**Text Comprehension: Facilitating Active & Strategic Engagement**

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**The 3-Hr Plan**

1. Text comprehension scope and expectations
2. Effective instruction & role of SLP
3. Contextualized skill tx & RISE+
4. Simple learning strategies
5. Harder-to-learn strategies
6. An in-progress strategy tx idea
7. Project-based comprehension tx

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**Learning Outcomes**

After completing this session, you will be able to:

1. Explain the SLP’s distinctive contribution to effective text comprehension instruction.
2. Break down complex learning strategies into teachable parts.
3. Plan treatment activities that scaffold students into ownership of simple learning strategies.

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**Text Comprehension**

Process of simultaneously extracting and constructing meaning through interaction and involvement with written language (RAND, 2002, p. xiii)

> Read & understand silently or aloud a printed page
> Active meaning-making thru interactions around print
  - Listening to others read
  - Having book discussions
  - Building on each other’s contributions
  - Talking about written-style sentences and discourse,
  - Referring to texts to find information
  - Incorporating read info into written essays & reports…
Plus All the Ways of Comprehending

- Factual, inferential, and applied understanding: On, Between, Beyond the lines
- Bloom’s Taxonomy:
  1. Recall – choose, identify, recognize
  2. Comprehension – paraphrase, summarize, describe
  3. Application – construct, simulate, predict
  4. Analysis – classify, differentiate, contrast
  5. Synthesis – combine, integrate, assemble
  6. Evaluation – judge, defend, appraise

Choose the best for X tx for X client under X conditions

Academic Standards for Reading Comprehension ≠ “Reading”

Ks will, in group reading activities, for literature and informational text, with prompting and support:
- Ask and answer qns about key details in a text
- Retell familiar stories including key details
- Identify main topic and retell key details
- Describe connection between two individuals, events, ideas, or pieces of info
- Compare and contrast adventures and experiences of characters in familiar stories


What is “Text” in “Text Comprehension”?

= print, sort of
= discourse, sort of
= carrier of communication, sort of
- Main body of printed or written matter on a page
- Prose: sentences connected into paragraphs and passages, such as in books, essays, and reports
- Document: noncontinuous words and phrases, e.g., forms, websites, pamphlets
- Multi-modality: plus spoken words, diagrams, photos...


So Comprehension = Everything?

Understanding what is read (and heard)
And learning from what is understood
Developed through reading, writing, speaking, & listening

+ Linguistic skills and cognitive processes
+ Specific and general knowledge
+ Factual, inferential, evaluative, and applied understanding of read (and heard) discourse
+ Purpose and attitude of reader
+ Readability of text
+ Conditions of activity

Reading Comprehension: What is Expected of Students and Educators?

And, how well do grown-ups read anyway?
Development of Reading

1. Emergent literacy
   – Letter knowledge, print concepts, literate language, holistic word recognition
2. Learning to read
   – MOM vs. BLEEP
   – Basic decoding and comprehension
3. Reading to learn
   – Fluent word recognition, strong comprehension
   – Gaining new knowledge
   – Hopefully, actively and independently achieving learning goals

Fourth Grade Slump (Chall, 1983)?

Competent Learners

- Understand, produce, and evaluate literary and informational texts
- For communicative purposes of persuasion, explanation, and conveying experience
- Across subjects: discuss literature, present science projects, or write history essays
- With emphasis on using textual evidence over making personal connections
- To be a self-directed learner who asks questions, requests clarification, and seeks out resources

Callkins et al. (2012), Common Core (2010)

Some 3rd Grade Comprehension Expectations

1. Ask and answer qns to show understanding of text, referring explicitly to text as basis for answers
2. Describe characters in story (e.g., traits, motivations) and explain how actions contribute to events
3. Determine meaning of literal, nonliteral, academic, and domain-specific words and phrases in text
4. Describe relationship bet events, concepts, and steps in text, using time, sequence, and cause/effect
5. Compare and contrast important points and key details in two texts on same topic

Common Core State Standards (2010)

Some 8th Gr Comprehension Expectations

1. Cite textual evidence that most strongly supports analysis of what text says explicitly and inferentially
2. Determine meaning of words and phrases used in text, incl figurative, connotative, and technical meanings
3. Analyze structure of paragraph in text, incl role of sentences in developing and refining key concept
4. Determine author’s pt of view or purpose
5. Analyze texts with conflicting info and disagreements on fact or interpretation

Common Core State Standards (2010)

High School and College: Disciplinary Literacy Expectations

- Intro to literature, science, math, and history
- How texts constituted
- How to make sense of texts w/ discipline or profession
   – Novelist vs civil engineer on a report of development of interstate highways
   – Historians: causal relation networks among events; history as tellings by particular authors who select, organize, and interpret through sociopolitical lens
   – Math and chemistry: specification and accuracy of procedures used to arrive at the answers


Challenges to Teaching Disciplinary Literacy

- Consumption (and production) of disciplinary texts
  1. Deep knowledge of topic
  2. Knowing communication conventions of discipline
  3. Having clear purposes for reading task
  4. Being in control of skills & strategies for purposes
- Challenges to teaching disciplinary literacy
  – I am not a reading teacher
  – I need to get through the curriculum
  – The students need to know the basic content before this high level stuff
  – How do I do it? I am not a historian or a chemist

Adult Literacy: Beyond the Finish Line

- Illiterate: Significant degree of insufficiency in reading
- Rates of adult illiteracy depend on operationalization
  - Recognize unfamiliar printed words or write own name
  - Some number of years of schooling
  - Some standard based on needs of daily life
- 2003 US adult illiteracy rate of 98%:
  - CIA World FactBook: 5 yrs of schooling
  - National Assess Adult Literacy (NAAL): qns about connected text in English or Spanish (Kutner et al., 2006)

American Adult Literacy Realities

NAAL, 2003: >19,000 U.S. adults in homes and prisons on prose, document, and numerical literacy

- Basic = Locate info, make low-level inferences, integrate easy info in short, common texts (medic instruction, jury pamphlet, TV guide)
  - 14% below basic; of 14%, 45% HS degree or GED
  - 5% of 16-18 yrs, 25% of >25 yrs (also 1992 NAAL)
- Proficient = Synthesize and analyze complex prose and docs (compare views in editorials or interpret table of blood pressure, age, and physical activity)
  - 5% of adults with high schl and GED
  - 33% of college graduates

Effective Features of Instruction

Kamil et al. (2008) systematic research review, ≥8th grade:
1. Explicit vocabulary instruction (Strong)
2. Direct and explicit comprehension strategy instruction (Strong)
3. Opportunities for extended discussion of text meaning and interpretation (Moderate)
4. Increasing student motivation and engagement in literacy learning (Moderate)
5. Plus, for struggling readers, tx (Strong)

Strong = well-designed controlled trials with no contradictory evidence
Moderate = multiple studies and no contradictory evid, but features that limit generalization or causation

Effective Reading Comprehension Instruction Procedures

- 7 teaching procedures with firm scientific basis
  1. Cooperative learning
  2. Answering teacher questions
  3. Graphic organizers
  4. Story structure analysis
  5. Comprehension monitoring
  6. Question generation
  7. Summarization
- Multiple procedures > any single procedure
- DK most effective amounts or combos

Fundamental Change in Teacher Role

OLD:
Task director & students answering content qns

NEW:
1. Qns on text structure, links to background knowledge, encouraging student qns
2. Giving up sustained control, moving students into independence
3. Teacher as cognitive model: , , not just
Comprehension Instruction Through Talking

Clarke et al. (2010) randomized tx exp’t
- Conditions:
  1. TC: text read and write with lots of strategies
  2. OC: speak and listen with a few strategies and vocab
  3. CC: combo of TC & OC at faster rate
  4. WC: waitlist control
- Results:
  - All tx > WC
  - OC & CC > TC on vocab
  - OC > TC & WC on compreh & vocab

Text Comp Tech

N = 160 8-9yrs with low compreh & ok decoding
- 20 wks tx with pre-, mid-, post-test, & 11 mo followup

Comprehension Instruction Through “Staying on Topic”

- For rich interconnected funds of knowledge
- Including never-seen-before new words
Thematic instruction ➔ knowledge, vocab, and compreh ➔ students handle more difficult texts ➔ improve knowledge, vocab, & compreh ➔ raise SATs ➔

(Adams, 2011)

Text Comp Tech

Staying on Topic Across Grades

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Common Core (2010)

Digestive and secretory systems
- What happens to a hamburger by Paul Showers (1986)
- The Digestive System by Christine Taylor-Butler (2008)
- The Digestive System by Rebecca L. Johnson (2006)
- The Digestive System by Kristin Petrie (2007)

Taking care of your body: Healthy eating and nutrition
- Good Enough to Eat by Lizzy Rockwell (1998)
- The Food Pyramid by Rex Barron (2008)

Muscles and bones, and nervous systems
- Muscle by Seymour Simon (1990)
- Bones by Seymour Simon (1990)

Topic Effect on Reading Achievement

Domain expertise can trump reading skill (Recht & Leslie, 1988; Yekovich et al., 1990)
- Poor readers but mini-experts = good readers
- On recall, analysis, synthesis, and inferencing qns
- If dx on high-knowledge topic texts (e.g., baseball)

Gender and interest-sensitivity on comprehension (Gaith & Peirides, 2007)
- 5th gr boys ≠ spider & bugs article
- 5th gr girls ≠ war evacuation article
- Boys: 60% ≠ on high-interest qns; 38% on low-interest qns
- Girls: 62% ≠ for both high- and low-interest qns

5th Attribute of Successful Instruction: Intervention

For students with low ach or LD:
- Strong evidence for intensive, explicit, individualized tx by trained specialists
- Substantial improvement if:
  1. Struggling sts ided
  2. Strengths and weaknesses systematically assessed
  3. Intensive individualized tx provided
- Txs of mainly tchg reading strategies: Consistent moderate to large improvements

Kamil et al. (2008), Solis et al. (2012), Swanson et al. (2014)

So How Can SLPs Make a Difference?

Being Strategic About Intervention

Text Comp Tech

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### That means SLPs

1. Resource teachers:
   - Curricular knowledge and daily extended contact with students
   - For assistance in content instruction, rich vocabulary learning experiences, and extended meaning-making discussions about readings

2. SLPs:
   - Curricular freedom, underlying skills focus, problem-solving orientation, teaching through talking
   - For explicit, individualized, scaffolded instruction of skills and strategies connected to classroom

*Both must connect to subject area teachers*

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### But What Should SLPs Do?

Small array of time-limited, integrated treatment targets

- Txs likely to result in noticeable diffs within a year
- 3-4 specific tx targets at word, sentence, discourse, and pragmatic levels
- Incidental attn to vocabulary across topically-linked activities
- Skills targeted individually and integrated within larger significant communicative events

*Words are the bricks of language, shaped through morphological variation, mortared together with syntax, and framed by discourse structure into a functional building*  
(Nelson & Van Meter, 2006)

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### Vocab Tx Through Power and Pleasure of Words

"Wet is such a plain word. Let’s look at this storybook for other words we can use, like damp, drenched, and soggy. Those words help say just what kind of wet we mean."

- No “pre-teaching” isolated words
- Initial sense of word deepens thru repeated, supported encounters with topic-connected texts

Children learn words by needing them, and they use word-knowledge to learn other things—particularly, to read and write. Furthermore, learning to read and write can help children learn words. (Nelson & Van Meter, 2006)

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### What Can SLPs Do? 

1. Knowledge and use of vocabulary, grammar, and discourse
2. Metalinguistics, cognitive processes, and executive function
3. Word and text comprehension strategies
4. Curricular compensations and modifications
5. Classroom discourse of didactic lessons, group projects, and book discussions…

*So typical language tx helps reading comprehension*

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### One Set of Tx Choices

**K&1: Narrative**

1. Expressive elaboration
2. Temporal, causal \& adversative conjunctions
3. Episodic structure
4. Phonemic awareness

**2&3: Narrative**

1. Expanded noun phrases
2. Pronominal cohesion
3. Expressive elaboration
4. Word inferencing strategy

**4&5: Expository**

1. Morphological analysis word strategy
2. Preposed adverbial \& relative clause subordination
3. Description and procedure discourse structure
4. Note-taking, text preview, and lookback strategies
**What is a Comprehension Strategy?**

Being aware and optimizing mental processes to improve comprehension and learning of academic texts

- Actions selected deliberately to achieve particular goals
- Heuristics: Short-term, general problem-solving procedure that highlights info and guides attentional focus

BUT: Strategies (and skills) can be applied for many reasons including expertise, repeated practice, compliance with directions, luck, and naive use


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**Before, During, and After Reading Strategies**

1. **Pre-reading:** Think about what is known, predict text content, look for organizing concepts, plan for reading...
2. **During-reading:** Maintain reading purpose, note important info, pause and paraphrase, integrate new with known info, notice lapses in understanding, re-read to clarify, manage time...
3. **After-reading:** Recall important ideas, decide what to recall, recognize ambiguous ideas and try to clarify, re-read to fill in gaps, plan next-step study strategies...

Read to learn from a difficult text and reflect on your own cognitive processes

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**Strategic Use of Skills and Strategies**

Knowing **When** to Use **What** Strategies **Why** and **How**

And when to just sit back and read...

Aim students toward:

- **Frequent skillful reading and listening**
  - Fluent, automatic, easy, and enjoyable
- **Occasional strategic reading and listening**
  - Effortful but worthwhile for learning and change

Aim for all our students to be strategic and skillful readers and listeners for learning and enjoyment
The Aim: Purposeful Strategic Reading

Bazerman (1985): Physicists reading physics
- 7 physicists perusing journal articles
- Talked aloud as they read
- Results
  - Discarded 3/4 of the articles
  - Considered titles, authors, and abstracts re: own research interests and source labs
  - Read selectively; jumping around, looking for specific features or surprising elements
  - Constant judgments re: value of reading material versus time and thought investment
  - Articles set aside for reflection and a second reading

Selecting Tx Strategies (or Skills)

NRP (2000), (Kamil et al., 2008):
- 4 types of reading strategies with firm scientific basis:
  1. Comprehension monitoring (readers being aware of their own understanding of the text)
  2. Question generation (readers asking themselves questions about the text)
  3. Summarization (readers integrating ideas from text)
  4. Paraphrasing (readers restating a sentence in their own words)
- Plus word learning strategies of using context cues and reference skills

Selecting Tx Strategies (or Skills)

More Specifically

- Specific prompts with set wording
  - About text ideas (e.g., What is the main idea of this paragraph? What is the difference between this idea and the preceding idea?)
  - About text structure (e.g., What was the problem in this story? Can you tell where in the story the problem was resolved?)
- Self-monitoring speed and re-reading parts
- Less beneficial: students generate qns
  - Based on perceptions of what is important
  - Based on what they think that a teacher might ask
  - Crafted to the content of each text (e.g., Mason, 2004)

ConsideringClarification Qns and Predictions

- Two commonly taught strategies
  1. Asking clarification questions about unclear text
  2. Making predictions about upcoming text
- Rosenshine and Meister (1994), for informational texts, middle school students
  - Can learn to ask qns about unclear material, but trouble finding clarifying answers in texts
  - Can learn to predict but not based on text cuz topics often shift abruptly between paragraphs and sections

A Simple Strategy Mnemonic: TWA Checklist

<table>
<thead>
<tr>
<th>When to Think</th>
<th>Strategy</th>
<th>Done?</th>
</tr>
</thead>
<tbody>
<tr>
<td>T Think before reading</td>
<td>The author’s purpose</td>
<td></td>
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<tr>
<td>W While reading think about</td>
<td>Reading speed</td>
<td></td>
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<tr>
<td>A After reading think about</td>
<td>The main idea</td>
<td></td>
</tr>
</tbody>
</table>

Mason (2004) and Mason et al. (2006)

Strategy Choice and Mindful Engagement

Strategies we teach are only “crude approximations of what expert readers occasionally engage in” (Gersten et al., 2001)

1. Multiple, simple, flexible strategies
   - Not one “best” strategy
2. Teaching process engenders
   - Mindful engagement with texts
   - And active participation with meaning-making
3. Scaffolding to move students to self-regulated use

Acquire habit of asking self: What did that part say? I am not sure. I know what to do to fix this. And I will do it.
Components of Effective Strategy Instruction

1. Explicit teacher modeling,
2. Practice with feedback
3. Adjustment of support to the learner level
4. Having students maintain mindful engagement

Swanson & Hoskyn (1998): Syst rev tx res for LD sts, 3 of 20 tx components explained almost all common variance in outcomes:
   a. Controlling task difficulty
   b. Using small interactive groups
   c. Having students use specified language or format for strategy qns

Cognitive Modeling

- Demo thinking processes so sts see when, why, and how, not just what of reading
- Preparation for modeling
  1. Consider text from student perspective
  2. Check text matches target strategies
  3. Plan points in text to model (e.g., *This paragraph isn't clear, I will reread it for the main idea*)
- Doing modeling
  1. Before sts read, demo how to read for X purpose
  2. During read, demo at designated stopping pts or when students have difficulties
  3. After read, review performance and demo more effective use of strategies

SLP Modeling Before, During, After

1. How to approach the text before reading for a particular purpose
   *I am looking for reasons for declining mule deer populations*
2. How to apply a strategy during the reading
   *This paragraph doesn't make sense, I will reread it and look for a topic sentence.*
3. After reading, how to reflect what has been read and what to do about gaps in the knowledge
   *The author gave his opinion but little evidence, so I need to find another article*

Content + Strategy Instruction

McKeown, Beck, & Blake (2009)

- Qn: Content vs strategy instruction for rdg compreh?
- Six 5th gr classrooms for schl yr in 3 conditions:
  1. **Content**: Sts read passage aloud and discuss what author says at key pts (e.g., when major character introduced, important event occurred, or confusing statement made)
  2. **Strategy**: Teach to summarize, predict, infer, ask qns, and monitor compreh + understand story content
  3. **Basal text**: Teacher asks compreh qns about content from basal text program

\[= \text{Strategy and Content Overload}\]

Results of McKeown et al. (2009):

1. Big improvement for all conditions, incl compreh monitoring and recog of better summaries and inferences
2. For familiar and new text knowledge probes, responses better for content condition
3. All 3 approaches encouraged active comprehension and mental discourse templates
   \[\text{BUT strategies condition had split focus}\]

1. Teach strategies on short texts separate from main lesson, then intro in content lesson in natural opps
\[\rightarrow \text{SLPs!} \]

Contextualized Strategy Intervention

Systematic Tx of Strategies with Attention to Context & Ownership
Quality SLP Tx: RISE+

Repeated Opportunities
Intensity of scheduling
Systematic structural and interactive support
Explicit Skill Focus
+ Learner factor

Structural Scaffolds through Text Selection & Modification

1. Narrative text: identifying characters or motivations
2. Informational text: identifying main idea of paragraphs
3. Sets of passages: repeated, equivalent opportunities for learning and practice
4. Excerpted passages: from social studies and science texts or source papers for class projects
5. Trade sources: books, magazines, and websites selected to match classroom topics or individual student interests
6. Modify texts: systematic changes to simplify or to add confusing or missing elements

Managing Text Difficulty

Challenging enough to need strategies but not so struggle with basic comprehension

- Avoid decoding issues
  - Independent decoding level of student
  - Shared reading
  - Familiar texts
  - Listening to texts
- Shared vision
  - Underlining and marginalia
  - Multiple copies
  - Enlarged text on computer monitor
  - Sit on same side of table with student

Crafted Instructional Texts

- Controlled difficulty texts
- May be produced for other purposes
- May not be well written but good starting points
- Revise and adapt as needed

- Helpful sites:
  - http://a-z-animals.com/animals/
  - http://www.readworks.org/
  - https://lexile.com/analyzer/

Quick Read Reading Fluency Passages

QuickRead Level C Topics

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<thead>
<tr>
<th>SCIENCE</th>
<th>SOCIAL STUDIES</th>
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<td>Ancient Egypt</td>
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<td>Simple Machines</td>
<td>The Ways We Communicate</td>
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<td>Sound</td>
<td>Native Americans</td>
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Armadillo Excerpt

http://a-z-animals.com/animals/

The armadillo is native to both North America and South America, although two species are native to the United States. The average armadillo measures around 30cm in length, including the tail but the giant armadillo can grow to more than 1.5m long and the smallest pink fairy armadillos are small. Armadillos can dig into soft ground to forage for roots around 20cm in length.

There are around 25 species of armadillo still exist on the American continent. The two-banded armadillo is the only armadillo found outside of the South American tropics. This armadillo has a hard outer shell and can curl up into a ball making it all but impossible to get at. If the armadillo is caught, the armadillo will try to use digging burrows to escape. The armadillo can also be found in the United States.

Despite the armadillo’s odd shape, most armadillos can reach a top speed of nearly 15 mph so can easily run away from danger. The primary predators of the armadillo are bears, weasels, wildcats and owls.

Panning for History

Michael Stahl

The Young Scout troop went on a camping trip one weekend. The 12 boys and their patrol leader went into the woods close to their home city of Sacramento, located in the state of California, U.S.A. They had many activities planned. The boys were going to learn about pitching tents, cooking on a fire, wood carving, and, because there was a river close by, panning.

Panning is simple and has a long history. It has been used for centuries to find rocks, minerals, and riches in riverbeds. All a person has to do is dip a large pan into a river, allow water, dirt, and stones to collect in it, and then shake. The pan will either have tiny holes or lengthy slots that will allow the water to escape, while leaving the rocks behind. There is always a chance that one of these rocks might actually be very valuable. One might even be a golden nugget.

L610, Gr2-3

Systematic Interactive Scaffolds

• Responsive dynamic moves of skilled clinician
• Linguistic: giving info to help child create better response
• Regulatory: control beh & atttn, gain responses, facilitate self-control
• Matched to child need & task difficulty
• Systematic decrease in support and handover to child

→ Internalization of behaviors and strategies
→ Automatization of behs & strategies into skills

Linguistic Scaffolds

What you learned about early grammar tx applied to any other tx skill
• Model the desired structure
• Emphasize key part
• Provide part of answer with doze procedure
• Expand, extend, and recast child’s response
• Vertical structure (combine two responses into one structure)
• Focused contrast (pair the error and correct structure)
• Redirect (model by having student ask a peer using the structure)

Regulatory Scaffolds

• Maintain student awareness of goal
• Relate content to past learning
• Comment on task similarities
• Evaluate student performance
• Inhibit impulsive responding
• Aid selective and sustained attention
• Help student manage challenge
• Review cumulative performance

Step Down ReadWorks Passage

The Young Scout troop went on a camping trip one weekend. The 12 boys and their leader went into the woods close to their home city of Sacramento, California. They had many activities planned. The boys were going to learn how to put up tents and how to cook on a fire. They were also going to learn about wood carving and panning.

Panning has a long history. It has been used for hundreds of years to find rocks, minerals, and precious metals in rivers. It is a simple process. The first step is to dip a large pan into a river. As you dip the pan, you allow water, dirt, and stones to collect in it. Then you pull the pan out of the river and shake it. The pan will either have tiny holes or lengthy slots that will allow the water to escape, while leaving the rocks behind. There is always a chance that one of these rocks might actually be very valuable. One might even be a golden nugget.

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Scientists are still trying to determine what raptors are, where they come from, and what became of them. Spectacular new fossil finds, discovered only in the past few years, have forced scientists to change many of their ideas about how raptors looked and acted.

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**Interactive Scaffolding of Summarizing**

Lessem (1996)

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**SLP: Today we are going to practice the summarization strategy. Ali, why do we do this?**

Ali: Because it helps us understand what we hear and read.

**SLP: Megan, what is summarizing?**

Ali: Telling the most important stuff.

**SLP: Megan, what is a better word than stuff?**

Ali: Ideas. Telling the most important ideas.

**SLP: Yes, the main idea plus important details. Joe, tell us the main idea.**

Joe: Scientists.

**SLP: Is that enough? Tell us more. What are scientists doing? Tell us in a sentence.**

Joe: Scientists are finding new stuff about raptors.

**SLP: Yes, scientists are finding new information about raptors.**

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**Internalization Process**

Adult regulation of task execution

Student’s conscious self talk for careful execution, either external or internal

Resurface inner voice in times of challenge or change

Automatization of self talk for fluent, skilled execution

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**STOP – Whose Strategy Is It?**

- **Strategy: teaching** tool vs. **learning** tool
  - All grouped as “Instructional strategies”
  - Who is using the strategy? What is the tx goal?
- SLP using the strategy to teach concept or skill? Or SLP teaching student to use the strategy?
- Many tx studies for younger sts do not systematically scaffold to independence
- Tx research for older sts often has some guided and independent practice, but instruction and outcome rarely address self-directed use in the classroom

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**Strategic Reading is Hard --**

- August et al., (1984): Strong & weak 5th gr, story missing a pg: altho more skillful slowed rdg & looked back, half children in both groups did not report a problem and both made non-warranted fill-in inferences (August et al., 1984)
- Garner & Reis (1981): Strong & weak 4th-10th gr on look-back for open-book test qns: altho older stronger better, many of both groups did not look back when needed
- Paris et al (1991, p. 621): Even 12-year-old good readers do not detect a large number of errors and inconsistencies inserted into meaningful text

Was hard and is still hard...
The Challenge of Student Ownership

Chan and Cole (1986): 11-yr-old RD, 4 tx sessions:
1. Ask selves and a robot content qns
2. Underline interesting words with a fluorescent pen
3. Explain to the robot why these words were interesting.
   • Control: Sts reread story to robot in case robot missed parts the first time
   • Results: Sts improved compreh and recall vs control
   BUT 1 day post tx, for stories with no directions
      – NONE used explaining and qn strategies
      – Two-third used underlining strategy a bit

Common Text Signaling Devices

• Cover pages
• Title
• Table of contents
• Foreward or preface
• Headings and subheadings
• Sidbars and boxes
• Highlighted phrases and words
• Key opening phrases
• Lists
• Pictures and captions
• Labeled diagrams
• Charts, graphs, and maps
• Cutaways and cross sections
• Inset photos
• Glossary
• Index

Why Signaling Devices Matter

Guide reader (and writer) speedily and accurately through expository texts (Lorch et al., 2011)
• Show and amplify organization – sequential, hierarchical, interesting…
• Central ideas or direction of a piece of text
• How each part relates to prior and subsequent material
• Support analysis and synthesis of information
• Locating main ideas and details of passages
• Get a sense of topic & concepts, terminology & vocabulary

Signal Use Expectations

Read the index below from a book about colonial times:
Adams, Benjamin 34
Adams, John 38
Clothing styles 12
Crafts 6
Commerce 22
Gardens 25
Lumber trade 29
Main Streets 32
Trade(s) 22-23, 36-40
after the American Revolution 22
before the American Revolution 37
China 24
Lumber 29
Sewing 7
Strawbery Banke 23
Washington 13

1. If you wanted to find info about food in colonial times, where is the BEST place to look?
   a. page 6  b. page 23
c. page 25  d. page 32
2. What is the MAIN reason there are four entries under Trade(s)?
   a. The book is about trade during colonial times.
b. The book discusses different topics about trade.
c. Trade is a difficult topic to understand.
d. Trade was very important during colonial times.

Text Preview

• Teach stts to intentionally become familiar with text organization of rdg materials and how to locate info
• Picture walk to preview story books (Kelley & Clausen-Grace, 2010)
• Text feature walk useful but rarely used for chapter books or info texts (Kelley & Clausen-Grace, 2010)
• Applicable to electronic sources: organization, menus, navigational tools, and info location
• Older good learners may do preparatory work habitually
• Weaker learners often do just a “how much” strategy
**Benefits of Habitual Text Preview**

- Moves student from passive recipient to active participant in learning
- Alerts and familiarizes student to content and format of material
- Allows judgments of utility of text compared to time and effort needed to understand or find specific info
- Activates mental schema of text structure (e.g., *This is an opinion article*) and content (e.g., *This is about mule deer so it should address appearance, diet, reproduction, and habitat*).
- Introduces important vocabulary and concepts of text without “preteaching”

**Text Preview Study**

*Kelley and Clausen-Grace (2008)*

- **Qn:** Effect of text preview for reading comprehension?
- **Method:** 4th graders stratified by reading level and randomly assigned to 3 conditions:
  - Control: Write predictions about learning re: human body from science text, read silently, answered qns
  - Discussion: Talk about human body with textbooks closed; predicted, read, and answered qns
  - Text preview: Text feature walk prior to writing predictions, rdg text, and answering qns
- **Results:** Text preview > prediction-and-read-only > discussion

**Identifying Text Signal Devices**

1. Present text and tells students will be learning to find features that signal important information
2. Identify type of text, such as a book chapter versus a study report, and purpose for reading, such as studying for a test or locating facts for research paper
3. Travel through text to get sense of what topics covered, how content organized, what shows important points, where summaries located, signal labels, and how to quickly get idea of section content
4. Check-off list or create list as features are identified. Students can infer what info signal provides

**Using Text Features**

1. After identifying what each signal means, SLP takes student through using signaling features
2. First time, SLP uses think-aloud to model what to look for, what signals are present, and what message the signals transmit.
3. Using the same text and notes, the student travels that path again with SLP assistance, predicting the text signaling answers from the cursory look at the text.
4. Share in reading text, then return to predictions to confirm or modify based on learned from the reading
5. Student moves to new source to identify features

**Text Preview Guidance**

- Start with well-written texts and move to more challenging texts with need to judge if signal is help or hindrance (e.g., *That illustration distracts from the main idea of this page*)
- Guide students through variety of familiar and new print and online sources until they easily identify text signals across different text formats
- After students familiar with text preview, scaffolding shifts to students adopting text preview as *own learning strategy* that they use to answer their own study questions

**Awareness of Signal Utility**

- Some books provide a lot of organizational guidance and others provide little
- Some text features detract from the message,
  - Abundance of boxed words
  - Highlighting appealing but trivial statements
- Concluding paragraphs may speculate beyond what discussed
- Opening paragraphs may lack purpose statements or use uninformative or distracting “hooks”
Signaling Devices

Overview Summaries Headings Key words

Signaling devices help composing & understanding
– Amplify organization of loose expository structure
– Aid analysis and synthesis of information
– Aid skim reading for main idea and particular details

Novels < Informational Books < Magazines < Websites

Text Look-Backs

• Companion skill to look ahead is look back
  – Awareness of gap in comprehension or recall
  – Recognize that info should be in the text
  – Efficient (and permissible) text search procedure
• Seems obvious, but students rarely do so (August, Flavell, & Cliff, 1984; Garner & Reis, 1981; Garner, Hare, Alexander, Haynes, & Winograd, 1984)

Effect of Teaching Look-Backs

Garner et al. (1984)

• 24 9-13 year olds, ok decoders, poor comprehenders
• Tx: briefly taught to look back for info
• Control: taught main idea & summarization strategies
• 5 days post tx: I am going to ask you to read a short article. Read it slowly. I will ask you three qns about the article when you’re done rdg.
  – 1 text down, 1 up, if no look back: You can look back at any part of the article to answer the qns
• Results:
  – Similar simple recall qns: 31% and 33%
  – In-text qns: tx use 70% vs con 22%; correct 72% vs 31%
  – Tx looked back, flipped text over, asked if look-back ok
  – Control only looked in text-up w/ cueing

Look-Back Tx Procedure

1. Examine qn for answer “from your head” or “from the text” (Raphael, 1986)
   – Right There (obvious)
   – Think and Search (putting it together)
   – Author and You (inferring)
   – On My Own (known without reading)
2. Skim text to find most likely section & why others not
   – SLP models skimming text, with comments on why other sections not likely
   – Similar to text preview re: noticing signaling devices, but with added awareness from having read text

More Look-Back Tx Procedure

3. At relevant section, note potential from the heading
   – At relevant section, student examines heading to determine why this may be informative
4. Slow down and read each sentence carefully for needed info
   – SLP models slowly reading each sentence and verbalizing thoughts about presence of needed information.
   – Many students not good at stepping outside content to make “meta” judgments about relevance of info
Permission to be a Strategic Learner

• Impermissible shortcuts to gaining info?
• Assure students that lookbacks, skimming, and text previews are legitimate, smart ways of learning
• Strategic approaches to reading
  – How each reading fits into larger learning picture,
  – Whether to skim, analyze, or memorize
  – All of article/chapter/section/book or a specific part

Students practice figuring out reason for reading in SLP-devised class scenario and matching approach to purpose

Txing Harder-to-Learn Strategies

Strategies that require time and component instruction:
1. Discourse Structure Awareness
2. Main Idea and Summarization

Text Structure Awareness

Noticing narrative or expository structure during reading
• Use structure to guide understanding
• Discourse analysis with graphical support
• Helps reading comprehension
  – Identify which narrative elements linked how
  – Separate out essential from trivial details
  – Work thru logical relations of expository text
  – Organize content into coherent mental structure

But first must teach story grammar structure or the varieties of expository discourse structure…

Narrative Text Structure

Crabtree et al. (2010)
• Exp’tal multiple baseline design with 3 high schl LD sts
• Tx: Sts monitor and improve indep rdg comprh by identifying elements of setting and episode,
  – Stop at designated pts in rdg to write elements in structured guide
• Control: Baseline data on read stories and answer content qns
• Results:
  1. Improved immediate story recall and comprh
  2. Maintained correct use of guide w/o prompts to use
  3. Sts reported they were likely to use it again

Expository Text Structure

Armbruster et al. (1991)
• 4th and 5th grade sts
• Tx: Teacher-directed and cooperative group activities
  – Sts analyzed social studies textbook passages
  – Using cause-effect, problem-solution, and compare-contrast frames
• Control: Teacher-led content-focused qn-answers
• Results: Better recognition and recall of information

Scanlon et al. (1996): Similar benefits for middle schl sts with LD in inclusive lessons by history and civics teachers

Guided Text Analysis and Webbing

Erin Page, SLP with high schl student
Strategic Engagement

Text Comprehension: 
Facilitating Active & Strategic Engagement
Teresa A. Ukrainetz, Ph.D.
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**Summarizing What is Read**

Teaching sts to periodically stop and summarize paragraphs, sections, chapters, and articles

Summary Instruction Variations:
1. **Gist:** Read paragraph one line at a time and gradually compose single long sentence that encapsulates ideas expressed in each line.
2. **Rule-governed:** Identify and select topic, supporting, redundant, and irrelevant statements, then build into coherent summaries.
3. **Hierarchical:** Use chapter, section, and subsection headings to create summaries of large pieces of text.

---

**But What’s a Main Idea??**

- Summarization procedures hinge on iding a main idea
- Wong et al. (1986), in a multiple baseline design, investigated teaching eight 7th LD graders to compose well-structured summaries
- Sts told to underline and paraphrase the main idea of simple paragraphs ➔ Ied random sentences and became frustrated

Mr. Brown was getting angry. His face was bright red. His pupils seemed to enlarge in size suddenly. His body began to shake. His voice became louder and louder.

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**Rule-Governed Summary Construction**

1. Read the passage
2. List the key points
3. Combine related points into single statements
4. Cross out least important points
5. Re-read the list
6. Combine and cross out more points
7. Renumber points in logical order
8. Write points into paragraph in numbered order
9. (Add connective words to make it flow)


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**Building a Fossil Paragraph**

Finding Out About Dinosaurs

**Meat-Eating Dinosaurs**

The teeth that are found in fossils help us learn about dinosaurs. When dinosaur teeth are long and sharp, we know that these dinosaurs ate meat.

Most meat-eating dinosaurs are in many ways. The dinosaurs’ long, strong legs helped them run after other animals. Most meat-eating dinosaurs had short arms. Their arms ended in sharp claws. These sharp claws were used to tear bits of meat. One of the biggest meat-eating dinosaur was Tyrannosaurus. The word tyrannosaurus is a word for “king.” We call Tyrannosaurus rex the “king of the dinosaurs” because of its large size.

from Hiebert QuickReads

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**Finding Main Points about Fossils**

1. Fossils tell about dinosaurs. (implicit)
2. Fossils are bones and eggs found under the ground. (explicit, paraphrased)
3. Fossils tell dinosaur size, where it lived, how big it was, how fast it moved, and what it ate. (summarized)
4. The shape of dinosaur teeth tells us what it ate. (explicit & implicit)
5. Meat-eating dinosaurs had long, sharp teeth. (explicit)

Fossils tell us about dinosaurs. Fossils are buried bones and eggs. The shape of dinosaur teeth tells us what they ate. Meat-eaters had long, sharp teeth.

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**Mapping the Main Idea**

- Cover main idea box
- Do other sentences make sense without the main idea?
- Who are the sentences talking about?
- Whose voice is getting louder?
Progressive Practice in Summarizing

- Paragraphs in which position of topic sentence varied
- Paragraphs with two main ideas
- Double paragraphs
- Paraphrasing main idea statements
- Adding important detail sentences
- Applying summarization skills to classroom social studies texts

Results of Summarization Instruction

Wong et al. (1986)
- 1 month for students to paraphrase main ideas
- After 3 months of 30-min/week, noticeable improvement on summarization and recall of social studies passages
- 6/8 maintained use one month post-test and substantial transfer to general science texts
  - 2 quickly learned to summarize and apply, maintain use, and make modifications indicating ownership
  - 2 showed little motivation, slow learning, and lack of retention; fundamental disengagement with academic learning beyond study

Finding Implicit Main Ideas

Mr. Brown took some slow deep breaths. He looked quietly at each one of us. His yelling got louder and louder. He unclenched his fists. Mr. Brown said gently, “I’m not mad anymore.” Mr. Brown chose eggs for breakfast. Mr. Brown said, “You tell me your side of the story.” He inhaled and exhaled deeply.

Summarizing Disciplinary Document Text

- Extract main idea from images, headings, bulleted lists, and isolated statements
- Shanahan and Shanahan (2008)
  - Chemistry: Chart of substances, properties, and reactions
  - Math: Chart listing one column as “big idea,” next as formal definition, followed by formula, and example.
  - History: Chart of who, what, where, when, how, and why for each event + relationship between events

Contemplating Strategy Tx Goals & Progress Data

Strategy tx is about how you get to the answer, not just the answer –
But how can tx goals and data collection show what is happening in the head?
Text Comprehension Tx Goals – Trying to Tap the Process

1. Johanna will independently use highlighting and graphical maps to comprehend science texts at 80% accuracy of content, organization, and strategy use based on SLP data.
2. Johan will improve the content and organization of expository writing by independently using bulleted notes of information from social studies texts...
3. John will use the learning strategies of text preview and lookback to identify key information in grade-level textbooks...
4. Jo will select the approach to reading an expository text based on the stated purpose...

Baseline & Progress Data

Johanna will independently use text preview and lookback strategies to identify key information at 90% accuracy based on SLP data.

- Can Johanna obtained accurate key information?
- Can Johanna use the strategy accurately?
- How much support does she need?
- Is Johanna using the strategy to get the information?
- In what contexts does Johanna use the strategy?
- What are the blocks and supports to habitual, independent use?

Data Sources on Product & Process

1. Information retrieval accuracy
2. Observe student’s actions & notes during reading
3. Student think-alouds during the learning task
4. Interview student after a learning task
5. Observe a lesson and hope a strategy opportunity appears
6. Ask teacher to embed in lesson a question or scenario that would benefit from strategy use
7. Ask student about class assignment and strategies used

The Almost Final Event: Speak-and-Sketch Note-Taking Tx

Inspired by some strategic learners and their sneaky shortcut…
And co-developed by my clinical collaborator

Note-Taking as a Learning Strategy

- Taking notes on key info (Graham & Hebert, 2011; Hebert et al., 2014)
  - Improves comprehension and maybe writing
  - But hard, even with some class instruction
  - 4th gr = Little info; on only one aspect; ignore whole sections; include all or most or superfluous info; write connected text
- Can SLPs make a difference?
  - When the crack is narrow
  - Motivation is strong
  - Service delivery has potential to be effective
  - With an under-utilized notation tool...

Revisiting A Different Notation Tool

Fast, flexible, temporary preservation of story content
- AKA stickwriting or picture writing
- Quick & easy
- Just enough to remember
**Uses:**
- Dramatic scripts
- Recall & comprehension
- Drafts in writing process
- Cooperative composition

**Findings:**
- Easy to learn & use, g1-7
- Coherent sequential telling
- Complex story structure
- Content focus, revision, & extension
- Pictog > writing or drawing for length & quality


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**Speak-and-Sketch Note-Taking Tx**

*Shared reading → say it simply → sketch it simply → say it fully → note it simply → say it fully → write it fully😊😊*

After hearing or reading text, alternating oral and print full and simple productions with interactive scaffolding
- Pictography breaks away from text wording
- Move into concise, informative bulleted notes
- Repeated oral paraphrasing & summarizing

**Note-Taking Treatment**
- Three cycles of tx activities
  1. Shared rdg of expository passage
  2. Identify and organize important information
  3. Pictography, bulleted notes, and oral summaries
  4. With intervening oral renditions
  5. End with written summary and performance review
- Instructors scaffold and improve multiple aspects of text production and comprehension
  1. Bulleted notes on organization and content
  2. Oral and written summaries on organization, content, paraphrasing, delivery
  3. Comprehension test on number correct

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**Student Research Projects**
- RISE+ on tx skills within process and presentation
  - Scaffolded oral language interactions
  - Bulleted notes with minimal writing
  - Strategy practice within reading sources
  - Student choice within SLP or curricular topic
- Media possibilities: brochure, poster, powerpoint presentation, podcast, Wiki report
- Setup
  - 8-12 sessions
  - Small groups of a range of grades
  - Give choice of research topics around theme
  - ID sources in advance: websites, books, magazines
  - Make timeline and guide for “What do I do next?”
Improving Comprehension through Debate – Dogs in Trucks

Comprehension Tx goals:
1. Find textual evidence for a position
2. Summarize main ideas and details
3. Use note-taking learning strategies
4. Infer word meaning from text

Project features:
• Extended text compre & prod
• Many tx goal possibilities
• Specific skills integrated in meaningful, motivating product
• Large group & resource teacher collaboration

Research Project Steps
1. Identify a topic
2. Determine what is known and not known
3. Use K-W-L+ to develop concept map
4. Use concept map to identify questions
   – What do I already know about my topic?
   – What else do I need to know?
   – What do I want to find out?
   – What else am I wondering about?
5. Generate keywords for information search
6. Determine location and how to access predetermined, limited number of sources

Research Project Next Steps
7. Skim reference material to determine relevance and quality
   – Use targeted comprehension strategies
   – Notice author, relevance, authenticity (rabbits *eat*?)
8. Read for understanding of main idea and relevant details, using tx compre strategies
9. Make bulleted notes, linked to tx compre strategies
10. Organize and synthesize material in draft
11. Create final expository text and graphics
12. Practice and present oral presentation
13. Review performance on whole and embedded tx skills

Text Comprehension: Facilitating Active & Strategic Engagement

Oral Debate Tx Project
1. Determine the main points from texts provided
2. Evaluate and agree on main points
3. Develop a position statement
4. Locate and list points that support position
5. Evaluate arguments on fact versus opinion, credible versus doubtful, relevant versus tangential
6. Set debate etiquette
7. Prepare scripts
8. Practice presentation
9. Carry out debate
10. Reflect on debate and skill performance

For more info, see Ukrainetz & Ross (2006)
Text Comprehension: Facilitating Active & Strategic Engagement

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Student Self-Evaluation of Note-Taking Strategies in a Project

1. What were your tx goals for this project?
2. What did you do when you first looked at your sources?
3. Where did you look to answer qns about your topic?
4. How much help did you need to meet your tx goals?
5. What were your tx goals for this project?
6. How did you remember important info from your sources?
7. What was one tx goal you could improve the next time?
8. What were your tx goals for this project?
9. What are you going to focus on improving next time?

Self-Evaluation on Whole Project

1. What were your tx goals for this project?
2. What did you do when you first looked at your sources?
3. Where did you look to answer qns about your topic?
4. How much help did you need to meet your tx goals?
5. What were your tx goals for this project?
6. How did you remember important info from your sources?
7. What was one tx goal you could improve the next time?
8. What were your tx goals for this project?
9. What are you going to focus on improving next time?

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