1 The Power of Strategic Reading Instruction

There has long been a tradition in American schooling that comprehension is essentially unteachable and that the most teachers can do is set the stage for learning to occur. Comprehension instruction from this perspective was very limited since one learned to comprehend on one's own.

Mason, Roehler, & Duffy (1984, p. 301)

I have written a weekly education column for various small town newspapers for more than fifteen years and frequently receive questions from readers about comprehension difficulties. In response to one such question from the mother of a high school student lamenting her daughter's inability to understand, I wrote a brief article describing four strategies that might help her daughter's reading comprehension (McEwan, 2002a). Shortly after the column was published, I received the following note from another reader.

Dear Elaine,

I have been following your columns in the *Northwest Explorer* and enjoy your matter-of-fact teaching principles. In a recent column, you answered a parent regarding her daughter's lack of reading comprehension. At the end of the article, you said, "Very few teachers actually teach students how to read to learn," and suggested that there are several strategies that can improve reading comprehension for any age reader. I do hope you will address this in one of your future columns, hopefully soon, as I have always felt I lacked the ability to remember things of interest without memorizing what I wanted to remember. I am an avid reader but have trouble remembering names or even the title of a book I have just read. I am 57 years old and feel one can always improve their comprehension. (Personal communication, Phyllis Hiemenz, July 12, 2002)

I took Phyllis's suggestion and devoted several columns to describing a variety of procedures, prompts, and props that readers could use to acquire and perfect their cognitive strategy usage. I thought no more about Phyllis's reading problem until I began writing this book. It was then that I decided to get in touch with her to ask if she had been using any of the strategies. Here is her reply:

> Dear Elaine,
>
> Your description of four cognitive strategies [summarizing, monitoring-clarifying, questioning, and visualizing-organizing] was very helpful and I find myself reading more with a purpose rather than thinking that I will absorb it simply because I am reading it. I now question why I want to read a particular article and then what I want to get out of it.
>
> I have also realized that I shouldn't be so hard on myself when I can't remember everything, since we are individuals and what I remember about a book is what was important to me.
>
> The strategy I have used the most is the one where I write down key words as I read to help me comprehend and remember the important ideas. I have to admit I haven't done much book reading since I have been upgrading my skills on Microsoft Office and Excel. As I'm learning new skills, I still write down key words to help me remember since it's easy to overload on so much information at once. This way, when I am applying something new, I can quickly look at my outline and it helps me remember what to do (of course, not every time). I especially liked your example about the waitresses who served you recently and how easily you remembered the name of one because it was the same as your daughter's, but promptly forget the names of the others. This has helped me to realize that we do selectively remember what is relevant and important to us. *I hope this all makes sense*. (Personal communication, Phyllis Hiemenz, December 15, 2003).

Phyllis's note made perfect sense to me. Bransford (1979) calls the processing activities in which learners engage "acquisition activities" (p. 52) and observes, "Many people speak of their poor memories. What do they mean? Are they limited by inferior 'storage capacity' because of the makeup of their brain?" Bransford answers his question in the same way I answered Phyllis in my newspaper column: "It is the types of processing activities performed at acquisition that are important for learning and remembering. As these acquisition activities are changed, the ability to remember follows suit" (p. 52).

For a mature adult like Phyllis, who had long been frustrated by her inability to read text and automatically understand and remember it, the awareness that she can activate prior knowledge, connect what she is reading to what she already knows, summarize the key points or main idea while she reads, and monitor her comprehension comes as something of a cognitive epiphany. Hopefully your students will not have to wait as long as Phyllis did to discover the power of strategic reading. We know that students can acquire *strategic reading* habits through the delivery of *strategic reading instruction* by *strategic teachers,* and that the process can begin in preschool or kindergarten (Novak,

1998; Smolkin & Donovan, 2000; Williams, 2002). We can teach all students to become more *strategic readers.*

The four italicized terms in the previous sentences are described, defined, and discussed at depth throughout *Seven Strategies of Highly Effective Readers.* The following definitions are drawn from the literature and research in three areas: reading comprehension instruction, cognitive science, and teacher effectiveness.

- *Strategic reading* is the extraction and construction of meaning from text by teachers and students individually or by teachers and students jointly through the skillful and situational use of a repertoire of cognitive strategies: the seven strategies of highly effective readers. The following synonyms are used for *strategic reading* in this book: *real reading* and *reading to learn.*
- *Strategic reading instruction (SRI)* is the explicit, systematic, and supportive instruction of cognitive strategies by all teachers in all grade levels and content areas. Whenever students are expected to extract and construct meaning from text (i.e., read to learn), the seven strategies of highly effective readers will be modeled, explained, scaffolded, and facilitated. The following synonyms are used for SRI in this book: *cognitive strategy instruction* and *strategy instruction*.
- *Strategic readers* are students who employ grade-level-appropriate cognitive strategies to extract and construct meaning from text. The following synonyms are used for strategic readers in this book: *highly effective readers* and *skilled readers*.
- *Strategic teachers* are individuals who, in addition to having personal traits that signify character, teaching traits that get results, and intellectual traits that demonstrate knowledge, curiosity, and awareness (McEwan, 2002c),[1] are also able to model, coach, and facilitate their students' acquisition of cognitive strategies by drawing metacognitively on their personal strategic reading habits. The following synonym is used for strategic teachers in this book: *highly effective teachers*.

WHAT IS STRATEGIC READING?

According to Mortimer Adler (1940), reading is thinking (p. 43), while Edward Thorndike (1917) described reading as problem solving (p. 329). Adler and Thorndike were right, to a point, but more contemporary scholars focus their definitions of reading on meaning, most particularly the construction of meaning by the reader. The RAND Reading Study Group (2002) defined *reading comprehension* as "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (p. 11). *Strategic reading,* as described and discussed in this book, assumes that the process of extracting and constructing meaning from challenging text can only occur through the automatic and expert use of cognitive strategies.

The cognitive processing that occurs during reading has fascinated a wide variety of scholars. My concept of what occurs during this process is akin to what Walt Whitman (as quoted in Gilbar, 1990) describes as "an exercise [or] a

gymnast's struggle; [something] that the reader is to do for himself, must be on the alert [and] must . . . construct . . . the poem, argument, history, metaphysical essay—the text furnishing the hints, the clue, the start or [the] framework" (p. 39). Reading can often be hard work that leaves the reader exhausted.

Cognitive psychologists van den Broek, Young, Tzeng, and Linderholm (1999) theorized that the process of skilled reading consists of fluctuating activations of concepts in the brain that can come from one or more of four different sources: (1) the text that is currently being processed, (2) text that was processed immediately preceding, (3) concepts processed in even earlier reading cycles, or (4) background knowledge. Their hypothesized representation looks somewhat like a landform map, complete with peaks, valleys, plateaus, and plains (p. 75). Of course, the mental landscape of a skilled reader is neither a landform map nor an actual place. It is a theory or representation of what is happening in the mind of a skilled reader as memory is constantly changing to accommodate the dynamic results of cognitive processing. "The pattern of activations and deactivations is a result of the interaction of the text, the reader's attentional capabilities, his or her background knowledge, and the reader's criteria for comprehension, and hence for retrieval" (p. 78).

Pearson and Fielding (1991) summarize what happens during their version of strategic reading thus: "Students understand and remember ideas better when they have to transform those ideas from one form to another. Apparently it is in this transformation process that the *author's* ideas become [the] *reader's* ideas, rendering them more memorable. Examined from the teacher's perspective, what this means is that teachers have many options to choose from when they try to engage students more actively in their own comprehension: summarizing, monitoring . . . engaging visual representation, and requiring students to ask their own questions all seem to generate learning" (p. 847).

Perkins (1992) calls the processing that must go on in order for students to acquire more than a smattering of soon-to-be-forgotten facts *complex cognition,* and suggests that teachers will have to "sell" students on both the short- and long-term benefits of acquiring and using cognitive strategies.

> Complex cognition has more intrinsic interest and promises more payoff outside of school and later in life. But consider the cost to learners: complex cognition demands much more effort. It creates greater risk of failure. It introduces the discomforts of disorientation, as learners struggle to get their heads around difficult ideas. Peer status for complex cognition is certainly mixed; who wants to be known as a 'brain'? And very commonly, so far as grades and teacher approval go, complex cognition buys no more than the simpler path of getting facts straight and the algorithms right. No wonder, then, that students perfectly reasonably do not automatically gravitate toward complex cognition. (pp. 59–60)

The goal of this book is to convince you of the benefits of strategic reading so that you in turn can convince your students.

The most comprehensive and informative descriptions of what happens in the minds of skilled readers as they process text (or engage in the kind of complex cognition described by Perkins [1992]) can be found in a type of research

called *verbal protocols.* Verbal protocols are verbatim self-reports that people make regarding what is happening in their minds as they think (James, 1890), solve problems (Duncker, 1926, 1945), and read (Pressley & Afflerbach, 1995). These transcripts are subsequently analyzed to answer specific research questions, such as: What is the influence of prior knowledge on expert readers' strategies as they determine the main idea of a text?" (Afflerbach, 1990b). As subjective as verbal protocols may seem to be, they are a valid and highly useful tool for providing "snapshots" and even "videos" of the ever-changing mental landscape that expert readers construct during reading. Pressley & Afflerbach (1995) conclude, based on their extensive collection of verbal protocols from expert readers, that reading is "constructively responsive—that is, good readers are always changing their processing in response to the text they are reading" (p. 2).

The question that most educators ask at this point is this: "Can *I* really teach *all* students how to become strategic, situational, constructively responsive readers?" This question is an important one that should always be asked by educators regarding any idea, program, or methodology that is being proposed for implementation in their schools and classrooms. The answer comes from cognitive science research.

WHAT IS STRATEGIC READING INSTRUCTION?

The solutions to the challenge of teaching students to read strategically are found in a vast body of research on cognitive strategy instruction derived from the discipline of cognitive science (National Reading Panel, 2000; Pressley, 2000; Pressley et al., 1995; RAND Reading Study Group, 2002; Rosenshine, 1997b; Rosenshine & Meister, 1984; Trabasso & Bouchard, 2000, 2002; Wood, Woloshyn, & Willoughby, 1995). Based on more than 200 scientific research studies and reviews, here is what we currently know about the power that cognitive strategies, taught well and consistently, have to increase students' abilities to understand and retain what they read:

- Skilled or expert readers routinely draw from a repertoire of cognitive strategies while they are reading challenging text.
- Students of all ability levels benefit from strategy instruction both as evidenced in increased understanding and retention and also in higher standardized test scores.
- The effectiveness of a variety of individual cognitive strategies in boosting student achievement is well supported by experimental research.
- The effectiveness of several multiple-strategy instructional approaches is well supported by experimental research.
- There are specific instructional methods to teach cognitive strategies to students that produce results.

Figure 1.1 presents a small portion of the scientific evidence for the power of cognitive strategy instruction to boost student achievement. Consult the previously cited research articles and literature reviews in this chapter for a comprehensive list of the applicable studies.

Research Questions	*Research*
Which strategies do skilled readers use?	Afflerbach (1990a, 1990b); Afflerbach & Johnston (1984); Pressley & Afflerbach (1995)
Which students benefit from strategy usage?	Anderson & Roit (1993); Brown & Campione (1994, 1996); National Reading Panel (2000); Palincsar & Brown (1984); Pressley, Johnson, Symons, McGoldrick, & Kurita (1989); Rosenshine & Meister (1984); Rosenshine, Meister, & Chapman (1996); Trabasso & Bouchard (2000, 2002)
Which multiple-strategy approaches work best?	Brown, Pressley, Van Meter, & Schuder (1996); Lysynchuk, Pressley, & Vye (1990); Palincsar & Brown (1984); Pressley, El-Dinary, Gaskins, et al. (1992); Rosenshine (1997a); Rosenshine & Meister (1984)
Which instructional methods are most effective for teaching cognitive strategies?	Brown, Pressley, Van Meter, & Schuder (1996); Duffy (2002); Duffy et al. (1987); Gaskins & Elliot (1991); Gaskins, Laird, O'Hara, Scott, & Cress (2002); Marks et al. (1993); Morrow, Tracey, Wood, & Pressley (1999); Pressley, El-Dinary, Marks, & Stein (1992); Rosenshine (1997a, 1997b); Taylor, Pearson, Clark, & Walpole (1999)
What is the current status of cognitive strategy instruction?	Pearson (1996); Pressley, Wharton-McDonald, Mistretta-Hampton, & Echevarria (1998); Pressley et al. (2001); Wharton-McDonald, Pressley, & Hampton (1998); Wharton-McDonald et al. (1997)

The scientific research evidence showing that we can directly and explicitly teach a repertoire of cognitive strategies to students in order to increase their capacities to understand and remember is (and has been for quite some time) an astounding educational breakthrough. A comparable breakthrough in the field of medicine, for example, was the discovery of a vaccine for polio. Unfortunately, the findings of the National Reading Panel (2000) regarding the power of cognitive strategy instruction did not make the front page of the *New York Times* as did the discovery of a vaccine for polio. In fact, "despite a significant body of research in the 1980's suggesting the effectiveness of strategy instruction, especially for lower-achieving readers, strategy instruction has not been implemented in many American classrooms" (Dole, 2000, p. 62). With the passage of the No Child Left Behind Act of 2000 (2002), educators can no longer afford to ignore this powerful body of research. It is precisely what we need to assist us in leaving no child behind.

Knowing that we do not need to wait for students to "catch on" to comprehension or "develop" a strategic reading approach or "bloom" as strategic readers when they become "ready" should encourage and hearten every teacher. Cognitive strategies *can* be taught to all of our students—now.

WHAT ARE THE SEVEN STRATEGIES OF HIGHLY EFFECTIVE READERS?

If you have read any of the recent comprehension and reading strategy books, you may well have been overwhelmed, as have I, by the sheer number and variety of "strategies" to be found. Where did they all come from? What's good, what's not, and how does one tell the difference? You may even be wondering if you are getting your money's worth in a book that gives you only seven. The strategies that I have chosen to feature in this book are the actual cognitive *processes* in which all skillful readers engage (Pressley & Afflerbach, 1995). These differ greatly from the hundreds of instructional activities developed by teachers, curriculum developers, and consultants (myself included), and we will explore those differences shortly. The seven strategies of highly effective readers are listed in alphabetical order and defined, in Figure 1.2.

I selected them for the following reasons: (1) They are used by skilled readers and known to be essential to proficient adult reading, (2) instruction in these strategies results in higher achievement on both teacher-made tests and standardized achievement tests, and (3) the majority of state standards and assessments expect students to demonstrate proficiency in the use of all of these strategies. Without a skillful marriage of content *and* SRI that begins on the first day of kindergarten and continues during every school day thereafter, the accomplishment of the stringent learning outcomes set forth in most state standards, especially with diverse learners, may well be impossible. SRI offers the promise, however, of making stiff standards, whether those of your school, district, or state, actually "stick" with students. The research evidence is shown in Figure 1.3.

Cognitive strategies are defined in various ways. They are sometimes called mental tools. Skilled readers routinely use these "mindtools" (Jonassen, 2000) to process what they read or what they hear (in the case of listening comprehension),

Strategy	*Description*
Activating	"Priming the cognitive pump" to recall relevant prior knowledge and experiences from long-term memory in order to extract and construct meaning from text
Inferring	Bringing together what is spoken (written) in the text, what is unspoken (unwritten) in the text, and what is already known by the reader in order to extract and construct meaning from the text
Monitoring-Clarifying	Thinking about how and what one is reading, both during and after the act of reading, for purposes of determining if one is comprehending the text, combined with the ability to clarify and fix up any mix-ups if necessary
Questioning	Engaging in learning dialogues with text (authors), peers, and teachers through self-questioning, question generation, and question answering
Searching-Selecting	Searching a variety of sources to select appropriate information to answer questions, define words and terms, clarify misunderstandings, solve problems, or gather information
Summarizing	Restating the meaning of text in one's own words—different words from those used in the original text
Visualizing-Organizing	Constructing a mental image or graphic organizer for the purpose of extracting and constructing meaning from text

Strategy	*References*
Activating	Afflerbach (1990a, 1990b); Bransford (1983); Brown, Smiley, Day, Townsend, & Lawton (1977); Dole, Valencia, Greer, & Wardrop (1991); Neuman (1988); Palincsar & Brown (1984); Pearson, Roehler, Dole, & Duffy (1992); Roberts (1988); Tharp (1982); Wood, Winne, & Pressley (1988)
Inferring	Cain & Oakhill (1998); Dewitz, Carr, & Pathberg (1986); Hansen (1981); Hansen & Pearson (1983); Oakhill, Cain, & Yuill (1998); Reutzel, & Hollingsworth (1988); van den Broek (1994)
Monitoring-Clarifying	Babbs (1984); Baker & Zimlin (1989); Baumann, Seifert-Kessel, & Jones (1992); Cross & Paris (1988); Elliott-Faust & Pressley (1986); Markman (1977); Miller (1985, 1987); Paris, Cross, & Lipson (1984); Paris, Saarnio, & Cross (1986); Schmitt (1988); Schunk & Rice (1985)
Questioning	Davey & McBride (1986); King (1989, 1990, 1992); King, Biggs, & Lipsky (1984); Nolte & Singer (1985); Rosenshine, Meister, & Chapman (1996); Singer & Dolan (1982); Smolkin & Donovan (2000); Wong, Wong, Perry, & Sawatsky (1986)
Searching-Selecting	Dreher (1993, 2002); Dreher & Guthrie (1990); Guthrie & Kirsch (1987); Guthrie & Mosenthal (1987); Kobasigawa (1983); Kuhlthau (1988); Spires & Estes (2002); Symons, MacLatchy-Gaudet, Stone, & Reynolds (2001)
Summarizing	Afflerbach & Johnston (1984); Afflerbach & Walker (1992); Armbruster, Anderson, & Ostertag (1987); Baumann (1983, 1984); Bean & Steenwyk (1984); Brown & Day (1983); Brown et al. (1983); Hare & Borchardt (1984); Rinehart, Stahl, & Erickson (1986); Taylor (1986)
Visualizing-Organizing	Alvermann & Boothby (1983, 1986); Armbruster, Anderson, & Meyer (1991); Berkowitz (1986); Borduin, Borduin, & Manley (1994); Gambrell & Bales (1986); Jones, Pierce, & Hunter (1988/1989); Pressley (1976); Shriberg, Levin, McCormick, & Pressley (1982); Sinatra, Stahl-Gemake, & Berg (1984)

similar to the ways that master tradespersons or artisans use their specialized tools. This analogy is an apt one and can be further extended to consider strategic teachers as cognitive masters and to refer to students as cognitive apprentices (Collins, Brown, & Holum, 1991; Collins, Brown, & Newman; 1990). Just as novices observe and learn from the experts in a particular trade or art, novice academics (students) learn from "mind mentors" (teachers) When teachers articulate their thinking about academic tasks and explain, model, and scaffold the use of cognitive strategies for students, these novice learners gain confidence and expertise, gradually reaching a point where, when they are confronted with a piece of challenging text, they are able to readily select the appropriate tool (cognitive strategy) from their personal "cognitive tool belts or boxes" (long-term memory) and apply it to their reading.

Cognitive strategies are also described as "behaviors and thoughts" (Weinstein & Mayer, 1986). Behaviors could include actions such as note-taking, generating key words, constructing a graphic organizer (e.g., a concept map or story grammar), previewing the text, looking back to check on an answer, writing a summary, retelling a story, or thinking out loud (i.e., rehearsing the steps or the ideas that are unclear or need to be remembered), or searching the Internet for an explanation or definition. Thoughts might include cognitive processes such as activating prior knowledge, monitoring comprehension, or inferring meaning. Skilled readers apply these strategies situationally, depending on their purposes for reading, the difficulty of the text, and their own experiences and background knowledge. If you prefer a more academic definition, strategies can be defined as "processes (or sequences of processes) that when matched to the requirements of tasks, facilitate performance" (Pressley, Goodchild, Fleet, Azjchowski, & Evans, 1989, p. 303). The seven cognitive strategies of highly effective readers should be part of every teacher's daily lesson plans and classroom conversations, but there are several other pieces of the reading puzzle that must also be in place for students to extract and construct meaning from text.

WHAT ARE THE PREREQUISITES FOR STRATEGIC READING INSTRUCTION?

We *can* teach all students how to extract and construct meaning from written text more effectively, but only if they have several other important pieces of the reading puzzle already in place (McEwan, 2002b): (1) fluency, (2) vocabulary, and (3) background knowledge. The ability to read both accurately and automatically is an essential, albeit insufficient, prerequisite for comprehension (Perfetti, 1985). Dysfluent readers who lack decoding skills and employ guessing as their strategy of choice will be unable to comprehend what they read, regardless of their comprehension abilities.[2] These students need explicit instruction in the code (the forty-four sound-spelling correspondences) combined with opportunities to practice their newly learned decoding skills to fluency. But even readers who can decode accurately will have comprehension difficulties if they are unable to retrieve words in under a second (Wolf & Bowers, 1999, 2000). Speed deficits that impair fluency should ideally be

identified and remediated as early as possible in a student's school career, as they are particularly difficult to overcome if ignored or overlooked. Fluency (the ability to read at grade level speed and accuracy)[3], while essential, is not the only prerequisite for comprehension. Students must also have grade-level-appropriate vocabulary and background knowledge in order to comprehend.

If you reflect on your most recent experience with a standardized test, the Graduate Record Exam, for example, you no doubt recall one or two text selections that gave you sweaty palms. You *were* able to decode the words in the text. But that wasn't enough to understand what you were reading. Because the topics were unfamiliar to you, perhaps quantum physics or transcendentalism, you may have thought you were reading a foreign language. Even though you used every available strategy, without adequate background and vocabulary knowledge, you could do little to make sense of the impenetrable concepts.

Students encounter similar difficulties in their reading of unfamiliar text. One of the biggest frustrations for teachers in Grades 3–8, where "reading-to-learn" is the goal, has to do with the students who "read it, but don't get it" (Tovani, 2000). This pervasive problem is compounded with each passing school year as the number and size of content-area textbooks increase while the ability of students to extract and construct meaning from what they read seems to diminish. Some students may need an extra measure of instruction in the sound-spelling correspondences to boost their word identification abilities. Some students may have mastered the one-to-one correspondences but need more instruction in the "advanced code" (McGuinness & McGuinness, 1998), where two or more letters stand for one sound. Others may need to engage in the repeated oral reading of text at their independent reading level to increase fluency (Ihnot, 2001; LaBerge & Samuels, 1974; Mercer & Campbell, 2001). Cognitive strategy instruction, while of great benefit to listening comprehension, will not improve students' *reading* comprehension *if* they do not know how to read (i.e., decode fluently).

All students need to be intentionally taught as much vocabulary and content background knowledge as teachers can skillfully pack into the school day (Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; McKeown, Beck, Omanson, & Pople, 1985). In reality, all teachers must be ESL (English as a Second Language) or ELL (English Language Learners) teachers, teaching new vocabulary, connecting concepts constantly, and introducing their students to as broad and deep a knowledge of the world as they can (Hirsch, 2001). One of the most effective ways to increase vocabulary knowledge is to use newly introduced vocabulary in meaningful interactions with students. One of the best ways for students to acquire fluency, vocabulary, *and* background knowledge is to read a lot recreationally at their independent reading levels as well as to read a lot at their instructional levels guided in the acquisition of cognitive strategy usage by a strategic teacher. Reading a lot is known to accomplish three learning goals for students:

1. Increase vocabulary (Dickinson & Smith, 1994; Robbins & Ehri, 1994)
2. Develop fluency (LaBerge & Samuels, 1974)
3. Add to readers' domain knowledge, especially if they are encouraged to read expository text (Stanovich, 1993; Stanovich & Cunningham, 1993)

WHEN IS A STRATEGY *NOT* A STRATEGY?

I encounter confusion from time to time regarding just what a cognitive strategy is, and I can empathize because I was confused myself for a time by the sheer number of different things that educators called reading or comprehension strategies. However, a strategy is *not* a strategy when it is in reality one of the following: (1) an instructional activity using a variety of procedures, prompts, posters, and props to assist teachers in modeling, explaining, and teaching one or more cognitive strategies; (2) a study skill; or (3) a reading skill.

Instructional Activities Are *Not* Cognitive Strategies

The "reading strategies" or "comprehension strategies" found in many of the popular books are not, in my opinion, strategies at all. They are *instructional activities* containing *procedures, prompts, posters,* and *props* to assist classroom teachers in cognitive strategy instruction.[4] Instructional activities are the plans and procedures that teachers make and follow for the purpose of cognitive strategy instruction, the things that teachers and students "do" during cognitive strategy instruction.

These activities are often given catchy titles to make them more enticing to both teachers and students. One, for example, is called "click or clunk." After reading a portion of text, students are prompted to ask themselves if what they have read *clicks* (i.e., they understand it) or whether it *clunks* (i.e., they need to use a fix-up strategy (Klingner, Vaughn, & Schumm, 1998; Weaver, 1994, p. 157). Click or clunk is not a cognitive strategy, but a *prompt* to help students practice and internalize the monitoring-clarifying strategy. Another cleverly named prompt is "trash or treasure." It asks students to determine what portions of the text they are reading could be considered irrelevant and redundant (trash) and conversely, which parts of the text contain the important main ideas and details—treasure. This instructional activity and accompanying prompt are designed to assist students with one of the critical tasks of summarizing—determining what's important and what's not.

In another clever prompt, questions are described as "thick [important and global questions] or thin [incidental clarifying questions]" (Harvey & Goudvis, 2000, p. 90). Harvey and Goudvis also suggest a favorite *prop* of many students and teachers—sticky notes. They recommend that students code their responses to what they have read and write reactions and questions regarding their reading on varying sizes of Post-it notes. They place the notes on the pages of their texts to help them remain actively engaged while reading. Props like sticky notes, as well as the sticky pictures I developed for primary readers (see Chapter 4 for the master), aid students in activating prior knowledge, clarifying confusion, and questioning the text as they read.

Study Skills Are *Not* Cognitive Strategies

When I ask middle school teachers in my cognitive strategy workshop to enumerate the strategies they are currently "teaching" their students, the room

occasionally gets quiet. Then someone will cautiously mention SQ3R (Survey, Question, Read, Recite, Review). This old-timer has been around since World War II when it was developed to help U.S. troops master vast quantities of new technical information very quickly (Manzo, Manzo, & Estes, 2001, p. 266). Its relative success at that time fostered a healthy interest in the use of study skills to increase the efficiency of learners. I hesitate to squash *any* interest in strategy instruction, but study skills are not cognitive strategies.

Study skills are taught as formulas or systems that are imposed by teachers on learners. Study skills give learners specific methods to study for tests or memorize specific information or facts. Examples include various note-taking systems (e.g., Notetaking System for Learning [Palmatier, 1973]) and study methods (e.g., Predict, Organize, Rehearse, Practice, Evaluate [Simpson, 1986]).

Cognitive strategies, if taught appropriately, on the other hand, are *situational* in nature, to be used by students in response to the varying demands and challenges of reading different types and levels of text for different purposes. They are the "tools" in the tool belt analogy; skillful readers choose the right tool for the job rather than using the same tool for every cognitive assignment.

Reading Skills Are *Not* Cognitive Strategies

Last, the reading skills you may remember from years past are not cognitive strategies. Skills are repetitive in nature, learned through intense practice (e.g., multiplication facts, musical scales, or decoding), and produced unconsciously and almost instantaneously when needed. While skills are absolutely essential to automatic and accurate word identification, the cognitive strategies we will consider are situationally specific and highly flexible. That is, expert readers use specific strategies in response to the text, the purpose for reading, and their own experience and prior knowledge. They may use several strategies simultaneously and no doubt even develop their own approaches to a strategy as they become more expert readers. Any prompts, props, or procedures that teachers use to scaffold the learning of a specific strategy can be modified, enhanced, or dropped altogether as students grow more confident in their strategy usage. Just as teachers feel the freedom to refine and modify lesson plans once they become more confident teachers, maturing readers adapt cognitive strategies to express their own unique ways of extracting and constructing meaning from text.

When *Is* a Strategy a Cognitive Strategy?

A strategy *is* a cognitive strategy when it is a conscious thought or behavior used by a reader to process text. Strategies have the power to enhance and enlarge the scope of learning by making it more efficient. Strategic students learn and remember more in shorter periods of time with far less frustration. They are able to tackle challenging assignments with a higher degree of organizational skill, and more important, they can face difficult assessments with confidence. A strategy is a *cognitive strategy* when teachers are teaching readers how and when to use it independently, confidently, and strategically.

WHAT'S AHEAD?

To this point, we have identified the seven strategies of highly effective readers, capsulized the research that supports their instruction, and explained how cognitive strategies differ from skills and instructional activities. Just ahead in Chapter 2, we will explain how you can increases the likelihood that all of your students will become strategic readers by providing direct and explicit cognitive strategy instruction to them on a daily basis.

NOTES

1. The ten traits of highly effective teachers include: (1) mission-driven and passionate; (2) positive and real; (3) a teacher-leader; (4) with-it-ness; (5) style; (6) motivational expertise; (7) instructional effectiveness; (8) book learning; (9) street smarts; and (10) a mental life (McEwan, 2002c).

2. I call this "the guessing syndrome" and list the following telltale student behaviors of this serious and widespread problem: reads a word one day, but "forgets" it the next; misses details and even main ideas when reading; frequently misreads simple words; frequently mispronounces two-syllable words; and has serious problems with spelling.

3. The minimum words correct per minute for comprehension is 85. Students reading below 85 need to engage in repeated oral reading of text at their independent level to increase fluency rates.

4. I first encountered the terms *procedures* and *prompts* in Rosenshine (1997b). I added the alliterative terms *posters* and *props* to describe the variety of physical aids, charts, and objects that teachers use in the course of cognitive strategy instruction to make it more meaningful and thus more memorable.