Effective Practices for Developing Reading Comprehension

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Reading comprehension research has a long and rich history. There is much that we can say about both the nature of reading comprehension as a process and about effective reading comprehension instruction. Most of what we know has been learned since 1975. Why have we been able to make so much progress so fast? We believe that part of the reason behind this steep learning curve has been the lack of controversy about teaching comprehension. Unlike decoding, oral reading, and reading readiness, those who study reading comprehension instruction have avoided much of the acrimony characteristic of work in other aspects of reading.

As it should be, much work on the process of reading comprehension has been grounded in studies of good readers. We know a great deal about what good readers do when they read:

- Good readers are *active* readers.
- From the outset they have clear *goals* in mind for their reading. They constantly *evaluate* whether the text, and their reading of it, is meeting their goals.
- Good readers typically *look over* the text before they read, noting such things as the *structure* of the text and text sections that might be most relevant to their reading goals.
- As they read, good readers frequently *make predictions* about what is to come.
- They read *selectively*, continually making decisions about their reading— what to read carefully, what to read quickly, what not to read, what to reread, and so on.
- Good readers *construct, revise, and question* the meanings they make as they read.

- Good readers try to determine the meaning of *unfamiliar words and concepts* in the text, and they deal with inconsistencies or gaps as needed.
- They draw from, compare, and *integrate their prior knowledge* with material in the text.
- They think about the *authors* of the text, their style, beliefs, intentions, historical milieu, and so on.
- They *monitor their understanding* of the text, making adjustments in their reading as necessary.
- They *evaluate the text's quality and value*, and react to the text in a range of ways, both intellectually and emotionally.
- Good readers *read different kinds of text differently*.
- When reading narrative, good readers attend closely to the setting and characters.
- When reading expository text, these readers frequently construct and revise summaries of what they have read.
- For good readers, text processing occurs not only during "reading" as we have traditionally defined it, but also during short breaks taken during reading, even after the "reading" itself has commenced, even after the "reading" has ceased.
- Comprehension is a consuming, continuous, and complex activity, but one that, for good readers, is both *satisfying and productive*.

(See Pressley and Afflerbach [1995] and Block and Pressley [2001] for reviews of much of the research on good readers' comprehension. The intellectual ancestor to this chapter is "Developing Expertise in Reading Comprehension" [Pearson, Roehler, Dole, & Duffy, 1992] in the second edition of *What Research Has to Say About Reading Instruction*; this piece also provides a good overview of the work upon which this characterization of good reading is based).

Given knowledge about what good readers do when they read, researchers and educators have addressed the following question: Can we teach students to engage in these productive behaviors? The answer is a resounding yes. A large volume of work indicates that we can help students acquire the strategies and processes used by good readers—and that this improves their overall comprehension of text, both the texts used to teach the strategies and texts they read on their own in the future.

In this chapter, we will describe some proven instructional techniques for helping students acquire productive comprehension skills and strategies. As you will see, there is a large if not overwhelming number and range of techniques that work, yet the use of even one technique alone has been shown to improve students' comprehension. Teaching what we call *collections* or *packages* of comprehension strategies can help students become truly solid comprehenders of many kinds of text.

Balanced Comprehension Instruction

To borrow a term from the decoding debate, comprehension instruction should be *balanced*. By this we mean that good comprehension instruction includes both explicit instruction in specific comprehension strategies and a great deal of time and opportunity for actual reading, writing, and discussion of text. The components in our approach to balanced comprehension instruction are a supportive classroom context and a model of comprehension instruction.

A Supportive Classroom Context

It is not enough just to offer good instruction. Several important features of good reading instruction also need to be present. Otherwise, the comprehension instruction will not take hold and flourish. These features include the following:

- *A great deal of time spent actually reading.* As with decoding, all the explicit instruction in the world will not make students strong readers unless it is accompanied by lots of experience applying their knowledge, skills, and strategies during actual reading.
- *Experience reading real texts for real reasons.* To become strong, flexible, and devoted comprehenders of text, students need experience reading texts beyond those designed solely for reading instruction, as well as experience reading text with a clear and compelling purpose in mind.
- *Experience reading the range of text genres that we wish students to comprehend.* Students will not learn to become excellent comprehenders of any given type of text without substantial experience reading and writing it. For example, experience reading storybooks will not, by itself, enable a student to read, understand, and critique procedural forms of text of the sort found in how-to books, instruction manuals, and the like.

- *An environment rich in vocabulary and concept development through reading, experience, and, above all, discussion of words and their meanings.* Any text comprehension depends on some relevant prior knowledge. To some degree, well-chosen texts can, in themselves, build readers' knowledge base. At the same time, hands-on activities, excursions, conversations, and other experiences are also needed to develop vocabulary and concept knowledge required to understand a given text.
- *Substantial facility in the accurate and automatic decoding of words.* In a recent review of the literature, Pressley (2000) argues compellingly that skilled decoding is necessary, although by no means sufficient, for skilled comprehension.
- *Lots of time spent writing texts for others to comprehend.* Again, students should experience writing the range of genres we wish them to be able to comprehend. Their instruction should emphasize connections between reading and writing, developing students' abilities to write like a reader and read like a writer.
- *An environment rich in high-quality talk about text.* This should involve both teacher-to-student and student-to-student talk. It should include discussions of text processing at a number of levels, from clarifying basic material stated in the text to drawing interpretations of text material to relating the text to other texts, experiences, and reading goals.

A Model of Comprehension Instruction

The model of comprehension instruction we believe is best supported by research does more than simply include instruction in specific comprehension strategies and opportunities to read, write, and discuss texts— it connects and integrates these different learning opportunities. Specifically, we suggest an instructional model including the following five components:

1. *An explicit description of the strategy and when and how it should be used.* "Predicting is making guesses about what will come next in the text you are reading. You should make predictions a lot when you read. For now, you should stop every two pages that you read and make some predictions."
2. *Teacher and/or student modeling of the strategy in action.* "I am going to make predictions while I read this book. I will start with just the cover here. Hmm...I see a picture of an owl. It looks like he—I think it is a he—is wearing pajamas, and he is carrying a candle. I *predict* that this is going to be a make-believe story because owls do not really wear pajamas and carry candles. I predict it is going to be about this owl, and it is going to take place at nighttime.

   "The title will give me more clues about the book; the title is *Owl at Home.* So this makes me think even more that this book is going to be about the owl. He will probably be the main character. And it will take place in his house.

   "Okay, I have made some predictions about the book based on the cover. Now I am going to open up the book and begin reading."
3. *Collaborative use of the strategy in action.* "I have made some good predictions so far in the book. From this part on I want you to make predictions with me. Each of us should stop and think about what might happen next.... Okay, now let's hear what you think and why...."
4. *Guided practice using the strategy with gradual release of responsibility.*

   Early on...

   "I have called the three of you together to work on making predictions while you read this and other books. After every few pages I will ask each of you to stop and make a prediction. We will talk about your predictions and then read on to see if they come true."

   Later on...

   "Each of you has a chart that lists different pages in your book. When you finish reading a page on the list, stop and make a prediction. Write the prediction in the column that says 'Prediction.' When you get to the next page on the list, check off whether your prediction 'Happened,' 'Will not happen,' or 'Still might happen.' Then make another prediction and write it down." (This is based on the Reading Forecaster Technique from Mason and Au [1986] described and cited in Lipson and Wixson [1991].)
5. *Independent use of the strategy.* "It is time for silent reading. As you read today, remember what we have been working on—making predictions while we read. Be sure to make predictions every two or three pages. Ask yourself why you made the prediction you did—what made you think that. Check as you read to see whether

your prediction came true. Jamal is passing out Predictions! book-marks to remind you."

Throughout these five phases, it is important that neither the teacher nor the students lose sight of the need to coordinate or orchestrate comprehension strategies. Strategies are not to be used singly—good readers do not read a book and *only* make predictions. Rather, good readers use multiple strategies constantly. Although the above model foregrounds a particular strategy at a particular time, other strategies should also be referenced, modeled, and encouraged throughout the process. A way of conceptualizing the orchestration process is captured in a classic visual model from Pearson and Gallagher's (1983) early work on comprehension instruction. In that model (see Figure 10.1), teachers move from a situation in which they assume all the responsibility for performing a task

Figure 10.1. Gradual release of responsibility

As one moves down the diagonal from upper left to lower right, students assume more, and teachers less, responsibility for task completion. There are three regions of responsibility: primarily teacher in the upper left corner, primarily student in the lower right, and shared responsibility in the center. (This figure is adapted with permission from Pearson and Gallagher [1983]; the asterisked terms are borrowed from Au & Raphael [1998].)
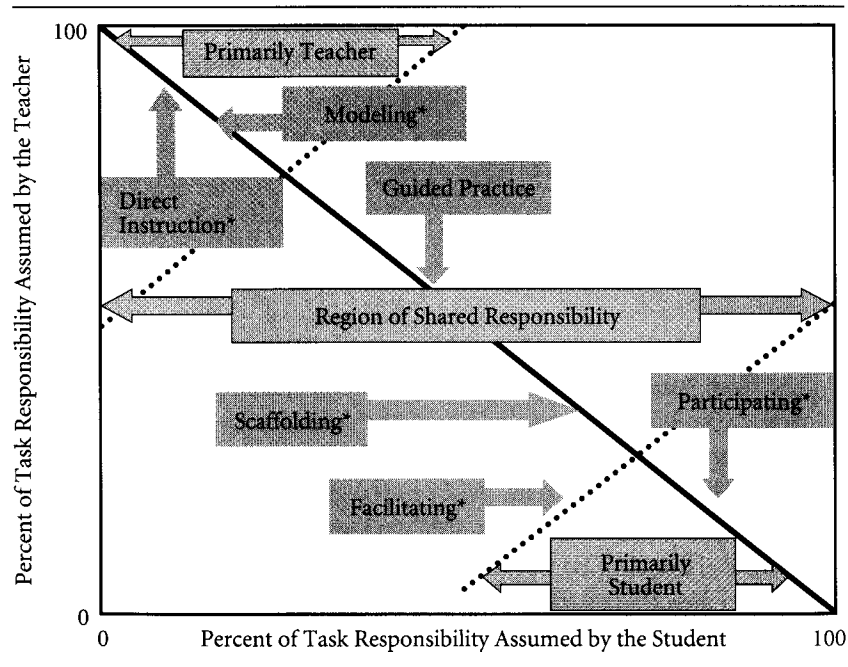
while the student assumes none, which we would call modeling or demonstrating a strategy (the upper left corner), to a situation in which the students assume all the responsibility while the teacher assumes none, which we would call independent strategy use (lower right corner), a situation in which teachers can shift to a participation mode, performing tasks in much the same way as any other group member. Instruction in the upper left corner would be labeled teacher centered, whereas instruction in the lower right would be student centered.

Other Teaching Considerations

Choosing well-suited texts. Another important role for the teacher in implementing this model is in choosing the texts to use. At least some of the texts used during these different phases of comprehension instruction should be chosen to be particularly well suited to application of the specific strategy being learned. Just as many have recommended using texts in decoding instruction that emphasizes the particular sound-letter relationships students are learning, we recommend linking closely the comprehension strategy being taught to the texts to which it is initially applied and practiced. For example, a good text for learning about the prediction strategy would be one that students have not read before (hence, they would not already know what happens next), that has a sequence of events, and that provides sufficient clues about upcoming events for the reader to make informed predictions about them. Also, as is recommended for decoding instruction, we recommend careful attention to the level and demands of texts used in different phases of instruction, especially the early phases. When students are first learning a comprehension strategy, they should encounter texts that do not make heavy demands in other respects, such as background knowledge, vocabulary load, or decoding. Later, of course, students must be asked to apply the strategy to the range of texts they will meet during everyday reading—in reading/language arts, in content area classes (i.e., social studies, science, and mathematics), and on their own.

Concern with student motivation. The level of motivation students bring to a task impacts whether and how they will use comprehension strategies (Dole, Brown, & Trathen, 1996; Guthrie et al., 1996). Therefore, the model we suggest, in particular the independent practice portion, should be made as motivating to students as possible. Accompaniments to comprehension instruction we have already noted—such as providing

experience reading real texts for real reasons and creating an environment rich in high-quality talk about text—will undoubtedly help. Other strategies can be found in books, articles, and chapters devoted specifically to the topic of motivation and engagement (e.g., Guthrie & Wigfield, 1997).

Ongoing assessment. Finally, as with any good instruction, comprehension instruction should be accompanied by ongoing assessment. Teachers should monitor students' use of comprehension strategies and their success at understanding what they read. Results of this monitoring should, in turn, inform the teacher's instruction. When a particular strategy continues to be used ineffectively, or not at all, the teacher should respond with additional instruction or a modified instructional approach. At the same time, students should be monitoring their own use of comprehension strategies, aware of their strengths as well as their weaknesses as developing comprehenders.

Building a Comprehension Curriculum

With this overall model for comprehension instruction as a background to be used in teaching any useful strategy, we now turn to specific comprehension strategies that research has shown to be effective in improving students' comprehension of text. These are the strategies we recommend explaining and modeling for students and then emphasizing in shared, guided, and independent reading. The effectiveness of these strategies is not limited to a particular age group. Age groups used in studies consulted for this review range from kindergarten through college level. Certainly not every strategy presented has been tested for this entire range of age groups, but neither is there substantial evidence to indicate that any strategy is inappropriate for any age range. First, we introduce six important strategies, and then we review some "routines" that actually integrate several strategies in a single activity.

Effective Individual Comprehension Strategies

Prediction. We have labeled the first strategy prediction, although it is better conceived as a family of strategies than a single, identifiable strategy. At its core is making predictions and then reading to see how they turned out, but it also entails activities that come with different labels, such as activating prior knowledge, previewing, and overviewing. What

all these variants have in common is encouraging students to use their existing knowledge to facilitate their understanding of new ideas encountered in text. Although these strategies have some earlier roots (e.g., Ausabel, 1968; Stauffer, 1976, 1980), these activities are most clearly the legacy of the 1980s, with its emphasis on schema theory (Anderson & Pearson, 1984) and comprehension as the bridge between the known and the new (Pearson & Johnson, 1978).

Although it might seem reasonable to expect research on prediction and prior knowledge activation to be equally distributed across narrative and expository text genres, it is decidedly biased toward narrative texts (see Pearson & Fielding, 1991). Two activities dominate the work: making predictions and activating prior knowledge about story theme, content, or structure. Hansen's work (Hansen, 1981; Hansen & Pearson, 1983) provides rich examples of prior knowledge activation. In both instances, students were encouraged to generate expectations about what characters might do based on their own experiences in similar situations. This technique led to superior comprehension of the stories in which the activity was embedded and to superior performance for younger and less able older readers on new stories that the students read without any teacher support. Working with fourth-grade students, Neuman (1988) found that when teachers presented students with oral previews of stories, which were then turned into discussions and predictions, story comprehension increased relative to "read only" previews and typical basal background-building lessons. In a creative variation of the preview theme, McGinley and Denner (1987) had students compose very short narratives based on a list of keywords from the upcoming story. For example, terms such as *loose tooth, string, pain, baseball game, tie score,* and *home run* might serve as keywords for an upcoming story about a girl who has a loose tooth that will not come out but falls out naturally when she is engrossed in a close ballgame. Interestingly, the accuracy of their "prediction" stories proved relatively unimportant in explaining subsequent comprehension of the real stories; apparently, it was the engagement itself that triggered the deeper story comprehension.

Explicit attempts to get students to engage in prediction behaviors have proved successful in increasing interest in and memory for stories (Anderson, Wilkinson, Mason, & Shirey, 1987). Fielding, Anderson, and Pearson (1990) found that prediction activities promoted overall story understanding only if the predictions were explicitly compared to text ideas during further reading, suggesting that the verification process, in

which knowledge and text are compared explicitly, may be as important as making the prediction.

These studies suggest a variety of productive ways of encouraging students to engage their knowledge and experience prior to reading. They also suggest that in nearly all cases, the impact on story understanding is positive, at least for narrative texts in which themes and topics are likely to be highly familiar. The situation may be quite different in reading expository texts, especially if students' existing knowledge is riddled with misconceptions about matters of science and prejudices in the realm of human experience (see, for example, Guzzetti, Snyder, Glass, & Gamas, 1993).

Think-aloud. Another proven instructional technique for improving comprehension is think-aloud. As its name implies, think-aloud involves making one's thoughts audible and, usually, public—saying what you are thinking while you are performing a task, in this case, reading. Think-aloud has been shown to improve students' comprehension both when students themselves engage in the practice during reading and also when teachers routinely think aloud while reading to students.

Teacher think-aloud. Teacher think-aloud is typically conceived of as a form of teacher modeling. By thinking aloud, teachers demonstrate effective comprehension strategies and, at least as importantly, when and when not to apply them. For example, in the following teacher think-aloud, the teacher demonstrates the use of visualization and prediction strategies:

> That night Max wore his wolf suit and made mischief of one kind and another.... Boy, I can really visualize Max. He's in this monster suit and he is chasing after his dog with a fork in his hand. I think he is really starting to act crazy. I wonder what made Max act like that...Hm-m-m...I bet he was getting a little bored and wanted to go on an adventure. I think that is my prediction. (Pressley et al., 1992, p. 518)

Studies typically have not examined the effect of teacher think-aloud by itself, but rather as part of a package of reading comprehension strategies. Therefore, although we cannot infer directly that teacher think-aloud is effective, it is clear that as part of a package, teacher think-aloud has been proven effective in a number of studies. For example, teacher think-aloud is part of the Informed Strategies for Learning (ISL) program (Paris, Cross, & Lipson, 1984), the reciprocal teaching approach (see later

discussion), and the SAIL program (see later discussion), all of which have been shown to be effective at improving student comprehension. It is also an important part of the early modeling stages of instruction in many comprehension training routines, for example, the QAR work of Raphael and her colleagues (Raphael, Wonnacott, & Pearson, 1983) and the inference training work of Gordon and Pearson (1983). These studies suggest that teacher modeling is most effective when it is explicit, leaving the student to intuit or infer little about the strategy and its application, and flexible, adjusting strategy use to the text rather than presenting it as governed by rigid rules. Teacher think-aloud with these attributes is most likely to improve students' comprehension of text.

Student think-aloud. Instruction that entails students thinking aloud themselves also has proven effective at improving comprehension (see Kucan & Beck, 1997, for a review). A classic study by Bereiter and Bird (1985) showed that students who were asked to think aloud while reading had better comprehension than students who were not taught to think aloud, according to a question-and-answer comprehension test. A compelling study by Silven and Vauras (1992) demonstrated that students who were prompted to think aloud as part of their comprehension training were better at summarizing information in a text than students whose training did not include think-aloud.

Several scholars have theorized about why student think-aloud is effective at improving comprehension. One popular theory is that getting students to think aloud decreases their impulsiveness (Meichebaum & Asnarow, 1979). Rather than jumping to conclusions about text meaning or moving ahead in the text without having sufficiently understood what had already been read, think-aloud may lead to more thoughtful, strategic reading. A study conducted with third-grade students provides some empirical support for this theory. Baumann and his colleagues found that training in think-aloud improved children's ability to monitor their comprehension while reading (Baumann, Seifert-Kessel, & Jones, 1992). Third-grade children trained to think aloud as they used several comprehension strategies were better than a comparison group at detecting errors in passages, responding to a questionnaire about comprehension monitoring, and completing cloze items. One student trained in think-aloud explained, "When I read I think, is this making sense? I might...ask questions about the story and reread or retell the story" (Baumann et al., p. 159). This and other student comments suggested a thoughtful, strategic approach to reading through think-aloud.