Comprehension monitoring

It may seem obvious to good readers that, when something doesn't make sense, you stop, re- read, and try to figure it out. Weaker readers often just keep going or do not recognize that something they are reading is disrupting their mental model. Young children and children with reading comprehension difficulties may find it difficult to monitor their comprehension (Englert, Hiebert, & Stewart, 1988; Helder, Van Leijenhorst, & van den Broek, 2016; Markman, 1979; Rubman & Salatas Waters, 2000), particularly when the information they are attempting to integrate is separated by some distance (Oakhill, Hartt, & Samols, 2005). Interventions focused on giving students opportunities to find pieces of text that do not match with information they read earlier in the passage build proficiency in this skill (Markman, 1979; Oakhill, et al., 2015).

Text schema

Proficient readers use their knowledge of different types of text to help them build a coherent mental model of what they are reading. The set of expectations about the internal structure of a text is constrained by its schema, or type (Mandler & Johnson, 1977). Each schema has its own set of rules that authors follow to organize the text, from overall topics, to specific vocabulary and syntactic structures (Littlefair, 1991). As readers become familiar with different types of schema, they become better at using the conventions of the schema to structure their own learning, thus increasing their comprehension (Mandler & Johnson, 1977; Meyer & Rey, 2011). Research suggests that when students are taught about the different ways authors organize text, they are better able to recall details about texts, and have better overall reading comprehension (Meyer & Ray, 2011).

Visualizing the model

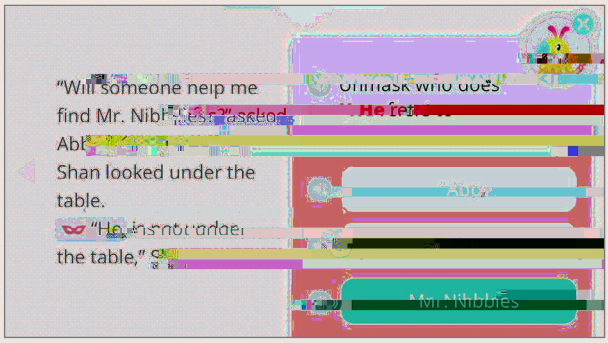
When students create an imagined visualization of the story they are reading, this enhances their comprehension of the text (Graesser, Singer, & Trabasso, 1994). As students read and construct a mental model of the text, they constantly refer to and update this model as the story evolves. Strategies such as manipulating story-related objects and creating physical storyboards with images may help students to monitor their comprehension for meaning and derive the inferences needed in order to construct and update a coherent mental model of a text as the story evolves (Glenberg et al., 2004; Rubman & Salatas Waters, 2000).

All readers, especially students struggling with comprehension, can benefit from instruction in these and other comprehension processes. These skills are addressed in multiple contexts within Boost Reading. When explicit instruction is required, students engage in mini-games that include models of the skill with think- aloud instruction and clear and consistent feedback. These mini-games give students opportunities to practice these critical skills with increasingly challenging texts. The content is tightly controlled, allowing students to focus on the critical skill rather than other skills or text variables. The skills are introduced and then reviewed over the course of the program. Because using knowledge across tasks promotes student learning, (Merrill, 2002) Boost Reading encourages generalization through ebooks with embedded activities that reinforce skills recently practiced in related games in longer, more authentic texts. For example, students learn the concept of anaphora in a game called UnMask That! They begin by linking pronouns to their referents within single and then multiple sentences and then short paragraphs. After practicing the skill and demonstrating a degree of proficiency, they will encounter anaphora in their e-reader texts. Students are reminded to use what they have learned with an UnMask That! Icon embedded within the text.

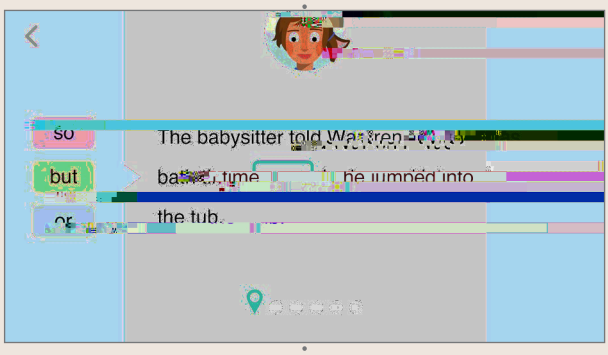
Providing instruction in this way will help all students to gain and practice the skills needed to build their mental models of text. Instruction in comprehension processes is provided in addition to instruction that includes work on comprehension skills. Because Boost Reading is responsive to student performance within the games (i.e., it adapts based on how students respond to tasks within and across games), the program is able to target the specific areas of need for each student, allowing them to practice those skills where they struggle and to later use their mental model building skills to respond to and analyze increasingly complex texts.

Figure 3. A sample of microcomprehension games in Boost Reading

a. Anaphora in authentic text

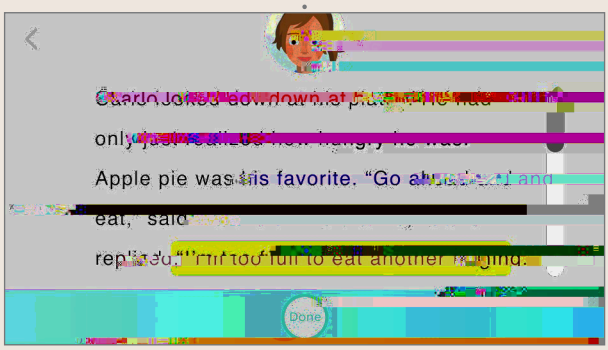


b. Connective words



c. Gap-filling inference

d. Comprehension monitoring



Kintsch, W. (1988). The role of knowledge in discourse comprehension: A construction- integration model. Psychological Review, 95(4), 163–182.

LaBerge, D., & Samuels, S. J. (1974). Towards a theory of automatic information processing in reading. Cognitive Psychology, 6, 293–323.

Littlefair, A. (1991). Reading All Types of Writing: The Importance of Genre and Register for Reading Development. Milton Keynes: Open University Press.

Mandler, J.M., & Johnson, N.S. (1977). Remembrance of things parsed: Story structure and recall. Cognitive Psychology, 9, 111-151.

Markman, E.M. (1979). Realizing that you don't understand: Elementary school children's awareness of inconsistencies. Child Development, 50(3), 643–655.

McMaster, K.L., van den Broek, P., Espin, C.A., White, M.J., Rapp, D.N., Kendeou, P., Bohn-Gettler, C.M., & Carlson, S. (2012). Making the right connections: Differential effects of reading intervention for subgroups of comprehenders. Learning and Individual Differences, 22, 100–111.

McNamara, D.S., Kintsch, E., Songer, N.B., & Kintsch, W. (1996). Are good texts always better? Interactions of text coherence, background knowledge, and levels of understanding in learning from text. Cognition and Instruction, 14(1), 1–43.

Megherbi, H. & Ehrlich, M. (2005). Language impairment in less skilled comprehenders: The on- line processing of anaphoric pronouns in a listening situation. Reading and Writing, 18, 715–753.

Merrill, M.D. (2002). First principles of instruction. Educational Technology, Research, and Development, 50(2), 43–59.

Mesmer, H.A. (2017). Connectives in sentences. In Teaching Skills for Complex Text: Deepening Close Reading in the Classroom. New York: Teachers College Press.

Mesmer, H.A.. (2017). Untangling anaphora: Replacing words. In Teaching Skills for Complex Text: Deepening Close Reading in the Classroom. New York: Teachers College Press.

Meyer, B.F., & Ray, M.N. (2011). Structure strategy interventions: Increasing reading comprehension of expository text. International Electronic Journal of Elementary