**(QAR) QUESTION-ANSWER RELATIONSHIPS**

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**What is it?**

QAR (Raphael, 1982; 1986) is a strategy that is "designed to demystify the questioning process, providing teachers and students with a common vocabulary to discuss different types of questions and sources of information for answering these questions…" (Anthony & Raphael, p. 319). There are four levels of questions during strategy use and practice.

**Two are text-based QAR's :**

· "Right There" questions ask students to respond a level; the words used to formulate the question an answer the question can be found "right there" in sentence of the text. "Right There" questions begin with words or statements such as "who is," "where is," "list," "when is," "how many," "when did," "name," "what kind of." These questions usually elicit a one-word or short response and require one right answer. Sample questions are "Who discovered America?" or "Who was the first man to walk on the moon?"

· "Think and Search" questions require students to how the information or ideas in the text relate to one another and to "search" through the entire passage they read to find information that applies. "Think and Search" questions begin with words or statements such as "summarize," "what caused," "contrast," "retell," "how did," "explain," "find two examples," "for what reason," or "compare." A sample question could be, "Which strategies could the individual described in this chapter use to improve his financial situation'

**The other QAR's could be called knowledge-based because students must use their prior knowledge to answer the question.**

· "Author and You" questions require students to answer with information not in the text; however, students must read the text material to understand what the question is asking. A sample question is, "The topic of the passage was cloning. In what instances, if ever, do you think cloning should be used?"

· "On My Own" questions can be answered with information from the students' background knowledge and do not require reading the text.

Students who become skilled at this strategy recognize the relationship between the questions teachers ask and the answers they expect; therefore, they know where to find information needed for a correct response. Although teaching this strategy can take time, Richardson and Morgan (1994) report that students who learned and practiced this strategy for as little as eight weeks showed significant gains in reading comprehension

Anthony and Raphael assert that QAR can also facilitate the transfer of control of the questioning process from teacher to learner. That is, when students become skilled at QAR, they need to rely less on heir teacher because they are able to generate different level of questions, themselves, during independent reading.

**How to use it:**

1. Introduce the strategy by giving students a written and verbal each question-answer relationship.

2. Assign short passages to be read from the textbook. As students finish reading each passage, ask them one question from each QAR category. Point out the differences between each question and the kind of answer it requires.

3. After students demonstrate that they understand the differences among the four QAR levels, assign several more short passages to be read. Again, ask one question for each category of QAR per passage, provide students with answers, and identify each question's QAR type. Discuss why the questions represent one QAR but not another.

4. Next, assign short text passages, and provide the questions and the answers. This time, however, have students identify each question as a particular QAR and explain their answer. Repeat the reading and questioning process, but have students work in groups to determine which QAR each question represents and write out their answers, accordingly.

5. At this point have students read a longer text passage. Give them several questions, not necessarily one per QAR level. Have students individually determine the QAR and write their answers. Continue assigning longer passages and various QARs for students to identify and answer.

6. Eventually, when reading is assigned in class, students should generate various QARs on their own that they present to the rest of the class for identification and answers.

**How could it be used in mathematics instruction?**

This strategy focuses on the relationship between questions and answers. It teaches students that answering different kinds of questions requires different reading behaviors and thought processes. That is, some questions require students to explore text to find an answer; some questions require students to explain something they have read; some questions require students to elaborate on what they have learned; and some questions ask students to evaluate their own thinking about a topic.

**QAR Examples related to Mathematics:**

**· Right There**

What is the additive identity?   
What is the distinguishing feature of a pentagon?  
What is the number that occurs most often in a set of data called?  
What is the name for a triangle with no congruent sides.

**· Think and Search**

Explain the relationship between a rhombus and a parallelogram.  
What are the whole number solutions to 6 < x -3 < 10?  
What are three examples of numbers that are both square numbers and triangular numbers?  
Could a number be both a triangular number and a prime number?

**· Author and You**

Based on the author's description of a stem-and-leaf graph, identify some types of data that would be well represented in such a graph.

For what data might it be useful to determine mean, mode, median, and range?   
What examples of tesselations have you seen in nature?   
Can you draw a shape that has exactly three lines of symmetry?

**· On My Own**

What might the number-S represent in football?  
What types of graphs would you suggest the newspaper use to display information on sports scores?  
What kind (shape) of container would you recommend a company use to package candy?  
Describe an unusual use of numbers you have heard or seen in the newspaper.

**QAR Examples for Social Studies content**

**· Right There Questions**

Who wrote the Constitution of the Unjted States of America?   
What are the three factors of production?   
What was the Underground Railroad?   
List the three largest rivers in Africa.

**· Think and Search Questions**

Descrjbe the roles of the three branches of government in the USA.   
Compare and contrast a command economy with a product economy.  
Summarize how the military strategies used by Grant and Sherman hastened the end of the Civil War.   
Explain the Five Pillars of Islam.

**· Author and You Questions**

Based on the author's description of local governments, identify what services local government provides in your community.   
What evidence have you seen as a consumer that confirms or refutes the information that you just read about supply and demand ?   
Based on the author's information about inventions of the late 18005, which invention from this period do you think had the biggest impact on American culture?   
Relate what you have read about life on another continent to the experiences you have living in North America.

**· On My Own Questions**

Describe a way you can become involved in a project to help your community.  
What type of business could you start that you believe would be profitable where you live?  
Identify historical sites that are within 50 miles of your school.  
Identify another country you would like to visit and explain why.

**How could QAR be used in science instruction?**

This strategy focuses on the relationship between questions and answers. It teaches students that answering different kinds of questions requires different reading behaviors and thought processes. That is, some questions require students to explore text to find an answer; some questions require students to explain something they have read; some questions require students to elaborate on what they have learned; and some questions ask students to evaluate their own thinking about a topic.

**QAR Examples that apply to science content:**

**· Right There Questions**

What is a warm-blooded animal?   
Name the device that changes solar energy into electrical energy.   
What is the movement of air from land to water called?   
List the three types of muscles.

**· Think and Search**

Describe the characteristics of a reptile.   
Compare and contrast solution and suspension.   
Explain the four kinds of air masses.   
Summarize how the blood moves through the body.

**· Author and You**

Based on the author's description of mollusks, identify animals that you have seen that fit that classification.   
What evidence have you seen over the past three years that confirms or refutes the information that you just read about global warming?   
Based on the author's information about energy sources, which resource would be most efficient for you to use if you were designing a home?   
Relate what you have read about potential and kinetic energy to experiences that you have had at an amusement park.

**· On My Own**

Describe a bone or muscle injury that you have experienced.   
What can you do to help stop water pollution?   
Identify constellations that you have observed.   
What are your thoughts about nuclear energy?

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