Secondary Super Strategies – QAR
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Overview
• Defining Thinking
• Metacognition
• Putting thinking first through Questioning
• Questioning as Thinking
• Teaching Questioning as Thinking

Defining Thinking
• Think/Pair/Share
  – Determine how you know that your students need to learn how to think?
  – Define what it means to think.
  – Define what it means to teach thinking.
Discussion on Defining Thinking

• “The ability to successfully explain and manipulate complex systems. By system, we mean a set of interrelated ideas, often represented in a human artifact. As students learn to think, they are able to explain and manipulate increasingly complex systems containing many discrete elements and complex relationships.” (Roberts & Billings, 2008)

• “Meaning making is not a spectator sport. Knowledge is a constructive process: to really understand something each learner must create a model or metaphor derived from that learner’s personal world. Humans don’t get ideas; they make ideas.” (Costas, 2008)

Metacognition is...

Thinking about one’s Thinking

When a person is metacognitive they:

• Monitor understanding
• Determine the strategy/strategies they can use to improve understanding
• Implement the strategy/strategies
• Continually evaluate understanding
The Components of Questioning as Thinking

A brief definition of QAR

• Question Answer Relationships
  – A strategy that students can apply to questions.
  – Gives student the tools to analyze questions to answer questions appropriately.
  – Gives teachers common vocabulary to talk about question answer relationships across the content areas and grade levels.
  – Improves comprehension of materials

• 25 years of research

QAR: An Overview

- In the Book
- In My Head
- Think & Search
- Author & Me
- On My Own

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In the Book

Right There:
A “detail” type of question, where words used to form the question and words that answer the question are often “right there” in the same sentence.

Think & Search:
The answer is in the text, but readers have to “think & search” to find the answer; sometimes within a paragraph, across paragraphs, or even chapters.

In My Head

Author and Me:
The information to answer the question comes from my background knowledge, but to even make sense of the question, I’d need to have read and understood the text.

On My Own:
The question relates to the text, but I could probably answer this one even if I had never read the text. All the ideas and information come from my background knowledge.

Modeling Putting Thinking First
Are We Predisposed to Political Beliefs?

Brain scans show that liberals and conservatives may be neurologically wired to lean politically left or right


I have always wondered about this. My brothers and I have very different views, but were brought up in the same environment.

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It’s one of the great paradoxes of television sitcom history: How did Alex P. Keaton—a character in the 1980s sitcom Family Ties portrayed by actor Michael J. Fox—the son of mellow hippie parents, become an uptight Republican who idolizes both Richard Nixon and Ronald Reagan?

“In the past, people thought that … [political leanings were], “all environmentally influenced, a combination of biological dispositions as well as cultural shaping,” says David Amodio, an assistant professor of psychology at New York University. However, a new study, led by Amodio, indicates that political bent “is not just a choice people have, but it seems to be linked to fundamental differences in the way people process information.”

How could he test this? Is he using brain scans? What types of questions would he ask? How many subject did he have?

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Amodio and colleagues report in Nature Neuroscience that they scanned the brains of 43 subjects during 500 trials of a task designed to test their ability to break from a habitual response. Prior to beginning the experiment, volunteers were asked to rate their political leanings based on a scale from -5 (extremely liberal) to +5 (very conservative). They were then given a computerized test in which they were shown one of two stimuli for 100 milliseconds (0.1 second). If an “M” popped on the screen, the respondent had 500 milliseconds (a half second) to press a key on the keyboard before him or her; if a “W” appeared, the person was told to do nothing.

Okay, I have some of the answers to the questions I asked before. (1) He first had people rate their beliefs. How does he know that each participant had the same definitions of liberal and conservative? (2) He gave them a computerized test that asked them to react to visual stimuli.
The task, known as Go/No-Go, is an example of "conflict monitoring," which Amodio says, "came about as a way to explain how we realize that we need to pay more attention." In this version, subjects became accustomed to pressing the button when they saw an "M," which appeared 80 percent of the time during the trials. Thus, when a "W" cropped up, participants faced a conflict between their trained response and a new stimulus.

Amodio says that the anterior cingulate cortex (ACC), a forebrain region, "serves almost as a barometer for this degree of conflict." People who have more sensitive activity in that area, he notes, "are more responsive to these cues that say they need to adapt their behavior," reacting more quickly and accurately to the unexpected stimulus. On average, people who described themselves as politically liberal had about 2.5 times the activity in their ACCs and were more sensitive to the "No-Go cue" than their conservative friends. They are more sensitive to the need for change and more sensitive to the need to change their behavior," Amodio says about the politically left-leaning subjects.

He plans to repeat the experiment with subjects who give views on specific hot-button political issues, such as gun control.

Okay, he is not using brain scans, so I answered a question I asked earlier: I did learn that he used participant response. I think I can relate to this my own actions, sometimes I get used to clicking things and mess up when grading my on-line class.
Questions on the text

1. What did Amodio find in his experiment?

2. What effect could Amodio’s study have on the political process?

1. What did Amodio find in his experiment?

In order to answer this question, I need to look at the text and summarize the main idea into a brief statement. Let me review. In paragraph 2, Amodio asked participants to describe their political beliefs. In paragraph 3 and 4 they described how he asked them to complete a computer task where they have to deal with the unexpected. In paragraph 5, he found that the way people responded to the stimuli affected how they reacted to the stimuli, more liberal people were less likely to click on the unexpected. Now I can compose my response.

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2. What effect could Amodio’s study have on the political process?

In order to answer this question, I need to understand the results of the study and use my knowledge about the world and my imagination. As I stated in question 1 the study found that people who described themselves as liberal were more likely to react to unexpected stimuli. In the future world, some crazy scientist or politician may say let’s test the ACC of people. If more people react than we can use this information to determine who should run the country. We could also use this information to determine if politicians really have the views they say they have. I like my second idea better.

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Activity

• In a small group read the article entitled “Henrietta Lacks’ ‘Immortal’ Cells”
  – As you read create Right There, Think and Search, Author and Me, and On My Own Questions.

QAR: An Overview

Moving On:
Expanding Language Used (Content)
Moving on: Expanding Language Used (Strategies)

- In the Book
- In My Head
- Right There
- Think & Search
- Author & Me
- On My Own

Scanning
Context Clues
Clariying
Summarizing
Using text organization
Predicting
Inferencing
Authoring
Visualizing
Main Idea
Note-Taking
Activating Prior

Expanding Further: Elaborating Categories

- In the Book
- In My Head
- Right There
- Think & Search
- Author & Me
- On My Own

Genre Analysis
School Subject Extensions
Text to Self
How to Take Notes
Text to Theme
Connections
Text to World
Connections

QAR and Bloom’s Taxonomy

- Bloom’s Taxonomy ranks questions into 6 categories based on the degree of abstraction they contain.
  - Knowledge
  - Comprehension
  - Application
  - Analysis
  - Synthesis
  - Evaluation

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QAR and Bloom’s Taxonomy

- The **Right There** questions only require the Knowledge level of abstraction.
- The **Think and Search** questions add the Comprehension and Application levels of abstraction.
- The **Author and Me** questions add the Analysis level of abstraction.
- The **On My Own** questions can require you to weigh several points of view (Evaluation) and support your point of view based on research (Synthesis).

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References