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A FOCUS on Reading Comprehension Strategy Instruction
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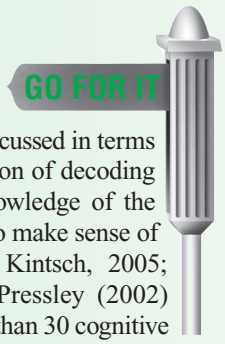
What Is Reading Comprehension?



Reading comprehension is often discussed in terms of being a process involving the integration of decoding ability, vocabulary knowledge, prior knowledge of the topic considered, and relevant strategies to make sense of a text and understand it (Kintsch & Kintsch, 2005; Pressley & Block, 2002). Block and Pressley (2002) stated that comprehension involves more than 30 cognitive and metacognitive processes including clarifying meaning, summarizing, drawing inferences, predicting, and so on. "Comprehension strategies are specific, learned procedures that foster active, competent, self-regulated, and intentional reading" (Trabasso & Bouchard, 2002, p. 177). Reading comprehension strategy instruction (CSI) refers to explicitly training these procedures either in isolation or in multiple component packages.

A wide range of instructional activities can be considered to be relevant to reading comprehension. For example, in a research synthesis, Mastropieri, Scruggs, Bakken, and Whedon, (1996) divided the training activities into subgroups including basic skills approaches (e.g., vocabulary training, reinforcement), text enhancement approaches (e.g., underlining and highlighting), and self-questioning approaches. This alert issue describes only strategies that would be considered examples of self-questioning approaches. Absence of appropriate cognitive strategies or ineffective and non-persistent deployment of those strategies is a common cause of comprehension failure in students with mild disabilities and reading deficits (Gersten, Fuchs, Williams, & Baker, 2001).

For Whom Is It Intended?

CSI is appropriate for individuals who consistently fail to develop a coherent understanding of material that is read. The failure to develop understanding may be generalized across large numbers of different types of reading materials or be restricted to domains with which the reader lacks familiarity. CSI has been validated for both generalized comprehension failures and for specific domains (e.g., students who are experiencing difficulty with their science text books only). Additionally, CSI can be adapted to use with texts that are read aloud for pre-readers (Tracey & Morrow, 2002) as well as for older students who have severe decoding problems (Ivey, 2002).

How Does Reading Comprehension Instruction Work?

Pressley and Block (2002) pointed out that comprehension instruction involves a complex and long-term commitment to teach students the necessary strategies and to provide them with sufficient practice to use the strategies easily and the habits to use them frequently. They further summarized the general principles of CSI. We include their basic principles in Table One.

TABLE ONE

Basic Principles of Comprehension Strategy Instruction
Teach comprehension skills during the primary grades (even if only through modeling during teacher reading aloud) and continue to teach comprehension strategies as long as the students need it.
Develop decoding skills in readers so that they may devote attention to understanding meaning as well as decoding tasks.
Teach vocabulary. Knowing the meaning of frequently encountered words as well as unusual words related to a particular reading task improves overall comprehension.
Have students read diverse and worthwhile texts as they perform important text processing tasks. Include both narrative texts (stories) and expository texts (informational sources). Reading across a wide variety of sources and kinds of text is a critical source of vocabulary development and also of the student's fund of general knowledge.
Teach students to relate their own knowledge to new texts when prior knowledge can enhance comprehension.
Teach students to employ well-validated strategies and group students to provide necessary instruction in regard to the strategies that they need to develop.
Teach students to monitor whether or not they understand the text that they are reading and to ask themselves (a) whether what they are reading makes sense and (b) if they are remembering what they are reading.
Adapted from (Pressley & Block, 2002, pp. 390-391).

Pressley and Block (2002) also suggested that teachers can learn how the strategies work and become better able to teach them to their own students by applying the strategies to their own reading. Applying strategies to the teacher's own reading not only helps the teacher become better prepared to provide CSI, but also demonstrates the potential for improvement that such strategies hold for their students.

There are several approaches to CSI. Each CSI approach involves asking and answering questions about texts before, during and after they are read. Another common element to each of the strategies is that the basic model of instruction involves teachers describing and demonstrating the strategies, modeling the strategies during their own reading, and guiding the use of the strategies during student reading of texts.

A fundamental assumption of CSI is that the students involved are able to adequately decode the text at hand. When readers struggle to decode texts, they have little cognitive energy left to comprehend the text (Laberge & Samuels, 1974); therefore, when working with readers who lack adequate decoding skills, teachers should (a) employ easy-to-read texts, (b) have other students read the texts out loud, or (c) read the texts to the students themselves (Ivey, 2002). By reading sophisticated texts to students, teachers can provide students with weak decoding ability access to levels of language and content that is otherwise beyond their reach, and also hone their comprehension skills through oral language.

Trabasso and Bouchard (2002) categorized the CSI literature into the following 12 categories, all of which can involve self questioning:

- ✦ Comprehension Monitoring
- ✦ Graphic Organizers
- ✦ Listening Actively
- ✦ Mental Imagery
- ✦ Mnemonic Instruction
- ✦ Prior Knowledge Activation
- ✦ Question Answering
- ✦ Question Generation
- ✦ Text Structure
- ✦ Summarization
- ✦ Multiple Strategy Instruction with and without Reciprocal Teaching

It is not possible to identify a single strategy that should be encouraged to the exclusion of the others (Block, Schaller, Joy, & Gaine, 2002). Therefore, teachers should consider the strategies in the preceding list as tools, mastering the ones that appear most useful first, and adding others to their instructional tool kit over time. In the present Alert issue, we describe examples from the three classes of CSI that have generated the most research with students with disabilities: Question Answering, Story Structure, and Multiple Strategy Instruction.

Question Answering. Clark, Deshler, Schumaker, Alley, and Warner (1984) trained students to recognize five common types of "WH" questions: (a) who, (b) what, (c) where, (d) when, and (e) why. They then labeled each type of question with symbols (e.g., a clock was used to indicate "When" questions). The students were then trained to read texts and mark the text with the symbols indicating the answers to the questions. The procedural mnemonic developed for the strategy was: RAM:

1. **Read** the passage asking "WH" questions to help yourself keep reading.
2. **Answer** your questions as you read.
3. **Mark** your answers with the appropriate symbol.

Text Structure. Williams (2003) taught narrative structure to students with learning disabilities by having teachers lead a pre-reading discussion of the story topic followed by the teacher reading the story aloud, inserting various questions throughout the story. After reading the story, the teacher led a discussion of the main points and a reading of a summary of the story. The students then related the story theme to a standard format to link the story to more generalized people and situations using one of two generic questions: (a) (main character) should have (should not have)…and (b) we should (should not)... Finally, the students apply the story's lesson to real life experience with two questions: (a) To whom would this theme apply? and (b) When would it apply?

Expository text structure training includes alerting students to passages that provide (a) descriptions (characteristics, traits, properties, functions), (b) temporal sequencing of events, (c) explanations (concepts, terminology), (d) definitions-examples, and problem-solution-effect structures. Additionally, asking and answering simple questions such as, "What is the passage about?" "What is happening to the who or what?" or "What is a summary sentence?" can be a helpful, albeit difficult, task for students with learning disabilities to strengthen comprehension skills (Mastropieri, Scruggs, & Graetz, 2003).

Multiple Strategy Approaches. One well-developed multiple strategy approach is Collaborative Strategic Reading (CSR) (Klingner, Vaughn, & Schumm, 1998). In CSR, students receive instruction in strategies for (a) previewing the text (e.g., read the title and headings, predict what the text might be about), (b) monitoring comprehension while reading, (c) restating the most important ideas in the passage in a gist summary, and (d) wrap-up activities to summarize what has been learned and generate questions on the material that a teacher might ask on a test. In the comprehension monitoring phase, *Clicks* refer to portions of the text that make sense to the reader and *Clunks* refer to comprehension breakdowns. Strategies to repair clunks include rereading the sentence that caused the clunk and then the sentences around it, and word analysis strategies like looking for affixes and smaller, more familiar words within an unknown word. During the wrap-up phase, support for higher-level thinking can be provided in the form of question stems such as:

- ✦ How were ___ and ___ the same? Different?
- ✦ What do you think would happen if___?
- ✦ What do you think caused ___ to happen?
- ✦ What other solution can you think of for the problem of ___? (Klingner & Vaughn, 1998)

Training in CSR is carried out across three phases. The first involves the basic strategy instruction described above. In the second phase, students learn roles to be carried out in cooperative learning groups and in the final phase, the students practice their strategies and roles in cooperative learning groups under the supervision and monitoring of the teacher.

How Practical Is Reading Comprehension Instruction?

Few specialized materials are required for most of the strategies summarized in this Alert issue, but CSI requires the teacher to adopt an interactive style of instruction that may be very different from the teacher-directed methods with which they are presently comfortable. CSI requires substantial amounts of guided practice to ensure that students master the skills and develop the habit of using them. It should be noted that students with comprehension difficulties quite often find these strategies to be very difficult to master. It is essential that sufficient time and practice be provided in initial training. However, the impact of good CSI is such that most teachers report that it is worth the effort. Many strategies can be applied to many different reading tasks. The training procedures are relatively straightforward and, after an initial intensive training phase, can be generalized from trained to untrained passages.

How Adequate Is The Research Knowledge Base?

In general, reading comprehension strategies are among the most thoroughly researched interventions in special education, and several literature reviews have described the numerous research studies that have been conducted in this area (Berkeley, in press; Gersten et al., 2001, Mastropieri et al., 1996, 2003; Swanson, Hoskyn, & Lee, 1999; Talbott, Lloyd, & Tankersley, 1994). In general, this body of research has contained true experimental or well controlled quasi-experimental, or well-designed single subject research. In a recent research synthesis, Berkeley, Scruggs, and Mastropieri (2007) reported that about 40% of identified studies employed true experimental designs, while most others included quasi-experimental or single-subject designs; only a small number of studies employed pre-post designs.

This is not to say that available research is as thorough, or as high in quality as it could possibly be. Gersten et al. (2001), for example, identified strategy transfer as an area in need of further research. In addition, some specific CSI strategies have been researched more thoroughly than others. Of the strategies described by Trabasso and Bouchard (2002), each has received empirical validation, although not all have yet been adequately validated for students with disabilities.

How Effective Is Reading Comprehension Instruction?

Several meta-analyses of CSI appear in the literature. Overall mean effect sizes range from 0.82 (Swanson, Hoskyn, & Lee, 1999) to 1.13 (Talbott, Lloyd, & Tankersley, 1994). When considered separate from the other aspects of comprehension training, the self-questioning approaches discussed in this alert issue yielded a mean effect size of 1.33 (Mastropieri, Scruggs, Bakken, & Whedon, 1996). An effect size of .82 would raise a student from the 50th percentile of a comparison group to the 79th percentile. An effect size of 1.33 would be associated with a gain from the 50th percentile to the 91st percentile. All of the effect sizes reported for comprehension training activities are positive and strong, indicating that comprehension training can be expected to yield substantial benefits to students who have difficulty in acquiring information from print.

What questions remain?

Among the questions that require more attention relative to comprehension strategies are the interaction of comprehension strategies with motivation. At present, it is unclear whether individuals fail to comprehend because they fail to allocate sufficient effort to the task, lack strategic knowledge, or have other deficiencies. Additionally, individuals tend to persist in comprehension tasks relative to topics that are of interest to them, so comprehension measures contain an element of interest and task motivation as well as measures of the target skills. Finally, supports for students who lack background knowledge as well as reading decoding skills need to be considered relative to comprehension training.

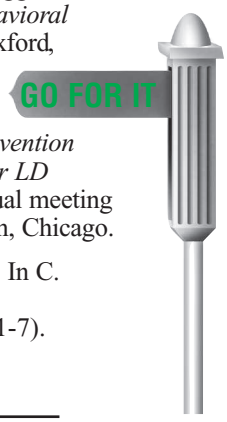
How do I learn more?

Two excellent books as well as a website devoted to teaching students with disabilities on this topic are available for people wishing to learn more about CSI.

- Block, C. C., & Pressley, M. (2002). *Comprehension instruction: Research-based best practices.* New York: Guilford Press.
- Paris, S. G., & Stahl, S. A. (2005). *Children's reading comprehension and assessment.* Mahwah, NJ: Lawrence Erlbaum Associates.
- The University of Kansas Online Academy: http://www.onlineacademy.org/

References

- Berkeley, S. L. (in press). Reading comprehension instruction for students with learning disabilities. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities: Vol. 20. International perspectives.* Oxford, UK: Elsevier.
- Berkeley, S. L., Scruggs, T. E., & Mastropieri, M. A. (2007, April). *An updated synthesis of intervention research on reading comprehension instruction for LD Students (1995-2005).* Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Block, C. C., & Pressley, M. (2002). Introduction. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 1-7). New York: Guilford Press.



References

- Block, C. C., Schaller, J. L., Joy, J. A., & Gaine, P. (2002). Process-based comprehension instruction: Perspectives of four reading educators. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 42-61). New York: Guilford Press.
- Clark, F. L., Deshler, D. D., Schumaker, J. B., Alley, G. R., & Warner, M. M. (1984). Visual imagery and self-questioning: Strategies to improve comprehension of written material. *Journal of Learning Disabilities, 17*(3), 145-149.
- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research, 71*(2), 279-320.
- Ivey, G. (2002). Building comprehension when they're still learning to read words. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 234-246). New York: Guilford Press.
- Kintsch, W., & Kintsch, E. (2005). Comprehension. In S. G. Paris & S. A. Stahl (Eds.), *Children's reading: Comprehension and assessment* (pp. 71-92). Mahwah, NJ: Lawrence Erlbaum Associates.
- Klingner, J. K., & Vaughn, S. (1998). Using collaborative strategic reading. *TEACHING Exceptional Children,* 32-37.
- Klingner, J. K., Vaughn, S., & Schumm, J. S. (1998). Collaborative strategic reading during social studies in heterogeneous fourth-grade classrooms. *The Elementary School Journal, 99*(1), 3-22.
- Laberge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6,* 292-323.
- Mastropieri, M. A., Scruggs, T. E., Bakken, J. P., & Whedon, C. (1996). Reading comprehension: A synthesis of research in learning disabilities. In T. E. Scruggs & M. A. Mastropieri (Eds.), *Advances in learning and behavioral disabilities* (Vol. 10B, pp. 201-227). New York: Elsevier Science/JAI Press.
- Mastropieri, M. A., Scruggs, T. E., & Graetz, J. E. (2003). Reading comprehension instruction for secondary students: Challenges for struggling students and teachers. *Learning Disability Quarterly, 26*(2), 103-116.
- Pressley, M., & Block, C. C. (2002). Summing up: What comprehension instruction could be. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 383-392). New York: Guilford Press.
- Swanson, H.L., Hoskyn, M., & Lee, C. (1999). *Interventions for students with learning disabilities: A meta-analysis of treatment outcomes.* New York: Guilford.
- Talbott, E., Lloyd, J.W., & Tankersley, M. (1994). Effects of reading comprehension interventions for students with learning disabilities. *Learning Disability Quarterly, 17* 223-232.
- Trabasso, T., & Bouchard, E. (2002). Teaching readers how to comprehend text strategically. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 176-200). New York: Guilford Press.
- Tracey, D. H., & Morrow, L. M. (2002). Preparing young learners for successful reading comprehension. In C. C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 219-233). New York: Guilford Press.
- Williams, J. P. (2003). Teaching text structure to improve reading comprehension. In H. L. Swanson, K. R. Harris & S. Graham (Eds.), *Handbook of learning disabilities.* (pp. 293-305): Guilford Press.

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About the Alert Series

Current Practice Alerts is a joint publication of the Division for Learning Disabilities and the Division for Research within the Council for Exceptional Children. The series is intended to provide an authoritative resource concerning the effectiveness of current practices intended for individuals with specific learning disabilities.

Each Alerts issue focuses on a single practice or family of practices that is widely used or discussed in the LD field. The Alert describes the target practice and provides a critical overview of the existing data regarding its effectiveness for individuals with learning disabilities. Practices judged by the Alerts Editorial Committee to be well validated and reliably used are featured under the rubric of Go For It. Those practices judged to have insufficient evidence of effectiveness are featured as Use Caution.

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