

# Appendix B: The Scientifically-Based Reading Research (SBRR) Behind Grade 3 ITRI

Grade 3 ITRI is based on scientifically-proven reading comprehension strategies identified by the National Reading Panel in their 2000 report.

The National Reading Panel Report identified the following proven reading comprehension strategies.

- **Question Answering** is a strategy in which teachers pose questions to students during and after reading a text in order to encourage analysis and interpretation. It has been proven effective in increasing comprehension and retention of information.

*Grade 3 ITRI models this strategy through the use of Guided Reading Boxes which pose questions and guide students to analyze text or text features as they read. Teachers facilitate this process through the in-class discussion session which follows each Grade 3 ITRI lesson.*

- **Question Generating** trains students to ask who, what, where, when, why, and how questions as they read. This questioning teaches students to become independent and active readers. Questions can be used to make inferences, engage with text, enhance memory, and increase comprehension and comprehension monitoring skills.

*Grade 3 ITRI units about predicting and vocabulary/key words require students to generate questions about the text content in order to answer the questions in the Guided Reading Boxes. Furthermore, the Guided Reading Boxes that appear in all Grade 3 ITRI lessons model this strategy by asking students the kinds of questions that proficient readers ask themselves. Students are taught how to engage in independent critical thinking by responding to the questions in the Guided Reading Boxes. Through repeated practice, students will come to internalize this process and will be able to apply it independently when reading.*

- **Summarization** involves identifying the main idea and supporting details of a passage. This skill is a critical part of Indiana's Academic Standards for English/language arts in grade 3.

*Grade 3 ITRI dedicates an entire unit to practicing this strategy and includes a graphic organizer to help students visualize how the main idea and details connect. Guided Reading Boxes throughout all the units ask students to identify key details to aid in effective summarization. In addition, students will see the main idea identified in the text features of all of the lessons.*

- **Comprehension Monitoring** provides guidance to students in identifying and resolving their own reading problems. It asks students to engage in "thinking about thinking." Comprehension monitoring has been demonstrated to improve performance on standardized tests of reading comprehension.

*Grade 3 ITRI incorporates this strategy through classroom discussion and Guided Reading Boxes that probe students to identify why they answered a question in a particular way and teach how to effectively scan and use the structural features of informational text.*

- **Cooperative Learning** encourages students to work together to increase comprehension. Cooperative learning has been scientifically-proven to increase comprehension and to boost performance on standardized tests.

Each Grade 3 ITRI lesson begins with a large group discussion aimed at activating prior knowledge. In addition, lessons close with a group self-checking session and discussion in which students share their answers and reading strategies in order to learn from each other.

- **Graphic Organizers** help students visualize the relationships between important components of text. They have been proven to improve memory and to boost performance in social studies and science.

While working through each reading skill area of Grade 3 ITRI, students use a graphic organizer that connects the unit's reading skill to real life experiences rather than abstract relationships. Teachers introduce each graphic organizer before students begin the lessons and the lessons themselves allow students to practice and master the skill.

- **Multiple Strategies** approaches encourage students to employ a variety of comprehension strategies simultaneously. Studies have shown that students whose teachers use demonstrations, guiding, modeling, and scaffolding show improvement on standardized tests. Understanding when to employ specific strategies is key to student success in informational text.

Grade 3 ITRI lessons demonstrate multiple strategies through the variety of Guided Reading Boxes which help mediate student reading of the text. Guided Reading Boxes model strategies while they also explain what the strategy is and how to use it. As the lessons progress in a unit, students find themselves using more than one strategy and working more independently.


Source: National Institute of Child Health and Human Development. (2000), *Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.

## **ITRI promotes reading skills identified as most important to elementary school students.**

Research shows that students' comprehension of expository material is impeded by lack of familiarity with vocabulary, concepts, and text structures. Thus, elementary students often have trouble comprehending informational text. The most successful readers are those who ask themselves questions about content, are aware of organization and page design, think about what they know and do not know about a subject, and actively apply what they read to their own experiences.

Grade 3 ITRI models effective reading strategies through Guided Reading Boxes, which focus student attention on text organization by emphasizing signal words and common text structures and features. The introductory lessons in Grade 3 ITRI focus on text features to ensure that students know and use the right tools for different tasks. Subsequent lessons encourage students to think critically about text features such as graphics, headings, boldface print, etc. Students practice helpful techniques such as previewing vocabulary, scanning, and summarizing. Teacher-led in-class grading discussions improve comprehension and reinforce these skills by encouraging students to share reading strategies and learn from one another.

Sources:



Bakken, J. P., and C. K. Whedon. 2002. Teaching text structure to improve reading comprehension. *Intervention in School and Clinic* 37:229-33.

Olson, M. W., and T. C. Gee. 1991. Content reading instruction in primary grades: perception and strategy. *The Reading Teacher* 45:298-307.

Pressley, M., and R. Wharton. 1997. Skilled comprehension and its development through instruction. *School Psychology Review* 26:448-67.

## **ITRI uses methods proven to help students improve vocabulary acquisition.**

Major differences between vocabulary in literature lessons and content area lessons require students to shift their thinking and teachers to adjust their instruction. Students learn vocabulary better when they are instructed on how to use the text itself to make sense of challenging words.

*Grade 3 ITRI includes a unit designed to promote word knowledge comprehension and acquisition. These lessons include a graphic organizer which promotes the use of multiple strategies to decipher and remember challenging words. Guided Reading Boxes throughout this and other units ask students to think about vocabulary and make connections between words and ideas.*

*Grade 3 ITRI was designed to model the vocabulary structure of Indiana's adopted textbooks. Lessons follow the same number of vocabulary terms per page, the placement and identification of vocabulary terms on the page, and the number of difficult words not identified as vocabulary terms per page. Skills learned through Grade 3 ITRI are therefore easily transferable to textbooks.*

Source: Armbruster, B., and W. Nagy. 1992. Vocabulary in content area lessons. *The Reading Teacher* 45:550-51.


## **ITRI helps students connect what they read to their own experiences.**

Research indicates that while elementary students infer in their daily activities, they have a difficult time spontaneously drawing inferences between what they read in school and what they experience outside of the classroom. Studies have shown that students rarely practice their inference skills enough in the classroom to sufficiently enhance their performance on standardized tests. Making predictions prior to reading has been shown to help students integrate what they read with their prior knowledge.

*The Predicting lessons in Grade 3 ITRI model thought processes to help students develop and practice their inference skills during their school-related tasks. The Guided Reading Boxes ask students to access their prior knowledge about a subject before they begin the lesson, think about how they made their predictions, and understand why the author provides specific information.*

*Each Grade 3 ITRI lesson is preceded with a background prompt in which the teacher asks a*





*question or set of questions to spark discussion and activate prior knowledge and experiences, or think about possible or fantastical situations. A strategy for acquiring word knowledge also draws on this strategy as students are asked to predict word meaning, and to make connections between words they already know and words they are learning. Practicing inference skills in these lessons allows students to transfer them to other content reading.*

Sources:

Hansen, J. and Pearson, P.D. 1983. An instruction study: Improving the inferential comprehension of good and poor fourth grade readers. *Journal of Educational Psychology* 75:821-829.

Hansen, J. 1981. The effects of inference training and practice on young children's reading comprehension. *Reading Research Quarterly* 16:391-417.

### **Grade 3 ITRI builds foundations for a future of enhanced critical thinking skills.**

Reasoning skills are essential to students' mental development and knowledge acquisition. Adept problem solving enhances students' abilities to function academically by allowing them to understand abstract concepts in their lives both inside and outside of the classroom. Learning problem solving in the classroom, through reading and writing activities, helps students retain problem solving skills and adapt them to other challenging situations.

*Grade 3 ITRI has an entire unit of lessons in which students practice and sharpen their problem solving skills. The lessons in the Problem and Solution unit introduce academic, personal, technological, and social problems as subject matter while the Guided Reading Boxes ask students to identify, assess, and connect problems and solutions described in the text. Students are also asked to go beyond the text to uncover additional problems or solutions not described and to relate problems and solutions to their own experiences.*

Sources:

Forgan, J.W. 2003. *Teaching Problem Solving through Children's Literature*. Westport, CT: Teacher Ideas Press.

Roser, N.L. and Keelin, S. 2002. Fostering thought, talk, and inquiry: Linking literature and social studies. *The Reading Teacher* 55:416-426.

