


Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Rigor, Relevance and Reading for Content-Area Mastery


High School

**Peter Pappas
President, Edteck**



Agenda

1. Rigor and relevance in action
2. Literacy Strategies - Defining, Summarizing and Comparing
3. How you can use in your classrooms



Copy Paste
Dedicated to relinquishing responsibility for learning to the students

Go to:
peterpappas.blogs.com
for updated color handout




Contact info:
me@peterpappas.com
Cell: 585-355-5859

Variety of workshop models:

- Keynotes
- Conference presentation
- Community outreach
- Faculty - interdisciplinary
- Train-the-trainer
- One-day, multi-day, long term

www.peterpappas.com


Links to:
Showcase of projects
Presentations and Clients
Resources



Digital Publishing: Rigor, Relevancy & Literacy in Action

Last Breakout

- Digital publishing gives students a chance to share their thinking for an authentic audience and purpose.
- Digital foldables with FlipNLearn: www.FlipNLearn.com
- Paperback books with EdteckPublisher www.edteck.com/publish



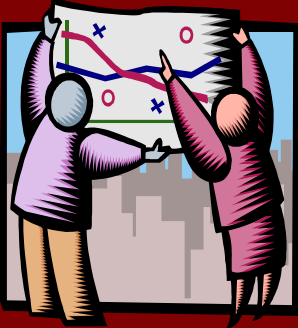
Audience Response System courtesy of:

Christina Stellers
Turning Technologies
330-884-6252
cstellers@turningtechnologies.com



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Rigor and Relevance in the 21st Century



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

Rigor: Bloom's taxonomy

Evaluation: appraise, defend, predict
Synthesis: compose, design, develop
Analysis: compare, contrast, categorize


----- Basic Skills -----

Application: demonstrate, illustrate, solve
Comprehension: describe, explain
Knowledge: memorize, name, recognize, recall

When can students start doing higher level thinking?

- You give the students a selection of familiar objects and ask them to classify them
- You scaffold / model the task, but they develop the classification independently
- They should be able to describe reasons for classification
- When adding a new object they can put in correct category or modify system to accommodate the new object

Higher-level thinking skills



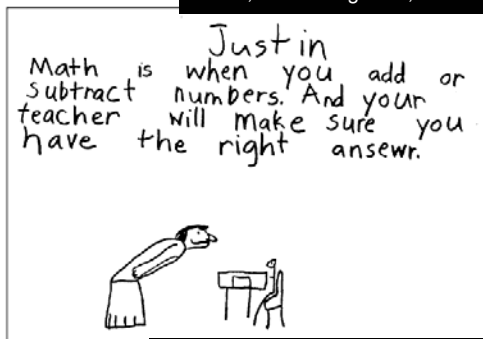
Complex use of knowledge

In School: Test scores, class credits, academic progress

In life: Performance, ability to adapt to change

Recall of knowledge

Justin, a second grader, talks about math




Only right answers count.
Teachers tell you how to get those right answers.
You work by yourself to solve problems.

From: Math Is Language Too: Talking and Writing in the Mathematics Classroom
Phyllis Whittin

Question: A cruise ship carries 200 passengers and crew. Each life boat carries 30 passengers. How many lifeboats will the ship need?

Almost one-third of the 8th graders who took a NAEP math test answered


"6 remainder 20"



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

From a high school valedictorian:
 "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."
 ~ High School Student quoted in Wiggins and McTighe *Understanding by Design*

And make it relevant with **real-world application**

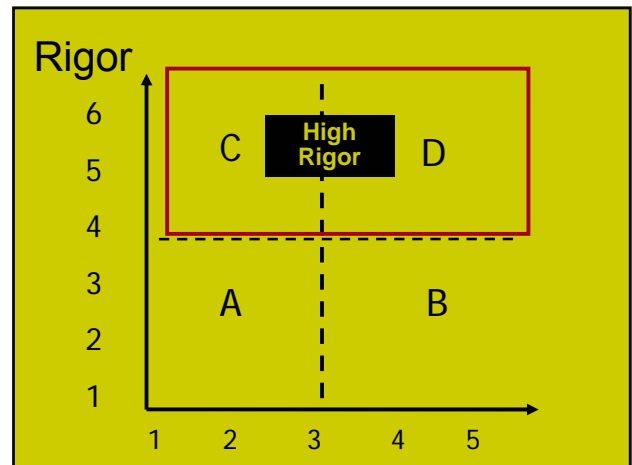
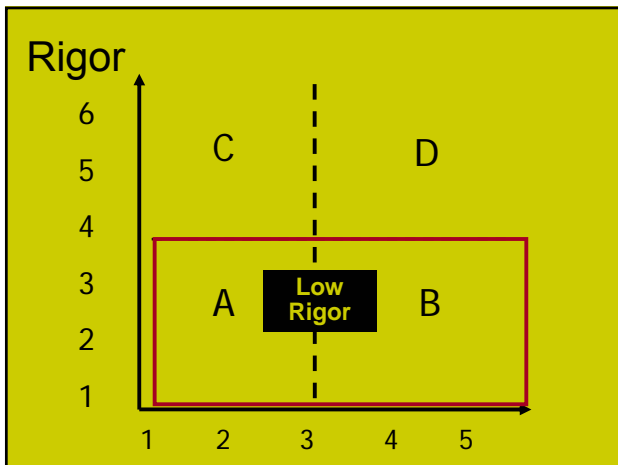
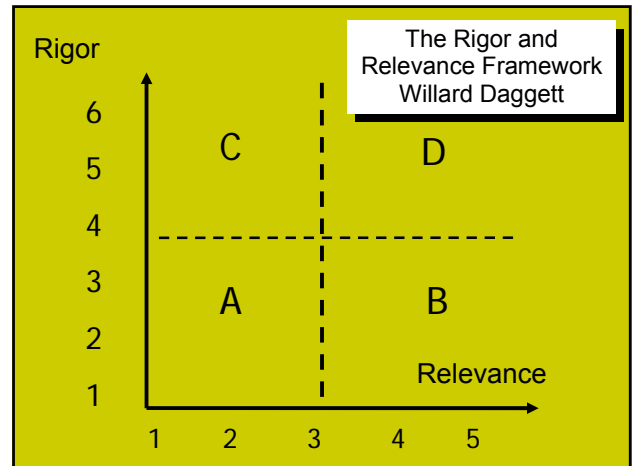


Using skills and knowledge in school Using skills and knowledge for myself in the real world

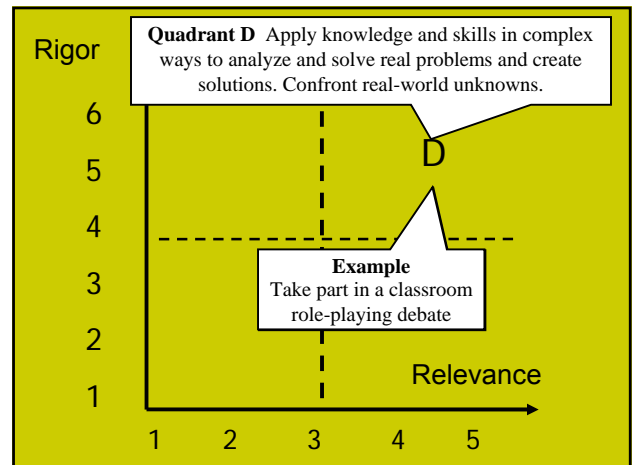
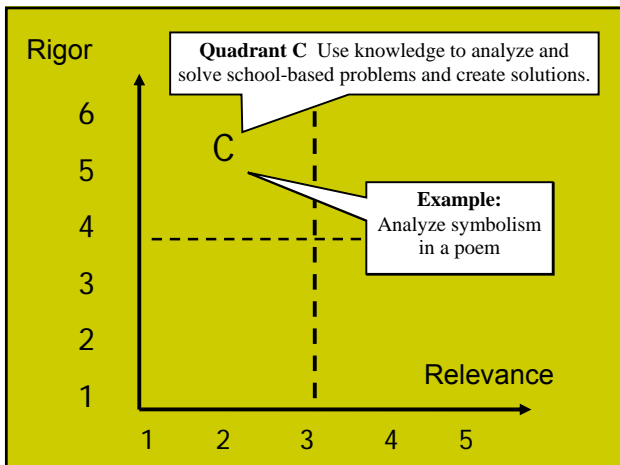
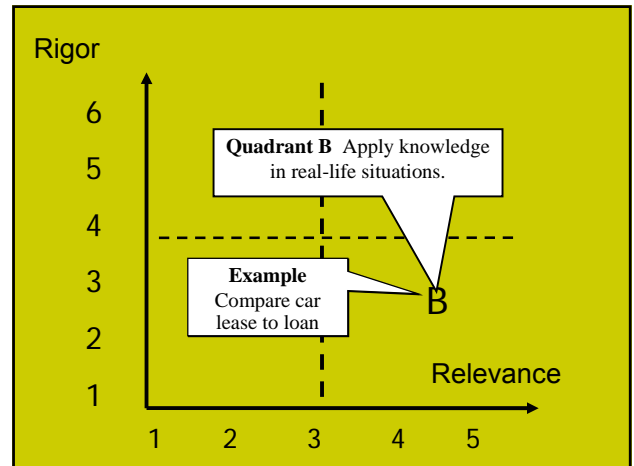
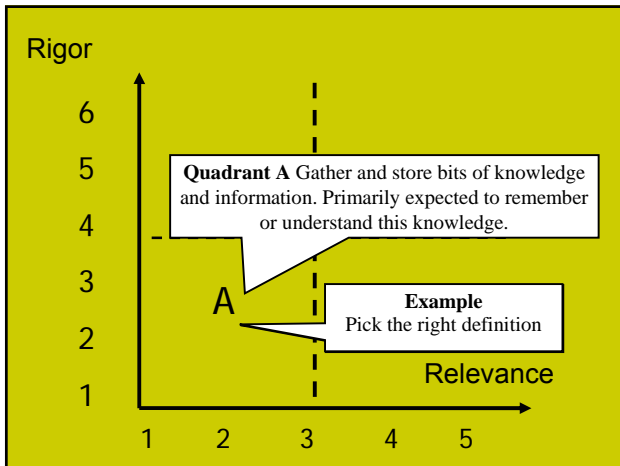
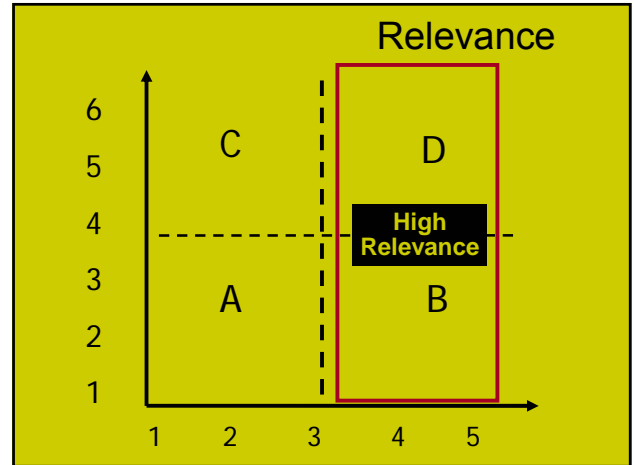
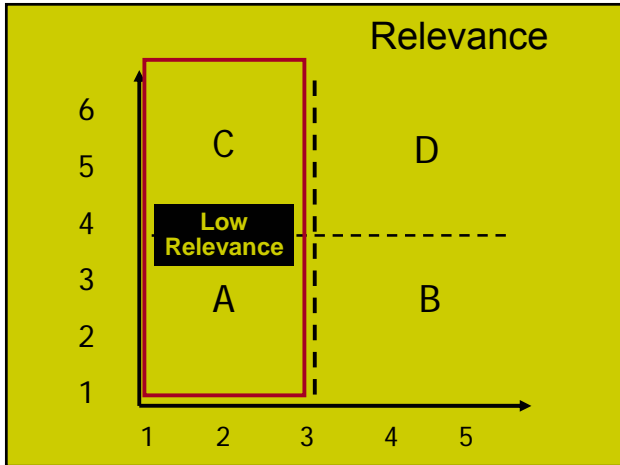
1 2 3 4 5

Relevance

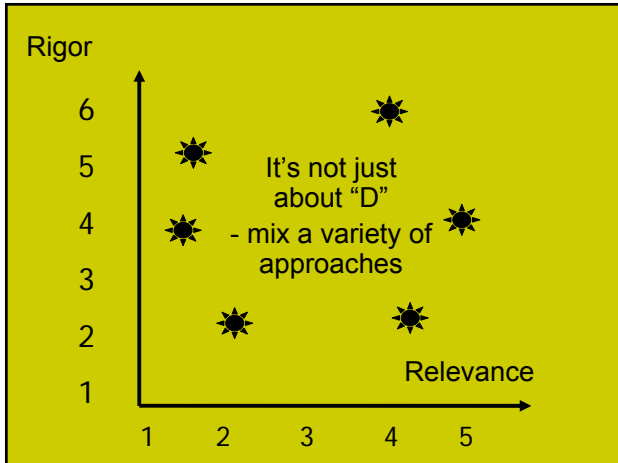
1. I understand how this information or skill has some application in life.
2. I have an opportunity to construct my own understanding rather than just learn "the facts."
3. In addition to learning content and skills, I am learning how to learn .



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



Rigor, Relevance and Reading for Content-Area Mastery
2007 MAPSA Conference - High School Session



If the learning is student centered... shouldn't they be involved in assessing their own progress?

Engage students with
Synthesis and
Evaluation

What's special about Synthesis?

Evaluation: appraise, defend, predict

Synthesis: compose, design, develop

Analysis: compare, contrast, categorize

----- Basic Skills -----

Application: demonstrate, illustrate, solve

Comprehension: describe, explain

Knowledge: memorize, name, recognize, recall

What's special about Evaluation?

Evaluation: appraise, defend, predict

Synthesis: compose, design, develop

Analysis: compare, contrast, categorize

----- Basic Skills -----

Application: demonstrate, illustrate, solve

Comprehension: describe, explain

Knowledge: memorize, name, recognize, recall

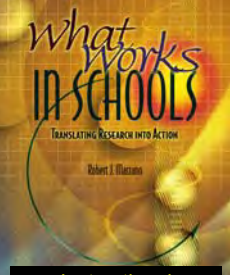
Student motivation?

#1 factor for improving student motivation is **choice**.

Not whether the student does the assignment, **but how** they engage in the work.

~Doug Reeves

Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



Robert Marzano:
What Works in Schools

“35 years of research concretely identifies the factors that are the **primary determinants of student achievement.**”

Robert J. Marzano, *What Works in Schools: Translating Research into Action*, 2003

Instructional strategies that work

for more strategies...
www.edteck.com/read

content reading strategies THAT WORK

Literacy and Content Area Reading Strategies For Academic Success

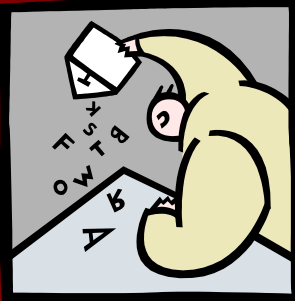
Boost student achievement with rigor, relevance and literacy strategies for academic success. Designed for high school teachers of all disciplines, the session will demonstrate that teachers don't have to sacrifice content or become a reading teacher. Teachers will find out how to support their subject area while building student literacy skills in mastering vocabulary, comprehension and analysis. Custom workshops available - from a few hours to a few days.

Teachers comment on Peter's Workshop

- "Informative and inspirational."
- "With the reminder of these strategies, I'm seeing how I can be a better teacher."
- "It's great to get new ideas that are directly related to practice and can be used right away."
- "Great examples and wonderful tools. Applicable to all disciplines."
- "After today's presentation, I'm thinking about changes that I want to make in my teaching strategies."
- "Helped me to think about Bloom's taxonomy in a real way - what is that!"

by Peter Pappas
Senior Consultant, International Center for Leadership in Education

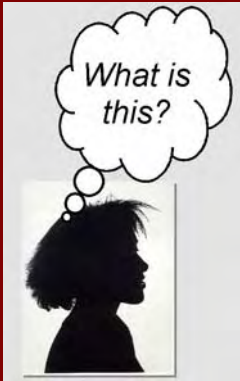
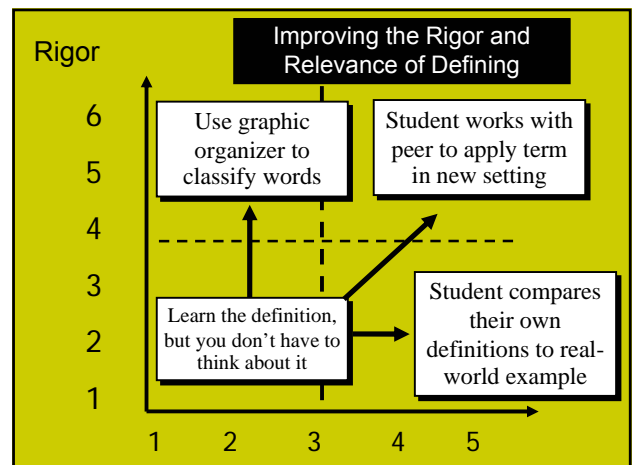
You can support literacy while teaching your course content!



We'll focus on three strategies

1. **Defining:** negotiating meaning
2. **Summarizing:** synthesis and judgment
3. **Comparing:** assessing similarities and differences

Strategy #1:
Defining
negotiating meaning

Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Strategies for teaching defining skills

1. Connect new vocabulary with prior knowledge
 - What students think they know
 - Brainstorm their own explanations of terms
2. Give students a chance to more deeply process vocabulary to internalize meaning
 - Create their own non-linguistic models of terms
 - Activities that explore, restate, discuss terms with peers

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

Words, Words, Words - Allen

Increase rigor and relevance with a personal vocabulary notebook

Term:

"My" definition:

Dictionary Definition:

Comparison:

Reading for Academic Success - Strong and Silver

Term: *Segregation*

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

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

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

Be sure to consider the use of familiar terms in a specialized context

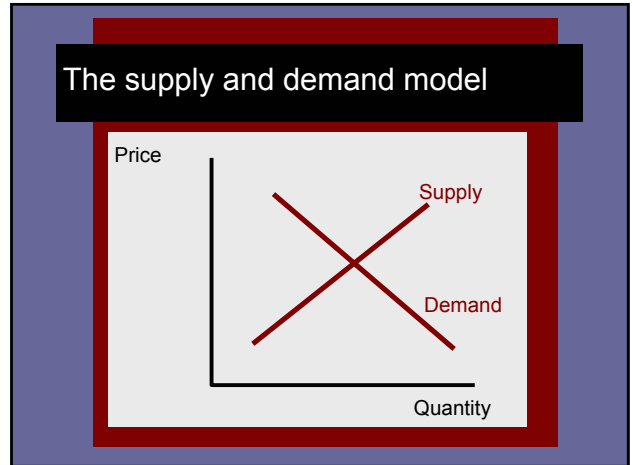
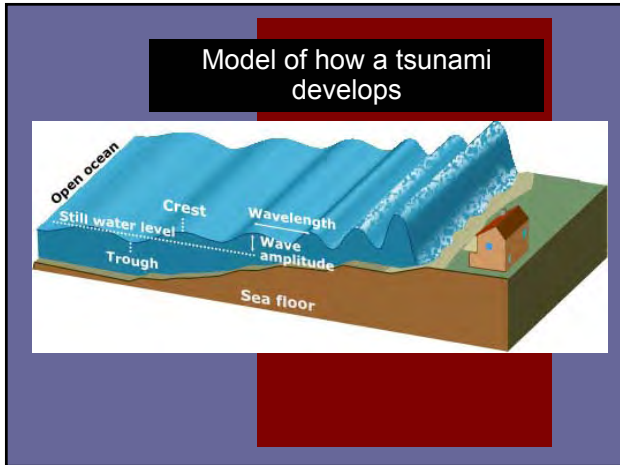
- Identify **key words** in passage
- Ask students to read the passage with **special attention to the context** in which the term is used
- Ask students to discuss **how the author has used the term** in this specific context
- Ask them to **refine their preliminary definition** of the word

Refining meaning in an academic discipline ...

"Model"



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



Model - n.

How does it compare to the dictionary definition?

1. a standard or example for imitation or comparison.
2. a representation, generally in miniature, to show the structure or serve as a copy of something.
3. a person or thing that serves as a subject for an artist, sculptor, writer, etc.
4. a person, esp. an attractive young woman, whose profession is posing with, wearing, using, or demonstrating a product for purposes of display or advertising.
5. a pattern or mode of structure or formation.

Teamwork! Organize a school or department academic vocabulary list

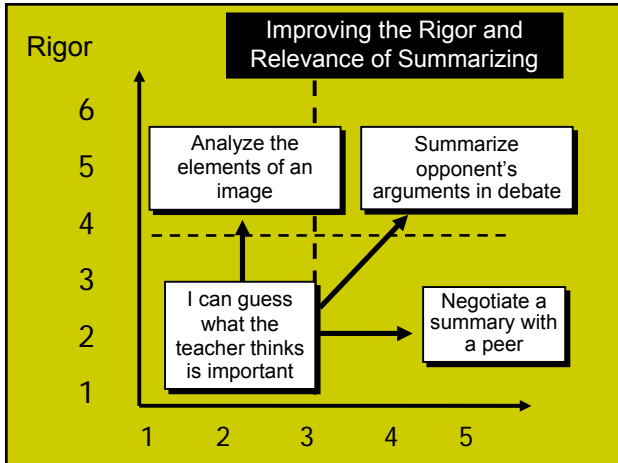
The screenshot shows a web browser displaying a calendar for October 2004. The calendar is titled 'WORD OF THE DAY' and lists various words for each day of the month. The school name 'East Irondequoit Middle School' is visible at the top left.

Latin Bound Base	Mon	Tue	Wed	Thu	
pel: to push					1
durare: to harden, to last	4 endure verb	5 endurance noun	6 durable adj	7 duration noun	8 Super
pendere: to hang, to be suspended	11 Columbus Day	12 pendant noun	13 pendulum noun	14 pending adj	15 d
natus: to be born,	18 nature noun	19 natal adj	20 native adj	21 nativity noun	22
magnus: great, grand	25 magnificent adj	26 magnify verb	27 magnanimous adj	28 magnitude noun	29 un

Strategy #2: Summarizing synthesis and judgment

The image shows a black silhouette of a person's head in profile, facing right. Above the head is a white thought bubble with a scalloped border, containing the text 'What's important?' in a simple font.

Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



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


Six summarizing skills:

- 1. Identify details** – can you identify key symbols, words, visual elements?
- 2. Recognizing context** –where is this taking place, time period, who's involved?
- 3. Identify relationships** –who are these people, what is their relationship to one another?

Six summarizing skills:


- 4. Identify opinions** – is there a point of view expressed in the source information?
- 5. Make predictions** – based on the information, what will happen next?
- 6. Infer meaning** – is there meaning that can be extracted from what's between the lines?

Move from identifying details to inference



- 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?

Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Two essential components of teaching effective summarizing skills

1. Introduce material to be summarized – its structure and what students should expect to learn from it.
2. Allow them to make their own judgements about what is important. (Instead of simply asking them to repeat the details we've identified.)

Writing a summary matched to informational structure

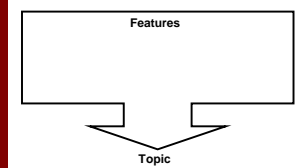
Recognizing **how information is organized** helps to recognize and summarize it

Students may need to first map out the main points in an appropriate organizer so that they can see the relationships

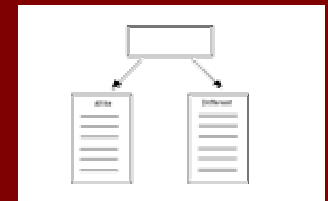
Critical Strategies for Academic Thinking and Writing
by Mike Rose, Malcolm Kiniry

Pattern	Description	Cue Words
Description	Describes a topic by listing characteristics, features, and examples	for example, characteristics are
Comparison	Explains how two or more things are alike and/or how they are different.	different; in contrast; alike; same as; on the other hand
Cause and Effect	Lists one or more causes and the resulting effect or effects.	reasons why; if...then; as a result; therefore; because
Problem and Solution	States a problem and lists one or more solutions for the problem.	problem is; dilemma is; puzzle is solved; question... answer
Sequence	Lists items or events in numerical or chronological order.	first, second, third; next; then; finally

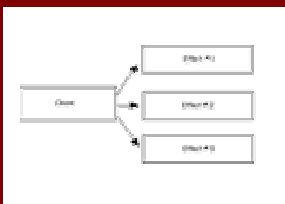
Description: listing characteristics, features, and examples



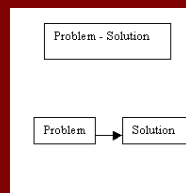
Comparison: how two or more things are alike or different



Cause and Effect: one or more causes and the resulting effect or effects



Problem and Solution: States a problem and lists one or more solutions for the problem

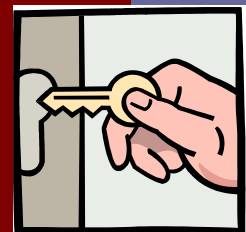


If we expect our student to synthesize the essential information, do we help them set a purpose for their reading?

Think of purpose we set for our reading

Students need to know what they should expect to learn

- Main points or details?
- Sequence of events?
- Author's viewpoint?
- Connections to previous learning?



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Would your students benefit from standardized reading assignment form?

1. **Specific passage and due date**
2. **Purpose** – what should they know or be able to do?
And pay special attention to:
 - **New vocabulary** that they will encounter
 - **Text features** – headings, bold face, images, data, graphs, footnotes
 - **Reading tips** – skim, make predictions, summarize, organize details, take notes

From Reading Strategies in the Content Areas
ASCD, 2003

Summarizing - synthesis and judgment

The history of US transportation



The Golden Spike
Promontory, Utah
May 10, 1869



Street Scene Rochester NY 1905

Two essential components of teaching effective summarizing skills

1. Introduce material to be summarized – its structure and what students should expect to learn from it.
2. Allow them to make their own judgements about what is important. (Instead of simply asking them to repeat the details we've identified.)

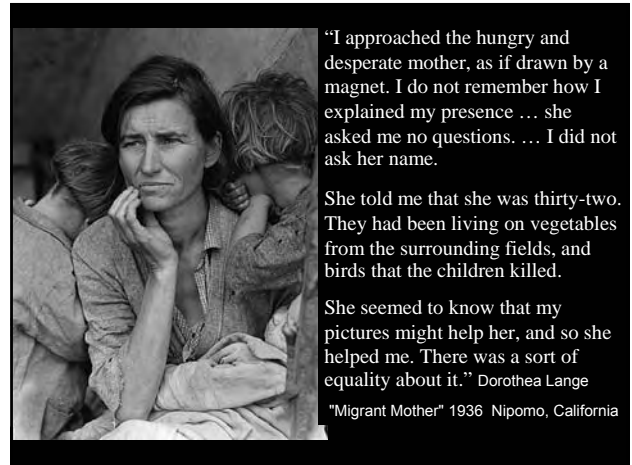
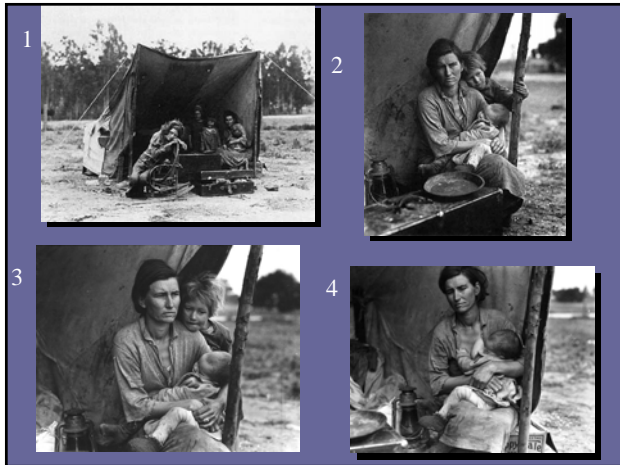
Make it more rigorous and relevant with **Evaluation**



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

?

Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



Strategy #3:
Comparing / Classifying
assessing similarities and differences and what we can learn from them

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

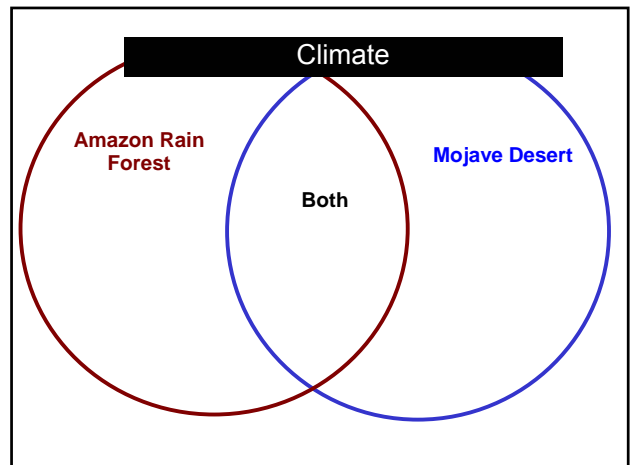
Case 2:
Teacher lectures and then students do exercise comparing the essential characteristics of mammals to birds

+ 45% gain in content mastery

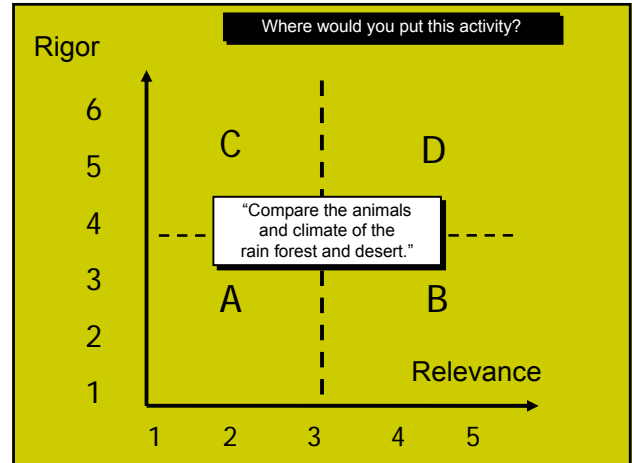
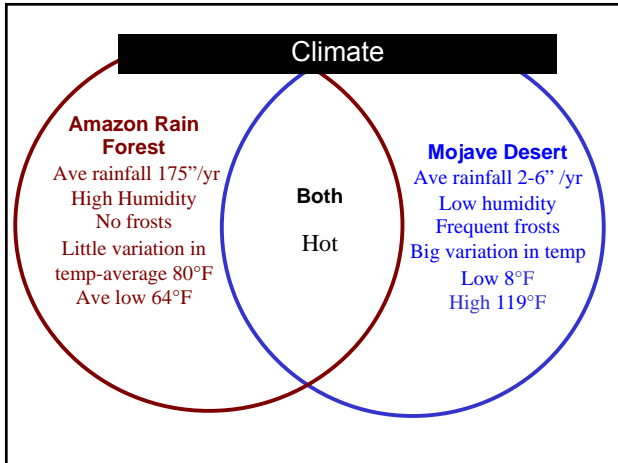
"Compare the animals and climate of the rain forest and desert."

Amazon Rain Forest	Mohave Desert
Ave rainfall 175"/yr High Humidity	Ave rainfall 2-6" /yr
No frosts	Low humidity
Little variation in temp-average 80°F	Frequent frosts
Ave low 64°F	Big variation in temp
Hot	Low 8°F
Spider Monkey	High 119°F
Pit Viper	Bats
Three-toed Sloth	Iguana
Jaguar	Ants
Giant River Otter	Big Horn Sheep
Bats	Tarantula
Iguana	Coyote
Ants	Desert Tortoise
	Mohave Rattlesnake

Classroom Instruction that Works, ASCD



Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session



Who is doing the comparing in this exercise?
The teacher or the student?

- Who **selected the information**?
- Who **decided on the categories**?
- Who **designed the graphic organizer**?
- What's **the purpose** of the comparison?
(What does it enable us to do or see?)

Is this really an exercise in memorizing and repeating information?

How would students independently compare regions?

- Select two geographic regions of the world
- Develop a model to compare the regions
- Select at least two factors to compare
- Develop a graphic organizer to display your comparison.

Do you give students an opportunity to develop their own analytic models for comparison?

- They could **select items to compare** from a teacher-produced list.
- They could independently decide **what to compare**.
- Can include some combination of **selecting both the items and / or characteristics**.

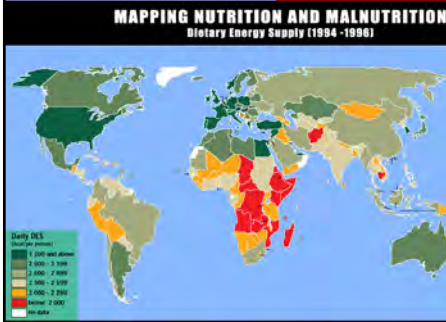
Develop a comparative analysis of

What's more important in sports ...strength or agility?

Design comparison
Select characteristics
Rating system

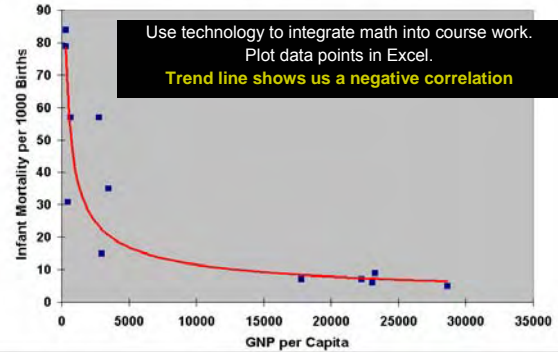
Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - High School Session

Use data to raise hypotheses and look for correlations

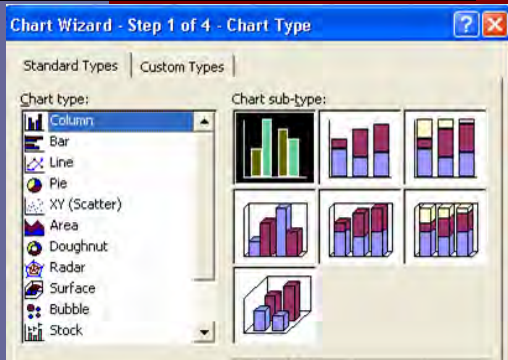


What is the relationship between wealth and infant mortality?

Wealth and Infant Mortality



Can students effectively use data to display quantitative comparisons?



Rigor and relevance in practice:
Student-designed classifying exercise

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

Publishing and Broadcasting:
Design a content analysis of news reports on Global Warming

- Compare how different media report on global warming issue
- Observe
 - Categorize
 - Quantify
 - Analyse
 - Report



Student-designed content analysis

- What categories will I use?
- How will I quantify my observations?
- How can I communicate my findings?
- What have I learned from my analysis?

Two essential elements of comparing

1. Do we ask students to develop the comparison, or merely learn and repeat the comparison model that was presented to them?
2. Does the comparison serve as a catalyst for a deeper understanding of the material?

When do we stop modeling for the students and relinquish responsibility for their learning?

What skills will the 21st century workplace require?

Literacy / numeracy

Self-discipline

Creativity

Adaptability – they must be independent learners



How do we help students to reflect on their learning?

Higher and lower order reflection

Evaluation

Synthesis

Analysis

I describe patterns, create my own connections, and assess my progress

Application

Comprehension

Knowledge

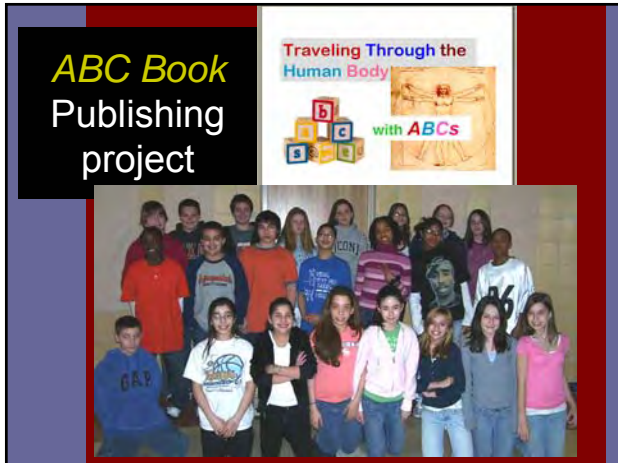
I narrate what happened

You will need to purposefully connect students with their learning



1. What am I learning today?
2. Why am I learning it?
3. How can I use this knowledge and these skills to make a difference in my life?
4. How can I work with teachers and other students to improve my learning?
5. How am I progressing as a learner?

Rigor, Relevance and Reading for Content-Area Mastery
2007 MAPSA Conference - High School Session



K is for Kidney By~ Holly and Sarina

The kidneys separate waste from blood and turn it into urine. Most people have both a left and a right kidney.

An anatomical illustration of a human kidney, showing its bean-like shape, internal structures like the renal cortex and medulla, and the renal pelvis leading to the ureter.

Kidney By~Holly and Sarina

The kidneys can relate to a pool filter because both of them separate the bad things from the good things. The pool filter empties the bugs and leaves from the water and the kidneys, they get rid of the bad things in your blood and turn it into liquid waste.

A photograph of a cylindrical pool filter with a blue top and bottom and white pleated filter media in the center.

Pool filter

What process did you use to complete the project?

We researched our organ first. While doing this, we took notes. We then used these notes to write a rough draft, revised it and typed our power point. We did all this together.

A small portrait of a young man, likely one of the students involved in the project.

We organized and decided who was going to do what and how. Then we read everything over to see if everything made sense to our audience.

Digital Publishing: Rigor, Relevancy & Literacy in Action Last Breakout

- Digital publishing gives students a chance to share their thinking for an authentic audience and purpose.
- Digital foldables with FlipNLearn: www.FlipNLearn.com
- Paperback books with EdteckPublisher www.edteck.com/publish

The Edteck logo, which is a blue square containing a white silhouette of a computer monitor.