

SRA
Open Court

**Professional
Development
Guide**

Comprehension

Author

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Comprehension

The goal of *Open Court* is to set young students on the path to becoming lifelong readers—readers who approach reading with enthusiasm and who view it as a pleasure, as well as a powerful tool for learning and for taking charge of their lives. In brief, *Open Court* wants to ensure that young students become good readers who *can* read and *want* to read.

Good readers are strategic readers who think about what they read, develop specific reading strategies and skills, and learn to apply these strategies and skills as a way to get meaning from a variety of text types.

Good readers read with fluency. They move smoothly through text, effortlessly and accurately translating sound/spellings to words and linking words with their meanings. But good readers do more than read words. They understand that the words they read work together to create meaning—that is, they read with comprehension. Good readers are strategic readers who think about what they read, develop specific reading strategies and skills, and learn to apply these strategies and skills as a way to get meaning from a variety of text types. From kindergarten on, instruction in *Open Court* progresses

systematically toward independent reading, providing students with the tools they need to read with fluency and the strategies and skills they must have to read with comprehension.

This guide is about comprehension. Drawing from time-honored and classroom-proven research, it focuses on what is known about the makeup of skillful comprehension and about effective comprehension instruction.

What Is Comprehension and Why Is It Important?

In broad terms, *comprehension* is the ability of readers to get meaning from text. “Getting meaning” is a two-level process. On the first level, readers identify individual words and their meanings, as determined by the immediate context, to arrive at a *literal* understanding of what the author has written. On the second level, readers interpret the entire grouping of words they have just read, considering the relationships of these words to each other and to any relevant prior knowledge they may possess. It is at this second, *higher-order* level of meaning construction that analytic, evaluative, reflective comprehension occurs. However, this is not to say that the skills necessary to achieve literal comprehension are of less weight than those necessary for the higher-order comprehension processes. As is shown in the following discussion, both levels contribute enormously to skillful comprehension.

Literal Comprehension

Students' productive, literal comprehension depends in large part on their skill in *decoding*, or word recognition, and on the breadth and depth of their *vocabulary knowledge*.

What Does Research Tell Us about Decoding and Comprehension?

Much research has established that good readers are skillful at decoding words on the basis of graphophonemic, or sound/spelling, cues. To pronounce a word, these readers sound it out, blending the individual sounds represented by the word's letters. Once they have sounded it out, they can recognize what a word means, because most of the words in the materials they read are words that have been in their listening and speaking vocabularies for several years (Gough & Tunmer, 1986). In fact, researchers who have studied decoding make the point emphatically that poor word-level decoding is a critical bottleneck in the comprehension process. When a reader cannot recognize or decode a word, it is impossible for him or her to understand what the word means (Adams, 1990; Pressley, 1998).

Once readers achieve fluency, they seldom sound out words letter by letter as they read. Even when they encounter words they do not know, good readers tend to process them by recognizing common letter chunks, such as prefixes; suffixes; Latin and Greek root words; and rimes (the parts of syllables that follow the initial consonants) such as *-ight*, *-on*, *-ite*, and *-ake* (Ehri, 1992). Thus, good readers do not sound out a word such as *kite* letter by letter; rather, they blend the initial /k/ sound with what they know about the sound of the rime *-ite*. From the time children first learn to read, they are recognizing common letter chunks as wholes and using this knowledge to help them decode (Goswami, 1998).

A lack of skill in decoding words directly affects students' higher order comprehension. This is because word recognition and comprehension compete for attention: The more effort readers require to decode a word, the less attention they have left for comprehension. If readers have to struggle with words, they can easily lose track of meaning. Further, it is the words in a text that constitute the basic data with which the higher-order comprehension processes must work. When readers skip words in a text or fail to understand the words of the text, comprehension suffers (Adams, 1990).

The more effort readers require to decode a word, the less attention they have left for comprehension.

Therefore, it is evident why the primary levels of **Open Court** emphasize the development of reading fluency rather than just the sounding out of words. Fluent readers can devote less attention to word recognition and more attention to comprehension. Most teachers have worked with young students who can sound out words—with some effort—but who do not seem to understand or remember any of what they

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read. All of their attention is consumed by word recognition to the exclusion of comprehension (Gough & Tunmer, 1986; LaBerge & Samuels, 1974).

The best scientific evidence that fluency improves comprehension comes from a study of 7- to 10-year-old students who were termed “weak” readers (Tan & Nicholson, 1997). In this study, students in one group, Group A, received instruction that emphasized word recognition, with only brief attention given to the meanings of the words. Students in this group practiced recognizing target words until they could read each word without hesitation. In contrast, students in a second group, Group B, received instruction that was heavily oriented toward developing their understanding of the meanings of the target words. No attention was given to the development of word recognition. The experimenter read—but did not show—target words to the students in this group, then discussed with them the meanings of the words. Following instruction, students in both groups read a passage that contained the target words. After reading, each student completed a set of comprehension questions, some of which could be answered based on verbatim information in the passage and some of which required students to make an inference based on combining pieces of information in the passage.

The most important finding of the study was that the students in Group A, who received word recognition and fluency instruction, answered more comprehension questions correctly than did students in Group B, who did not receive such instruction. Other studies have confirmed that more rapid decoding improves comprehension, probably by freeing up more attention for comprehension (Breznitz, 1997a; 1997b).

It is true that skillful, fluent readers do not appear to process text in any letter-by-letter or word-by-word fashion. Rather, they appear to

process words as wholes, and their attention is captured and held by the meaning of what they are reading. Indeed, it is the precedence of meaning over mechanics that underlies the objections of those researchers and educators who reject the validity of word-recognition instruction, arguing that it is driven primarily by graphophonemic analyses (Adams, 1994).

Those with this perspective hold that word recognition in the context of a reading passage involves three cuing systems: (1) graphophonemic cues within a word; (2) syntactic cues, or information about the function of a word in a sentence, phrase, or clause; and (3) semantic cues about the word’s meaning in the passage, including clues in illustrations accompanying the text. According to this perspective, semantic cues and not graphophonemic cues are primary to word decoding and are of much more critical importance in skillful reading (Goodman, 1993, 1996; Weaver, 1994).

But as Figure 1 shows, the three cuing systems are not separate entities; rather, they overlap, with each contributing to the ultimate goal of reading: to get meaning from text. It is the way these cuing systems work together that is truly important.

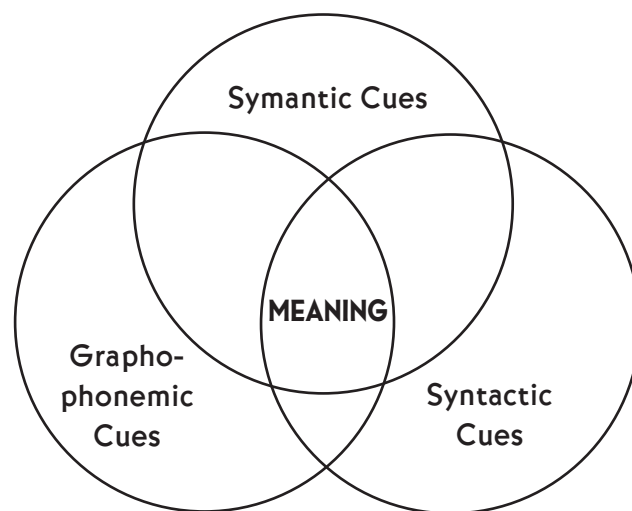


Figure 1. The three cuing systems

For good readers, recognizing the letters of a word activates knowledge of spelling patterns, pronunciations, and meanings. At the same time, these readers use knowledge of context to establish the coherence of the message in the passage being read. In this way, they come to recognize the spelling, sound, meaning, and contextual role of a familiar word almost automatically and simultaneously, freeing their attention for critical and reflective thought. Thus, good readers appear to recognize words as wholes because they have developed a thorough and interconnected knowledge of the spellings, sounds, and meanings of words. However, to the extent that readers skip or guess at the meaning of unfamiliar words, they limit opportunities for such knowledge to develop (Adams, 1994).

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So, even though the scientific evidence favors graphophonemic cues as primary to fluent decoding, semantic or meaning cues play an important role in reading. Good readers recognize when they have misread a word because the word does not make sense to them in the context of what they are reading; that is, good readers *monitor* their comprehension as they read (Gough, 1983, 1984; Isakson & Miller, 1976). They can do so because their fluent recognition of words now requires little attention, and hence frees up more attention for higher-order comprehension processing, including monitoring whether the text being read makes sense.

What Does Research Tell Us about Vocabulary Knowledge and Comprehension?

The powerful relationship between reading comprehension and breadth and depth of vocabulary knowledge is one of the most consistent findings in educational research. Time and again researchers have found that (1) readers who comprehend well generally have extensive vocabularies (see Anderson & Freebody, 1981; Nagy, Anderson, & Herman, 1987), and that (2) improving students' vocabularies improves their reading comprehension skills (see Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Oman, & Perfetti, 1983; McKeown, Beck, Oman, & Pople, 1985).

The relationship works as follows. Students who are poor readers often do not have the vocabulary knowledge that is necessary to get meaning from what they read. Because reading is difficult for them, they cannot and do not read widely; thus, they do not encounter unknown words in print often enough to learn them. This results in what Stanovich (1986) calls "the Matthew Effects": Good readers read more, become better readers, and learn more words; poor readers read less, become poorer readers, and learn fewer words.

Does this mean that any kind of vocabulary instruction will increase students' comprehension? Not at all. In fact, there is little evidence that comprehension is improved when vocabulary learning is only superficial; for example, when students look up a word in the dictionary and write a sentence based on its definition (Beck & McKeown, 1991; Durso & Coggins, 1991). To be effective, vocabulary instruction must do more than teach dictionary definitions for words; it must encourage students to use, reuse, study, and play with the new words they encounter as they read and write. Most vocabulary words that students acquire are not taught explicitly, but rather are learned incidentally from context as part of wide reading (Sternberg,

1987). Therefore, the most important mechanism students have for acquiring vocabulary is to read challenging texts that are filled with new words—the words that good readers learn and know (Stanovich, 1986).

To be effective, vocabulary instruction must ... encourage students to use, reuse, study, and play with the new words they encounter as they read and write.

In *Open Court*, vocabulary instruction is an integral part of reading. It encourages students to identify, understand, and use new words they see in their selections in their own writing and speaking over an extended period of time.

Higher-Order Comprehension

Higher-order comprehension involves cognitive processing above the word level—processing that is necessary if readers are to move beyond word decoding to deeper understandings of how words work together to create meaning. Over the years, researchers have examined a variety of these processes, including those that occur automatically and out of readers' conscious control and those that readers control consciously.

What Does Research Tell Us about the Role of Unconscious Processes in Comprehension?

Good readers know a great deal about the world and what happens in it. Their vast *prior knowledge* affects their understanding of text. However, activating this prior knowledge base is often an automatic process that is out of readers' conscious control.



In the 1970s and 1980s, cognitive and educational psychologists began to apply to reading comprehension a theory of learning based on how knowledge is unconsciously structured and activated. This view of learning is known as *schema theory* (Anderson & Pearson, 1984; Anderson, Reynolds, Schallert, & Goetz, 1977). The focus of schema theory relevant to comprehension is how readers activate various schema as they read to bring about the construction of meaning.

According to schema theory, knowledge (*schema*) is a huge network of abstract mental structures that represent our understanding of the world. A general category of schema includes slots for all the features included in the category. Each of us has many *schemata* (plural). Relationships among our schemata are like webs, with each schema interconnected to many others. Thus, our schema for an event such as the U.S. Navy launching an expensive

new ship includes the purpose of the launching to name the ship. It also includes information about where a launching takes place (at a dock), by whom it is done (usually by someone who is well known), and when it occurs (at the naming of the ship). The schema also represents the actions that occur at a launching (a bottle of champagne is broken over the bow of the ship). The instances that can occur in the slots of a schema have clear constraints. Thus, the person launching a ship cannot be just anyone picked off the street. The bottle must be a champagne bottle, not a milk bottle, and so forth.

The importance of schemata is that they help us understand events easily and automatically.

The importance of schemata is that they help us understand events easily and automatically. Therefore, once some small part of the ship-launching schema is encountered, perhaps a picture of a bottle of champagne breaking over the bow of a ship, this activated schema permits us to make reasonable inferences about the details of the event. So, from the picture of a breaking champagne bottle, it might be inferred that there was a platform beside the ship with one or more persons standing on it, one of whom was a celebrity. Our schemata grow and change as new information is acquired through experience and reading.

Researchers who applied schema theory to reading comprehension found that for a good reader, a schema is activated as the reader begins to read a text, and this initial schema activation affects all subsequent inferences the reader makes about the text. For example, as soon as adult readers begin to read a real estate ad, they activate a great deal of knowledge about houses. This activated schema affects their com-

prehension of the ad by focusing their attention on specific information that would be of less importance if some other schema had been activated. Someone interested in buying a house and someone who is thinking about breaking into a house will each “understand” the real estate ad very differently (Pichert & Anderson, 1977).

Even young children engage in schematic processing (Bauer & Fivush, 1992). Most children possess schemata that represent events such as dinner (both at home and at a fast-food restaurant), bedtime, making cookies, birthday parties, and going to a museum (Hudson, 1990; Hudson & Nelson, 1983; Hudson & Shapiro, 1991; McCartney & Nelson, 1981; Nelson, 1978; Nelson & Gruendel, 1981). Thus, the children are able to draw inferences from stories that contain information related to their schematic knowledge (Hudson & Slackman, 1990). Preschoolers who hear something in a story that is “not quite right” can make inferences to “fix” the story to be consistent with their schemata (Hudson & Nelson, 1983). For their schemata to affect comprehension, children must have had the experiences permitting the schemata to develop. Therefore, the more varied and extensive a child’s world experiences and vicarious experiences are (such as hearing stories read, interacting with adults and older children, playing word games, and watching quality children’s shows on television), the richer the child’s schematic knowledge base will be.

Schemata related to the structure of text itself are especially important to children’s comprehension. Text genre such as narratives, informational text, fairy tales, fables, and plays have conventional structures that are familiar to adult readers (Kintsch & Greene, 1978). For example, it is known from our many reading experiences that a narrative includes a setting; characters; and a plot or story line that involves the establishment of a problem, the initiation of events to solve the problem, frustration of a character in solving the problem, the character’s eventual success, and a



What Does Research Tell Us about the Role of Conscious Processes in Comprehension?

By asking adult, good readers to think aloud as they read, researchers have determined that these readers actively coordinate a number of *conscious* processes before, during, and after reading (Pressley & Afflerbach, 1995). Good readers are aware of how their reading is going and why. They know, for example, when a text is difficult to read because it contains many new ideas, and when it is difficult to read because it is poorly written. They are adept at using their prior knowledge as they read to make predictions about what might happen next and to understand ideas as they encounter them (Paris, Wasik, & Turner, 1991).

Before reading, good readers spend time setting reading goals and deciding what they expect to get from a particular text (pleasure, information, confirmation of a belief, and so forth). They consider the type of text they are to read, then choose the appropriate strategies for approaching it. Rather than dive into reading—starting at the beginning and plodding on to the end—they may create a mental overview of the text to determine whether it is relevant to their goals (Will I enjoy reading it? Does the text contain the kind of information I need?). As part of the overview, they become aware of the structure of the text.

During reading, good readers are often selective, focusing their attention on the parts of the text most appropriate to their goals. Good readers do not just orient to the literal meaning of a text; rather, they interpret what they are reading, filtering ideas in the text through their prior knowledge. Such interpretations often include an evaluation of the quality of the ideas in the text. Often, such associations are carried out intentionally; that is, a good reader thinks about how the ideas in the text seem vaguely familiar and then recalls where she or he

conclusion (Mandler, 1978; Mandler, 1987; Stein & Glenn, 1979; Stein & Nezworski, 1978). For students, knowledge of text structures increases their comprehension and memory of the texts they read. This relationship is causal—having knowledge of a text’s structure improves understanding of the text (Armbruster, Anderson, & Ostertag, 1987; Short & Ryan, 1984).

In summary, it is known from schema theory that readers can activate a schema by encountering information in a text that relates to the schema category. Once activated, this schema triggers connections to other schemata, and thus affects comprehension of what is being read. To enhance this process, it is important to build students’ network of schemata by building their store of general knowledge and concepts. Indeed, many learning difficulties can be traced to a lack of general knowledge. General knowledge can be enhanced through reading-related discussion and through teachers modeling an explanation of how an existing piece of knowledge connects to a new idea or concept that is encountered in reading.

Be aware that students may have schemata that are based on misinformation or misunderstandings. When they encounter new information that contradicts their beliefs, they may experience conflict.

encountered the ideas before or where similar ideas were presented. Readers also make predictions and form hypotheses about what is going to happen next, or what ideas the text will advance. The readers continuously evaluate these predictions and hypotheses and revise them as the reading warrants.

Good readers do not just orient to the literal meaning of a text; rather, they interpret what they are reading, filtering ideas in the text through their prior knowledge.

As they read, good readers vary their reading speed, sometimes skimming and sometimes rereading a section of text that is especially relevant to the reading goals. As they encounter new ideas during reading, they update their prior knowledge. For example, a good reader who believes it a grave injustice that Babe Ruth was never chosen to manage a major league baseball team might change his or her mind while reading a biography of Ruth in which the author makes the case that Ruth lacked the essential qualities to be a major league manager. Good readers make conscious inferences, such as determining the author's intentions for writing the text, clarifying the meaning of unknown words, and filling in information if they perceive gaps in an argument. They create mental images. If, for example, they are reading fiction, they create mental pictures of settings and characters.

Good readers also use various techniques to make a text more memorable. They may underline important sections, make notes to themselves, construct mental images to represent the ideas in the text, and/or paraphrase the text.

After reading, good readers often reflect on what they have read and think about how they can apply the ideas conveyed in the text. Many

will make mental summaries of major points or events in the reading; others will seek additional information by consulting other sources.

In contrast, poor readers rarely prepare before they start reading. They read without having a goal or purpose, and seldom consider the type of text they are to read and how best to read it.

During reading, poor readers are frustrated when they fail to understand a passage or encounter vocabulary they do not know. They are unable to see "the big picture," the organization of a text, and they are unable to apply their prior knowledge to what they read. In short, they do not understand what they read, and, sadly, they do not realize that they do not understand. They read simply to get an unpleasant task finished.

After reading, poor readers seldom think about or reflect upon what they have read. Rarely do they use reading as a starting point for gathering additional information.

How Should Comprehension Strategies Be Taught?

How does this theoretical work relate to comprehension instruction? Look again at the processes exhibited by good readers. They make predictions, ask themselves questions as they read, seek clarification when they cannot understand or do not know something, react to text based on prior knowledge, and construct summaries of what they have read for themselves. In brief, they are *strategic* readers. Therefore, effective instruction should be instruction that encourages students to process texts strategically, the same way that

... effective instruction should be instruction that encourages students to process texts strategically ...



good readers do. Given this, two questions remain. Which comprehension strategies should be taught? How can teachers incorporate effective strategies instruction into their classrooms?"

What Does Research Tell Us about Comprehension Strategies and Strategy Instruction?

Comprehension strategies instruction has been studied extensively in the past quarter century. The earliest studies focused on particular *individual comprehension strategies*. These studies were followed by investigations of *repertoires of comprehension strategies* that students can be taught to coordinate as they read.

Individual comprehension strategies For many years, researchers thought that text comprehension could be improved if students were taught to use a particular strategy, with the particular strategy differing from researcher to researcher. The strategies proposed included creating mental images to represent events in a narrative, constructing mental summaries of text during reading, relating prior knowledge to the text, and seeking clarifications of passages and unknown words (Haller, Child, & Walberg,

1988; Pearson & Dole, 1987; Pearson & Fielding, 1991; Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989). The researchers who proposed and examined these strategies usually had reasons to believe that students were not already using strategies as they read, or that they were not using them systematically and completely.

Indeed, this research validated the value of a variety of individual strategies, including:

- prior knowledge activation (Levin & Pressley, 1981);
- construction of mental images to represent text (Gambrell & Bales, 1986; Gambrell & Jawitz, 1993; Oakhill & Patel, 1991; Pressley, 1976);
- analysis of stories into their story grammar components (identification of characters, settings, problems, attempts at problem resolutions, and resolutions) (Idol, 1987; Idol & Croll, 1987; Short & Ryan, 1984);
- question generation (Oakhill, 1993; Rosenshine, Meister, & Chapman, 1996); and
- summarization (Armbruster et al., 1987; Bean & Steenwyk, 1984; Berkowitz, 1986; Taylor, 1982; Taylor & Beach, 1984).

In short, researchers validated specific strategies that readers can apply *before reading* (making predictions based on prior knowledge), *during reading* (generating mental images), and *after reading* (summarization) (Levin & Pressley, 1981).

However, as researchers developed more sophisticated models of how readers process information, they came to understand that good readers do not rely just on single strategies as they read; rather, they activate and use multiple strategies to make sense of text (Brown, Bransford, Ferrara, & Campione, 1983; Levin & Pressley, 1981). Not surprisingly, researchers next began to look at comprehension instruction that combined a set, or repertoire, of strategies that could promote reading competence from the beginning to the end of a reading.

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Repertoires of comprehension strategies

Much progress was made in the 1980s and 1990s in determining whether and how students could be taught repertoires of strategies to ensure that they would use them effectively and in a coordinated fashion. Among the most successful approaches investigated are *reciprocal teaching*, *direct explanation*, and *transactional strategies instruction*.

Reciprocal teaching In its initial form, reciprocal teaching (Palincsar & Brown, 1984) referred to a form of learning in which students first experienced a set of cognitive activities, such as those involved in strategic reading, along with a teacher or expert guide. Then, gradually students came to perform these activities by themselves.

Students targeted for reciprocal teaching in the early studies were capable decoders who had comprehension problems. Using reciprocal teaching, the teacher and students took turns leading a dialogue that focused on a text being read. During the dialogue, students learned to use four comprehension strategies: predicting, asking questions, clarifying, and summarizing. The dialogue began with the teacher modeling and explaining, then proceeded as the teacher gradually relinquished part of this task to students—but only at each student’s level of capability. Increasingly, as students became more competent, the teacher increased demands, requiring them to participate at more challenging levels. In addition to encouraging students’ active participation during the early stages of learning the strategies, reciprocal teaching provided them with opportunities to see the successful use of the strategies in actual reading contexts (Palincsar & Brown, 1984).

Students did not receive direct instruction in the individual strategies before the dialogues. However, during the dialogues, the teacher provided prompts, models, and feedback on the use of the strategies. Students also were told that being able to summarize passages and being able to predict the questions on upcoming tests were good ways to assess whether they understood what they read. As the dialogues continued, students progressively took on more responsibility for carrying out the dialogue. The four strategies provided them with a framework for discussing what they read. Students in the group began to provide each other with models, hints, and prompts, as well as feedback about strategy use. The role of the teacher gradually shifted from that of expert leader to that of a co-participant and coach (Rosenshine & Meister, 1994).

Early studies found that reciprocal teaching had a positive impact on comprehension. The instruction affected students’ text processing as was intended, increasing their abilities to summarize, generate and ask questions, and monitor whether they were comprehending what they read.

In later studies, however, analyses of scores on standardized comprehension tests showed the effects of reciprocal teaching to be less striking (Rosenshine & Meister, 1994). These analyses suggest that reciprocal teaching is more successful when students receive direct teaching of the four comprehension strategies than when they do not (Rosenshine & Meister, 1994).

Direct explanation As the name implies, direct explanation of comprehension strategies refers to explicit teacher explanation and modeling and student application of comprehension strategies before, during, and after reading. In direct explanation strategies instruction, the teacher begins with explanations and mental modeling, such as showing students how to apply a strategy by thinking aloud. He or she then encourages students to practice these strategies as they read (Duffy & Roehler, 1984,

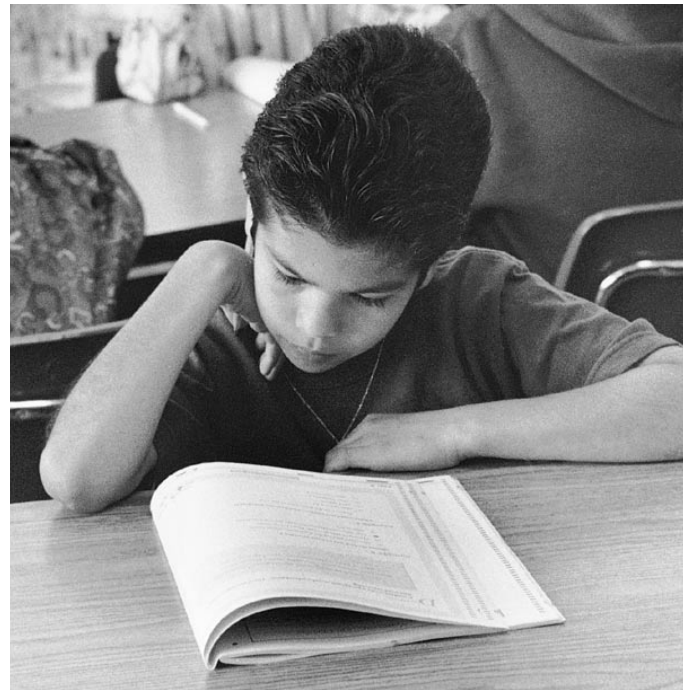
1989). The teacher scaffolds instruction, providing additional explanations and modeling as needed, and reducing feedback and instruction as students become more and more independent. The teacher repeatedly emphasizes when and where students can use the strategies they are learning, cuing and prompting them when text passages lend themselves to strategy application. Cuing and prompting continue until students apply the strategies autonomously.

The teacher scaffolds instruction, providing additional explanations and modeling as needed, and reducing feedback and instruction as students become more and more independent.

In a study that involved third-grade students, the effects of direct explanation strategy instruction were examined over the course of an entire academic year (Duffy et al., 1987). All of the literacy skills typically taught in third grade were taught as strategies. On standardized measures of reading given at the end of the year, students who received direct explanation instruction outperformed students who received traditional literacy instruction.

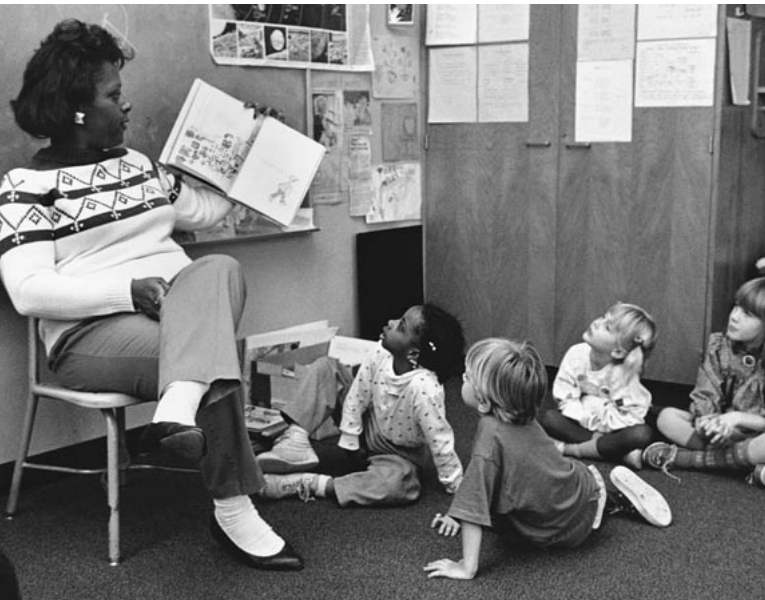
Transactional strategies instruction The positive results of the research on reciprocal teaching and direct explanation instruction, along with the earlier validations of the effectiveness of instruction in individual reading strategies, motivated some teachers to incorporate comprehension strategies instruction in their classrooms. Beginning in the late 1980s, researchers began to identify and study effective programs of school-based, teacher-developed comprehension strategies instruction (see Pressley et al., 1992).

The initial examinations of these programs clearly indicated that the comprehension strate-



gies instruction occurring in the schools was different from instructional interventions such as reciprocal teaching, but was generally consistent with the direct explanation approach. Although the instructional approaches studied differed in their particulars, a number of commonalities held across programs. For example, all of the programs taught a small repertoire of strategies, typically including (1) prediction based on prior-knowledge activation, (2) question generation, (3) seeking clarification when confused, (4) mental imagery, (5) relating prior knowledge to text content, and (6) summarization. In general, students were taught to use these strategies to comprehend, interpret, and remember text.

Effective strategies instruction largely occurred in small-group settings, with the intent being that students would internalize the procedural skills they practiced in groups (Pressley et al., 1992). This assumption was consistent with the Vygotskian notion that thinking skills can be developed by engaging in cognitively rich interactions with others (Vygotsky, 1978). In particular, strategies were used as vehicles to coordinate a dialogue about text as students read aloud



members of the group; that is, the interactions were *transactional* (Bell, 1968).

Transactional strategies instruction was validated in three comparative studies, with all three studies providing strong support for the approach (Brown, Pressley, Van Meter, & Schuder, 1996). One of these studies was a year-long investigation of the effects of transactional strategies instruction on second-grade students' reading. At the beginning of the school year, students who were to receive strategies instruction and students in a control group did not differ in reading comprehension and word attack skills, as measured by standardized comprehension tests. By the spring, however, clear differences appeared on these measures, favoring the students who had received transactional strategies instruction. In addition, differences showed up favoring the strategies-instructed students on strategies-use measures. Strategies-instructed students made more diverse and richer interpretations of what they read than did the participants in the control condition. One marked difference between transactional strategies-instructed students and control students was that the strategies-instructed students acquired more content from their daily lessons than did control participants.

in their groups. Students were encouraged to relate a text to their prior knowledge, talk about their summaries of text meaning as they read, report the images they experienced during reading, and predict what might transpire next in the text. As students read aloud, they engaged in and exchanged personal interpretations of and responses to text. (A more detailed description of this research is contained in the article "Beyond Direct Explanation: Transactional Instruction of Reading Comprehension Strategies," Pressley, El-Dinary, Gaskins, Schuder, Bergman, Almasi, & Brown, 1992).

This kind of teaching was termed *transactional strategies instruction* for three reasons:

1. The instruction encouraged readers to construct meaning by using strategies that help them to relate the text to their prior knowledge.
2. Interpretations were constructed by readers thinking about text together, or *transacting* (Hutchins, 1991).
3. The reactions and interpretations of individual members of the group (including the teacher) are determined in part by the reactions and interpretations of other

In a second study (Collins, 1991), transactional strategies instruction was provided to students in fifth and sixth grades three days a week for one semester. Although the strategies-instructed students did not differ with respect to standardized comprehension performance from the control students before the intervention, significant differences favoring the strategies-instructed students appeared on the posttest.

In yet another study (Anderson, 1992; Anderson & Roit, 1993), conducted with reading disabled students in sixth through eleventh grades, strategies instruction was found to increase students' willingness to read difficult

material and attempt to understand it, to collaborate with classmates to discover meanings in text, and to react to and elaborate on text.

What Does Effective Comprehension Strategies Instruction Look Like in the Classroom?

In a classroom, effective comprehension strategies instruction looks something like this:

- Teachers remind students that good readers constantly check their understanding as they read. They constantly ask themselves questions about what they read and what it means.
- Teachers introduce strategies through explanation and modeling. As part of reading, teachers identify a strategy that can be applied in reading a particular text, explain why it is used at a specific point in the text, then model how to apply the strategy through thinking aloud.
- After introducing strategies and on an as-needed basis, teachers coach students to use the strategies on their own, providing prompts and hints about when they might make strategic choices. The prompts and hints decrease as students gain skill in strategy use, with students gradually



assuming more and more responsibility for applying strategies.

- Teachers often conduct mini-lessons to illustrate when it is appropriate to use a particular strategy.
- Students model strategy use for one another, for example, by thinking aloud as they read. They explain to one another how they have used strategies to process text.
- Teachers consistently model *flexible* use of strategies.

The ultimate goal of effective strategies instruction is to have students internalize key strategies and learn when and how to use them independently.

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The repertoire of strategies students learn may vary somewhat in name, but generally includes (1) monitoring and clarifying, (2) asking questions, (3) predicting, (4) making connections to prior knowledge, (5) summarizing, (6) visualizing, and (7) monitoring and adjusting reading speed.

Monitoring and Clarifying This strategy takes several forms, including monitoring of the reading and clarifying the meaning of words and clarifying difficult ideas or passages.

To monitor reading and clarify the meaning of words, students can:

- *use context* by rereading a sentence or phrase to see if it provides enough information to allow reading to continue without disrupting understanding.

- *use structural analysis* by identifying word parts such as prefixes, roots, and suffixes, and using this information to figure out a word's meaning.
- *use apposition* by rereading a word along with its definition to see if the word makes sense in the context.
- *use resources outside of the text* by consulting glossaries and dictionaries, or by asking someone for help with a word.

To clarify difficult ideas or passages, students must first recognize that some part of a text does not make sense. At this point, they can:

- reread the text part to see if it contains something that was missed in the initial reading.
- use charts or other graphic organizers.
- think of other comprehension strategies that might help.
- ask someone for help.

Asking questions Learning how to ask strategic questions helps students focus attention on what they are reading, and engages them in deeper understanding of themes, concepts, and ideas.

Predicting This strategy focuses on recognizing when to pause during reading to think about what is going to happen next, based on information from prior knowledge and the context. To use this strategy most effectively, students need to return to their predictions to see if what they predicted is confirmed or denied by subsequent reading.

Making connections to prior knowledge This strategy requires students to activate prior knowledge and connect what they know or have experienced to what they are reading.

Summarizing Students can apply this strategy during and after reading as a way to monitor their understanding. During reading, students stop

periodically and retell what is most important in what they have just read. After reading, students retell or summarize important points in a text, relating these points to their purpose for reading.

Visualizing Students use visualizing in order to gain a clear mental picture of what is happening in the text. Often such pictures are formed involuntarily. However, students can be taught to consciously form such impressions in order to understand and connect to what they are reading.

Monitoring and adjusting reading speed This strategy requires students to react actively to the text—sometimes skimming over unimportant information or information they are already familiar with and sometimes rereading sections that are especially relevant to their reading goals.

Once students are able to recognize how the information in a text is organized, they find it easier to follow the organizational pattern and thus to distinguish and focus on the major concepts of the text.

Comprehension Skills Instruction

The purpose of including comprehension skills instruction as well as strategies instruction in *Open Court* is to give students a complete repertoire of tools to help them become more proficient at getting meaning from what they read. As it is presented in *Open Court*, comprehension skills instruction is a form of *text analysis* that teaches students how to identify different organizational structures and how to use these structures to retrieve information that will help them understand a range of text types. Why is skills instruction important? Once students

are able to recognize how the information in a text is organized, they find it easier to follow the organizational pattern and thus to distinguish and focus on the major concepts of the text.

In the following discussion, this guide reviews what is known from research about the importance of instruction in comprehension skills and about how such skills should be taught. Also included is a quick overview of what comprehension skills instruction looks like in the classroom.

What Are Comprehension Skills and Why Are They Important?

Simply put, comprehension *strategies* are the cognitive processes and procedures that readers bring to the content of reading; comprehension *skills* are the procedures they use to grasp the organizational structure of the text. Readers employ various comprehension strategies before, during, and after an initial reading of a text. Comprehension skills, however, are best employed as readers reread a text.

Why is it important to provide students with instruction in comprehension skills? The most persuasive answer is given by Pearson and Camperell (1985):

When we identify a variable, including a text structure variable, that looks like it might make a difference in comprehension, we ought to adopt a frontal assault strategy when considering its instructional power—teach about it systematically and make certain students have a chance to practice it (p. 339).

Research states that the ability to identify and use text structure can make a difference in students' text comprehension: Good readers are able to use structure, whereas poor readers are not (Meyer, Brandt, & Bluth, 1980). Therefore, teaching students the skills necessary to use text

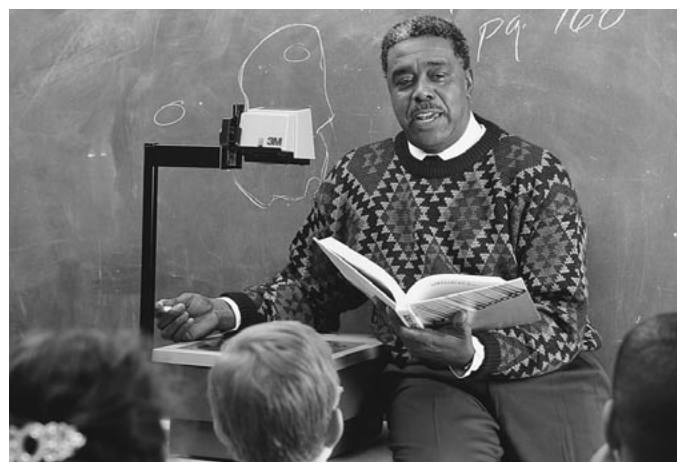
structure is another way to improve their reading comprehension.

How Should Comprehension Skills Be Taught?

According to Meyer (1984), effective comprehension skills instruction:

- teaches students to identify a set of organizational structures in text.
- teaches them that these structures help organize information in a text.
- teaches them a set of signal words that cue relationships in a text.
- teaches them to ask themselves questions about text relationships as they read.

Organizational structures should be introduced systematically and judiciously and should be taught explicitly. Once taught, each structure should be reviewed cumulatively (California Department of Education, 1999). This is not to say, however, that skills instruction should occupy a great deal of class time. Instructional sessions should be concise and always should be conducted within the context of reading a text.



In addition, skills instruction must alert students to the fact that a particular text type, such as an article in a magazine or a chapter in a novel, may use more than one type of organizational structure to arrange information. That is, it prepares them to be flexible in their use of comprehension skills, switching from one to another, as required, as they read a text.

What Comprehension Skills Should Be Taught?

Unfortunately, there is no single, agreed-upon set of essential comprehension skills to be taught. Indeed, one source lists 26 “traditional comprehension skills” (Fry, Kress, & Fountoukidis, 1993). To further complicate matters, the same skill may be referenced under several different names (Pearson & Johnson, 1978). Obviously, not enough time is available in a busy school day to teach the entire universe of comprehension skills. Nor would this approach be productive. It is far more practical and logical to select for instruction those skills that are most useful to readers—that is, skills that can be used with the greatest variety of texts and reading situations (Baumann, 1988; Twining, 1985). Among these are skills that students can use to:

- identify and consider the author’s point of view.
- identify and understand the author’s purpose for writing.
- identify and understand cause-and-effect relationships.
- understand a sequence of events.
- compare and contrast ideas, characters, and events.
- classify and categorize information.
- identify and distinguish main ideas and details.
- distinguish fact from opinion.

- draw conclusions and make inferences from what is read.
- distinguish fantasy from reality.

Some of these skills—such as identifying cause-and-effect relationships, identifying main ideas, understanding a sequence, comparing and contrasting, and classifying and categorizing—help students organize text information. Others—such as understanding the author’s point of view and purpose, drawing conclusions and making inferences, and distinguishing fact from opinion—lead them to a deeper understanding of a text, to a “reading between the lines,” which is a hallmark of successful readers.

Although most of the skills mentioned can be employed in analyzing both narrative and expository text it is especially helpful for students to have a repertoire of skills to use as they read expository texts. Expository text is the type of writing students most often encounter in their textbooks, as well as in newspapers, magazines, manuals, reference books, and guides. The following section takes a closer look at each of these skills and at how they work to help students better understand the texts they read.

Identifying and Considering the Author’s Point of View In narrative writing, or fiction, point of view is the perspective from which an author presents the actions and events in the story. In general, an author uses either a first-person or third-person point of view. The characteristics of first-person point of view are as follows.

- The story is told by a character involved in the story who describes the action and tells about the other characters.
- The person telling the story uses first-person pronouns, such as *I*, *me*, *we*, *our*, and *my*.
- The story provides only the thoughts, feelings, and emotions of the character telling the story.

The characteristics of third-person point of view are as follows.

- The story is told by someone outside of the story who is uninvolved in the action.
- The person telling the story uses third-person pronouns, such as *he/she* and *him/her*.
- The person telling the story is aware of all of the characters' thoughts, feelings, and actions.

Making students aware of an author's point of view can provide them with insights into the characters, events, and actions in a story. For example, in a story told from a first-person point of view, the narrator's opinions and biases might color his or her descriptions of other characters and of what is happening. Students who recognize this can look for other information in the text to help them form a full understanding of what they are reading.

Identifying and Understanding the Author's Purpose Every text is written for a purpose. Good readers use their knowledge of the author's purposes for writing to sort out what is important in a text from what is less important (Dole, Duffy, Roehler, & Pearson, 1991). Knowing why an author wrote a particular text gives readers an idea of what they can expect to find in the text.

Authors write for a wide range of purposes: to entertain, to inform, to share personal experiences, and to persuade. If an author's purpose is



to entertain, then readers can relax and enjoy what they read. If the author's purpose is to persuade, readers can get more from their reading if they keep in mind that the author is arranging, including, and excluding information in ways designed to convince them of the strengths of a particular perspective.

Identifying and Understanding Cause-and-Effect Relationships It has been argued that helping students identify and understand cause-and-effect relationships is one of the most important aspects of comprehension instruction (Pearson & Johnson, 1978). After all, seeking causes and analyzing effects are primary concerns of a wide spectrum of society; everybody seeks to identify and understand the *why* and the *what* of everyday life.

In reading expository text, knowing what causes events to happen, such as economic depressions or droughts, can help readers put together the logical explanations needed to understand their social studies and science textbooks. Understanding what caused a character in a novel to run away from home or steal a loaf of bread can contribute to students' involvement in a story.

As part of instruction in cause-and-effect relationships, it is valuable for students to learn signal words, which are key words and phrases that alert students to this type of organizational

It has been argued that helping students identify and understand cause-and-effect relationships is one of the most important aspects of comprehension instruction.

structure. Called *causal indicators*, these signal words include the following: *because, for, since, therefore, so, consequently, reason for, source of, led to, in order that, due to, and as a result.*

Understanding a Sequence As they read, it is often difficult for intermediate-grade and younger students to understand the progression of developments in a plot, of steps in a scientific process, of the evolution of specific schools of art, or of events in a historical context because they do not have a firm grasp of time-and-order sequence. Young students, for example, seem to equate time sequence with the sequence of words they hear or read. That is, they interpret a sentence, such as “Before Sam did his homework, he played computer games,” as meaning that Sam did his homework first, then played computer games (Clark, 1971, cited in Pearson & Johnson, 1978). They seem to ignore or

... instruction about how to recognize and understand time-and-order sequences of events can contribute greatly to students' comprehension of a variety of texts.

misunderstand time-and-order signal words such as *before, after, first, next*, and so on. Young students also have difficulty placing events in time order and answering correctly questions about which event in a sequence came first, last, and so forth (Pearson, 1977, cited in Pearson & Johnson, 1978).

Clearly, instruction about how to recognize and understand time-and-order sequences of events can contribute greatly to students' comprehension of a variety of texts. As part of this instruction, students need to become familiar with certain key words and phrases that signal sequential information. Among these signal words are the following: *first, second, last, ear-*

lier, later, now, then, following, next, after, during, and finally.

Comparing and Contrasting Authors use comparing and contrasting to point out differences and similarities between two or more topics, including ideas, characters, settings, or events. The ability to recognize and understand compare-and-contrast text structures has been shown to improve comprehension for students at various grade levels (Meyer, 1984).

The compare-contrast text structure can be signaled by key words and phrases such as the following: *like, as, still, although, yet, similarly, different from, opposite, same, too, in contrast, but, however, rather, and on the other hand.*

Classifying and Categorizing Classifying and categorizing, which means putting like things or ideas together, is a natural human activity. When something new is encountered, an attempt to understand it is made by relating it to a class or category of similar things, for example, a kumquat is a citrus fruit, like an orange, tangerine, or lemon (Pearson & Johnson, 1978).

Because classifying and categorizing is such a common, natural activity, students benefit from knowing that authors often use this structure as a way of making new ideas and information easily accessible to their readers.

Identifying and Distinguishing Main Ideas and Details Authors of expository texts and narratives build arguments, develop ideas and plots, and generally write entire texts by stating directly or implying important, or main, ideas, then offering details to support those ideas. The ability of students to identify relevant information in a text, including main ideas and the relations among ideas, is crucial to full comprehension. It has been found, however, that students at all grade levels are not able to find and analyze the main ideas in textbooks, especially if the main ideas are implied rather than stated clearly (Seidenberg, 1989).



To be most effective, instruction in distinguishing main ideas should show students how to use their prior knowledge of the topic of a selection to help them determine what is more and less important. Helping them activate their knowledge of other text structures and of signal words—*first, next, consequently, subsequently, therefore*, and so on—aids them in organizing the text and subsequently figuring out what the important idea is in a paragraph, section, or chapter.

Drawing Conclusions and Making Inferences Authors do not always provide complete and explicit descriptions of or information about a topic, character, thing, or event. They

The ability to draw conclusions or make inferences from given information in a text and from background information has been described as the heart of the reading process.

do, however, provide clues or suggestions that readers can use to “read between the lines” by drawing conclusions or making inferences that are based on the information in the text and/or on their own background knowledge.

The ability to draw conclusions or make inferences from given information in a text and

from background information has been described as the heart of the reading process (Anderson & Pearson, 1984). In fact, it has been shown that students significantly improve their ability to get meaning from reading when they are taught directly how to draw conclusions and make inferences (Hansen & Pearson, 1983; Raphael & Wonnacott, 1985). Indeed, research strongly supports the value of providing even young students with such instruction (Pearson, Roehler, Dole, & Duffy, 1990).

Distinguishing Fact from Opinion Biographies; accounts of historical events; reviews of books, plays, and cultural events; and other forms of expository text in which authors may take a particular perspective can pose special problems for students if they are unable to distinguish a statement of fact from a statement of the author’s opinion. Often, students simply accept what is written as factual. Further, they often accept as factual something with which they agree strongly or that they see or hear repeated often (Heilman, Blair, & Rupley, 1998).

To evaluate the information in what they read, students need to know what makes a fact a fact and what makes an opinion an opinion. Typically, this means helping them understand that a fact can be verified or tested. It can be checked out in a reference book or through Internet services; it is reported in the same way by any number of observers or writers. There is no disagreement among sources, for example, that American astronaut Neil Armstrong was the first human to set foot on the moon. That is a fact. An opinion, however, is not so easy to identify or characterize. Its validity cannot be demonstrated. Sources may disagree, for example, that Neil Armstrong was the greatest of all the American astronauts.

Instruction should include discussion of statements in a selection to help students identify factors such as dates and figures that can be used to determine whether or not the statements are verifiable. If discussion does not help students distinguish fact from opinion, lessons

should be extended, perhaps to include trips to the library to find additional sources of information for cross-checking.

Distinguishing Fantasy from Reality Authors write fantasy stories to excite the imaginations of readers. Such stories involve characters, settings, and/or events that do not exist in the real world. Some students, however, can mistake fantasy for reality. For younger students in particular, it is important to provide instruction in the elements that distinguish fantasy from reality as a way to evaluate what they are reading.

Effective instruction should help students understand why an event, character, or setting cannot be real: straw cannot be spun into real gold; trolls, mermaids, and talking teapots do not exist; and no gardens of giant flowers exist on the moon.

What Does Comprehension Skills Instruction Look Like in the Classroom?

As with comprehension strategy instruction (Roehler & Duffy, 1984), instruction in comprehension skills progresses logically:

- Teachers introduce each skill through explanation and modeling. As part of rereading a text, teachers identify a skill that can be applied, explain how the skill can be used to read the text next, and finally model how to employ the skill through thinking aloud last.
- After introducing each skill, teachers remind students to use it on their own, providing prompts and hints about when its use is appropriate.
- Teachers gradually decrease their prompts and hints, allowing students to assume more and more responsibility for employing the skills on their own.

... educators have learned that by teaching students to use a repertoire of comprehension strategies and skills, they can set them securely on the path to becoming lifelong readers ...



- Teachers limit the number of skills to one or two that can be identified clearly in the selection. Trying to have students concentrate on too many skills will confuse them and make it harder for them to use any of the skills successfully. If a selection has good examples of several different skills, teachers can return to the selection several times over a span of days.
- Teachers solidify the reading/writing connection by having students incorporate different text structures into their own writing. As they use specific organizational structures in their own writing, students develop a clearer understanding of how to identify them as they read.
- Teachers remind students often that the purpose of any skill exercise is to give them tools to use as they read and write.

Conclusion

It has been more than two decades since Durkin's landmark research revealed that little or no comprehension instruction—much less strategies and skills instruction—was taking place in schools (Durkin, 1978–1979). In the intervening years, a

great deal has been learned about the kind of instruction that can help students develop as proficient comprehenders. Such instruction ensures that students have adequate preparation in decoding and word recognition skills, provides opportunities for vocabulary growth, helps students develop networks of rich world knowledge, and, through explicit teaching, provides extensive opportunities to practice the use of key comprehension strategies and comprehension skills. Most importantly, educators have learned that by teaching students to use a repertoire of comprehension strategies and skills, they can set them securely on the path to becoming lifelong readers.

Having made the transition from learning to read to reading to learn, good readers use all of the skills and strategies they have learned to integrate and connect each new concept they read about to their growing knowledge and understanding of the world around them. And then they take it one step further—they take what they know, apply it to the unknown, and become creative thinkers able to assess problems from the comfortable position of knowing they have the skills and can acquire the knowledge they need to solve any problem with which they are faced.

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