

## What is a QRS?

**A QRS consists of three parts:**

**Q** = Questions; these are questions that you think of as you read. Please write them as they occur to you. Don't wait to the end of the reading to write your questions; undoubtedly, you will forget some of them!

**R** = Reaction; this is how you feel as you read. Is it confusing? Do you enjoy it, hate it, etc.? Cognitive scientists have documented a significant link between emotion and memory. Thinking about your emotional reaction to a reading should promote retention of the material.

**S** = Summary; this is a brief description of the **MOST IMPORTANT** points in the reading. What are the main ideas that the author is trying to convey?

## Rationale for Using QRS

QRS is an active reading strategy that is designed to get you to think more carefully about what you are reading. The technique is modified from one originally developed by Clark Presson at Arizona State University (unpublished). A full description of the modified technique is available at <http://serc.carleton.edu/NAGTWorkshops/sedimentary/activities/13719.html>.

*Using this strategy, you should discover that you get much more out of each reading. QRS assignments will focus on selected papers from the primary literature (science or science education journals). These readings will relate to a specific topic that we are currently discussing or using in class.*

*Using the QRS strategy, you will be engaging higher order thinking skills which otherwise might not come into play as you read. For example, by using QRS, you should be able to*

- *read papers from the primary literature and extract central concepts (synthesis).*
- *recognize areas where their understanding of a reading is weak (metacognition).*
- *formulate specific questions to raise in class discussion (questioning and evaluation).*
- *critically analyze the data supporting central concepts in papers (evaluate).*
- *relate content from assigned reading to previous readings, discussions, lectures or other experiences (synthesis).*

## Using QRS and Evaluation

*For each reading, you will write a QRS that will be 2-3 pages (typed, double spaced). Due dates for QRS assignments are given on the syllabus. In general, you will have a week from the time the QRS is assigned until it is due. Each assigned QRS will be graded so that I can monitor your comprehension. In addition, the questions you generate in writing your QRS will become the focal point for class discussions of some of the readings. A rubric with a 15 point scale(below) will be used in evaluating QRS submissions.*

Rubric for QRS Assignments						
Score	Questions	Score	Response	Score	Summary	Score
5	Questions are insightful and demonstrate thorough engagement with reading.		Reaction is a thorough and honest description of the student's reaction to the reading.		Summary is detailed and includes the most salient points of the reading.	
4	Questions are strong and show considerable thought.		Reaction is honest and explores at least one aspect in depth.		Summary includes most salient points but lacks detail.	
3	Questions are good and most are thoughtful.		Reaction is honest, but lacks depth and personal exploration.		Summary is thorough but a major idea is not addressed sufficiently.	
2	Questions and reaction are inconsistent. Some are thoughtful, but some are rather superficial		Reaction is shallow, includes some personal aspects but is mainly abstract.		Summary is weak and lacks one or more major ideas from the reading.	
1	Questions are cursory and do not demonstrate depth of thought.		Reaction is more of a summary or abstract discussion, not individualized or personal.		Summary is weak and lacks several major ideas from the reading.	
0	Questions are incomplete or missing.		Reaction is incomplete or missing.		Summary is incomplete or missing.	
<b>Total Score:</b>						