Technology Supports for Reading Comprehension

Reading Comprehension – the Goal of Reading Instruction

- Comprehension is the essence of reading
- Comprehension strategies should be present in everyday teaching across the curriculum
- As a strategic process, it enables readers to make connections and move beyond literal recall
- Needs to be taught explicitly and strategically
- Knowing students' reading abilities is essential for teachers

Levels of Comprehension
- Online: Literal
    - Explicitly stated main ideas, details, sequences
- Between the Lines: Inferential Comprehension
    - Ideas the author shares through descriptive language - can't point to the answer
- Beyond the Lines: Evaluative Comprehension
    - Identify bias, make judgments, draw conclusions, summarize, predict outcomes

Developmental Stages/Levels of Reading

Ellery, V. (2005). Fluency. In Creating Strategic Readers (pp. 77-105). Newark, DE: International Reading Association.

Teachers need to decide:
- Which strategies, techniques, teacher talk.
- What resources will best support the students and move them into the next stage.

Emergent Stage
- Begin to make correlations among oral, written, and printed stimuli
- Enjoy listening to stories
- Understand that print conveys a message
- Acquiring ability to apply concepts about print
- Understanding of direct link of the sounds to letters, pictures to words, and speech to sentences
- Repetitive use of language and illustrations help with the contextual meaning of written words
- Logographic/environmental information assists emergent readers in meaning of words
- Benefit from short and simple text

Early Stage
- Mastered emergent reading behaviors
- Comfortable with the basic concepts about print
- Reading and writing stories at a higher level of complexity
- Begin to discuss what they are reading with others
- Less dependent on rhyme, repetition, and patterns within text.
- Variations in sentence length and language are common
- Sentences include high-frequency words that they read automatically
- Their eyes control the reading so not as much pointing to words
- The text contains simple concepts and story lines and relate to real-world experiences

Technology Supports for Reading Comprehension

Transitional

- Able to make sense of longer and more complex books
- Easily adapt strategies to support reading for meaning
- Efficiently self-correct to maintain the contextual intent
- Beginning to use semantic – meaning, syntactic – structure and grammar and visual to self-monitor
- Need relevancy of textual situations to build vocabulary
- Plot, character, setting and dialogue and fluency
- Begin verbal expressions as they read
- Appropriate texts have more complex language structures and less emphasis on patterned text.

Fluent Stage

- Heavy reliance on the text – less reliance on the illustrations
- Illustrations are now only of limited support
- Comfortably read independently for extended periods
- Recognize many words by sight
- Reading happens with automaticity
- Adjust their pacing based upon the purpose and difficulty of text
- Have a variety of strategies for decoding unknown words
- Comprehension is occurring at a sophisticated level (i.e., synthesizing, and interpreting
- Familiar with complex sentence structures, story concepts and literary genres.

Barriers to Reading Comprehension

- Reading strategies are complex and difficult to include into direct instruction
- Teachers inadequately trained or prepared for the teaching of comprehension strategies
- Large classrooms – not enough time to allow for intensive strategy instruction one-on-one
- Lack of additional resources to meet the varying needs of the classroom.

Students with learning Disability may present difficulties in: *(Joan Sedita)*

- Word recognition/decoding skills
- Fluency
- Language processing/ linguistic ability
- Vocabulary
- Life experience /background knowledge
- Attention
- Memory
- Meta-comprehension & application of strategies
- Expressive language weakness
- Visualizing & creating mental images

Textbooks		
Narrative Text	Expository Text	
"Alice in Wonderland"	**Science**	**Social Studies**
Beginning, middle, and end Plot Characters Structures setting	Listing Cause/effect Compare/contrast	Problem/solutions Compare/contrast Time ordering

Ciborowski, J. (1999). Textbooks and the Students Who Can't Read Them: A Guide to Teaching Content

Technology Supports for Reading Comprehension

- Pressley's (1998) study of grade 4 and 5 classrooms indicated that there was very little instruction in the area of comprehension going on.

Reading Comprehension Interventions & Strategies

Observing students provides "information needed to design sound instruction" *(Clay, 2002, p.11).*

Steps to Improving Comprehension
1. Identify where difficulty occurs
2. Identify what the difficulty is
3. Restate the difficult sentence or passage in their own words
4. Look back through the text
5. Look forward in the text for information that might help them to resolve the difficulty.
6. Students should monitor their own comprehension
    - be aware of what they do understand
    - identify what they do not understand
    - use appropriate "fix-up" strategies to resolve problems in comprehension
7. Using graphic and semantic organizers
8. Answering questions
9. Generating questions
10. Recognizing story structure (Setting, initiating events, internal reactions, goals, attempts, outcomes)
11. Summarizing
    - identify or generate main ideas
    - connect the main or central ideas
    - eliminate redundant and unnecessary information
    - remember what they read

Comprehension with the Super 6 (*Oczkus***)**	**7 Strategies of Highly Effective Readers (***McEwan***)**
Building Background Knowledge & Making Connections	Cognitive processing – behaviors and thoughts
1. Connecting 2. Predicting/Inferring 3. Questioning 4. Monitoring 5. Summarizing & Synthesizing 6. Evaluating	1. Activating 2. Inferring 3. Monitoring-Clarifying 4. Questioning 5. Searching – Selecting 6. Summarizing 7. Visualizing - Organizing

Cognitive Strategies are
- Conscious thought or behavior used by a reader to process text.
- Enhance and enlarge the scope of learning
- When teachers are teaching readers how and when to use it independently, confidently, and strategically

Cognitive Strategies are not
- Instructional Activities
- Study Skills
- Reading Skills

Technology Supports for Reading Comprehension

Reciprocal Teaching *(Palincsar & Brown, 1984)*
- Researched and solidly validated methods for teaching reading comprehension
- Studies done across grade levels with diverse learners
- Positive effects on students' reading comprehension and gains on standardized tests
- Takes abstract concepts and transform them into concrete, explicit strategies that students can practice and internalize

4 Strategies that Good Readers Use to Construct Meaning from Text

Summarizing – encourages students to synthesize and explain important information from the text in their own words.

Question generating – requires students to identify information from the text that is central enough to warrant a question.

Clarifying – brings students attention to the various reasons why the text may be difficult for them to understand, and assists them in resolving those situations.

Predicting – helps students analyze the content of the text and hypothesize what might happen next.

3 Additional Reading Comprehension Strategies *(CAST – Center for Applied Special Technology added these 3 when developing Thinking Reader Series)*

Visualizing – asks the students to imagine what a character or setting looks like.

Feeling – encourages students to relate personally to the story.

Reflecting – requires that students think back on their own work and responses throughout the text and evaluate how they are progressing as a reader.

Technology & Reading Comprehension		
o Before Reading	o During Reading	o After Reading

Before Reading = Preparation and Organization for Pre-Reading

Good Readers	Poor Readers
• Think about what they already know about a subject	• Begin to read without thinking about the topic
• Know the purpose for which they read	• Do not know why they are reading
• Are motivated or interested to begin reading	• Lack interest and motivation to begin reading
• Have a general sense of how the BIG ideas will fit together	• Have a little sense of how the BIG ideas will fit together

Ciborowski, J. (1999). Textbooks and the Students Who Can't Read Them: A Guide to Teaching Content

Some Pre-Reading Strategies
- ☐ Set a purpose for reading
- ☐ Build Background Knowledge
- ☐ Recognition and formulation of main idea at paragraph level and multi-paragraph level
- ☐ Predict and check
- ☐ Vocabulary Preview

Technology Supports for Reading Comprehension

Some <u>Pre-Reading</u> Technology Implementation
- **Spinners –** Set purpose questions, background knowledge, build interest
- **Images & Video** – Build Background Knowledge & Curiosity, Storyboard, Scripting
- **Electronic Reading Systems** - Skim Headings, Turn headings into pre-reading questions
- **Bookmarking** – mark main sections, breaks in reading time
- **Highlighting** – New Vocabulary, Mark Main Ideas ahead of time
- **Graphic Organizers** - KWL, Story Mapping

During Reading = Synthesizing & Monitoring while Reading

Good Readers	Poor Readers
• Pay simultaneous attention to words and meaning	• Over attend to individual words; miss salience
• Read fluently	• Read slower and at the same rate of speed
• Concentrate well while reading	• Have difficulty concentrating particularly during silent reading
• Willing to "risk" encountering difficult words and able to grapple with text ambiguities	• Unwilling to "risk" easily defeated by difficult words and text
• Construct efficient strategies to monitor comprehension	• Unable to construct efficient strategies to monitor comprehension • Seldom use a "fix-it" strategy; plod on ahead, eager to finish
• Stop to use a "fix-it" strategy when confused	• Reading progress is painfully slow
• Reading skills improve	•

Ciborowski, J. (1999). Textbooks and the Students Who Can't Read Them: A Guide to Teaching Content

Some <u>During Reading</u> Strategies
- ☐ Echo & Choral Reading
- ☐ Answer pre-reading questions
- ☐ Story Mapping
- ☐ Predict Ahead
- ☐ Outlining
- ☐ Highlighting stated main idea
- ☐ Paraphrase inferred main idea
- ☐ Highlighting supportive main idea
- ☐ Create Pictures of Settings, characters

INSERT
- ☐ Helps readers to become more aware of a breakdown in comprehension
- ☐ Clairfy Later
- ☐ Marking system for INSERT
  - X   I thought differently
  - +   New Information
  - !   Wow
  - ??   I don't understand
  - *   Very Important

Technology Supports for Reading Comprehension

Some <u>During Reading</u> Technology Implementation

⇨ Post-It Notes

⇨ Post-It Tape

⇨ Flags

⇨ Hi-Liter Pens

⇨ Highlighter Tape, Tabs, Wide Tape

⇨ Rubber Stamps

⇨ Mailing Labels

⇨ Colored Tabs

- **Timers** - Watch Timers, Watch Minder, Bookmark Timers
- **Hand Held Spell Checkers** – Homonyms, Dictionary, Thesaurus, Auditory Feedback, Wordlist, Games/Exercises
- **Graphic Organizers** – Mesh new ideas with old ideas, Character Webs, Concept Maps, C-SPACE, KWL-Notes, Prediction Check in, Episode Mapping, Timelines
- **Electronic Reading Systems** – Talking Text, Dictionaries, Synonyms, Thesaurus, Summarize through voice/text notes, answer built-in questions, bookmark sections, highlight main ideas or sections for further research,
- **Multimedia systems** - Picture settings, characters
- **Reference Materials** - American Heritage Electronic Dictionary, Grolier Multimedia Encyclopedia, The Way Things Work, The Ultimate Human Body, Cartopedia, Street Atlas

After Reading = Reviewing and Summarizing

Good Readers	Poor Readers
• Understand how the pieces of information fit together	• Do not understand how the pieces of information fit together
• Able to identify what's salient	• May focus on the extraneous peripheral
• Interested in reading more	• See reading as distasteful

Ciborowski, J. (1999). Textbooks and the Students Who Can't Read Them: A Guide to Teaching Content

Some <u>After Reading</u> Strategies

☐ Review – Highlights, Bookmarks, Notes

☐ Character Dramatizations

☐ Reflection

☐ Fortune Teller Question Review

☐ Responding

☐ Summarizing and paraphrasing

☐ Synthesizing and summarizing

Some <u>After Reading</u> Technology Implementation

- **Tape Players/Digital Recorders** – Return to key sections, reread from counters
- **Graphic Organizers** – Map whole to parts and parts to whole, emphasize main idea, aid discussion, memory flash card reviews, Venn Diagrams
- **Electronic Reading Systems** – review notes and summaries, skim headings,
- **Multimedia systems** – Create review games, fortune tellers
- **Internet** – research, questions explored, further background development

Final Notes

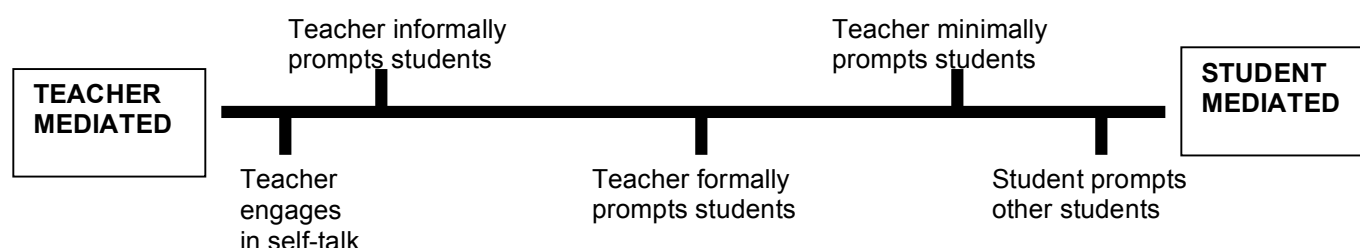**Components of Effective Programs** *(R. Allington, 1998, Teaching Struggling Readers)*

- Organization for Early Intervention
- Amount of Instructional Time
- Length of Intervention
- Types of Texts and Materials Used
- Text-Level Strategies
- Word-Level Strategies
- Writing Component
- Assessment procedure
- Home Connection
- Teacher Trainin

Technology Supports for Reading Comprehension

Improving Literacy at the Middle & High School Levels *(John Klein, NYPublic Schools)*
- Teach comprehension by addressing fluency, background knowledge & comprehension strategies
- Imbed instructional principles across all content areas
- Implement motivation & self-directed learning
- Get students writing
- Identify student who need extra time & extra help

Continuum of Guided Practice *(Schumaker, Deshler, Woodruff, et.al)*

TEACHER MEDIATED		STUDENT MEDIATED

Teacher informally prompts students

Teacher minimally prompts students

Teacher engages in self-talk

Teacher formally prompts students

Student prompts other students

Steps for Scaffolding Any Comprehension Strategy
1. Introduce
2. Modeling
3. Guide the Strategy in Cooperative Groups or Pairs
4. Independent Practice
5. Reflection

Strategy Teachers	
Good	**Not So Good**
• Make sure that strategy instruction is well planned and continuous	• Provide fragmented, "hit or miss" strategy instruction
• Overtly "model" covert self-regulation thoughts	• Tend to be unaware of own mental processes
• Identify and teach strategy prerequisites before teaching strategy	• Tend to ignore prerequisite or teach them and the strategy at the same time
• Focus strategy instruction of what we are doing and why	• Focus strategy instruction on memorization of strategy steps
• Work hard to get students to self-regulate, set their own goals and self-reinforce	• Set goals for students/exaggerate praise/use extrinsic reinforcers
• Know that strategy learning takes time and effort	• Expect students to benefit immediately

Ciborowski, J. (1999). Textbooks and the Students Who Can't Read Them: A Guide to Teaching Content