Rigor, Relevance and Reading for High Performing Students

1. Teaching in Info Age
2. Rigor and Relevance
   - As a framework for using the strategies
3. The Strategies:
   - Defining
   - Summarizing
   - Comparing

Put this workshop to the test.
Will it be rigorous and relevant to your teaching?

“I need someone well versed in the art of torture – do you know PowerPoint?”

High school social studies teacher
- World History
- US History
- Economics
- Sociology
- Media Studies

Program designer and administrator
- K-12 Social Studies Coordinator
- Program Director: At-Risk Students
- Assistant Superintendent for Instruction

Taught at two of Newsweek’s 100 Best High Schools in America
- Panelist and Mentor, National Endowment for the Humanities “Younger Scholars” Program
- Reviewer, “National Programs of Excellence” National Council for the Social Studies

Senior Consultant - ICLE

Do we ask our students to work with Transformers?

Who is doing the thinking in the classroom?
Example: “Compare and contrast …”

- Do they go back and sort through the data and generate their own scheme?
- By the time the student gets the task, is the messy work of comparing long gone?
- Is the dynamic act of comparing reduced to a few fixed models that they are asked to imitate?
- Is it really an exercise in memorizing and repeating the appropriate (complex) information that others have told the student?

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
I could memorize very easily, and became valedictorian. But I was embarrassed that I understood much less than some other students who cared less about grades. I felt that my brain was a way station for material going in one ear and (after the test) out the other.” — HS Student quoted in Wiggins and McTighe Understanding by Design

But schools function as if they still controlled the flow of information:

Access, catalogue and share the music they want to listen to

Post blogs, podcasts, online photo galleries

Follow elaborate, multilevel plotlines, teeming casts of characters and open-ended narrative structures

Interact and collaborate online in elaborate databases

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Gaming:
Advance to a new level.
Deciphers a new puzzle.
Problem-solve.
Differentiated.
Immediate feedback

Most information comes to students outside the context of school.
They are free to select the information they agree with and avoid most everything else.

Schools should recognize the realities of the information rich world our students live in.
• Offer students skills and context to make some sense of all of it
• Structure learning environments that let students use information to make decisions and solve problems

Offer equity for student who can’t afford new media tools.

Only 30 years ago, if you had a choice of being born a B student in Boston or a genius in Bangalore, you probably would have chosen Boston, because a genius in Beijing could not really take advantage of his or her talent. Not anymore. Not when the world is flat, and anyone with smarts, access to Google and a cheap wireless laptop can join the innovation fray.”

“Any activity where we can digitize and decompose the value chain, and move the work around, will get moved around.
People in advanced countries have to find ways to move up the value chain, to have special skills that create superior products for which they can charge extra.”

The World Is Flat
A Brief History of the Twenty-First Century.
By Thomas L. Friedman.

“Any activity where we can digitize and decompose the value chain, and move the work around, will get moved around.
People in advanced countries have to find ways to move up the value chain, to have special skills that create superior products for which they can charge extra.”

We put students at the center of their own learning
• Willingness to explore
• Make fruitful selection of appropriate strategies
• Be able to think critically about the progress of their work
• Trade a weak explanations for stronger ones
• Be able to correct paths of investigation that aren’t working
• Turn a strategies back on themselves to see its limitations

“Analyze the impact of globalization since the end of the Cold War.”

Is it really “Tell me what I’ve told you about globalization?”
Are asking students to decide:
1. How will you define the term globalization?
2. Which data, events or trends will you choose?
3. Which strategies will you use?
4. From which perspectives will you consider them?

Who makes these decisions – teacher or student?

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
"Analyze the impact of globalization since the end of the Cold War."

Choose a perspective, or point of view:
• Cultural
• Religious
• Political
• Technological
• Economic
• Linguistic

How would you structure the task for your students?
Which aspects would be left for them to decide?
• Source material
• Perspective
• Strategy

Students must take on the challenge of intellectual work - rather than just look for the right answer.

Rigor, Relevance, and Learning Strategies

Rigor

Relevance

Quadrant A

Gather and store bits of knowledge and information. Primarily expected to remember or understand this knowledge.

Example
Pick the right definition

Quadrant B

Apply knowledge in real-life situations.

Example
Compare car lease to loan

Quadrant C

Use knowledge to analyze and solve school-based problems and create solutions.

Example
Analyze symbolism in a poem

Quadrant D

Apply knowledge and skills in complex ways to analyze and solve real problems and create solutions. Confront real-world unknowns.

Example
Take part in a classroom role-playing debate

Bloom’s different levels of rigor

Evaluation: appraise, defend, predict

Synthesis: compose, design, develop

Analysis: compare, contrast, categorize

Application: demonstrate, illustrate, solve

Comprehension: describe, explain

Knowledge: memorize, name, recognize, recall

Rigor, Relevance and Reading for High Performing Students

A one hour introductory workshop by Peter Pappas

www.peterpappas.com
Rigor, Relevance and Reading for High Performing Students

- Assessments exist in each quadrant.

Motivate students - connect them to their learning

- What am I learning today?
- Why am I learning it?
- How can I use this knowledge and these skills to make a difference in my life?
- How can I work with teachers and other students to improve my learning?

Motivate with the right skills applied to the appropriate task

- You have to know your students and set the instructional target at the correct distance
  - Too close – boring
  - Too far - give up
- Need to find the right balance between knowledge, skills and thinking process

We need to think critically about technology and instruction

- Change the focus from – how to use the technology to a critical analysis of:
  - What tools are available? (comprehension)
  - What can they do? (analysis)
  - How can they be used to improve teaching and learning? (evaluation)

Use essential questions based on enduring understandings

- Timeless – relevant
- No obvious right answer
- Overarching and at the heart of the discipline
- More rigorous – analysis, synthesis, evaluation
- Provoke and sustain student interest

Move from depending on the teacher to students able to identify their own strengths and weaknesses

We need to think critically about technology and instruction

- Change the focus from – how to use the technology to a critical analysis of:
  - What tools are available? (comprehension)
  - What can they do? (analysis)
  - How can they be used to improve teaching and learning? (evaluation)

Use essential questions based on enduring understandings

- Timeless – relevant
- No obvious right answer
- Overarching and at the heart of the discipline
- More rigorous – analysis, synthesis, evaluation
- Provoke and sustain student interest

Move from depending on the teacher to students able to identify their own strengths and weaknesses

A one hour introductory workshop by Peter Pappas

www.peterpappas.com
The Strategies

- Define: negotiating meaning
- Summarize: synthesis and judgment
- Compare: assessing similarities and differences

Good learners can manage their own learning and apply an arsenal of learning strategies in an effective manner.

Most definitions contain two main components:
1. The core idea of the new term - its main idea, or category
2. Critical features, distinguishing details or specific examples that clarify the broader, more general core idea.

"Acculturation ... is a social interaction ... in which a subordinate group adjusts its behavior to conform to that of the dominant group."

To define something is to look at it more clearly:
- "Well-defined" means we can perceive its boundaries again a background.
- Rarely a matter of seeing things in isolation, but rather recognizing relationships.
- Definitions are flexible - expand, contract and shift in emphasis depending on context and perspective.

Least effective ways to study vocabulary:
- "Look and remember" technique - students typically stare at the term and definition.
- "Rote verbal rehearsal" - saying it over and over again, usually in the exact language and format in which the definition originally came.

What does work?
- New terms must be defined using language and examples that already are familiar to students.
- It needs to be processed by the student to become well "networked" and a permanent part of memory.

Rigor, Relevance and Reading for High Performing Students

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
**Adolescent**, n., a 24-year old too busy playing Halo 2 on his Xbox or watching SpongeBob at his parents' house to think about growing up.

**Bangalored**, adj., (of a corporation, project or employment) having been relocated to India, esp. when technological; having lost business or employment due to such a relocation.

---

**Rigor, Relevance and Reading for High Performing Students**

- Use word parts to negotiate meaning for these "new terms" **Adultescent**  **Bangalored**

- List, Group, Label Example "Revolution"
  - 1. List all the words they can think of related to the subject
  - 2. Group the words that you have listed by looking for word that have something in common
  - 3. Once grouped, decide on label for each group
  - Use a variety of skills - prior knowledge, identifying, listing
  - Use words in multiple contexts allow to be creative.
  - Group work exposes students to thinking of others

- Students internalize new vocabulary when they explore the words –
  - Think about terms, examine and reexamine in new ways.
  - Apply their understanding - opposites and analogies
  - Create multiple formats for which students can elaborate on the meaning of new terms

- Increase rigor and relevance with non-linguistic definitions
  - Charades, role play, tableau

---

**Let them design symbols to represent terms**

- How could they graphically represent these terms?
  - Symbols
  - Federalism
  - Asymmetry

**Increase rigor and relevance with a personal vocabulary notebook**

**Term:** Segregation

**Dictionary Definition:** The policy or practice of forcing racial groups to live apart from each other

**"My" definition:** A time when African-Americans used to have separate schools

**Comparison:** I thought of segregate more as a time period, but the dictionary calls it a practice or policy

**Term:** Impressionist style

**Dictionary Definition:** Captures the atmosphere of an instantaneous moment in time. Characterized by concentration on the general impression produced by a scene and the use of unmixed primary colors and small strokes to simulate actual reflected light.

**"My" definition:** Your definition here

**Comparison:**

---

**A one hour introductory workshop by Peter Pappas**

**www.peterpappas.com**
Develop a Venn diagram comparing these paintings.

Move rigor to evaluation. There's a fire in the museum. You have time to save one painting. Which do you save? Why?

Consider the use of familiar terms in a specialized context.

- Identify key words in passage
- Ask students to read the passage with special attention to the context in which the term is used
- Ask students to discuss how the author has used the term in this specific context
- Ask them to refine their preliminary definition of the word

Refining meaning in an academic discipline … “Model”

“Model” before us was a single molecule of hemoglobin of horse in its oxygen-carrying state. It was surprisingly large… within a cubical frame about four feet long. He picked up a pointer to trace the twisting, swooping paths of the four chains in the model. The red cords and white ones, he said, were not the real structure but only aids to the eye.”

— Horace Freeland Judson, The Eighth Day of Creation: Makers of the Revolution in Biology

Why does the market model still attract academic economists?

First, … it provides them with familiar concepts and assumptions to bring to bear on contemporary issues.

Second, the simplifying assumptions of the market model provide a base from which mathematical models can be constructed and refined.

— Michael H. Best and William E. Connolly, The Politicized Economy

How would you re-define “Model” in an academic context?

“Finalize” the mastery by asking students to make connections to the new term

1. How the term is related to previous subject matter they have learned
2. Identify something from their personal life associated with the term
3. How the term is used in real-life situations
4. How their understanding of the term has evolved

An essential part of this elaboration process is having the students explain the connection.

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
**Rigor, Relevance and Reading for High Performing Students**

**Strategies #2:**

Summarizing: synthesis and judgment

- Students negotiate specialized meanings in academic discipline
- Student compares their own definitions to real-world example

**To sum up...**

Research shows student use of summarizing skills results in a 34-percentile gain in student performance. Classroom Instruction that Works, ASCD, 2001

**Case 1:**
Teacher lectures on the essential characteristics of mammals

**Case 2:**
Teacher lectures and then students do a summarizing exercise on the essential characteristics of mammals

+ 34% gain in content mastery

Summarizing is not a passive task calling for little more than accuracy

- Calls for active, creative thinking and writing.
- Engages student judgment.
- Works in coordination with other strategies.

Example: use a summary when making a comparison

**How to Strengthen Summarizing Skills**

1. Common to textbooks
2. Summarizing is critical to comprehension
3. Students need to be able to construct effective summaries to pass information on, to build on it, or to criticize it.

Summaries - condensed presentations of material appearing elsewhere in fuller forms.

**Backward Design**
Identify the Desired Result

Given an image students will be able to demonstrate an ability to interpret a visual document by clearly identifying the people, objects, and activities in the image.

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Start with Observation: Inventory the Image

• Study the image for 2 minutes. Form an overall impression of the image and then examine individual items.
• Next, divide the image into sections and study each to see what new details become visible.
• List people, objects, and activities in the image.

Increase rigor with inference - Based on what you have observed, list three things you might infer from this image.

What questions does this image raise? Where could you find answers to them?

Differentiate the objective for different ability levels

Using the visual document supplied by the teacher
• Identify - comprehension
• Classify - analysis
• Draw your version - synthesis
• Judge based on criteria - evaluation

Different levels of Bloom’s rigor

Quickly gather and organize student observations with “post-its”

Make summarizing more rigorous and relevant with Evaluation

Which photo would you use? What’s in the images? What’s left out?

Teach and model active listening and reading as foundation for summarizing

Getting the spoken message right
• “So what your saying is…”
• “So what I’m hearing is…”

Leads to getting the written message right
• “So what the author is saying is…”
• “Do you agree with the author’s point that…”

“I approached the hungry and desperate mother, as if drawn by a magnet. I do not remember how I explained my presence … she asked me no questions … I did not ask her name. She told me that she was thirty-two. They had been living on vegetables from the surrounding fields, and birds that the children killed. She seemed to know that my pictures might help her, and so she helped me. There was a sort of equality about it.” Dorothea Lange

“Migrant Mother” 1936 Nipomo, California

A one hour introductory workshop by Peter Pappas

www.peterpappas.com
The teacher models strategies then transfers responsibility to students working in small groups. Students learn to independently and flexibly apply the strategies on their own.

- **Questioning** poses questions based on a portion of a text the group has read, either aloud or silently.
- **Clarifying** resolves confusions about words, phrases, or concepts, drawing on the text when possible.
- **Summarizing** sums up the content, identifying the gist of what has been read and discussed.
- **Predicting** suggests what will next happen in or be learned next from the text.

**Text-Based Collaborative Learning**

Don’t just discuss a topic - interact with each other around a text.

- Small groups similar to elementary literature circles.
- Can use differentiated source materials
- Can be used in any subject area – work together on the same or a set of similar problems
- Learning is decentralized - the meaning drawn from text(s) is negotiated through a group process.

**Open class with a “Quick Write” – reinforce learning and transition to a new day**

- As students enter the room they see a prompt that requires them to revisit a previously learned concept.
- While teacher handles routine matters that often delay the beginning of instruction
- Students are reminded to write briefly but in complete sentences.
- After 5 minutes, selected students read their answers aloud to the class. Students are instructed to read exactly what they have written.
- This requires quick organization of thoughts and prevents rambling oral replies.

**Quick Write is followed by discussion**

- Teachers call on volunteers, drawing out divergent viewpoint:
  - “Does anyone have a different idea?”
  - “Did anyone have another way of thinking about it?”
  - “You look puzzled. Do you have a different idea?”
- Stimulate students’ higher-order thinking about a concept from the previous day.
- Class is now ready to link this newly anchored understanding to the content of the upcoming class.

**“What is the most interesting thing you learned during the unit we just finished?”**

- Communicate meaningful examples to peers
  - Learn to organize their thoughts
  - Clarify misunderstandings
  - Apply and build content-specific vocabulary
- Feedback for the teacher
  - Students reasoning / misperceptions become apparent
  - Modify pace as needed

**Primacy – recency effect:**

- Students remember the first and last elements of the lesson
- Summarize throughout the lesson
- At the opening to activate prior knowledge and prime their brains to pay attention
- Reserve time at the end of class for students to summarize and reflect on the lesson
- “Chunk” longer lessons in 15 minute sections
  - Summarize sections to “file learning” in long term memory
  - Interim summaries build understanding of full lesson

**Remember to teach students to evaluate their own summaries**

- Are the ideas in the right sequence / organization?
- Is it too narrow or broad?
- Would someone else reading my summary understand the subject?
- Does it convey the information accurately and fairly?
- Did my summary suit my purpose?
- Did I use my own words and style?

**Writing an effective summary**

- Recognizing how a piece of writing is organized helps to summarize it
- Calls for the ability to see connections between general, more abstract points and the specific points supporting and complicating them.
- Summaries can vary in length according to purpose - gaining or losing detail at each level of abstraction.

Students may need to first map out the main points in a rough outline so that they can see the relationships

**Reinforce that all summaries involve interpretive decisions.**

- Should always attempt to represent the original fairly.
- Can expand or contract to suit a writer’s purpose - details can drop from sight.
- To make use of apt quotations and to edit for compression.

- Student should stay focused on the purpose of their summary

---

A one hour introductory workshop by Peter Pappas

www.peterpappas.com
On one side, beloved by schools of education, are the century-old ideas of progressive education, now called "constructivism." Associated with this philosophy are such approaches as whole language, fuzzy math, and invented spelling, as well as a disdain for phonics and grammar, an insistence that there are no right answers (just different ways to solve problems), and an emphasis on students' self-esteem. By diminishing the authority of the teacher, constructivist methods often create discipline problems.

By diminishing the authority of the teacher, constructivist methods often create discipline problems.

On the other side are those who believe that learning depends on both highly skilled teachers and student effort; that students need self-discipline more than self-esteem; that accuracy is important; that, in many cases there truly are right answers and wrong answers (the Civil War was not caused by Reconstruction); and that instructional methods should be chosen because they are effective, not just because they fit one's philosophical values.

Why Does Smoking Raise Your Risk of Heart Disease? A study published in 2005 found that smoking is a significant risk factor for heart disease.

Most scientists believe our solar system was formed 4.6 billion years ago with the gravitational collapse of the solar nebula, a cloud of interstellar gas and dust, and was formed from previous generations of stars. As these went on the grains of saw dust fell from the solar nebula into and stuck to one another, eventually forming the planets, moons, comets, and asteroids we know today.

Add Reading Level to Spell Check
Tools / Options / Show readability statistics

Tools / Track Changes / Highlight Changes

Model summarizing skills with technology

Model summarizing skills with technology

We often ask students to order material sequentially or explain steps in a process.

- Do we call for the recollection of course information in the same form students have read or listened to it?
- Do we reward accuracy or critical thinking?
- Are we simply requesting a rehash of course material?

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Rigor, Relevance and Reading for High Performing Students

Serial strategies are helpful to convey a process or set of procedures, the flow of events, or the development of awareness over time.

- Serve to both convey information and raise questions.
- Can work as the overarching strategy for organizing writing in coordination with other strategies.
  - Support a definition by illustrating the shifting meanings of a particular word as it has changed over time.
  - Framework for a comparison or classification.
  - Structural component of an argument.
- Can serve as the prompt for a creative interpretation of the content.

Serializing is a chance to be creative.

Mastery of comparison skills is critical to academic achievement.

- Central construct in academia.
- Critical to comprehension.

We need to prepare students to effectively address comparative tasks and generate their own models.

- Comparative literature
- Comparative religion
- Comparative anatomy

“Contrast the function of pores in humans and stomata in plants.”

“Compare the nautical elements in the fiction of London and Conrad.”

Research shows student use of comparison skills results in a 45 - percentile gain in student performance. 

Classroom Instruction that Works, ASCD, 2001

Case 1:
Teacher lectures on the essential characteristics of mammals

45% gain in content mastery

Case 2:
Teacher lectures and then students do exercise comparing the essential characteristics of mammals to birds

To enhance students' understanding and ability to use knowledge:

1. Present students with explicit guidance in identifying similarities and differences.
2. Present students with highly structured tasks (items and characteristics.)
3. Teacher-directed activities yield more specific conclusions by students.
4. They can lead to rich discussion and inquiry by students to explore the comparison.

Does this task require higher-order thinking? “Compare and contrast the …

Will students be doing the real work?

- Will they sort through original material to draw their own conclusion?
- Will they define the analytic approach?
- Is this a “check-for-the-correct-answer” question?
- Will they repeat the information as it was organized and presented in their textbook or by their teacher?

What’s the point of the comparison?
What do they learn?

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Students develop their own models of comparison

1. Ask students to independently identify similarities and differences.
2. Student-directed yield more divergent conclusions by students.
3. Can include some combination of selecting both the items and/or characteristics.

A more rigorous application of summarizing skills

Quantitative comparison in a real world problem

Economics
- Your team will assist World Bank in the analysis of global development projects.
- Focus on the statistical and quantitative measures.
- Compare, contrast and assess the performance of various nations around the world.

Hypothesis
- Literature review
- Data
- Conclusions
- Research assessment
- Work cited

Move from Comparing to Classifying

1. Comparing is the process of identifying similarities and differences between or among things or ideas (technically contrasting is looking for differences.)
2. Classifying is the process of grouping things that are alike into categories on the basis of the characteristics.

Classification from two perspectives

- We typically ask students to take someone else's classification system and thoughtfully apply it.
  - This isn't difficult when the system itself is easy to grasp.
  - But when the system is complex, such assignments put pressure on students' abilities to read, interpret, and explain.
- We rarely ask students to generate a classification system of their own. Creating categories gives them a chance to assert their intellectual independence.

A very rigorous and relevant assignment: a student-directed classifying exercise

1. What do I want to classify?
2. What things are alike that I can put into a group?
3. How are these things alike?
4. What other groups can I make? How are the things in that group alike?
5. Does everything fit into a group now?
6. Would it be better to split up any of the groups or put any groups together?

Look at leaves … how would you classify them?

Veins are parallel.
- Stem is hollow – Grass
- Stem is not hollow – Rush
- Stem has edges – Sedge

Veins are not parallel.
- Leaves are compound
  - Three leaflets – Poison Ivy
  - Four or more leaflets – Poison Ivy
- Leaves are not compound

Student Designed System

Compare their classification system to the real thing

Veins are parallel.
- Stem is hollow – Grass
- Stem is not hollow – Rush
- Stem has edges – Sedge

Veins are not parallel.
- Leaves are compound
  - Three leaflets – Poison Ivy
  - Four or more leaflets – Poison Ivy
- Leaves are not compound

Design a periodic table of buttons

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Rigor, Relevance and Reading for High Performing Students

Increase rigor of classification
– add evaluation and decision-making

<table>
<thead>
<tr>
<th>Decision</th>
<th>Criteria for evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Criteria 1</td>
</tr>
<tr>
<td>Option 1</td>
<td></td>
</tr>
<tr>
<td>Option 2</td>
<td></td>
</tr>
<tr>
<td>Option 3</td>
<td></td>
</tr>
</tbody>
</table>

Make it relevant - Choose a college

<table>
<thead>
<tr>
<th>College choice 1</th>
<th>Criteria for evaluating schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cost</td>
</tr>
<tr>
<td>College choice 2</td>
<td></td>
</tr>
<tr>
<td>College choice 3</td>
<td></td>
</tr>
</tbody>
</table>

Quantify classification
with a content analysis

Sample Research Question: What types of stories are prevalent in the evening news?
- How will you categorize your observations?
- How will you organize your team to gather and evaluate the information?
- How will you record and present your findings?

How will you quantify your observations?
- Time the length of news stories?
- Record the frequency of certain categories you develop?
- Just an announcer talking vs live footage of the event?
- Order of presentation in news program?

A rigorous and relevant presentation plan for content analysis
1. The research question and why you are interested in answering it.
2. The rationale for your method of observation and record keeping.
3. How you gathered and evaluated your data.
4. Graphic representation of the data.
5. The answer to the research question.
6. What you learned from the project.

Summary Session: Learning Strategies for Rigor, Relevance and Reading

The art of observation
- What do you see – what do you call it?
  - defining
- How do you gather your observations?
  - Summarizing
- What patterns do you see?
  - Comparison and classification

We put students at the center of their own learning
- Willingness to explore
- Make fruitful selection of appropriate strategies
- Be able to think critically about the progress of their work
- Trade weak explanations for stronger ones
- Be able to correct paths of investigation that aren’t working
- Turn a strategy back on itself to see its limitations

A one hour introductory workshop by Peter Pappas
www.peterpappas.com
Rigor, Relevance and Reading for High Performing Students

Workshop References

- Summarization in Any Subject
  Rick Wormeli  ASCD 2005
- Words, Words, Words
  Janet Allen  Stenhouse 1999
- Classroom Instruction that Works
  Marzano, Pickering Pollock,  ASCD 2001
- Strategic Reading in the Content Areas
  LaRocco, Sessoms  ICLE 2003
- Reading for Academic Success
  Strong and Silver  Corwin Press 2002

- Critical Strategies for Academic Thinking and Writing
  Mike Rose, Malcolm Kiniry  Bedford 1998
- Do I Really Have to Teach Reading?
  Cris Tovani  Stenhouse 2004
- Teaching Reading Strategies in Social Studies, Science and Math
  Laura Robb  Scholastic 2003
- Teaching Reading in the Content Areas
  Jane Doty  McRel 2003
- Building Background Knowledge
  Bob Marzano  ASCD 2004

For more resources:
www.peterpappas.com

Content Reading Strategies Workshops:
Tailored to your training needs

June 2005
Winnfield Louisiana

A one hour introductory workshop by Peter Pappas
www.peterpappas.com