



The Meadows Center
FOR PREVENTING EDUCATIONAL RISK



Evidence-Based Practices for Comprehension Instruction



What Is STRIVE?

The **Strategies for Reading Information and Vocabulary Effectively (STRIVE)** professional development (PD) model was developed through funding from the Institute of Education Sciences, U.S. Department of Education. As part of this research project, a cadre of upper-elementary school teachers worked closely with researchers at The University of Texas at Austin and Texas A&M University to design evidence-based practices for social studies instruction in grades 4 and 5. The STRIVE PD model featuring these practices was refined through researcher-practitioner collaboration, the latest developments in reading research, and the results of pilot studies. **Several efficacy trials have reported positive outcomes in teacher quality and student vocabulary and comprehension development** as a result of participation in STRIVE PD.^{1,2,3}

This research brief provides in-depth descriptions of the **STRIVE evidence-based comprehension practices** and the research that supports them.

Reading to Learn in the Upper-Elementary Grades

The upper-elementary grades represent a critical time in students' academic learning, as they transition from **learning to read** to **reading to learn**. By fourth grade, standards for reading extend beyond foundational aspects (word reading and fluency) to include readers' skills in identifying how meaning is used both explicitly and implicitly in complex texts.⁴ Additionally, upper-elementary students read **an increasing amount of informational texts** and are expected to access important academic ideas, concepts, and vocabulary from these texts—all essential to developing knowledge in different subject areas. For these reasons, educators often face the challenges of making texts in their subject area more accessible and **supporting students' development in reading comprehension** during content area instruction.

Reading Comprehension: What Educators Need to Know

Research over the last several decades indicates that reading comprehension involves a complex set of cognitive and linguistic processes. Paul Van den Broek, a cognitive scientist, theorized with his colleagues⁵ that reading comprehension incorporates a “landscape” of concepts that are activated across a reading cycle. Essentially, readers relate their background knowledge to new information to form a coherent mental model of the ideas in the text. This mental model is dynamically and gradually constructed, and it is continually restructured as readers process new information in text. Similarly, Walter Kintsch’s content-integration model⁶ emphasizes that readers construct new ideas from text and then integrate this new understanding with previous knowledge.

As these perspectives demonstrate, fundamental inferential processes are involved in constructing meaning from text.⁷ Readers draw on different sources of knowledge—including linguistic knowledge, orthographic knowledge, and general background knowledge—to support a coherent mental structure of the ideas presented. Essentially, these different sources of knowledge support readers in making inferences, or filling in information that is not made explicit in text.⁸

Although research has shown an underlying structure by which all readers comprehend text,^{5,6} not every reader processes and understands a text in the same way. Students bring a range of background knowledge and experience to the classroom, and students differ in their attentional capacities and use of strategies to support comprehension. To address students’ different literacy needs, educators can incorporate high-impact comprehension practices during content area instruction.

High-Impact Comprehension Practices in Social Studies Instruction

The STRIVE comprehension instructional practices were designed to align with the models by Van den Broek and Kintsch of reading comprehension.^{5,6} Teachers use the STRIVE practices to aid students in building and updating a mental model of the text while reading. We combine strategy and content approaches to provide teachers with a well-rounded set of instructional practices to improve comprehension.

Features of STRIVE Instruction

The STRIVE instructional practices occur **before, during, and after reading to support students’ development of vocabulary and comprehension skills** necessary to learn new information from text. Teachers explicitly explain and model each practice, engage in guided practice with students, and provide corrective feedback. As students master new skills, teachers provide meaningful opportunities for students to use the strategies independently until the strategy use becomes habit. A unique feature of STRIVE is that students are introduced to the strategies over time across multiple social studies units, with opportunities to practice initial strategy use before being introduced to others.

Content approaches focus on the text’s content as the vehicle for instruction, using text-based discussion framed by questions to help students build accurate mental models of the text. Several studies show that content approaches applied to social studies text are highly effective.^{9,10,11}

In STRIVE, content approaches are coupled with comprehension strategies. These procedures help students to become aware of their level of understanding while reading.¹² Several studies have revealed that **students benefit when taught comprehension strategies** and how to apply them in reading across content areas^{13,14,15,16,17} and, specifically, in social studies.^{2,9} Evidence-based practices that educators implement **before**, **during**, and **after** reading text are described below.

Before Reading

Activating and Building Students’ Background Knowledge

Research supports the importance of background knowledge in reading comprehension.^{4,18,19} Educators are key in helping students activate that knowledge and make meaningful connections to text.

To activate and build background knowledge using STRIVE, educators do the following:

- Provide students with a big idea that will be the focus of the entire 6-week unit
- Refer students to an interesting illustration that accompanies the text
- Ask a series of questions to help students build the knowledge needed to understand the information presented in the text

Comprehension Purpose Question

Research supports using short, teacher-led discussions to focus students’ attention on key information in the text.^{9,10,11} Before students read a passage, teachers pose a comprehension purpose question, such as “Why were the Comanche skilled warriors, and why were they eventually defeated?” The comprehension purpose question is directly tied to the main idea of the passage.

During Reading

Teacher-Led Text-Based Discussion

To discuss the text, teachers do the following:

- Direct students to **think about the main idea** of the passage
- Have students **read the text**:
 - Silently, reading independently
 - With a partner
 - Following along as the teacher reads aloud
- Stop at the end of each section to **check for understanding** and **prompt discussion** through various questions, including *who*, *what*, *when*, *where*, *why*, and *how* questions.
- Direct students to use the Question Types cue card if needed (see image at right).

Question Types	
Who?	A person or group
What?	A description or an effect
When?	Related to time
Where?	A place or location
Why?	A reason or cause
How?	A process or characteristic

Get the Gist

This strategy supports students in identifying the gist, or main idea, of a paragraph or section of a text.^{20,21}

Teachers model the strategy for students using two questions to guide them (see image at right): “Who or what is the passage about?” and “What is the most important idea about the ‘who’ or ‘what?’”

Teachers then do the following:

- **Use a think-aloud** to model how readers identify the most important “who” or “what” and the key related ideas in the text
- Emphasize that gist statements are short and **model how to write a statement** in 10 or fewer words
- **Display students’ gist statements, provide feedback, and collaboratively revise** statements using the strategies

After Reading

Summarizing

Summarizing is a complex literacy skill in which students use multiple paragraph-level statements to cohesively express the key ideas in the entire text.²¹ Over several lessons, students build on their skill in writing gist statements, leading to the ability develop a summary.

Teachers use the following instructional components:

- **Graphic organizers** to help students identify the main idea (i.e., gist) of different sections of the text and make connections between them
- **A list of criteria** to guide students in drafting, editing, and revising a cohesive written summary

Get the Gist

- What is the most important “who” or “what” in the paragraph?
- Tell the most important idea about the “who” or “what.”
- Write the gist in about 10 words or less.



Example Materials

Texas Lesson

Albert Redder, Archaeologist

What is an Archaeologist?
Archaeologists are people who study the artifacts of past groups of people. Artifacts are things made by people, then thrown away or left behind. Artifacts tell archaeologists about the culture of these people. When archaeologists study past cultures, they are learning how these people lived, what they made and what they believed. Archaeologists use science to help them learn everything they can from the artifacts they find.

A Childhood Discovery
If you think nothing important happens when you are a child, think again. Children often experience things that change their lives. That's what happened to Albert Redder. As a boy, he found arrowheads in the fields near his home. Al was fascinated with these ancient tools. He wanted to learn more about them and the people who made them. That's when Al ran into a problem. There weren't any books about archaeology in his hometown in northwest Texas.

Interest Grows
Al finally found the archaeology books he wanted to read when he joined the Army in World War II. The Army had some in its library for soldiers. Now he could read about the stone tools that captured his interest as a boy. When the war ended, Al moved to Waco. There, he found more books about archaeology. He continued learning about ancient tools and the people who made them.

An Unexpected Find
On July 4, 1954, Al made another discovery that changed his life. It was a hot summer day, and Al was enjoying a swim in the Brazos River. "I saw a rock shelter across the river," he said. "It was in a cliff overlooking the opposite shore." Al swam across the river to investigate the shelter. It was about 150 feet wide and 22 feet deep. He discovered that someone looking for artifacts had dug a hole in the south end of the shelter. Nearby, he discovered a

Passage Excerpt

Studies Weekly, Week 7
Lesson 7: American Indian Society

Unit Big Idea The early civilizations of Texas included Paleoamericans, American Indians, and European settlers.

Vocabulary product, deflect

Gist 1

Gist Questions

Who or what is this about? _____

What's the most important idea about the main "who" or "what"? _____

Gist Statement

Summary Graphic Organizer

After reading, students use a graphic organizer to write the gist statement

The Takeaway

Reading comprehension is a critical component of learning as students advance through school and engage with a range of subject-specific concepts and ideas. Content area teachers can support students' development in reading comprehension by using a cohesive set of instructional practices, such as STRIVE.

References and Further Reading

- Hairrell, A., Rupley, W. H., Edmonds, M., Larsen, R., Simmons, D., Willson, V., . . . Vaughn, S. (2011). Examining the impact of teacher quality on fourth-grade students' comprehension and content-area achievement. *Reading & Writing Quarterly, 27*, 239–260.
- Simmons, D., Hairrell, A., Edmonds, M., Vaughn, S., Larsen, R., Willson, V., . . . Byrns, G. (2010). A comparison of multiple-strategy methods: Effects on fourth-grade students' general and content-specific reading comprehension and vocabulary development. *Journal of Research on Educational Effectiveness, 3*, 121–156.
- Swanson, E., Stewart, A., Stevens, E. A., Scammacca, N., Capin, P., Hamilton, B. J., Roberts, G., & Vaughn, S. (in review). Investigating the role of professional development in impacting upper elementary student reading outcomes. *Journal of Educational Psychology*.
- Kendeou, P., McMaster, K. L., & Christ, T. J. (2016). Reading comprehension: Core components and processes. *Reading, Writing, and Language, 3*(1), 62–69.

5. Van den Broek, P., Young, M., Tzeng, Y., & Linderholm, T. (1999). The landscape model of reading: Inferences and the online construction of a memory representation. In H. van Oostendorp & S. Goldman (Eds.), *The construction of mental representations during reading* (pp. 71–98). Mahwah, NJ: Lawrence Erlbaum Associates.
6. Kintsch, W. (1998). *Comprehension: A paradigm for cognition*. New York, NY: Cambridge University Press.
7. Ahmed, Y., Francis, D. J., York, M., Fletcher, J. M., Barnes, M., & Kulesz, P. (2016). Validation of the direct and inferential mediation (DIME) model of reading comprehension in grades 7 through 12. *Contemporary Educational Psychology, 44*, 68–82.
8. Perfetti, C., & Stafura, J. (2014). Word knowledge in a theory of reading comprehension. *Scientific Studies of Reading, 18*(1), 22–37. doi:10.1080/10888438.2013.827687
9. Vaughn, S., Swanson, E. A., Roberts, G., Wanzek, J., Stillman-Spisak, S. J., Solis, M., & Simmons, D. (2013). Improving reading comprehension and social studies knowledge in middle school. *Reading Research Quarterly, 48*(1), 77–93.
10. Vaughn, S., Roberts, G., Swanson, E. A., Wanzek, J., Fall, A. M., & Stillman-Spisak, S. J. (2015). Improving middle-school students' knowledge and comprehension in social studies: A replication. *Educational Psychology Review, 27*(1), 31–50.
11. Vaughn, S., Martinez, L. R., Wanzek, J., Roberts, G., Swanson, E., & Fall, A. M. (2017). Improving content knowledge and comprehension for English language learners: Findings from a randomized control trial. *Journal of Educational Psychology, 109*(1), 22–34.
12. RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: RAND.
13. Edmonds, M. S., Vaughn, S., Wexler, J., Reutebuch, C., Cable, A., Tackett, K. K., & Schnakenberg, J. W. (2009). A synthesis of reading interventions and effects on reading comprehension outcomes for older struggling readers. *Review of Educational Research, 79*(1), 262–300.
14. Gajria, M., Jitendra, A. K., Sood, S., & Sacks, G. (2007). Improving comprehension of expository text in students with LD: A research synthesis. *Journal of Learning Disabilities, 40*(3), 210–225.
15. Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research, 71*, 279–320.
16. Scammacca, N., Vaughn, S., Roberts, G., Wanzek, J., & Torgesen, J. K. (2007). *Extensive reading interventions in grades K–3: From research to practice*. Portsmouth, NH: RMC Research, Center on Instruction.
17. Vaughn, S., Gersten, R., & Chard, D. J. (2000). The underlying message in LD intervention research: Findings from research syntheses. *Exceptional Children, 67*, 99–114.
18. Cervetti, G. N., & Hiebert, E. H. (2015). The sixth pillar of reading instruction. *The Reading Teacher, 68*, 548–551.

19. Chi, M. T. H. (2006). Methods to assess the representations of experts' and novices' knowledge. In K. Ericsson, N. Charness, P. Feltovich, & R. Hoffman (Eds.), *Cambridge handbook of expertise and expert performance* (pp. 167–184). New York, NY: Cambridge University Press.
20. Klingner, J. K., Vaughn, S., Boardman, A., & Swanson, E. (2012). *Now we get it! Boosting comprehension with collaborative strategic reading*. San Francisco, CA: John Wiley & Sons.
21. Swanson, E., Edmonds, M. S., Hairrell, A., Vaughn, S., & Simmons, D. (2011). Applying a cohesive set of comprehension strategies to content-area instruction. *Intervention in School and Clinic, 46*(5), 266–272.



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