should be made aware that the overall goal is improved reading comprehension, and they should understand the importance of the strategy to achieving that goal. The strategy should be demonstrated along with the metacognitive processes associated with it; students should be given ample opportunities to practice using the strategy and directed through the process until they have mastered it.

PROBLEMS FOR STUDENTS WITH LEARNING DISABILITIES

Students with LD have particular difficulty with many of the skills involved in comprehending text. By definition, students with LD experience an unexpected failure to learn. The overwhelming majority (at least 80%) of students with LD experience serious difficulty with learning to read (Gersten, Fuchs, Williams, & Baker, 2001). Clearly students with LD are not a homogeneous group; however, there are some commonalities that can be noted. Many students with LD show specific deficits in the area of phonological processing (decoding—sound–symbol correlation) and fluency (decoding with speed, accuracy, and expression). These deficits affect their ability to comprehend text. However, many other children with LD are able to read reasonably fluently but do not understand what they have read because of specific cognitive processing difficulties (Williams, 2003). Thus, some students with LD possess the cognitive abilities necessary to effectively comprehend text; however, for some reason they do so inefficiently or ineffectively (Gersten et al., 2001).

Reading comprehension involves strategic processing of language and concepts; students must be able to take in information from written language, organize that information in a logical manner, and construct meaning from that information. Students with LD often have greater difficulty with this process, and breakdowns occur because they are unable to regulate their cognitive processes in a purposeful, reflective manner (Gersten et al., 2001). Swanson and Alexander (1997) identified four particular cognitive processes that pose difficulties for students with LD: (1) phonological processing (noted earlier), (2) orthographic and semantic processing, (3) metacognition, and (4) working memory.

Orthographic and Semantic Processing

Orthographic (spelling) and semantic (word meaning) processing difficulties directly impact students' ability to comprehend text. If students are unable to negotiate spelling conventions or understand the meaning of words in text, it is not likely that they will be able to comprehend the material. Orthographic processing difficulties are common among students with LD. It is often difficult for these students to understand or manipulate the conventions of written language such as correct and incorrect spellings (Swanson & Alexander, 1997). Semantic processing (understanding the meaning of words) also presents difficulties for students with LD, who are often unable to create a meaningful representation of text. It is suggested that this is one reason for their reading difficulties (Swanson & Alexander, 1997): They have particular difficulty retrieving semantic information while reading. This inability to remember the meaning of words dramatically influences their ability to comprehend text.

Metacognition

Metacognition is essential to reading comprehension. The reader's awareness of and ability to regulate, monitor, and adjust cognitive actions are key components of comprehension (Swanson & Alexander, 1997). Good readers focus their attention (e.g., "What am I reading and why am I reading it?"), realize when there is a breakdown in comprehension, and apply fix-up strategies to gain comprehension of text (e.g., go back and reread, look at headings/figures in a text). Poor readers, including those with LD, often lack the awareness or ability necessary to regulate those various cognitive actions. Often, students with LD possess a degree of metacognition but lack strategies to properly utilize that knowledge. For example, they may be aware when a breakdown in comprehension occurs but lack the necessary fix-up strategies to achieve comprehension. Teaching students with LD procedures or strategies to enhance their metacognition can positively influence their text comprehension (Swanson & Alexander, 1997).

Working Memory

Working memory is the portion of memory used to process information (Swanson, 1996b). Working memory is essential to text comprehension; while reading, it is necessary to briefly store incoming information while other information is being added or manipulated. This is how text begins to evolve into meaningful information (Swanson & Alexander, 1997). However, working memory is a processing resource of limited capacity. It is able to hold only a limited number of "chunks" of information at a time, and then only for a matter of seconds. We are consciously aware of the information in our working memory; however, if we do not process the information, it will be lost. In other words, as soon as information is not being used, it disappears. To effectively comprehend text, one must be able to hold a small amount of information in working memory for a short time while simultaneously processing that information (Swanson & Alexander, 1997).

PREREQUISITE SKILLS

A variety of skills is necessary to successfully comprehend written material. The National Reading Panel, the Partnership for Reading, the National Institute for Literacy, the National Institute of Child Health and Human Development, and the U.S. Department of Education have identified five essential components to effective literacy instruction: (1) phonemic awareness, (2) phonological processing, (3) fluency, (4) vocabulary, and (5) text comprehension. These components are not independent of each other. A student's ability to manipulate sounds in spoken language (phonemic awareness) is a critical component, affecting the ability to understand that there is a predictable relationship between spoken and written sounds (phonics). Students must regulate those cognitive processes in order to read fluently and accurately (fluency). A student's ability to read fluently and to understand the meaning of novel words (vocabulary) directly affects his or her ability to comprehend text (text comprehension).

Effective instruction in each of these areas is crucial. Explicit, systematic instruction in early literacy skills has proven to be the most effective method for teaching these essential skills (National Reading Panel, 2000). Each skill builds on the next with the end goal of reading comprehension. Phonemic awareness is the ability to discern, reflect on, and manipulate the individual sounds in spoken words. Prior to learning to read print, children need to become aware of how the sounds in words work. Children who cannot discern and manipulate the phonemes of spoken words will have a difficult time learning how to relate these phonemes to graphemes (letters representing sounds) when they see them in written words (National Reading Panel, 2000). The ability to relate phonemes to written words is part of phonological processing. Phonological processing involves learning the alphabetic system; children must learn the letter–sound correspondences and spelling patterns, as well as be able to apply this knowledge to their reading. Phonological processing is consistently implicated in the ability of students with LD to successfully comprehend text. This is one of the most overt processes that presents difficulties for students' success with reading comprehension (Swanson & Alexander, 1997).

Reading fluency is also highly correlated with reading comprehension. Fluent readers are able to decode text with speed, accuracy, and expression. Reading fluently is dependent upon word recognition skill. Students who are not fluent readers often have difficulty gleaning the meaning of text (National Reading Panel, 2000). Meaning is often compromised by lack of fluency, resulting in unrewarding reading experiences, and reading is then avoided or done merely as a task to get finished, with little cognitive involvement (Cunningham & Stanovich, 1998).

Vocabulary is a prerequisite of reading comprehension because readers must know what *most* of the words mean before they can understand what is being read. Vocabulary and reading comprehension are both related to the meaning of print. Vocabulary is linked to the specific meaning of words, whereas reading comprehension covers larger units of meaning (i.e., themes or concepts). Vocabulary can be broken down into different categories: listening vocabulary, speaking vocabulary, reading vocabulary, and writing vocabulary (National Reading Panel, 2000). Each of these requires a different

level of knowledge. Reading vocabulary requires that students recognize and understand various words or word parts in written text. A student's ability to recognize and understand words in text directly affects his or her ability to comprehend that text (National Reading Panel, 2000). Struggling readers and students with LD typically bring less vocabulary knowledge to a reading task, and consequently their comprehension suffers.

PREREADING STRATEGIES

Students with LD often possess a limited understanding of various text structures (the way ideas in text are organized) and often have limited knowledge of subject matter (Garner, 1987). They have difficulties specifically with the difference between narrative (story structure) and expository text structures (textbook or formal writing structure).

Narrative Text Structure

Narrative text structure is usually the first structure to which children are exposed and, not surprisingly, they are often more familiar with it than with other structures. Narratives generally involve a sequence of events that includes characters, actions, goals, and emotions. Skilled readers typically understand this series of events and expect the story to unfold in a certain way. This basic knowledge leads them to ask relevant questions about the story they are reading while they are reading it (Gersten et al., 2001). Less skilled readers often lack mastery of this schema and must be taught how text is structured and what relevant questions would be.

The Story Grammar Strategy

Short and Ryan (1984) taught students to use the Story Grammar strategy (see Figure 4.5, p. 64), which provides a strategic plan for selecting important aspects of the story information for further study. These students were taught to vocalize questions dealing with important story information, note questions in the margins, and underline story information that answered the Story Grammar questions. The Story Grammar strategy includes five questions:

1. Who is the main character?
2. Where and when did the story take place?
3. What did the main character do?
4. How did the story end?
5. How did the main character feel?

This strategy is unstructured; the procedural information is left out (i.e., exactly what steps the students will perform to use the strategy). Chapter 4 provides an example of how the Story Grammar strategy can be structured, as well as a sample implementation plan. When students were initially taught to use the Story Grammar strategy,

they were given written text on which they could mark. This is not a luxury that is afforded to many classroom teachers; thus the sample implementation plan does not follow along exactly with Short and Ryan's (1984) study.

Expository Text Structure

As children progress through school, the demands change, with an increasing emphasis on comprehension of expository text. Typically, children are "learning to read" up through third grade. By fourth grade there tends to be a shift from "learning to read" to "reading to learn." Instruction for children in the primary grades relies heavily on reading stories for reading instruction. However, in fourth grade students are increasingly expected to work with expository text. Students with LD often have a difficult time gaining knowledge from expository text.

Often, difficulties are due to the fact that students with LD have limited knowledge of expository text structure. Unlike narrative text structures, children are not regularly exposed to expository text structures outside of the school environment. Several text structures provide useful information. Some are physical features such as headers, bold print, italics, tables, and figures. We discuss strategies that use text features in Chapter 13, which focuses on study skills. Anderson and Armbruster (1984) identified six major expository text structures (Table 11.1): (1) description, (2) temporal sequence of events, (3) explanation, (4) definition–example, (5) compare–contrast, and (6) problem–solution–effect. Good readers are aware of text structures and are able to make logical connections and create their own schema (representation) while reading text.

Research on expository text comprehension suggests that (1) awareness of text structure is acquired developmentally, (2) some text structures are more apparent and

TABLE 11.1. Examples of Expository Text Structures

Text structures	Explanation
Description	Text that illustrates a topic; a written account, representation, or explanation of something.
Temporal sequence of events	The time order in which things are arranged, actions are carried out, or events happen.
Explanation	A statement giving reasons for something or details of something.
Definition–example	Describing or stating something clearly and unambiguously, as well as providing an illustration that supports or provides more information.
Problem–solution–effect	A difficult situation, or matter, and how it is resolved, and how the change occurred as a direct result of the situation and resolution.

Note. See Anderson and Armbruster (1984) for more details.

easier for readers to grasp, and (3) skill at discriminating text structure and at using it appear to be central for comprehension of expository text (Gersten et al., 2001). If students are ill-equipped to negotiate and strategically process expository text, it will be difficult for them to gain knowledge from it. Teaching students strategies for negotiating and comprehending expository text can significantly improve their performance; knowledge of text structures leads students to ask themselves constructive questions about the text they are reading and to build the cognitive connections necessary for comprehension (Gersten et al., 2001).

The SCROL Strategy

The SCROL strategy was designed to improve student reading and learning from content-area texts (Grant, 1993). It is intended for students in middle and upper grades. The SCROL strategy (see Figure 4.2, p. 56) includes five steps: (1) *Survey* the headings; (2) write down any key words from the heading that might provide *Connections* between them; (3) *Read* the text looking for words and phrases that express important information about the headings; (4) *Outline* the text using indentations to reflect text structure; and (5) *Look back* at the text and check the accuracy of the major ideas and details. This strategy is intended to help students read and understand a variety of texts. The strategy encourages students to use text headings to aid their comprehension and help them find and remember important information. Chapter 4 provides additional information and an example of an implementation plan for the SCROL strategy.

DURING-READING STRATEGIES

While reading new, unfamiliar text, students with LD often lack strategies to assist them when their comprehension is disrupted. Monitoring comprehension is essential to the reading process and requires that students be actively involved at a metacognitive level. Unfortunately, as we mentioned earlier, students with LD are not actively involved at metacognitive level. However, through strategy instruction, students can be taught to be more actively involved with the reading material and to monitor their comprehension of the text.

Question Generation–Question Answering

The most common measure of a student's reading comprehension is answering questions at the end of a text (Graham & Wong, 1993). Answering questions after reading encourages students to focus on the important concepts in text; however, students with LD often have a difficult time with this task. One way to bolster student performance in question answering is to teach them to generate their own think-type questions (see next section). By generating think-type questions, students become more cognitively involved with the text. Question generation promotes active engagement with text and increases students' ability to monitor comprehension.

The Question-Generation Strategy

Davey and McBride (1986) taught upper elementary students how to generate two types of questions: those linking information across sentences and those related to the *most* important information (Table 11.2). First, students were taught the value of question generation while reading. Generating questions while reading promotes active involvement with text, cues the reader to focus on important concepts, and prompts the reader to think beyond what is provided in the text. Second, students were taught to differentiate between locate- and think-type questions. Locate-type questions merely pose a question that can be answered by directly restating information from the text (e.g., "What year was the first Nobel Peace Prize awarded?"). Think-type questions require additional cognitive and linguistic demands. Students are required to think beyond what is in the text and to state those thoughts in the form of a question. Good think-type questions help students remember key information, know if they need to reread, and anticipate test questions (e.g., "Why did the author use a graphic artist to describe ratios?"). Third, students were taught how to generate question stems for relating information from one part of the passage to information in another part (i.e., How did the author relate _____ to _____? Why did the author use _____ to describe _____?). Then students were taught important signal words to use in question stems (*what, why,* and *how*) and what an appropriate response would look like.

TABLE 11.2. Steps in Teaching Students a Question-Generation Strategy

Step 1. Provide rationale
- Explain why generation of think-type questions helps reading comprehension.

Step 2. Question type
- Explain the difference between locate- and think-type questions.
  - *Locate-type questions* can be answered directly from the text—for example, "What is the capital of Nebraska?"
  - *Think-type questions* require thinking beyond the text—for example, "Why did the author use a tunnel to describe her life?"

Step 3. Linking information
- Explain what a question stem is.
- Explain signal words for question stems: *What, Why, How.*
- Provide examples of question stems and what appropriate responses look like.

Q: "What did the author say about _____ in the previous passage?"
A: "The author said _____."
Q: "Why did the author use _____ to explain _____ in the previous passage?"
A: "The author used that as an example because _____."
Q: "How does _____ relate to _____?"
A: "_____ relates to _____ by _____."

Step 4. Self-monitoring
- Teach students how to self-monitor their performance of the question-generation strategy by using a checklist (Figure 11.1).

Note. Based on Davey and McBride (1986).

For example, "What did the author say about _____ in the previous passage? The author said _____." Finally, students were taught how to self-monitor their use of the question-generation strategy (Figure 11.1). Students also were presented with questions asking how well they felt they had done using the question-generation strategy.

Graphic/Semantic Organizers

Graphic organizers, originally called *structure overviews*, provide readers with new approaches to reading that are different from traditional, linear text presentation (Horton, Lovitt, & Bergerud, 1990). In this approach, a graphic aid is used to illustrate the structure of the text and the interrelations among concepts, providing readers with a clearer, more substantial understanding of what is being read (Chang, Sung, & Chen, 2002). Graphic organizers vary in structure and detail. Even though graphic representations of different texts will look different, the underlying principles and methods of application are very similar. They all convert linear information (text) into nonlinear graphic representations. Graphic organizers can be used with narrative or expository text.

How well did I identify important information?

5 = Excellent 4 = Good 3 = Satisfactory 2 = Somewhat 1 = Not at all

How well did I link information together?

5 = Excellent 4 = Good 3 = Satisfactory 2 = Somewhat 1 = Not at all

How well could I answer my question?

5 = Excellent 4 = Good 3 = Satisfactory 2 = Somewhat 1 = Not at all

Did my "think" question use different language from the text?

☐ Yes ☐ No

Did I use good signal words?

☐ Yes ☐ No

FIGURE 11.1. Question-generation strategy checklist.

The Story Map Strategy

Idol (1987) used a graphic organizer called the Story Map to improve students' reading comprehension. This technique was based on a schema-theory view of reading comprehension. This view emphasizes the development of an improved association between the reader's prior knowledge structures (schemas) and written text, and it helps students effectively apply story schemas to create a graphic representation. The Story Map (Figure 11.2) is a graphic representation of parts of a story and how they are interrelated. This framework draws the student's attention to elements common among narrative prose.

Students are taught to read the story and note, in some manner, the elements in the Story Map: (1) the setting, including characters, time, and place; (2) the problem; (3) the goal; (4) the action; and (5) the outcome. As mentioned earlier, this is an unstructured strategy; the exact procedure or structure to follow needs to be determined by the teacher. We provide an example of how this could be done in Chapter 4 (see pp. 50–69).

Paraphrasing/Note-Taking Strategies

One way to increase comprehension of text is to paraphrase while reading and/or to take notes. Strategies that explicitly teach students to monitor understanding while reading (e.g., check for understanding after a paragraph or section), identify important information, and paraphrase (e.g., orally or by taking notes) have been effective at increasing the comprehension of students who struggle to learn from text (e.g., students with LD or ADHD).

RAP

Several researchers have explored the effects of teaching students to paraphrase text using the paraphrasing strategy (Schumaker, Denton, & Deschler, 1984). The strategy, sometimes called the *RAP* strategy, has been successfully taught to students with and without disabilities across grade levels (see Graves, 1986; Graves & Levin, 1989; Hagaman & Reid, 2008; Hagaman et al., 2012). The three-step strategy helps students find and remember the main idea of the text they have read:

1. Read a paragraph.
2. Ask myself, "What was the main idea of that paragraph? What are important details about that main idea?"
3. Paraphrase or put the main idea and details into my own words.

By self-questioning and putting information into their own words, students are actively processing information in the text, which increases the likelihood that they will remember what they have read.

There are commercially available lesson plans for teaching the paraphrasing strategy (see Mason et al., 2012). However, it should be noted that these lessons have added

The setting

Who is in the story?

When did the story happen?

Where did the story happen?

The problem, goal, or action

What did the main character do?

What happened next?

The outcome

How did the story end?

FIGURE 11.2. Story Grammar sheet.

a step to the three-step RAP strategy. Specifically, prior to reading, students are asked to *think* before they beginning reading (e.g., "What is my purpose for reading this passage? What might I already know about this topic?"). When the "think step" is added to the RAP strategy, the acronym becomes *TRAP*. Adding the first step to create TRAP is important for increasing reading comprehension because it asks students to access prior knowledge and approach reading more strategically by determining the purpose for reading (e.g., as assignment, for fun). This change in the strategy also helps when introducing and selling the strategy because teachers can talk about the strategy helping to *TRAP* important information from a passage or chapter (Mason et al., 2012).

TWA

TWA is comprised of nine strategies in three phases of reading—before reading, while reading, and after reading (Mason, 2004). In the first phase, "Think before reading," students are asked to identify text structure and develop statements about what they already know and questions identifying what they want to learn. "While reading," students are taught to monitor their reading speed, check their understanding (e.g., reread if necessary), and make connections (e.g., relate new information to information they might already know). In the "After reading" phase, students are taught to identify the main ideas and summarize important information from the text. Several studies have found positive effects when teaching the TWA strategy to students with and without LD or ADHD (see Hedin, Mason, & Gaffney, 2011; Johnson et al., 2012; Mason, Hickey Snyder, Sukhram, & Kedem, 2006). In addition, prepared lesson plans for teaching TWA are available to teachers (see Mason et al., 2012).

POSTREADING STRATEGIES

Linking Comprehension Questions to Text

The ability to answer questions at the end of text *is* important; however, the ability to successfully search for appropriate information within a text to find the correct answer is of equal importance (Raphael & McKinney, 1983). As noted earlier, question answering is one of the primary means by which we assess a student's ability to comprehend text. This makes a student's ability to access appropriate information within a text a key factor in successfully comprehending text. Knowledge of the relationship between comprehension questions and the text used to answer them is a critical comprehension skill (Raphael & McKinney, 1983). Explicit instruction on this relationship can improve comprehension skills and dramatically affect reading comprehension.

The Question–Answer Relationship Strategy

Raphael and Wonnacott (1985) taught students to recognize the relationship between comprehension questions and the text answer sources; these question–answer relationships (QARs) were divided into three types (1) "right there" (text explicit), (2) "think and search" (text implicit), and (3) "on my own" (script implicit). A "right there" QAR is

a question with an answer stated explicitly in the text within a single sentence. A "think and search" QAR is a question that requires the reader to integrate information across sentences or paragraphs. An "on my own" QAR is a question that requires the reader to draw from his or her own background knowledge to answer the question. Through a process of modeling and fading, students were taught to identify the type of QAR posed by particular questions. Students were led through examples and provided rationales for different QARs. Independent practice was increased once students had achieved mastery of the QAR strategy. Students were given passages and comprehension questions to assess their ability to identify the different QARs (Figure 11.3). For example, students would read a passage about early cowboys and then be given a question such as "For cowboys, what particular dangers were associated with a cattle drive?" The student would determine what type of QAR the question represented, locate the answer in the text, and answer the question on the appropriate line.

Summarizing

Text summarization requires the reader to generate a representation of the gist of a passage (Pressley & Harris, 1990). This strategy prompts students to identify the main

What made Albert Einstein a great scientist?

RIGHT THERE _____

THINK AND SEARCH _____

ON MY OWN _____

What is he best known for?

RIGHT THERE _____

THINK AND SEARCH _____

ON MY OWN _____

What type of disability did he have?

RIGHT THERE _____

THINK AND SEARCH _____

ON MY OWN _____

FIGURE 11.3. QAR task example.

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idea of the passage, delete any unnecessary details, and run through the main points. In this way, students build their own schemas of the concepts and ideas presented in text, thereby increasing their understanding and memory of what was read (Nelson et al., 1992). Text summarization also prompts students to utilize metacognitive processes (awareness and control of the reading process) and cues them to attend to the structure of ideas within text and to how ideas relate to each other (Rinehart, Stahl, & Erickson, 1986). Improving students' metacognitive control enables them to better evaluate their reading and increases their awareness of the process necessary to comprehend text.

The Summary Skills Strategy

The summary skills strategy developed by Nelson and colleagues (1992) can be used to guide students' summarization of expository text. The strategy consists of three main steps: (1) identify and organize the main idea and important information, (2) identify important points the writer made about the main idea, and (3) clarify and revise the summary. These steps are broken down further into nine self-directional prompts (Table 11.3). Students are prompted through the series of steps to identify and organize the main idea and important information in the text and put them all into a summary form. Students are further prompted to clarify and revise their summaries.

TABLE 11.3. Summary Writing Guide

Step 1. Ask yourself—"What is the main idea?" Write it down.

Step 2. Ask yourself—"What important things did the writer say about the main idea?" Write down three important things the writer said.

Step 3. Check to make sure you understood what the main idea was and that you found three important things about it.

Step 4. Ask yourself—"What is the topic that I am going to write about?" Write a topic sentence for your summary.

Step 5. Ask yourself—"How should I order my ideas?" Put a "1" next to the idea you want to be first, put a "2" next to the idea you want to be second, and so on.

Step 6. Ask yourself—"Did I leave our any important information? Is there unimportant information that I can take out?"

Step 7. Write a summary about what you read.

Step 8. Read your summary. Ask yourself—"Is the summary clear?" If not, rewrite your summary.

Step 9. Ask a friend to read the summary and tell you if it is clear. Rewrite your summary (if necessary).

Note. Based on Nelson, Smith, and Dodd (1992).

Eight of the nine steps shown in Table 11.3 are aimed at generation of summary material, while the ninth is directed toward clarification of the text summary. The "generation" steps identify and organize the main idea and important information. In the first step students ask themselves, "What is the main idea?" and write it down. Texts vary in the explicitness of their main ideas. Students must be taught how to identify a main idea and its purpose. A main idea is the central theme; all the other ideas support this main one. Next, students are prompted to ask themselves "What important things did the writer say about the main idea?" and to write down the important points that the writer made. Students are thereby taught to identify supporting ideas, which help to further develop the main idea. The importance of information is determined by whether or not its exclusion would weaken the statement of the main idea.

Then, in Step 3, students are prompted to go back and check to make sure that they understood what the main idea was and the important points that the writer made. This step is to ensure that students check over what they identified as the main idea and the supporting details. Through checking, students may find that they did not have a clear notion of what the main idea was, or that the supporting ideas do not support what they thought was the main idea. At this point they may need to go back and restate the main idea. Step 4 prompts students to ask themselves "What is the topic that I am going to write about?" and to write a topic sentence for their summary. Students are instructed on how to create a topic sentence. Topic sentences are merely a restatement of the main idea in the form of a complete sentence. In Step 5 students are taught to rank their supporting ideas by asking themselves "How should I group my ideas?" and by putting a *1* next to the idea they want to be first, a 2 next to the idea they want to be second, and so on. In this way they are organizing their summary and possibly eliminating any unnecessary ideas.

In Step 6, students are prompted to ask themselves if they have left out any important information or left in any unimportant information they can take out. Students must look through the text again and determine whether or not they have unnecessarily included all relevant information, as well as whether or not they have included unimportant information. In Step 7 students are told to write a summary about what they read. By this point they should have a summary well planned and organized for composition. Step 8 starts the revision process; students are prompted to read their summary and ask themselves, "Is the summary clear?" and rewrite the summary (if necessary). Students need to determine whether or not their summary is an accurate representation of the text, and whether it highlights all the important points. In Step 9, the final step, students are prompted to have a classmate read their summary and to tell them if there is anything that is not clear. This peer review process is an additional step to ensure the clarity of the students' summaries.

IMPLEMENTATION PLANS

In this section we provide examples from various stages of implementation plans for the reading comprehension strategies previously mentioned.

Stage 1 for Question Generation: Developing and Activating Background Knowledge

Prior to teaching the strategy, it is necessary to evaluate students' background knowledge. Formal or informal assessments can be used to determine what skills students possess and what skills may be lacking; doing a task breakdown will provide the information for identifying the skills necessary to successfully complete the strategy (Table 11.4).

Stage 2 for Graphic/Semantic Organizers: Discussing the Strategy

This is the first stage in initiating strategy instruction when it is important to stress its relevance. During an initial conference the teacher discusses students' current performance. In order for students to be successful and able to self-regulate the strategy, they need to make a commitment to use the strategy; they need to "buy into" the value of the strategy. Thus it is important for the teacher to stress this value. Brainstorm situations

TABLE 11.4. Sample Task Breakdown for Question-Generation Strategy

Strategy	Skills	Assessment
Basic skills	Ability to read at the level of text presented	Students are given an assessment to determine appropriate independent reading levels.
	Ability to write	Given an informal assessment, students are asked to produce complete sentences.
Self-monitoring		
"How well did I identify important information?"	Ability to pick out important information Ability to critique own work	Provide students with a written text, require them to pick out the important information, and check to see how well they thought they did.
"How well did I link information together?"	Knowledge of linking words and how to use them	Administer an informal assessment on linking words and usage.
"How well could I answer my question?"	Knowledge of how to answer a question completely	Administer an informal assessment on answering sentences completely.
"Did my 'think' question use different language from the text?"	Knowledge of "think" questions	Students are asked to define "think" questions and to provide an example.
"Did I use good signal words?"	Knowledge of signal words	Students are asked to list signal words and to explain their purpose.

wherein using this strategy or completing the given task accurately is important. For example, the following might be appropriate brainstorming ideas in response to the question "When would it be important for you to read and understand text?":

- For a test
- For an assignment
- To make an informed decision
- To learn more about something of interest
- To assemble something
- To operate equipment

As a last resort the teacher can use a behavioral contract, whereby the student tries the strategy and receives reinforcement for his or her effort.

A sample script for "selling" the strategy follows.

> "This year we are doing a lot of reading! Sometimes it is a little difficult to keep everything straight. When we take our comprehension test, sometimes your memory of what was read is not too clear. Let's take a look at some of tests that we took this quarter. You really did a nice job [point out the positives]. However, if I look at the questions, there are some that aren't answered completely, and some that you just didn't seem to be too sure about. Earlier we mentioned that it is important to be able to read and comprehend text for assignments or for learning more about something. It appears that we could improve on this. Part of the reason you are having trouble is that no one ever taught you the tricks of how to read and comprehend text. The good news is that I have a trick to teach you that can really help you with your reading comprehension. You know how when you go on a trip, you use a map to guide you? Well, I have a 'map' to help guide you with your reading. It's called a 'semantic map' or 'graphic organizer.' *Semantic* means 'meaning'; this is a map to help you remember the important ideas in what you have read and to improve your reading comprehension."

Students need to "buy into" the value of using a strategy before you can move on. In this stage we also introduce the strategy steps and any prompts that will be given (see Table 11.2).

Stage 3 for Summarization: Modeling the Strategy

Here is an example of a think-aloud for a summarization strategy.

> "OK, I just got done reading the section in my science book for class tomorrow. Ugh! I hope I can remember all of that information tomorrow when we have to answer questions. Sometimes it's hard for me to remember what I've read the night before. Hey, I know what I can do. My teacher just taught us how to use a summarization strategy to help us remember what we've read, and I can use my Summary Writing Guide to help me write a good summary; that will help me remember what I've

read. OK, here goes! First, I need to think to myself, 'What is the main idea?' OK, I know that because the whole section was about invertebrates in the sea, and the different kinds. But what was the *main idea*? I think the main idea was that there are millions of different kinds of animals in the sea, and that they can be divided into three groups: (1) plankton, (2) benthos, and (3) nekton. OK, on to Step 2. I need to think to myself, 'What important things did the writer say about the main idea?' and write down the important things the writer said.

"OK, I already identified what I think is the main idea, and now I need to write down some of the important things that the writer said about invertebrates in the sea. I know that I need to find the important ideas in the reading so I can support my main idea, and that will help me remember better. Well, let's see . . . the author divided the invertebrates into three categories: plankton, benthos, and nekton. That's pretty important because everything else follows those three categories. If I didn't mention them, I wouldn't be able put the rest of the information into the right categories, and that's pretty important. OK, what else? Plankton live near the surface of the water, benthos live deep down on the seabed, and nektons swim between the top and bottom layers. Let's see, there are two kinds of plankton that live in the sea: (1) phytoplankton—plants, and (2) zooplankton—animals. Wow, some jellyfish are nearly 80 inches wide! That's cool, I'm going to write that down.

"Whew, this is going pretty well! I remember most everything that I read and *everything* that I wrote down! This should really help me answer questions tomorrow, and when it comes to the test I will be able to look at my summary to help me study! OK, what else? Let's see, I've talked about plankton, hmm . . . OK, now nekton. That's what's mentioned next in the text. I'm just going though the text and picking out the important details, and I don't want to miss any, so I will just start at the beginning and stop at the end. OK, nekton; what about nekton? Most of them are vertebrates, but not all—squid and octopus are nektons, but they are invertebrates. Last category, benthos; what about benthos? I already know that they live at the bottom of the sea. What else? OK, some benthos are animals that stay in one place (like coral), and some walk or crawl on the sea floor. Wow, I'm all done, that wasn't difficult at all!

"Let's see, that was Step 2, what is Step 3? Oh, yeah, I go back and check to make sure I understood what the main idea was and the important things the writer said about this topic. OK, I do understand the main idea and the important things. Good! What's next? Step 4: OK, I need to write a topic sentence. Let's see, we talked about topic sentences in class. I know that a topic sentence needs to express the main idea, and *all* the important ideas need to support that topic sentence. Hmm, how can I say that? Well, I could just say, 'Invertebrates that live in the sea can be classified in three different categories.' That's true! Well, do all my important details support that? Kind of, but not quite. I should add the three different categories of plankton, benthos, and nekton. That would make a great topic sentence. 'Invertebrates that live in the sea can be classified in three different categories: plankton, benthos, and nekton.' Great! Now Step 5, grouping my ideas. OK, I'm going to rank them *1, 2, 3* . . . that looks good.

"Step 6, I need to check my important information to see if I left anything out, or if I need to take out any unnecessary information. Hmm, I think I have all the important information, but do I have anything that is unnecessary? Yeah, I think that statement about the jellyfish is unnecessary; it's cool, but it doesn't really further develop the main idea. OK, good. Step 7—'Write a summary about what you read.' . . . That was easy; I just rewrote my topic sentence and put my important details into complete sentences. Step 8, I read my summary and it sounds pretty good, so I don't think I need to rewrite it. Step 9, ask a classmate to read it; I'll have Maci read it. She knows a lot about science. Wow, Maci thought it was good! That's great! I'm done, and I remember all the important parts of the reading. The summarization strategy really helped!"

Stage 4 for SCROL: Memorizing the Strategy

Memorizing the strategy is extremely important! As a student once said, "If you can't remember it, you can't use it" (Harris, personal communication, 2005). We want the students to focus on the task and not on the steps of the strategy. Memorization also frees up working memory. The specific memorization activities themselves are not critical. There are many appropriate activities. The important aspects of the activities is whether or not they facilitate memorization. You will need to plan and prepare the memorization activities and monitor their effectiveness. Many strategies use acronyms that can help students memorize the strategy (e.g., SCROL); however, students must be able to do more than simply name the steps. They must know and understand what must be done at each step of the strategy. For example, to memorize SCROL, students might pair up. Then one student can give the letter (e.g., *S*) and the other state the step and what must be done.

Stage 5 for Question–Answer Relationship: Supporting the Strategy

Scaffolding is important in this stage. With scaffolding it is possible to gradually transfer strategy performance from teacher to student. Students need to be given adequate time and support to master the strategy.

Content Scaffolding

Students are given a simple passage to read. The teacher and students then go over the passage and the comprehension questions at the end of the passage. Together they determine what type of QAR each comprehension question represents and answer those questions on the appropriate line. The teacher directs the process, and the students provide answers to teacher-directed questions (i.e., "What type of QAR does this question represent? Is the information found directly in one sentence of the text? Do you need to look in more than one sentence or paragraph to find the answer? Is this a question that requires you to think on your own?").

Task Scaffolding

Students are taught one question–answer relationship at a time. First, they are taught to locate information in text to answer "right there" questions, then how to locate information in text to answer "think and search" questions. Finally, students are taught how to utilize the information in text to answer "on my own" questions.

During collaborative practice, the teacher prompts students to use their QAR categories to answer comprehension questions. The teacher demonstrates the use of the QAR categories though modeling. In subsequent lessons the teacher asks the students to fill in the QAR categories and describe how they knew which category the question represented. Finally, students are given comprehension questions and the QAR categories and expected to determine the category and to answer the questions correctly.

Material Scaffolding

Students are given a QAR prompt card (Figure 11.4) to use with the comprehension questions at the end of each reading passage given. Initially, this prompt serves as a guide to remind students of the question–answer relationships and how those relationships can help them answer comprehension questions. Students are given multiple opportunities to practice using their QAR strategy until they are able to do so independently and to successfully answer comprehension questions.

QAR Helper

What type of question is this?

RIGHT THERE
Can the information be found in one sentence of the text?

THINK AND SEARCH
Can the information be found in two or more of the sentences or paragraphs in the text? Does it require me to put the information together?

ON MY OWN
Does this question require me to use my background knowledge of the subject?

FIGURE 11.4. QAR scaffolding example.

Stage 6 for Summarization: Independent Performance

At this stage the student is ready to use the strategy independently. The teacher's main task is to monitor the student's performance and check on proper and consistent use of the strategy. However, it is important to keep in mind that our main goal is improved academic performance. Teachers must evaluate whether or not the strategy is being used and whether or not academic performance has improved. Generalization may also be a concern. Students will not always generalize strategies to appropriate situations; they will need to be prompted and encouraged to do so. Note that activities to promote generalization should occur very early in the process. For example, in the discussion stage (Stage 2) teachers and students typically list situations where a strategy could or should be used.

To promote generalization, students should be encouraged to use the strategy in other content areas when they are required to read. All team teachers should be informed about the use of the strategy, the language, the prompts, and what is required at each step. All team teachers should be given a wall chart to hang up in their room as a reminder for students to use the Summary Writing Guide strategy when appropriate.

Students should be assessed regularly using the comprehension questions at the ends of their texts. These scores should be recorded and tracked for trends in progress. The goal is improved academic performance, and if performance isn't improving, a reteaching of the strategy may be necessary. Once students are successful in using the strategy and answering comprehension questions, their performance should be monitored periodically. Even when students have reached the independent performance stage, they should be monitored to ensure proper use of the strategy. If students deviate from the given summarization strategy, performance should be evaluated, but action should be taken only if performance is no longer improving.

FINAL THOUGHTS

Reading is one of the most important skills students gain in school. No student can succeed without well-developed comprehension skills. Improving a student's comprehension of text can have a positive and lifelong impact on learning outcomes. In closing, we should stress that instruction in comprehension strategies should begin early and continue throughout a student's academic career.