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The Science of Reading —Part 2

Explicit Comprehension Instruction



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Objective of this slide: Welcome and frame the purpose of Part II of this training

Estimated time: 2 minutes

Facilitator says:

- Welcome to part two of this training on reading comprehension.
- We hope that you found the overview of reading comprehension in the first session, Reading Comprehension Overview, helpful.
- Here's some basic information about this series:
 - This set of resources is part of our series on the science of reading.
 - This slide deck was designed by Public Impact and draws on the latest research in reading comprehension, grounded in the science of reading. This is the second of three parts, all of which aim to help multi-classroom leaders and teachers move to research-based instruction that helps more students become better readers.
 - This does not include all research on reading. It focuses on supporting reading comprehension—a key element of reading instruction once students have mastered the component skills of the simple view of reading. Future slide decks will address additional research for further enhancing students' reading.
 - The language you'll see here refers to teaching teams, as this was built for Multi-Classroom Leadership teams to use for improving instruction. But any teacher or teaching team can use this resource!
- If you are reading this and you have not yet reviewed part one, we encourage you to do that first!

Objectives

- ✓ **Define** the elements of reading comprehension
- ✓ **Identify** ways that teachers *across content areas* can develop students' comprehension skills
- ✓ **Focus** on a critical research-based approach: explicit comprehension instruction.
- ✓ **Identify** next steps for learning more and systematically improving instruction together.

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Objective of this slide: To introduce the objectives of this training.



Estimated time: 2 minutes



Facilitator says:

- As you may recall, the goal of this training is to continue deepening your knowledge of excellent reading instruction and help you pursue reading success with all your students.
- To that end, our objectives are to:
 - Define the elements of reading comprehension and why each matters
 - Identify ways that teachers across content areas can develop students' comprehension skills
 - Focus on a critical, research-based approach to supporting students' textual meaning-making: explicit comprehension instruction—what we will address now—
 - And identify next steps for learning more and systematically improving your team's explicit comprehension instruction together.

Myth or Truth?

 Reading comprehension is mostly about being able to remember what happened in a text after you read it.

 <p>Myth: Reading comprehension is mostly about being able to remember what happened in a text after you read it.</p>	 <p>Truth: Successful comprehension requires the reader to engage both <i>during</i> and <i>after</i> reading. And often <i>before</i> as well!</p>
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Objective of this slide: To engage participants in reflection on comprehension instruction.

Estimated time: 3 minutes

Facilitator says:

- Let's get started!
- Here's a statement about reading for you to consider: "Reading comprehension is mostly about being able to remember what happened in a text after you read it." What do you think?

[Click]

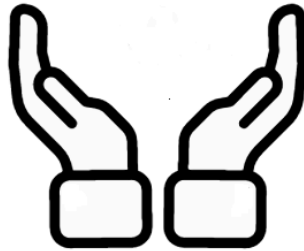
- Ok, so when you think of reading comprehension, you may not think of memory alone, but historically, most of what we have considered reading comprehension skills are things that readers do *after* reading—summarizing, retelling, analyzing the text.
- More recent research on reading comprehension tells us that there is a great deal of critical comprehension work that happens *during* reading, and that many readers can benefit from support in these *during*-reading skills.
- In the section that follows, we will zoom in on explicit comprehension instruction and break down ways that teachers can support readers' comprehension at all points along the reading experience.

Source:

<http://blog.amplify.com/microcomprehension>

How Do We Support “Reading to Learn”?

What does it take to support the process of “reading to learn” for upper elementary students into adolescence?



Objective of this slide: Engage participants in considering how educators might support upper elementary to adolescent readers to continue to develop their reading skills beyond decoding?

Estimated time: 6 minutes


Facilitator says:

- In part one of this training, you learned about the pieces of reading comprehension and what we need to know about readers, texts, and reading activity to support reading comprehension. Once we know about our students, texts, and reading activity, we must plan for reading instruction that supports the full reading comprehension process.
- If you are working with a group or a partner now, this would be a good time to pause and talk for a moment: In your experience, what does it take to support students to develop their reading skills beyond mastery of the components of the simple view?
- Think especially about those students—maybe upper elementary or middle school readers—who decode skillfully and need ongoing support to make the most out of what they read.

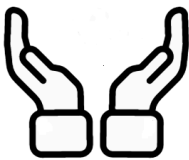
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Supporting Reading Comprehension




**Reading
Comprehension**



1. **Explicit comprehension instruction**
2. Literacy instruction embedded in context
3. Motivation and self-directed learning
4. Text-based collaborative learning and discussion
5. Strategic tutoring
6. Diverse texts
7. Intensive writing
8. Ongoing formative assessment
9. Technology component





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Objective of this slide: To share a list of research-based components for supporting reading comprehension, especially for upper elementary and adolescent readers.

Estimated time: 3 minutes

Facilitator says:

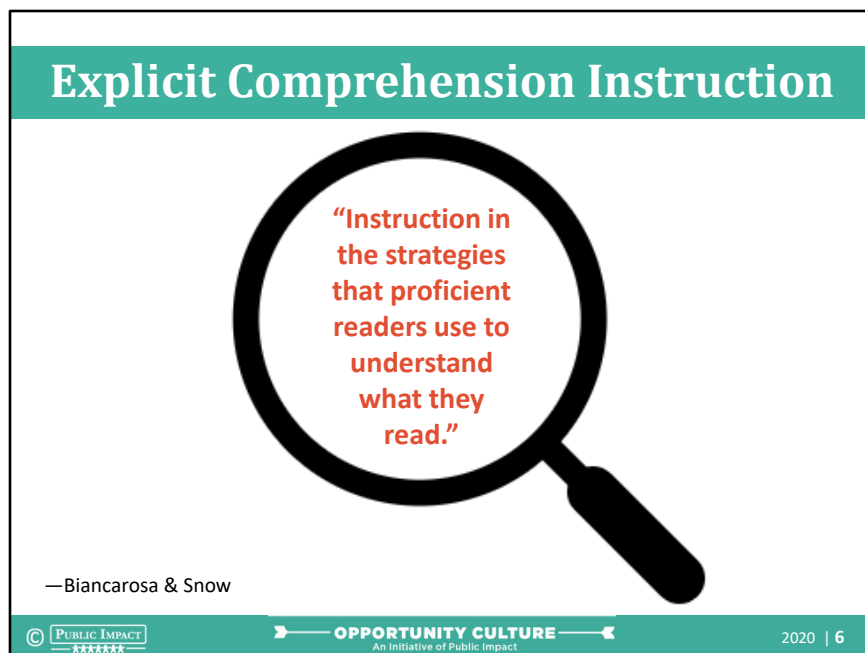
- Thank you for taking the time to pause and reflect on what it takes to support readers beyond decoding and early language development.
- You probably named several of the items on this slide. This list, developed by literacy researchers Gina Biancarosa and Catherine Snow, details nine key elements of effective adolescent literacy instruction.
- In addition to this list, Biancarosa and Snow also name six infrastructural components, including extended time for literacy and interdisciplinary teacher teams, that have been shown to improve literacy outcomes.
- Each component of literacy instruction is multifaceted. For the remainder of this training, we will focus on the first component on the list: **explicit comprehension instruction**. Subsequent trainings will address the remaining components.

Sources:

https://production-carnegie.s3.amazonaws.com/filer_public/b7/5f/b75fba81-16cb-422d-ab59-373a6a07eb74/ccny_report_2004_reading.pdf

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Objective of this slide: To zoom in on explicit comprehension instruction, the first research-based strategy for supporting reading comprehension.

Estimated time: 2 minutes

Facilitator says:

- What do we mean by **explicit comprehension instruction**? Biancarosa and Snow define explicit comprehension instruction as “instruction in the strategies and processes that proficient readers use to understand what they read, including summarizing, keeping track of one’s understanding, and a host of other practices.”
- Explicit comprehension instruction occurs when teachers provide detailed instruction about how, when, and why to use a comprehension strategy or approach and/or provide comprehension monitoring instruction that teaches students to become more aware of how they understand while they read.
- Importantly, comprehension strategies are *not* rules or definitions. They are broadly applicable methods or ways to engage with a range of texts in order to improve comprehension.

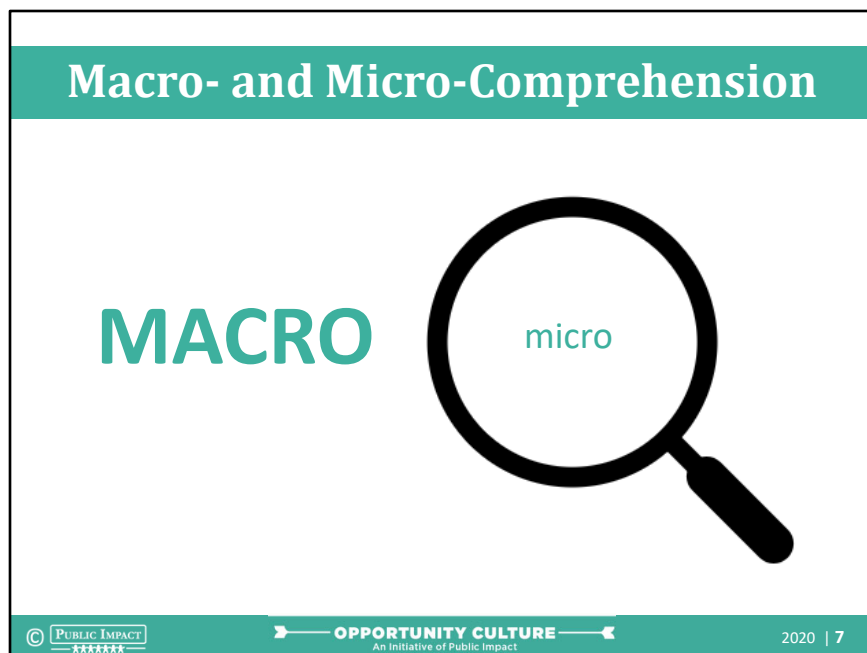
Sources:

Schoenbach, R., Greenleaf, C., Cziko, C., & Hurwitz, L. (1999). *Reading for understanding*. San Francisco: Jossey-Bass.

https://production-carnegie.s3.amazonaws.com/filer_public/b7/5f/b75fba81-16cb-422d-ab59-373a6a07eb74/ccny_report_2004_reading.pdf

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Objective of this slide: To transition into a section on macro- and micro-comprehension

Estimated time: 1 minutes

Facilitator says:

- There is a *very* wide range of comprehension strategies that may be useful to readers—far too many to list in one training. But it helps to divide them into **micro- and macro-comprehension strategies**, or to divide them into **before-, during-, and after-reading strategies**.
- In the slides that follow, we will explain macro- and micro-comprehension and offer examples of skills and strategies that fall into these two categories.

An Exercise

Read the following passage:

“Mr. and Mrs. Dursley, of number four, Privet Drive, were proud to say that they were perfectly normal, thank you very much. They were the last people you’d expect to be involved in anything strange or mysterious, because they just didn’t hold with such nonsense.”

Harry Potter and the Sorcerer’s Stone

J.K. Rowling

<http://blog.amplify.com/microcomprehension>



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Objective of this slide: To introduce the concept of micro-comprehension

Estimated time: 4 minutes

Facilitator says:

- Let’s begin with micro- and macro-comprehension. We take the content for the next few slides from the Amplify education blog and podcast episode on micro-comprehension.
- Take a moment to read the passage on this slide from *Harry Potter and the Sorcerer’s Stone* by J.K. Rowling.

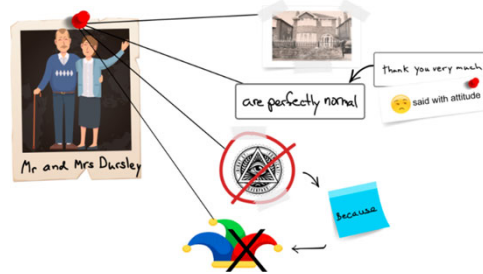
Sources:

<http://blog.amplify.com/microcomprehension>

<https://amplify.com/science-of-reading-the-podcast/>

An Exercise, Continued

Now, try to remember as much as you can about what you just read without looking back at the passage.



<http://blog.amplify.com/microcomprehension>

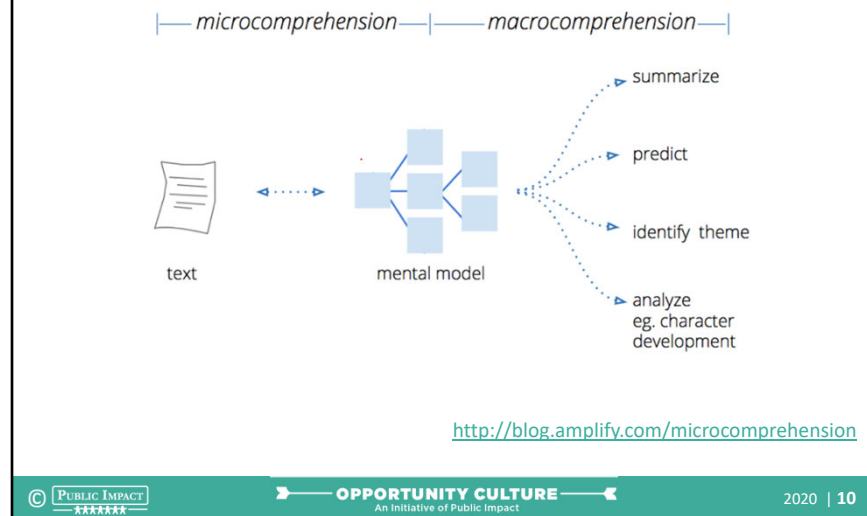
Objective of this slide: To introduce the concept of micro-comprehension

Estimated time: 5 minutes

Facilitator says:

- Close your eyes and recall as much as you can of the passage on the previous slide. You probably don't remember all of the exact wording. But we'll bet you had the basics: the Dursleys live on Privet Drive; they don't get involved with weird goings-on; after all, that's nonsense.
- What you just did there was more than a Harry Potter-themed memory exercise. It was actually a lot of work. Your brain swiftly built a structure that researchers call a mental model—a network of idea units, as illustrated on this slide—in a crucial process that leading researchers now call micro-comprehension.
- And here's the thing: When it comes to reading, micro-comprehension matters. Why is it so important, and how can you help students, especially those who struggle, do it better?

Macro v. Micro Comprehension



Objective of this slide: To define macro- and micro-comprehension and establish the importance of supporting readers in both areas.

Estimated time: 3 minutes

Facilitator says:

- For a long time, when we thought about reading comprehension, we thought mostly about what we would now call “macro-comprehension.” Macro-comprehension is what we do with the mental model of our reading once we’ve created it—things like summarizing, predicting, identifying, theme, and analyzing aspects of the text.
- Research now tells us that there is a set of different skills that are critical for readers’ understanding of texts: micro-comprehension skills. In fact, micro-comprehension is a critical precursor to macro-comprehension. Without a strong mental model of the text, readers’ efforts to answer questions about the text or engage in any other macro-comprehension activities are likely to be poor.
- So what do we do to support students with micro-comprehension?

Source:

<http://blog.amplify.com/microcomprehension>

Micro-Comprehension Skills

Gap-Filling Inference	<ul style="list-style-type: none"> • Reading “Jamal forgot his umbrella and got drenched” and understanding that it rained
Sentence Structure Processing	<ul style="list-style-type: none"> • Understanding relationships among words based on their place in a sentence
Allocating Attention	<ul style="list-style-type: none"> • Figuring out which parts of the text are most important and focusing on those over less-important pieces
Figurative Language Processing	<ul style="list-style-type: none"> • Identifying and interpreting metaphor, personification, simile, etc.
Applying Text Structure	<ul style="list-style-type: none"> • Using prior knowledge to identify familiar text genres (such as mystery, persuasive essay, etc.)
Comprehension Monitoring	<ul style="list-style-type: none"> • Stopping and rereading or using “fix-up” strategies when something doesn’t make sense

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Objective of this slide: To provide a list of micro-comprehension skills and basic definitions of those skills

Estimated time: 7 minutes

Facilitator says:

- We can make sure that our explicit comprehension instruction includes not only instruction in macro-comprehension, as it has historically done, but also instruction in micro-comprehension skills and strategies.
- On this slide, you can see a list of micro-comprehension skills. This list is not exhaustive—researchers have identified as many as 17. But this is a good start.
 - **Gap-filling inference** means that a reader can infer key information that is not explicitly in the text. For example, if a sentence reads “Jamal forgot his umbrella and got drenched,” the reader could reasonably infer that it rained.
 - **Sentence structure processing** means that a reader understands relationships among words based on their place in a sentence. Consider the sentence: “The boy who the girl who fell down the stairs grabbed lost his balance.” The processing required to determine who fell, who grabbed, and who lost balance is a micro-comprehension skill.
 - To build an effective mental model of a text, a reader must also **allocate attention** to the parts of the text that are most important, focusing on key ideas and information over less-important detail.
 - Readers must also **process figurative language**, making non-literal meaning out of figurative language like similes and metaphors.

- **Applying text structure** allows readers to use prior knowledge to identify familiar text genres and their typical features. For instance, if a student identifies a text as having a problem-and-solution or cause-and-effect structure, they are more likely to be able to connect the ideas in the text into a meaningful mental model.
- Finally, **comprehension monitoring** is a key micro-comprehension skill. Readers must develop awareness of their understanding as they read and monitor for times when things don't make sense or their mental models have broken down. When readers monitor their comprehension, they know when to stop and reread or use another strategy to "fix up" their mental model before proceeding.

Source:

<http://blog.amplify.com/microcomprehension>

Macro- & Micro-Comprehension: Key Idea

Research tells us that there are two big components of reading comprehension: macro- and micro-comprehension.

Historically, teachers have focused on macro-comprehension when teaching reading, but we now know that micro-comprehension is equally important. Students benefit from explicit comprehension instruction in both areas.



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Objective of this slide: To share why it is important for teachers to be aware of the reading “activity” that they require of students and to be explicit about why that activity is important, when possible.

Estimated time: 2 minutes


Facilitator says:

- Again, research tells us that these are two big components of reading comprehension, and historically, teachers have focused on macro-comprehension. But we now know that micro-comprehension is equally important. Students benefit from explicit comprehension instruction in both areas.
- This means that teachers identify relevant strategies in both categories and teach students how, when, *and* why to apply those strategies in a range of texts.

Source:

https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/adlit_pg_082608.pdf

Turn and Talk





1. When you teach reading comprehension, do you typically focus more on macro- or micro-comprehension skills?
2. Which, if any, micro-comprehension skills could you add to your current approach?
3. What text structures are most relevant to address in your class?

DEFINITIONS

Macro-comprehension—what we do with the mental model of our reading (for example, summarizing, predicting, identifying theme)

Micro-comprehension—the small inferences we make during reading to create a strong mental model of a text

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Objective of this slide: To provide an opportunity for participants to consider their current teaching practices and the extent to which they support students with micro-comprehension strategies

Estimated time: 8 minutes

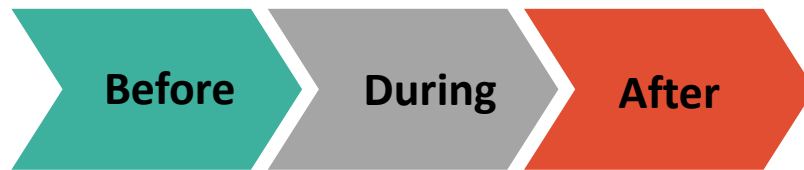
Facilitator says:

- If you are working with colleagues, now would be a good time to pause and think about the distinction we've just drawn between macro- and micro-comprehension skills. Take a moment to discuss the following questions:
 - When you teach reading comprehension, do you typically focus more on macro or micro-comprehension skills?
 - Which, if any micro-comprehension skills could you add to your current approach?
 - What text structures are most relevant to address in your class?

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Before-, During-, and After-Reading Skills and Strategies



Objective of this slide: To transition into a section on before, during and after reading comprehension skills and strategies.

Estimated time: 1 minute

Facilitator says:

- A different, but equally useful, way of thinking about reading comprehension strategies is to consider the things that strong readers do (or that teachers can support students in doing) before, during, and after reading in order to make meaning from what they read.
- In the next several slides, we will offer some examples of before-, during-, and after-reading strategies that teachers can use to support their students' comprehension skills.

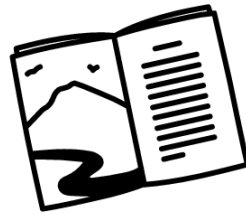
Before-Reading Strategies

The **goals** of before-reading, or pre-reading, strategies are to support students to:

- Access prior knowledge
- Interact with key parts of the text before reading
- Practice skills such as sequencing, finding cause and effect relationships, making comparisons, making inferences, etc.
- Identify vocabulary that might be challenging
- Construct meaning before reading

Examples of pre-reading strategies:

- Activate prior knowledge (for example, Know, Want to Know, Learned, KWL, charts)
- Use anticipation guides
- Engage with images, excerpts, or other text features (such as tables, figures) to make predictions before reading



Objective of this slide: To define pre-reading strategies and provide a list of goals and examples of teaching pre-reading strategies

Estimated time: 4 minutes


Facilitator says:

- Before-reading strategies, also commonly called pre-reading strategies, support students to:
 - Access prior knowledge
 - Interact with and become familiar with key parts of the text before reading
 - Practice applying knowledge of text structures such as cause and effect or making comparisons
 - Identify and build familiarity with vocabulary that might be challenging
 - And begin to construct an initial mental model of the text before reading.
- Specific pre-reading strategies and activities include:
 - Activating prior knowledge by using a KWL chart
 - Engaging students in an anticipation guide that elicits their prior knowledge or opinions about a topic
 - Previewing key text features including images, excerpts, or tables to begin to build an initial mental model of the text
- While this is certainly not a comprehensive list of pre-reading strategies, we can easily see the links to the elements of the RAND reading comprehension model—text, reader, and activity—and the ways that these strategies and activities might prepare students for comprehension success before they begin reading.

Source: Beers, K. (2003). *When Kids Can't Read: What teachers can do*. Portsmouth, NH: Heinemann.

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Turn and Talk



What are some effective ways to engage students in the following before-reading strategies in your class/content area?

- Access prior knowledge
- Interact with key parts of the text before reading
- Practice skills like sequencing, finding cause and effect relationships, making comparisons, making inferences, etc.
- Identify vocabulary that might be challenging
- Construct meaning before reading

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Objective of this slide: To provide an opportunity for participants to consider their current teaching practices and the extent to which they support students with micro-comprehension strategies

Estimated time: 8 minutes

Facilitator says:

- Take a few minutes to discuss pre-reading strategies with a partner. Ideally, you will talk with someone who teaches in the same content area or even the same course as you because approaches are likely to be content-specific.
- Brainstorm specific ways that you can have students engage in these pre-reading strategies specifically in your content area or class. Keep a list to share with others!

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During-Reading Strategies

The goals of during-reading strategies are to support students to:

- Question when they don't understand something in the text
- Monitor understanding of the text
- Find ways to "fix up" things that have confused them
- Comment on the text as they read
- Connect with the text
- Visualize the text


Examples of during-reading strategies:


Usually Macro-Comprehension:


- Engage in "accountable talk"
- Double-entry journals
- Bookmarks
- Use graphic organizers

Usually Micro-Comprehension

- Visualize the text
- Reread
- Generate and answer questions
- Make inferences







2020 | 17

Objective of this slide: To define during-reading strategies and provide a list of goals and examples of teaching during-reading strategies

Facilitator says:

- During reading, the goals of reading strategies are to support students to:
 - Question when they don't understand something in the text
 - Monitor their comprehension as they read
 - Find ways to fix up understanding when a mental model has broken down or a text becomes confusing
 - Make comments on the text as they read
 - Connect with and visualize the text
- Many, but not all, strategies that readers employ **during** reading are **micro-comprehension** strategies. For example, the strategies highlighted in red on this list are micro-comprehension strategies that help students construct an effective mental model of the text as they read. Other strategies such as "accountable talk" (collaborative discussion at key points across a reading) or the use of double-entry journals, support students in inferential and/or evaluative thinking about the text—that is, macro-comprehension.
- Again, this is not a complete list of during-reading strategies, but it is a starting place for you and your team to consider ways that you might better support your students' comprehension processes. If you need more on these, we'd suggest the book *Strategies that Work* by Stephanie Harvey and Anne Goudvis.

Sources: <https://www.readinguniverse.org>

Beers, K. (2003). *When Kids Can't Read: What teachers can do*. Portsmouth, NH: Heinemann.

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After-Reading Strategies

After-reading strategies support students to:

- Make predictions about what will happen next
- Reflect on and question what they didn't understand
- Fix up or clarify things that they didn't understand
- Summarize, retell, or identify the gist of the text
- Make connections to, evaluate, and analyze aspects of the text



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Objective of this slide: To define after-reading strategies and provide a list of goals and examples of teaching after-reading strategies

Facilitator says:

- After-reading strategies are most likely to fall into the category of macro-comprehension skills. In other words, after-reading strategies support students to solidify and extend their understanding of the text as a whole, rather than at the level of sentences or phrases. After reading strategies include things like:
 - Making predictions about what will happen next in order to guide subsequent reading
 - Reflecting on and questioning parts of the text that the reader did not understand
 - Fixing up or clarifying parts of the text that the reader did not understand by consulting other resources or going back to the text once more
 - Summarizing, retelling, or identifying the gist of the text
 - Making connections to, evaluating, and analyzing aspects of the text
- As you can see, these are the types of things that we have typically thought of as “reading comprehension.” They’re important, of course, but not the whole picture.
- After-reading strategies vary widely depending on the type of text students have read. For example, strategies that engage readers in character analysis and reflection are much more useful and appropriate for literary texts than for informational ones.
- For a list of after-reading strategies designed primarily for literary text, see chapter 8 of Kylene Beers’ *When Kids Can’t Read, What Teachers Can Do*

Sources: <https://www.readinguniverse.org>

Beers, K. (2003). *When Kids Can't Read: What teacher's can do*. Portsmouth, NH: Heinemann.

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Before-, During-, and After-Reading Comprehension: Key Idea

There is a great deal that teachers can do to support students' comprehension of a specific text and develop their ability to tackle a range of similar texts. But it can't happen all at the end of a reading!

Students benefit from before-, during-, *and* after-reading comprehension strategy instruction.



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Objective of this slide: To share why it is important for teachers to be aware of the reading “activity” that they require of students and to be explicit about why that activity is important, when possible.

Estimated time: 2 minutes


Facilitator says:

- There is a great deal that teachers can do to support students' comprehension of a specific text and develop their ability to tackle a range of similar texts.
- But it can't happen all at the end of a reading (after reading strategies)! Students benefit from before-, during-, *and* after-reading comprehension strategy instruction.
- Once again, this means that teachers must identify relevant strategies in all three categories and teach students how, when, *and* why to apply those strategies in a range of texts.



Source:

https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/adlit_pg_082608.pdf

Turn and Talk



1. When you teach reading comprehension, do you typically focus more on before-, during-, or after-reading strategies?
2. Which, if any, strategies could you add to your current approach?
3. What strategies are most relevant to address in your content area?

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Objective of this slide: To provide an opportunity for participants to consider their current teaching practices and the extent to which they support students with before, during, and after reading strategies

Estimated time: 6 minutes

Facilitator says:

- If you are working with colleagues, now would be a good time to pause and think about the distinction we've just drawn. Take a moment to discuss the following questions:
 - When you teach reading comprehension, do you typically focus more on before, during, or after reading strategies?
 - Which, if any strategies could you add to your current approach?
 - What strategies are most relevant in your content area?

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Sources

- Amplify. (n.d.) Microcomprehension [blog]. Retrieved from <http://blog.amplify.com/microcomprehension>
- Biancarosa, G., & Snow, C. E. (2006). *Reading next—A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York* (2nd ed.). Washington, DC: Alliance for Excellent Education. Retrieved from https://production-carnegie.s3.amazonaws.com/filer_public/b7/5f/b75fba81-16cb-422d-ab59-373a6a07eb74/ccny_report_2004_reading.pdf
- Schoenbach, R., Greenleaf, C., Cziko, C., & Hurwitz, L. (1999). *Reading for understanding*. San Francisco: Jossey-Bass.
- Beers, K. (2003). *When Kids Can't Read: What teachers can do*. Portsmouth, NH: Heinemann.
- See: <https://www.readinguniverse.org>