



CHILDREN'S
LEARNING
INSTITUTE™

Idea Detectives: Tier 3 Intervention in Comprehension, Text Reading, and Self-Regulation

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AGENDA:

A Word about Our Research

Overview of Idea Detectives

Theory and Research Behind Idea Detectives

How to Teach Idea Detectives: The Big Picture

Teaching Each ID Unit



Goals of Our Work in SMSD

- Provide teacher training and instructional materials to support the reading progress of SMSD students
- Conduct high-quality educational research that may impact many children across the country

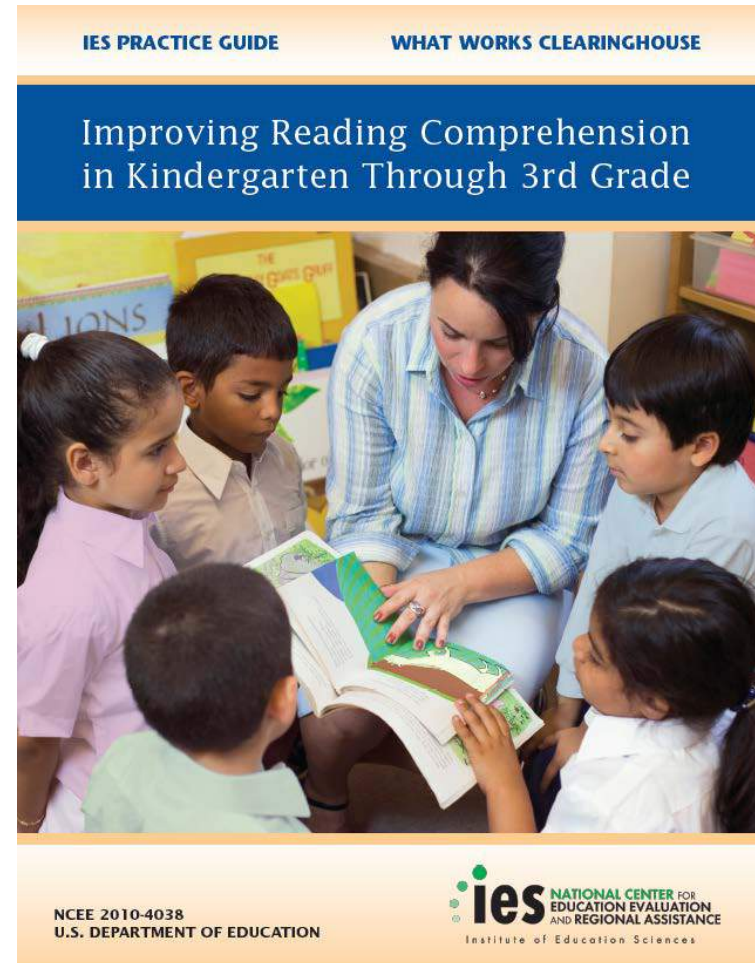


Purpose of Our Research

- How can teachers best support the reading development of children who have difficulties learning to read?
- Do the programs we have developed work better for these children than typical instruction provided in schools?



- The US Department of Education summarizes the findings of research for teachers and administrators in practice guides.
- Our research has been included in these guides.



Research Design

15 special education or reading teachers
47 2nd - 4th grade students
(2 to 4 students of each teacher)

Randomly assigned

8 teachers teach
Idea Detectives
26 Students

7 teachers provide
typical instruction
21 Students

All students get reading tests, and we
compare the two groups

The FIREWALL!

You and Your Students



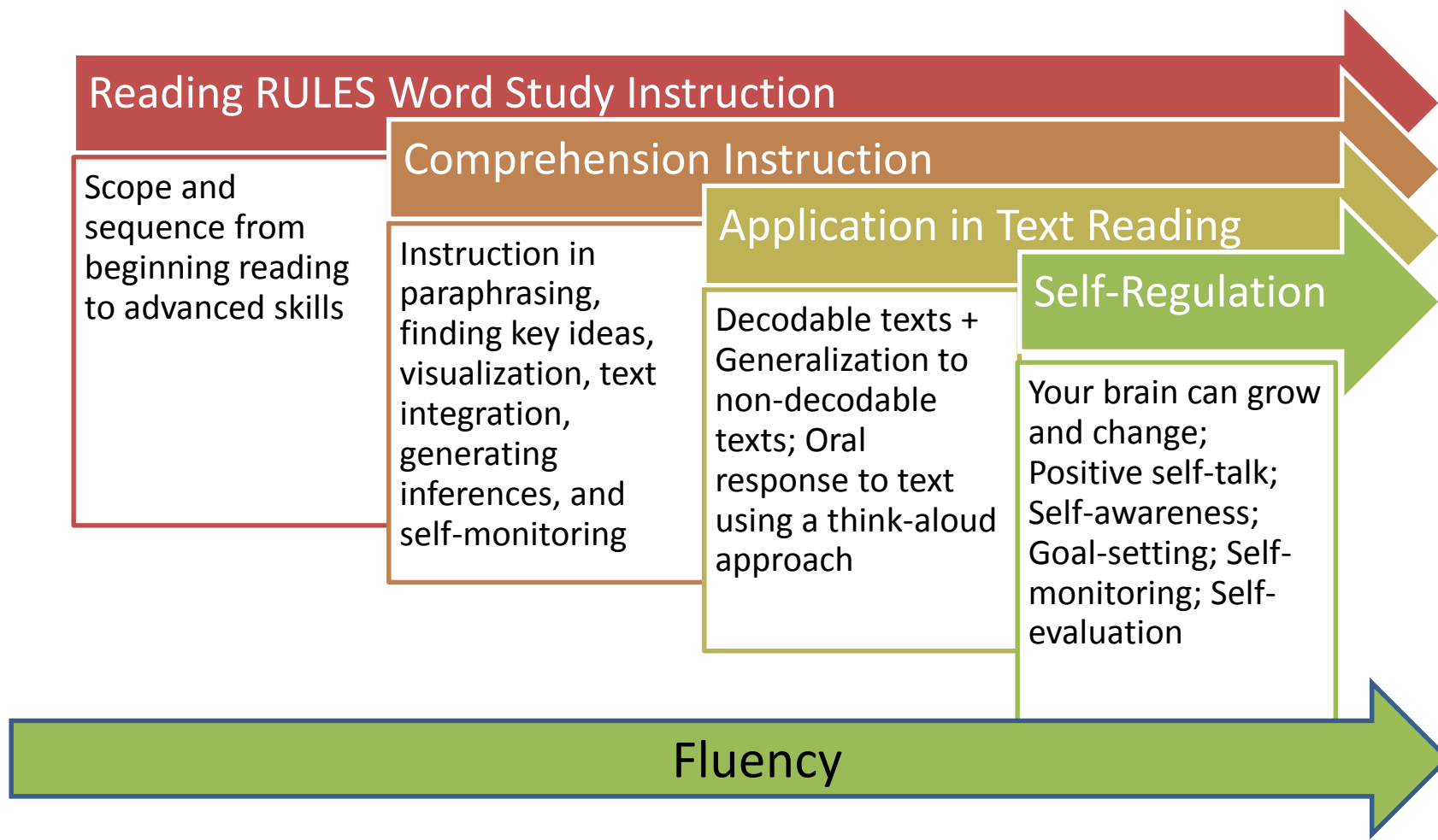
Comparison Group Teachers and Students



Please do not share any materials or ideas from our programs.



The Idea Detectives Intervention



Reading RULES!

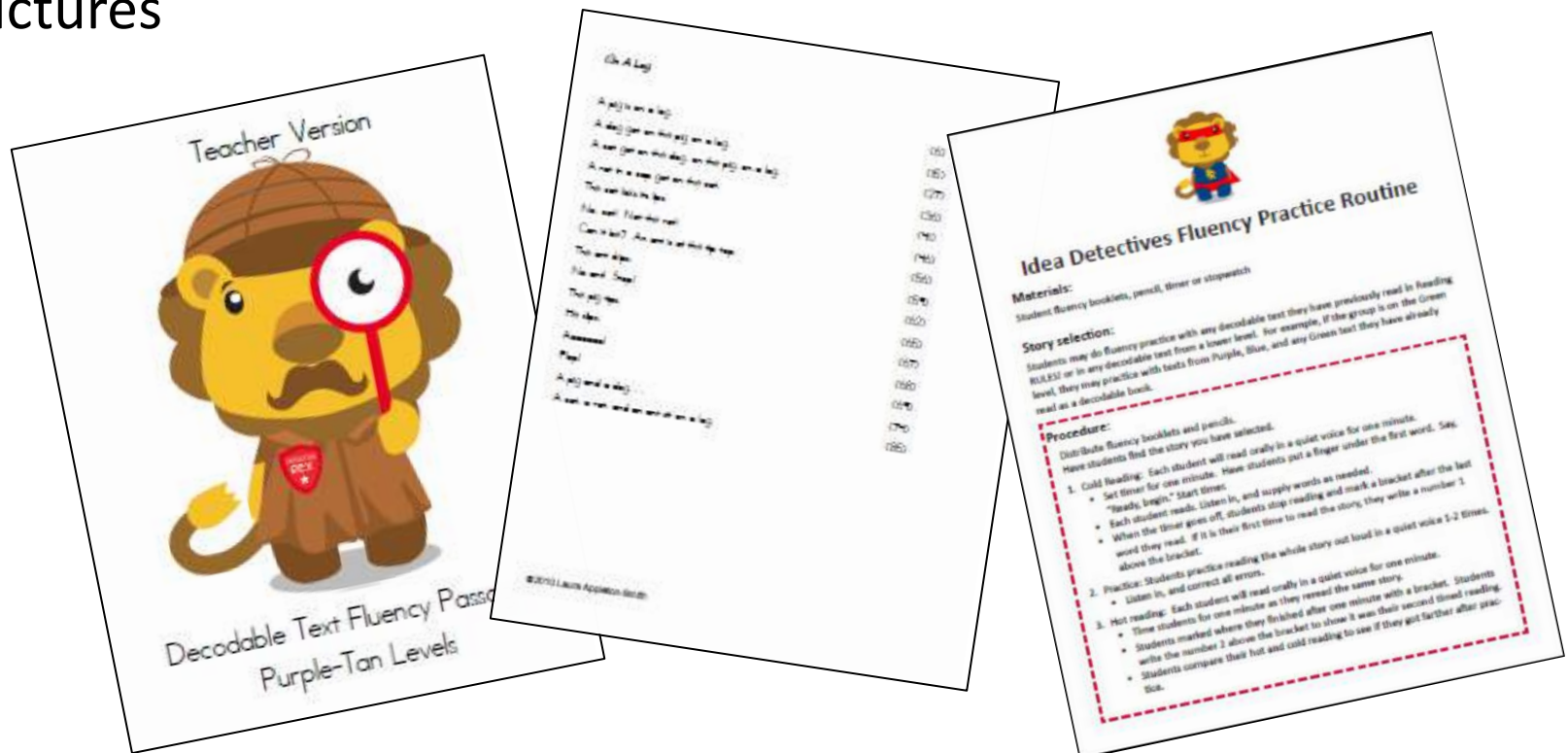
Units 69-77

Word Study and Text Reading Lessons



Fluency

- Model and prompt for fluent reading throughout the program
- Fluency routine with versions of the decodable text with no pictures



Comprehension Instruction

The poster features two cartoon detectives in brown trench coats and hats, each holding a magnifying glass. They are positioned on either side of the title "Idea Detectives", which is written in a large, red, stylized font. Below the title is a list of seven steps for idea detection, each preceded by a black dot. At the bottom, there is a copyright notice for the University of Texas Health Science Center at Houston, a Creative Commons license logo, and the text "Idea Detectives Poster 2".

- Look for clues.
- Ask Questions.
- Make mental pictures.
- See if the clues make sense.
- Make connections.
- Make good guesses.
- Check it out.

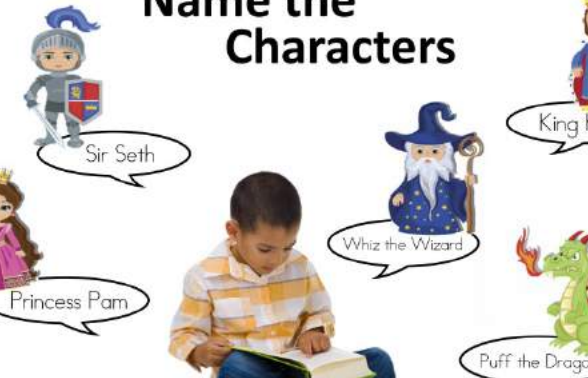
©2012 The University of Texas Health Science Center at Houston. All Rights Reserved. No part of this work may be photocopied or transmitted electronically without written permission, with the exception of reproduction pages as indicated in the text.

Image Credit: © JRR55831, DanielVillanueva/Stock, Getty Images

Idea Detectives
Poster 2

[illegible]

Name the Characters




Sir Seth

King Ken

Whiz the Wizard

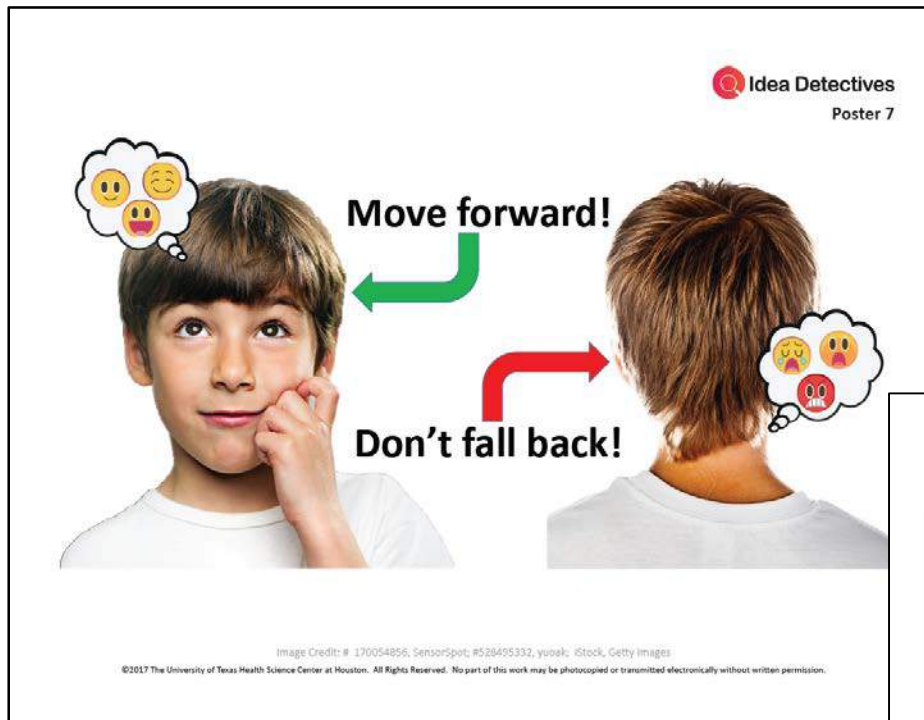
Princess Pam

Puff the Dragon

 Idea Detectives
Poster 16



Self-Regulation Instruction





Text Reading: Decodable and Non-Decodable Text





Flexibility to Meet Student Needs

OPTION	Word Study: Teach every day for 10-20 min.	Fluency (Optional): May teach daily, on some days, or not at all	Self-Regulation + Comprehension + Text Reading: Teach every day for 15 to 25 min.	TOTAL
1: Word Study & Fluency Emphasis	15-20	5-10	15-20	40
2: Word Study & Comprehension Emphasis	15-20	0-5	20-25	40
3: Comprehension & Fluency Emphasis	10-15	5-10	20-25	40

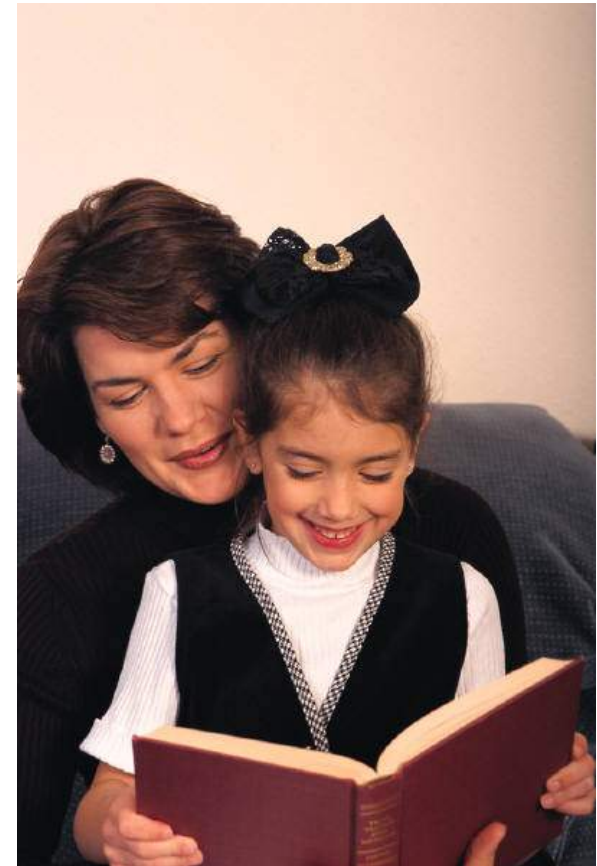


What Cognitive Science Tells us about Reading Comprehension



What Impacts Comprehension?

Interaction between characteristics of the **reader**, the **text** (genre, text difficulty, cohesion), and the **reading situation** (reading goals, purpose, environment)





What Impacts Comprehension?

The Simple View of Reading:

Word Recognition + Linguistic Comprehension =
Reading Comprehension

Students with good word recognition ability and poor reading comprehension almost always have trouble understanding spoken language as well.

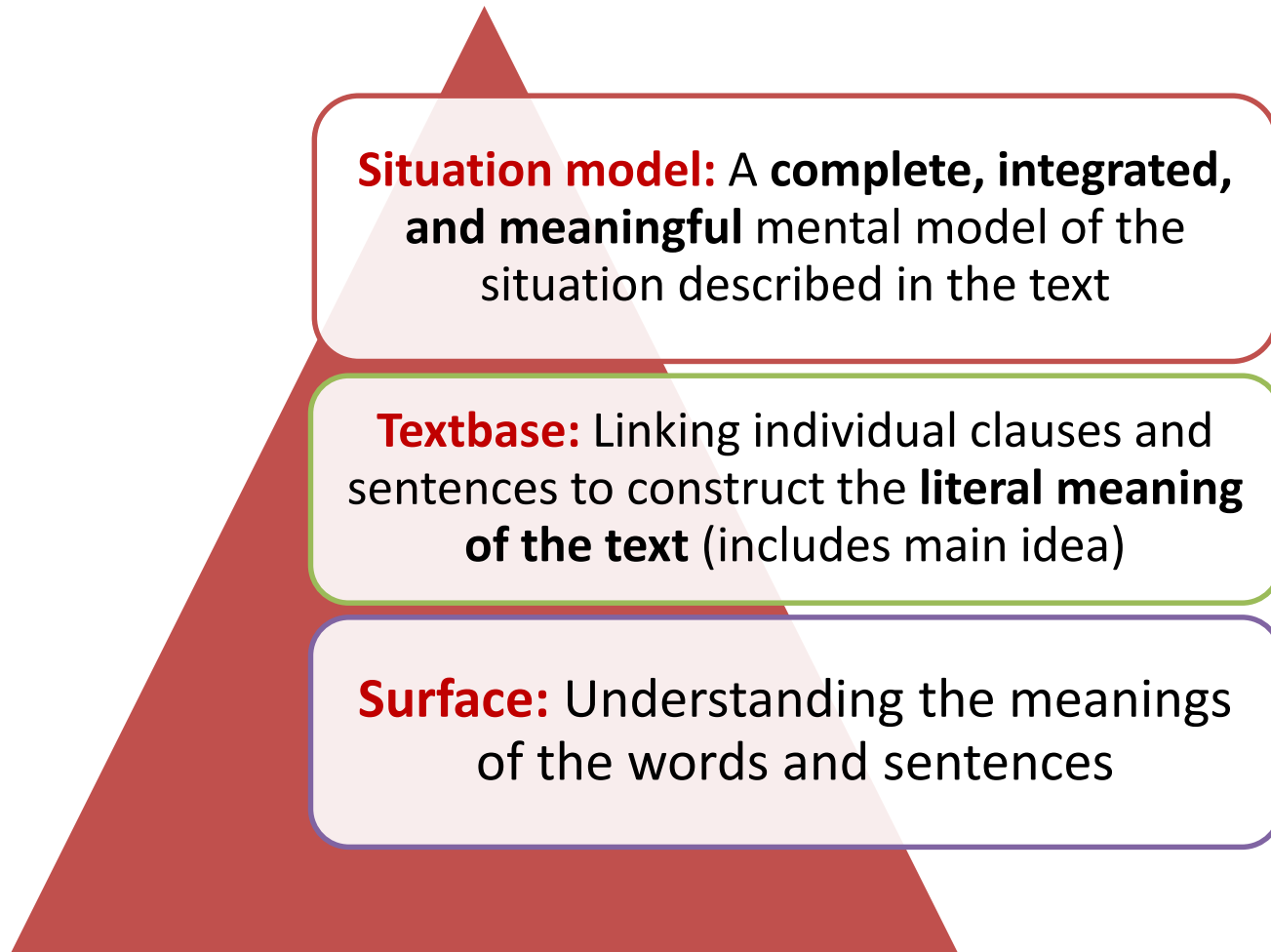


What Impacts Comprehension?

Comprehension is impacted by the student's...

- Word identification and reading fluency
- Word and world knowledge
- Cognitive processes, such as inference generation
- Flexible use of strategies to overcome difficulties
- Executive functions such as attention regulation and working memory
- Motivation to make meaning and personal standards for whether the text should make sense; impacted by emotional reactions to the task
 - Learned Helplessness plays a role, especially for older students
 - Belief in the purpose of reading: to “be done” or make meaning

Three Levels of Comprehension



(Kintsch, 1992; 1994; Kintsch & van Dijk, 1983)

The Situation Model in Narrative Text

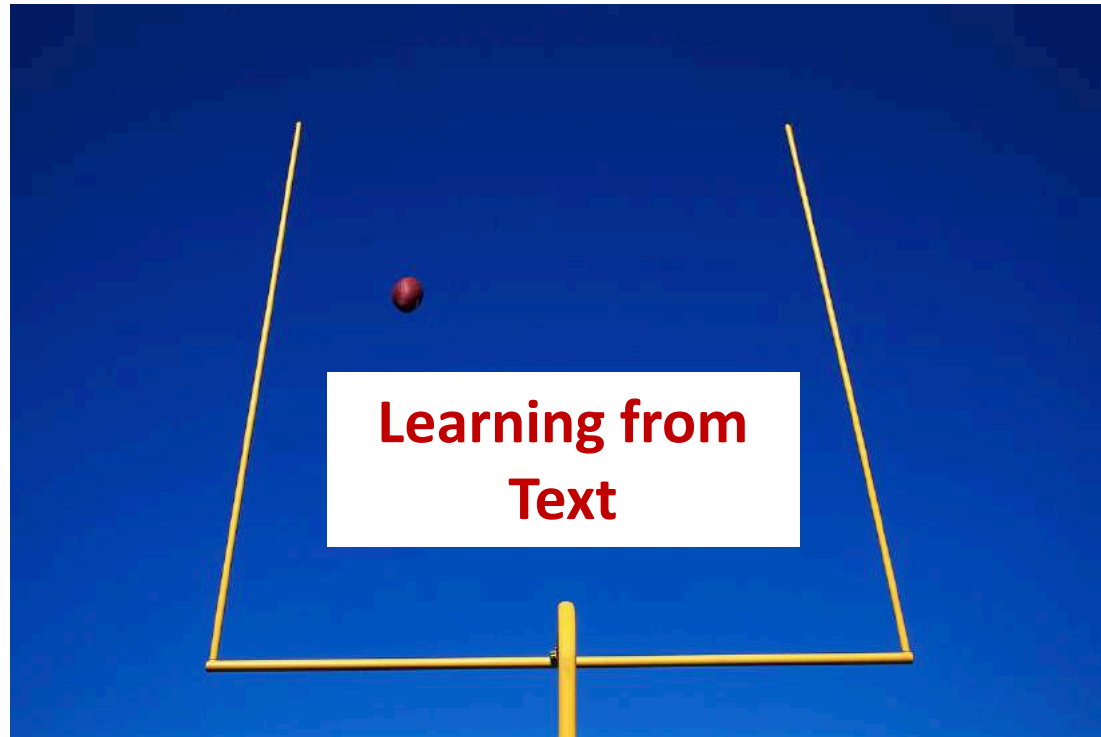
“...a microworld with characters who perform actions in pursuit of goals, events that present obstacles to goals, conflicts between characters, emotional reactions, the spatial setting, the style and procedure of actions, objects, properties of objects, traits of characters, and mental states of characters” (Graesser, Wiemer-Hastings, & Wiemer-Hastings, 2001, p. 249).



The Situation Model in Expository Text

An ever-evolving **mental model** of the phenomena that is being **described** (facts, occurrences, circumstances) described in the text and **relationships among them** producing a full, elaborated, accurate understanding of the phenomena





Learning from text **requires** comprehension at the level of the situation model.

Learning from text is **not** the same as remembering important ideas from a text (Kintsch, 1994).



“Learning from a text implies that one is able to **use the information** provided by the text in other ways, not just for reproduction...

One can **infer new facts** from the information in the text, **use it in conjunction with previous knowledge to solve novel problems**, and **integrate it with what was already known**” (Kintsch, 1994, p. 294).





To learn from text, the reader must...

- **Integrate information** from across the text and integrate text information with background knowledge
- **Understand important relationships** within the text
 - **Causal**, spatial, temporal
 - Often must be inferred
- **Continually update an evolving mental model** of the text as new information is integrated with prior knowledge
- **Monitor meaning** and **evaluate** the ideas in the text when they differ from prior understandings and **revise prior misconceptions**

Causal Inferences

- Narrative texts are organized around **causal relationships** (i.e., character goals and motivation; how one thing leads to another).
- Recall of text information in narratives is greatest for concepts and events that are related on the primary **causal chain of events**
- Causal inferences have a role in **informational text**, although less is known in this type of text.
- **Poor comprehenders make fewer causal inferences** than better comprehenders do
- **Teaching students to explain causal relationships** improves comprehension



Study of Adolescents “Thinking Aloud” as They Read

How are adequate and poor comprehenders most different from each other in the way they process text? What is the impact of genre and text difficulty?

Denton, Enos, York, Francis, Barnes, Kulesz, Fletcher, & Carter (2015).
Reading Research Quarterly, 50, 393-416.



The Students

- 310 students in grades 7, 9, and 11
- 8 schools, 4 school districts
- 50% Hispanic, 23% African American, 23% White, 4% Asian and other ethnicities
- Did not include students with limited English proficiency or severe intellectual, emotional, or sensory disabilities
- Did not include students with very poor word reading (< 20th percentile)
- Designated students as **adequate or poor comprehenders** using the Gates-MacGinitie Reading Comprehension Test (adequate were above the 25th percentile)



The Study

- Students were randomly assigned to read **narrative or informational text**.
- Each student read two texts: one **at the student's current Lexile level (accessible)** and one **about 350 Lexiles higher (challenging)**.
- Students read orally and stopped to talk about whatever they were thinking at pre-determined points in the text, marked with a horizontal line across the text.
- Think-alouds were audio recorded and transcribed
- Over 600 transcripts were coded for indications of **inference generation, paraphrasing, monitoring, and verbatim text repetition**.



1270E

The battle of Shiloh, one of the most bitterly contested battles of the American Civil War, was fought on April 6 and 7, 1862, in southern Tennessee, about 100 miles southwest of Nashville.

“Prompt” to
think aloud



Meanwhile, Grant's department commander had ordered Grant's troops to make a reconnaissance southward along the Tennessee River. They encamped near Pittsburg Landing, on the west side of the river, about 5 miles north of the Mississippi boundary.



Inference (Causal Relationships)

TEXT: I had turned the TV down when the phone rang, so I couldn't hear what the anchorwoman was saying.

STU: If she hadn't turned the volume down, she would have heard the story.

TEXT: Meanwhile, Grant's department commander had ordered Grant's troops to make a reconnaissance southward along the Tennessee River. They encamped near Pittsburg Landing, on the west side of the river, about five miles north of the Mississippi boundary.

STU: Since it is a river, that would be a good place to defend against troops because it's harder to cross something like that.



Monitoring

Recognition of dissonance between prior knowledge and text information:

TEXT: She was sick for a long time. When we saw her again, her hair was cut short, making her look like a girl, with a vague resemblance to those angels in colored church windows-sort of tragic and serene.

STU: Saying that her hair was cut short, making her look like a girl really doesn't make sense.

Faulkner (1930). *A Rose for Emily*.



Monitoring

Recognition and correction of pre-reading misconception:

STU: I thought Helen Keller wasn't real, like Betty Crocker or Aunt Jemima.

Recognition and correction of prior text misinterpretation:

STU: So I was wrong that the Indians all got massacred because it says they resisted. Of course, that's why they're a lot of them still on reservations.

Recognition of within-text contradiction:

STU: Wait, before it said that they were going to keep it a secret. But now they're telling everybody?



What distinguished adequate and poor comprehenders?

Inference Generation and Monitoring, especially in informational text

- Poor comprehenders who read informational text used **much less inference, along with paraphrasing.**
- Poor comprehenders who read informational text **monitored significantly less than adequate comprehenders**



Other Observations in Transcripts of Poor Comprehenders

- Word reading errors and misunderstood vocabulary can derail comprehension.
- Once “the train is off the track” it can be hard to get it back on.
- Many poor comprehenders persevere in an initial misunderstanding, even in the face of overwhelming evidence to the contrary. They create their own “story” about the text and don’t let it go.



Word Reading Errors, Failure to Monitor

TEXT: I spotted several bulls grazing at the center of a grassy field, each facing a different direction, each looking like a delicious meal.

STU: **That the bullies are mean or something?**

TEXT: As I planned my attack, I sharpened my claws on a nearby log, and dreamed of the feast that awaited me. I skulked through the underbrush, waiting for an opportunity to take advantage of my good fortune.

STU: **He, he didn't, he was trying to hide from the bullies.**

TEXT: How I would hate to be as weak as a bull. Surely they live in terror of strong animals like me. I thought with satisfaction, I fear no one, except the hunter who comes here now and then.

STU: **I don't know like he's a bully or something?**

TEXT: I dashed across the plain, preparing to pounce on a bull. But, to my surprise, the bulls quickly stood back to back, facing outward. Try as I might, I could not attack them.

STU: **The bullies were scared of him.**

TEXT: No matter which direction I tried to spring from, I was stopped by a menacing pair of horns threatening to pierce my hide.

STU: **The bullies were trying to get him.**



Misunderstood Vocabulary

TEXT: On Thursday morning, Jenny awoke earlier than usual. Wanting to look well groomed and professional, she put on her best dress and shoes.

STU: Jenny woke, woke up professional for the, for the, for the, for the wedding.

TEXT: Hurrying downstairs, she discovered that her dad had already poured a bowl of her favorite cereal. She ate it ravenously, even though she was anxious to get to work with her father.

STU: She wants to get to the wedding.

TEXT: The acropolis was the highest and most defensible location, so it also served as a fortress in the event of enemy attack.

STU: Who is the acropolis?

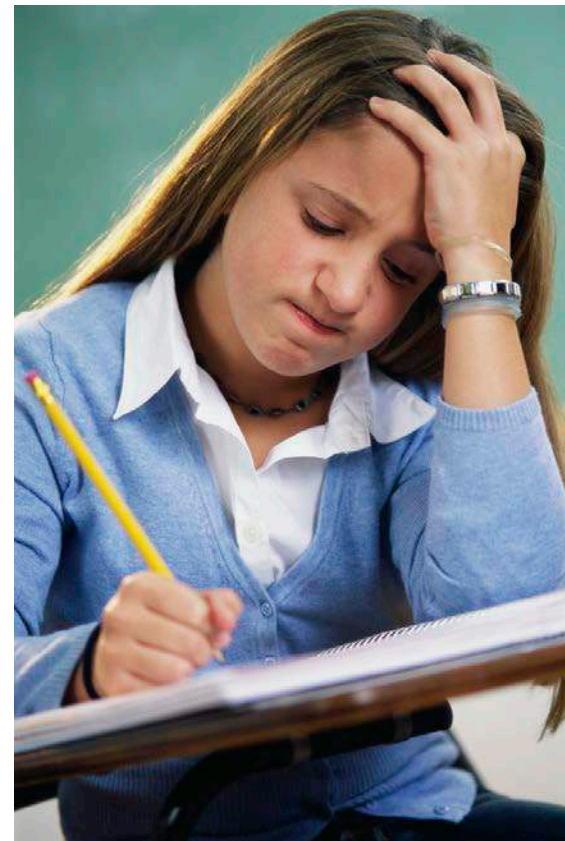


Implications of Students' Failure to Modify their Initial Mental Models of Text

- Be careful with having students predict what a text will be about.
- This can create an inaccurate mental model that some students maintain as they read.
- ALWAYS have students verify their predictions based on textual evidence.

Observations in Transcripts of Poor Comprehenders

Many fail to integrate information across the text. They plod through the text, sentence by sentence.





Topic Identification: Minimal Cognitive Involvement with the Text

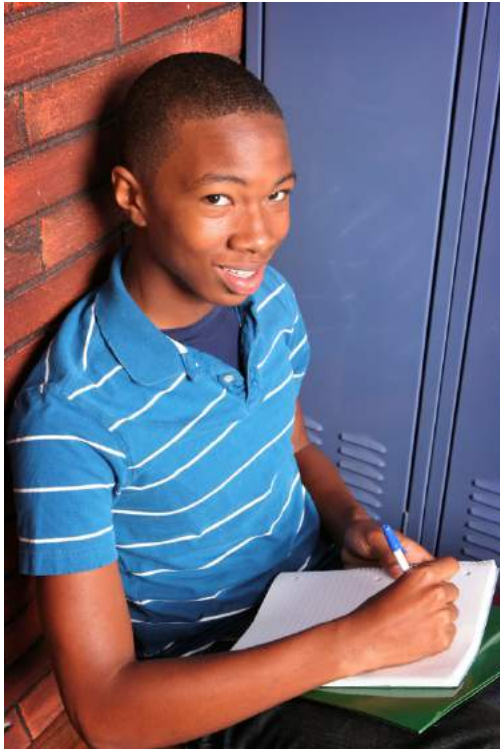
TEXT: Even those who have seen a boomerang still marvel that a curved stick can circle back to the person who threw it.

STU: Talking about throwing boomerangs and sticks.

TEXT: From the jumping-off places on the Missouri River, it angled off to the northwest, crossing the Kansas River and following its tributary, the Blue, to the valley of the Platte River.

STU: About Kansas River and Missouri River.

Observations in Transcripts of Poor Comprehenders



Many make many irrelevant associations with their own lives.



Irrelevant Associations

TEXT: In 1974 Randy Tufts and Gary Tenen discovered an amazing underground wonderland while hiking near the base of the Whetstone Mountains in Arizona.

STU: My mom was born in 1975.

TEXT: Ask any skateboard fan about the sport's greatest performers, and Tony Hawk's name will be at the top of the list.

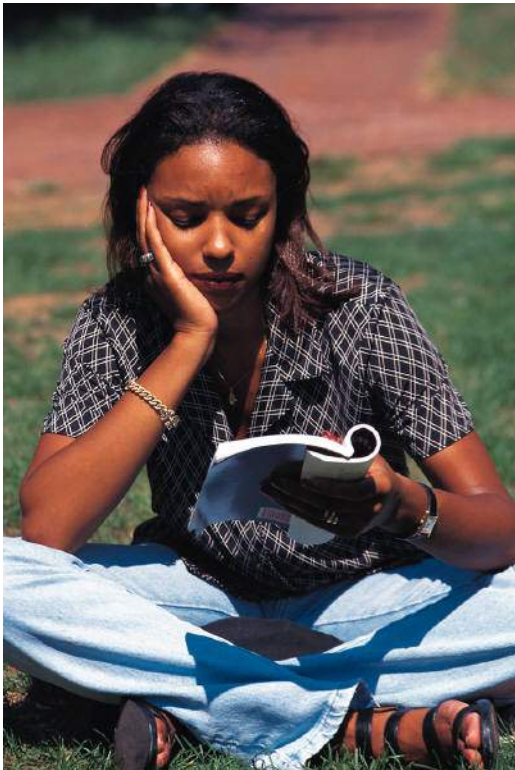
STU: Yeah, I'm teaching my sister how to skateboard. And it's funny because she like falls all the time. I keep telling her to wear kneepads and elbow pads.



Irrelevant Associations with the Text: Implications for Instruction

- Be careful teaching students to “make connections” with text.
- Provide scaffolding to encourage the kinds of connections that support comprehension.
- Teach students to evaluate their connections and how helpful they are in understanding the text.

Observations in Transcripts of Poor Comprehenders



- In narratives, poor comprehenders frequently failed to keep track of characters. Characters “shifted” in their relationships to each other and even in their genders and ages.
- Pronoun referents were a big problem.



Tracking Characters

TEXT: Alexander Graham Bell was a famous inventor who helped Helen Keller.

STU: So she helped him?

Context: Coins belonging to the King are missing.

TEXT: One of the castle guards went to search the king's cocoa plantation. He angrily questioned dozens of workers as they snipped ripe cocoa pods from the trees.

STU: Maybe he was accusing one of the guards for taking them?

TEXT: My lady came down herself into the kitchen to speak to the cook about the sausages, and desired never to see them more at her table. Now the master had ordered them, and my lady knew that.

STU: I'm thinking she ordered some sausage.

Confusion regarding location, character, literal interpretation of figurative language

Context is a family “road trip”. Bailey (the dad) is driving. The grandmother remembers an old plantation from her youth and wants to turn back to go visit it.

TEXT: She recalled exactly which road to turn on to get to it. Bailey would not be willing to lose any time looking at an old house, but the more she talked about it, the more she wanted to see it once again. “There was a secret panel in this house,” she said craftily, not telling the truth but wishing that she were, “and the story went that all the family silver was hidden in it when Sherman came through but it was never found.”

STU: Can I skip this? ...All right.

TEXT: “Hey,” John Wesley said. “Let’s go see it! ...Hey Pop, can’t we go?”... Bailey was looking straight ahead. His jaw was as rigid as a horse shoe. “No,” he said.

STU: Bailey was amazed of what they saw of the old house. And someone said no. And he saw a horseshoe in the road.



Comprehension and Text Reading in Idea Detectives: Systematic Instruction in “How to Think as you Read”

- **Model thinking aloud** about text, focusing on a **specific instructional objective**
- **Have students read sections of text and stop to practice thinking aloud**
- Give **very specific directions** about what is to be included in the think-alouds (objectives: paraphrase anything; paraphrase key ideas; make a causal inference: “Tell why.”)
- Provide **scaffolding and specific positive and corrective feedback**. Model again if needed.
- **Begin with easier text** and **easier and fewer objectives** about what should be included in the think-alouds.
- **Systematically** add more challenge.



Strategies Taught in Idea Detectives

- Focus on the book; answering questions (Surface, Textbase)
- Paraphrasing (Textbase)
- Paraphrasing key ideas (Textbase)
- Paraphrasing using character names (Textbase)
- Self-monitoring meaning (Textbase and Situation Model)
- Visualization (Situation Model)
- Integration of ideas across a text (Situation Model)
- Inferring character feelings and motivation (Situation Model)
- Integration + inference generation (Situation Model)
- Making explanatory (causal) inferences (Situation Model)



Self-Regulation Instruction





Self-Regulation: The ability to...

...Change course when needed; stop or start doing something in response to feedback



Image credit: #506912400, naumoid, iStock, Getty Images



Self-Regulation: The ability to...

...Control one's own emotions; calm yourself down when upset; restrain yourself from lashing out when you perceive you have been attacked



Image credit: #480874813, fcscafeine, iStock, Getty Images



Self-Regulation: The ability to...



...Regulate attention and sustain engagement with a task; make yourself keep paying attention even when a task is boring or difficult; persevere in the face of difficulty



Self-Regulation Instruction in Idea Detectives

- Growth Mindset
- Self-Monitoring
- Positive Self-Talk
- Self-Awareness
- Goal-Setting
- Recognizing and Controlling Negative Thoughts
- Self-Evaluation



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<https://www.childrenslearninginstitute.org/research>

