



Monitoring Comprehension through Metacognitive Practices (grades 4 and up)

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Acknowledgments

The content for this training day was developed based on the work of:

- Institute of Education Sciences (IES): Providing Reading Interventions for Students in Grades 4-9, Educator's Practice Guide

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Purpose

This training will deepen knowledge of instructional practices that support students in monitoring their understanding of text

Agenda

1.0 The Need for Metacognition

2.0 Instructional Recommendations

3.0 Wrap Up

1.0 The Need for Metacognition

The Need for Metacognition

- Secondary students regularly interact with complex text
- Without support, comprehension may be compromised
- Strategies can assist with monitoring comprehension



Activity 1.1: Comprehension Check

- Read the passage provided on the next slide
- Answer the following questions:
 1. How well did you understand the passage?
 - (Scale of 1-5, 1 being low)
 2. What enabled you to understand the passage?
 3. What strategies did you leverage to assist in your understanding?
 4. What if you lacked strategies to help you understand the passage?

Passage

“Synthetic nucleic acid technologies are fundamental to U.S. biotechnology and biomanufacturing innovation. However, like other transformative technologies, they carry dual-use potential: while they can drive significant progress, they pose risks of unintentional or deliberate misuse to engineer harmful biological systems. With the increased convergence of biotechnology and AI, the possibility also exists that AI could be used to design entirely novel DNA sequences, undetectable by current sequence screening tools, that may increase harm.”

Biosecurity for Synthetic Nucleic Acid Sequences; www.nist.gov

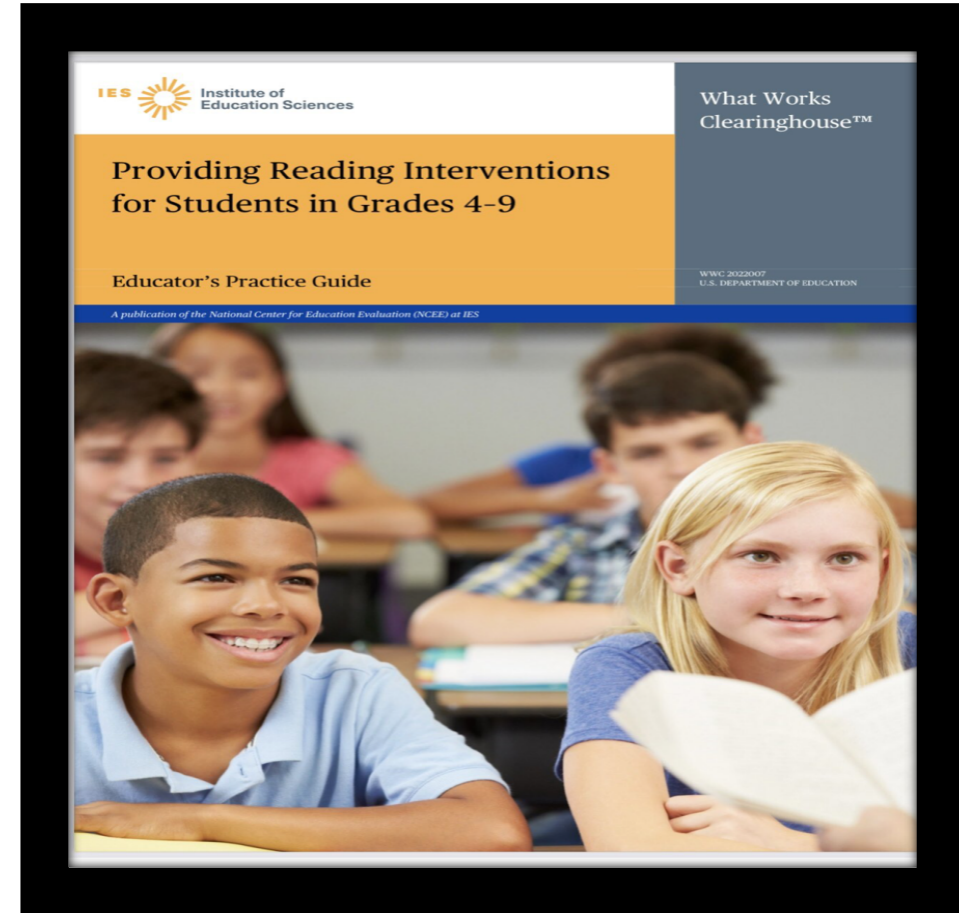
In Summary

- Proficient readers engage in metacognitive practices automatically
- All students benefit from intentional instruction on metacognition
- Instruction and practice equip students for success
 - Initial instruction
 - Refresher/Reminder

2.0 Instructional Recommendations

Research

- Institute of Education Sciences:
Providing Reading
Interventions for Students in
Grades 4-9: Educator's
Practice Guide



I. Instructional Environment Considerations

- Classrooms should foster curiosity and academic transparency
- Cultivating this environment must be overt and intentional
 - Attend to success and academic struggle

Instructional Practice: Does it Make Sense?

- Objective: To assist students in noticing misunderstandings
- Steps:
 - Students read a sentence and ask themselves, “Does this make sense?”
 - If the sentence does not make sense, the student will mark the words or phrases they do not understand
 - Discuss the statements students were not able to understand and which parts caused the problem



Activity 2.1: Does it Make Sense?

- Read each sentence
 - Answer “Yes” if the sentence makes sense, and “No” if it does not
- If you answer “no,” mark the word(s) that do not make sense
 1. A student athlete goes to school and practices every day
 2. Many people watch sports on TV for their exercise
 3. Basketball and skateboarding are two fairly new stores that began in the United States

Group Reflection: How might this simple activity benefit the students you serve?

II. Self-Questioning for Comprehension Monitoring

- Helps students maintain keen engagement with text
- Prompts celebration when comprehension is attained
- Conditions students to respond when comprehension is disrupted

Clarification

- Questioning activities can address multiple needs
 - Gain a deeper understanding of the text
 - Examples include: right-there questions; think-and-search questions, etc.
- Self-Questioning for Comprehension Monitoring:
 - Provides opportunities to process internally
 - Creates connections to previous learning

Instructional Practice: Comprehension Monitoring

- Self-Questioning for Comprehension Monitoring
- Objective: To increase student attentiveness and response to comprehension attainment or struggle during reading
- Steps:
 - Step One: Students read a section of text. After a predetermined portion is read, they stop and ask themselves:
 - What was that section of the text about? (What is happening in this section?)
 - If understanding is attained, capture notes (if necessary)
 - If comprehension is limited, move to the following steps

Self-Questioning Follow-Up Steps

- If comprehension is not attained, consider the following:
 1. If I am not sure what the section is about, ask:
 - Are there any words I cannot read or do not understand?
 - Should I reread that section again carefully?
 2. If a word or phrase doesn't make sense, ask:
 - How am I going to figure out what that word or phrase means?
 3. If I am not sure what this section is about, but it reminds me of something, ask:
 - What else do I know about this topic?

Additional Self-Questioning Follow-Up

4. If I think I know what the section is about, ask:
 - What are the main points so far? Do I need to reread and mark the main points so that I can remember them?



Activity 2.2: Questioning Reflection

- Think about your current instructional practices. Is student self-questioning for comprehension monitoring a skill that you currently incorporate in your instructional delivery?
 - If so, please share in the chat how you teach or encourage the use of the skill
 - If not, consider opportunities to incorporate the practice into your content area



Assignment 2:1: Resource Review

- Part 1: Review the Self-Questioning for Comprehension Monitoring handout
- Part 2: Review the [Comprehension Monitoring through Questioning excerpt](#) from the IES Practice Guide (page 61 Example 3D.2) of a Teacher demonstrating how to ask questions and monitor comprehension

III. Capturing Comprehension with Gist Statements

- Short statements that summarize a section of reading
- Prompt students to stop and document important details
- Give students a cognitive roadmap of their learning
- Couples well with the questioning strategy

Instructional Practice: Gist Statements

- Objective: Provides practice with synthesizing information through written expression
- Steps:
 - Identify and mark the most important person, place, or thing in the text
 - Mark and list the most important information about the most important person, place, or thing
 - Synthesize the important information to formulate a gist statement
 - Write the gist statement in your own words

Gist Statement Considerations

- A gist should:
 - Be developed after reading a short portion of text
 - Answer “Who or what is the section about?” and “What is the most important information about the who or what?”
 - Be a paraphrase (in your own words)
 - Be brief: some examples suggest a length of 10-15 words



Activity 2.3: Gist Statement Resources

- Part 1: Review the Gist Statement handout
 - Note any questions or modifications you would consider making
- Part 2: Review the following pages of the IES Practice Guide:
 - Pgs. 49-50 Example 3C.1: Teacher modeling the development of a gist statement
 - Pgs. 55-56 Example 3C.3: Teacher and students collaboratively generating a gist statement

Assignment 2.2: Gist Statement Recommendations

- If you experience challenges with teaching gist statements:
 - Review pages 57-58 of the IES Practice Guide, which addresses:
 - When students are struggling with developing gist statements
 - Students are tired of writing gist statements
 - Recommendations of texts to use for the task
 - Student inconsistency
 - Instructional delivery

IV. Comprehension Monitoring through Reflection

- Allows students to take stock of their overall learning
 - What made sense
 - What questions remain
- Provides teachers with immediate feedback

Instructional Practice: Reflection through Written Expression

- Students can reflect on their learning in the following ways:
 - Exit tickets: Open or Structured with sentence starters
 - Structured writing prompts: Writing frames

Example Sentence Starters to Complete After Reading

- Students can complete a portion or all of the sentences
 - Today I learned...
 - I was most surprised by...
 - The most useful thing I will take from this lesson is...because...
 - One thing I am not sure about is...
 - The main thing I want to find out more about is...
 - After this session, I feel (or I will)...

3.0 Wrap Up

Activity 3.1: Application and Reflection

- We have discussed the following comprehension monitoring activities:
 - Does it make sense?
 - Questioning
 - Gist Statements
 - Reflection through written expression
- What questions do you have?
- As an exit ticket, please complete the following sentence starters:
 - The most useful thing I will take from this training is...because...
 - After this training, I will...

Closing Review

- Students benefit from practice in monitoring comprehension
- Through intentional practice opportunities, teachers can:
 - Help students strengthen their ability to self-monitor their understanding
 - Create classroom environments that promote transparency

References

- National Institute of Standards and Technology, U.S. Department of Commerce. (July 30, 2025). Biosecurity for Synthetic Nucleic Acid Sequences. Retrieved from: <https://www.nist.gov/programs-projects/biosecurity-synthetic-nucleic-acid-sequences>
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