


# Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - Elementary Session

**Rigor, Relevance and Reading for Content-Area Mastery**

**Elementary**



**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](http://peterpappas.blogs.com)  
for updated color handout

Contact info:  
[me@peterpappas.com](mailto: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](http://www.peterpappas.com)

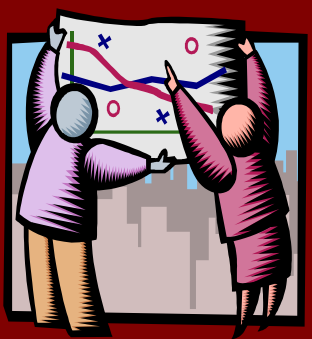
Links to:  
Showcase of projects  
Presentations and Clients  
Resources

Audience Response System courtesy of:



**Christina Stellers**  
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**Rigor and Relevance in the 21<sup>st</sup> Century**



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

# Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - Elementary Session

## 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 is the youngest that students can do 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

Justin  
Math is when you add or subtract numbers. And your teacher will make sure you have the right answer.



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

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

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 8<sup>th</sup> graders who took a NAEP math test answered

**“6 remainder 20”**



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*


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Make it relevant



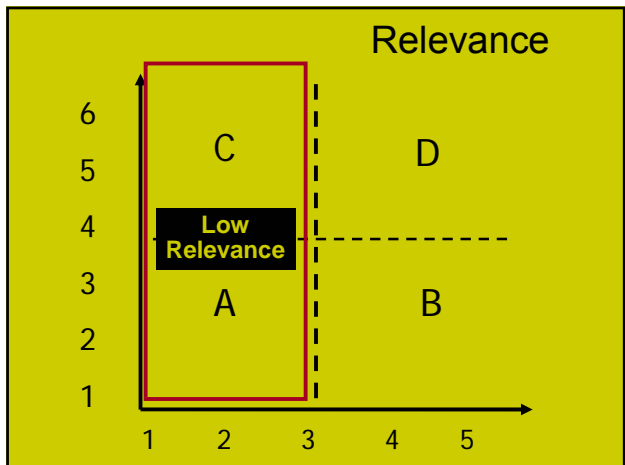
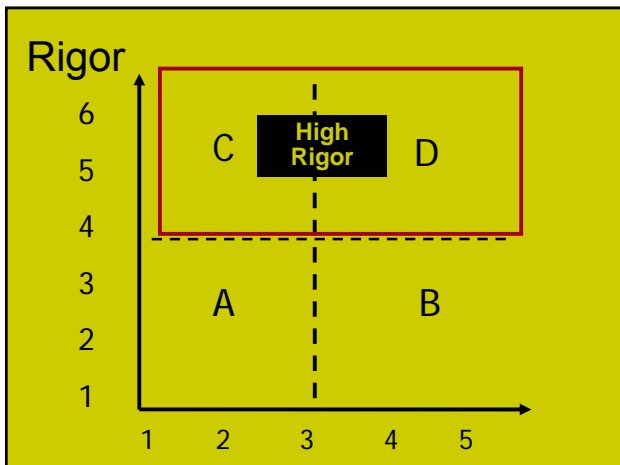
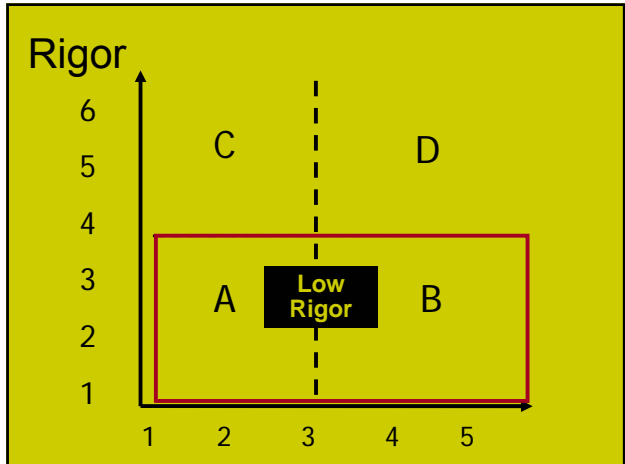
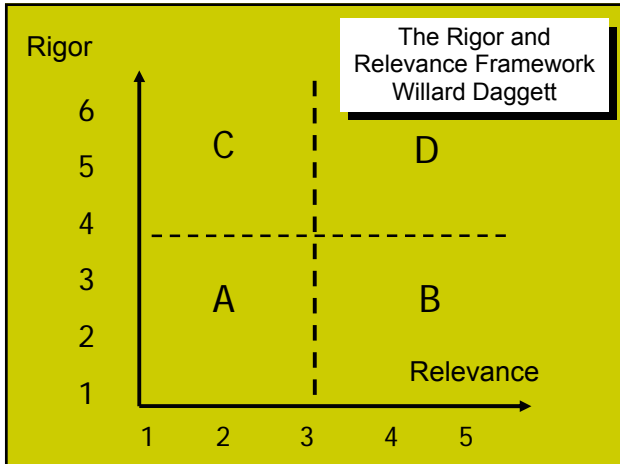
Lower level:  
I use skills/knowledge in school (for my teacher)

Higher level:  
I use skills/knowledge for myself in the real world



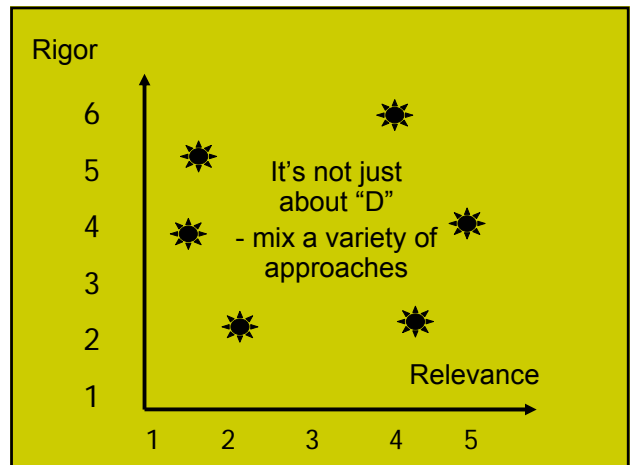
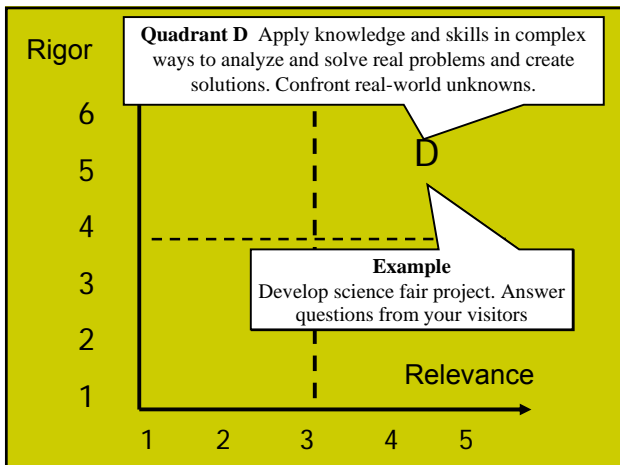
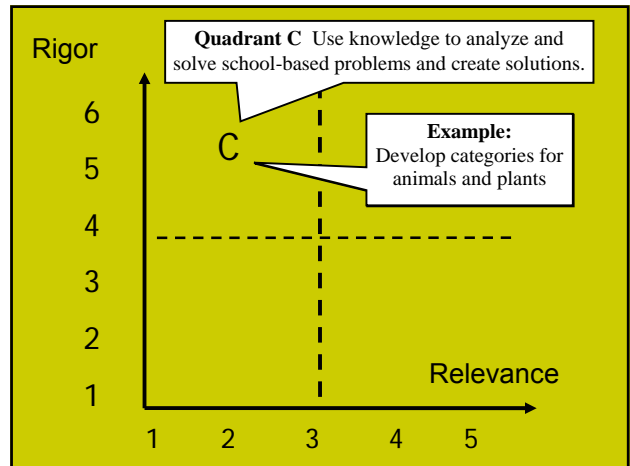
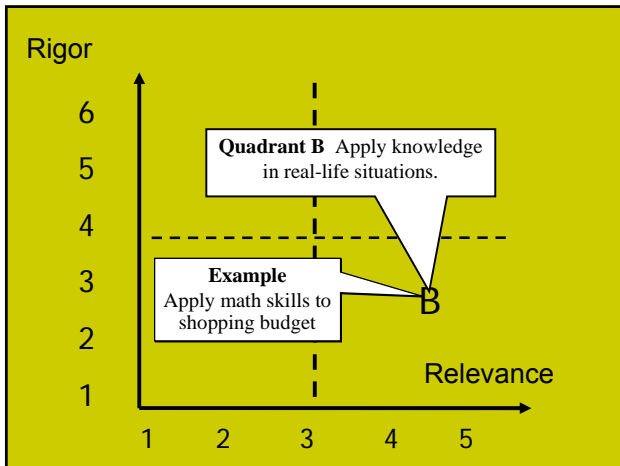
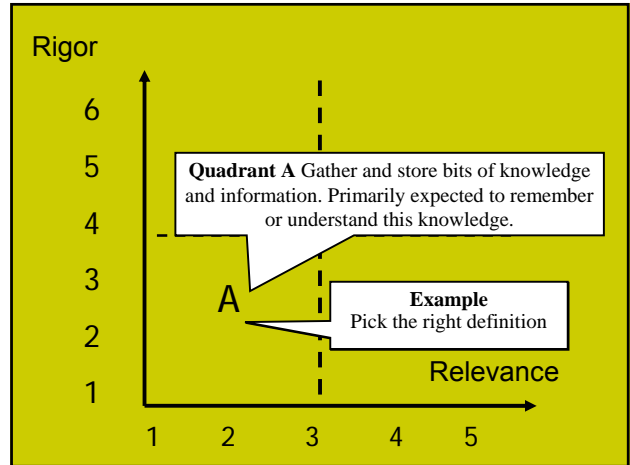
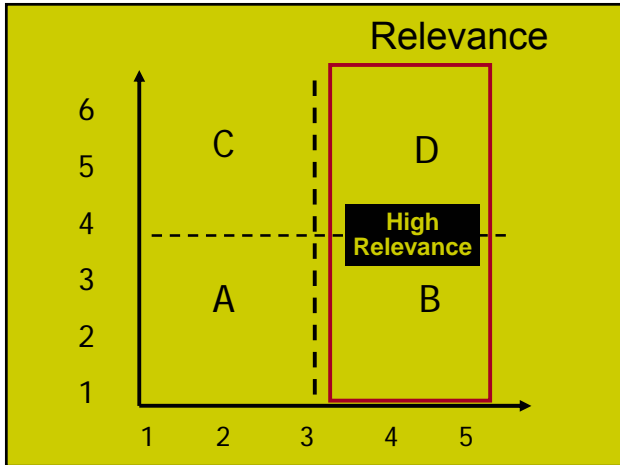
Greater relevance for the student means:

1. I understand how this information or skill has some application in my 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 thinking about how I learn.



# Rigor, Relevance and Reading for Content-Area Mastery

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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

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*Knowledge:* memorize, name, recognize, recall

What's special about Evaluation?

***Evaluation:* appraise, defend, predict**

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*Application:* demonstrate, illustrate, solve

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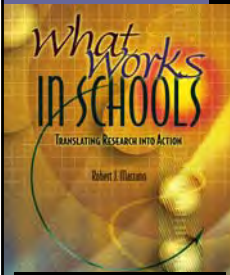
*Knowledge:* memorize, name, recognize, recall

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



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

# Rigor, Relevance and Reading for Content-Area Mastery 2007 MAPSA Conference - Elementary Session

for more strategies...  
[www.edteck.com/read](http://www.edteck.com/read)

**content reading strategies THAT WORK**  
Literacy and Content Area Reading Strategies For Academic Success

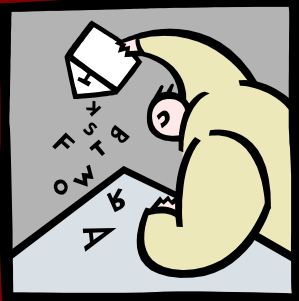
Boost student achievement with rigor, relevance and literacy strategies for academic success. Designed for high school teachers of all disciplines, the session will demonstrate that teachers don't have to sacrifice content or become a reading teacher. Teachers will find out how to support their subject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

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

Teachers comment on Peter's Workshop

- "informative and inspirational"
- "With the remainder 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!"


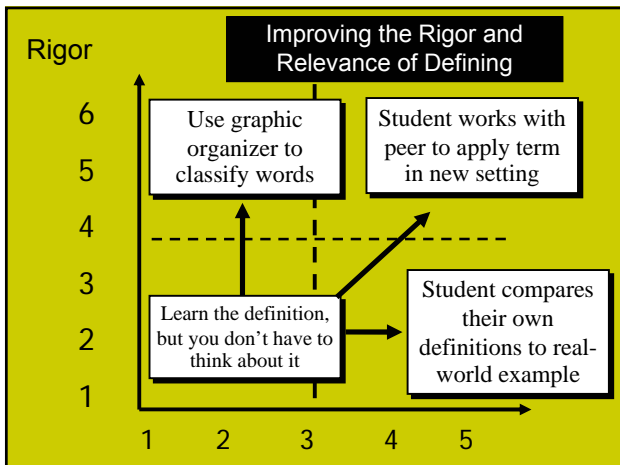
You can support literacy while teaching your course content!



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*

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

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**Intermediate students**  
List, Group, Label *Example "shelter"*

1. List all the words they can think of related to the subject (what is it; what is it like; what are some examples?)
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 and allow creative thinking  
Group work exposes students to thinking of others

Words, Words, Words - Allen


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

|                               |
|-------------------------------|
| <b>Term:</b>                  |
| <b>"My" definition:</b>       |
| <b>Dictionary Definition:</b> |
| <b>Comparison:</b>            |

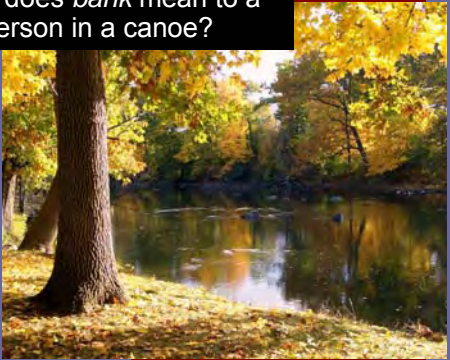

Reading for Academic Success - Strong and Silver

|  |
|--|
| <b>Term:</b> expedition  |
| <b>"My" definition:</b> a trip   |
| <b>Dictionary Definition:</b> a journey taken for a specific purpose.  |
| <b>Comparison:</b> I thought an expedition could be any trip, even a vacation, but now I know an expedition is a trip that has a goal. |

**Refining meaning in different contexts ... "bank"**




What does *bank* mean to a person in a canoe?

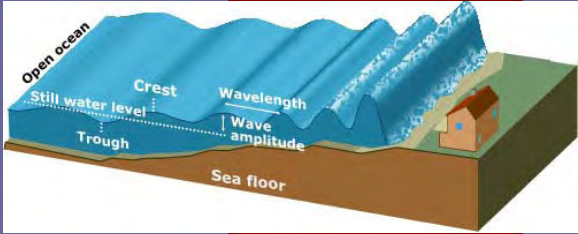
What does *bank* mean to a pilot flying a plane?

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Refining meaning in an academic discipline ...  
"Model"



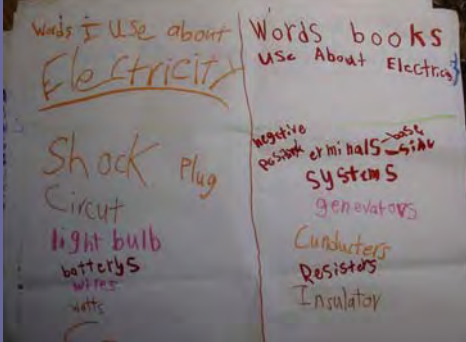
Model of how a tsunami develops



Check for understanding - 4<sup>th</sup> graders midpoint in unit on electricity

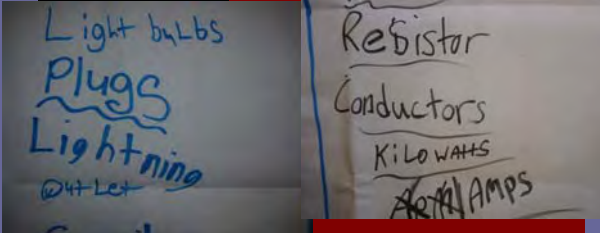


If you were discussing electricity, what words would you use?  
What words might you find in a book about electricity?




Words I use

Words I'd find in a book

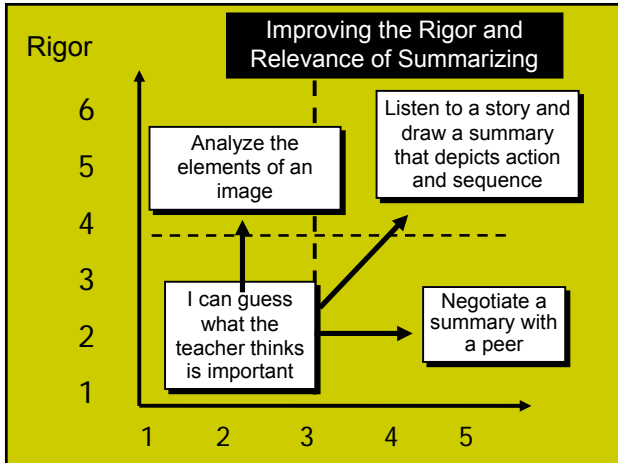


In 15 minutes teacher got insight into what they knew, recognized (with some uncertainty) or never made it on either list.  
Conclusion – "They know more than I thought about electricity!"

Strategy #2:  
Summarizing  
synthesis and  
judgment



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**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?

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## 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

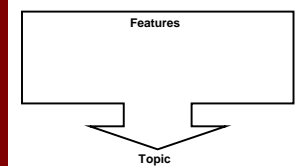
Recognizing **how information is organized** helps to recognize and summarize it

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

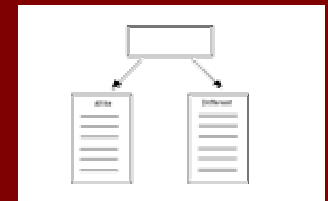
Critical Strategies for Academic Thinking and Writing  
by Mike Rose, Malcolm Kiniry

| 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                    |

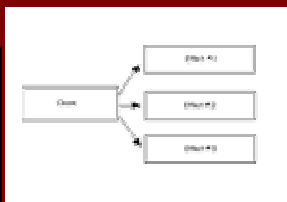
**Description:** listing characteristics, features, and examples



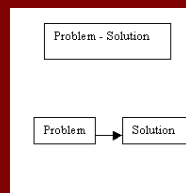
**Comparison:** how two or more things are alike or different



**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

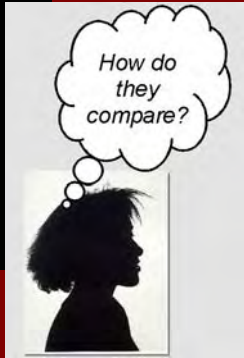


## Two essential components of teaching effective summarizing skills

1. Introduce material to be summarized – its structure and what students should expect to learn from it.
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**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

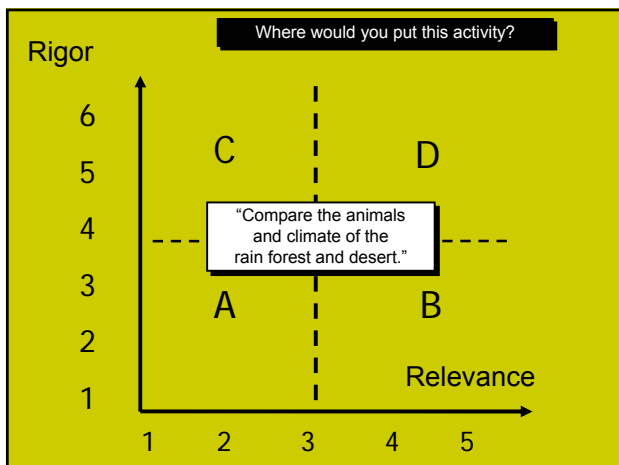
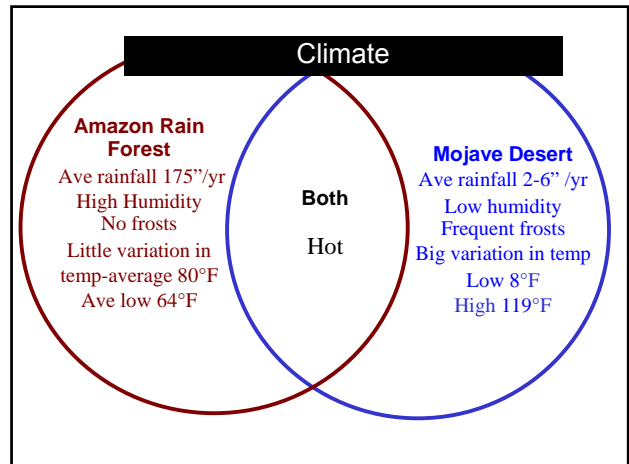
+ 45% gain in content mastery

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

*"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*



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

1. Who selected the information?
2. Who decided on the categories?
3. Who designed the graphic organizer?
4. 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?

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What if groups of students designed their own comparison?

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



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

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

- Of what use is the comparison
- What does it enable us to do or see?

Is Tuesday's school lunch better than Wednesday's lunch?



Design comparison  
Select characteristics  
Rating system

Do we give students the chance to design classification systems?



Use categories with your word wall?



- Rearrange the words according to words you use in math, then rearrange it to words that have to do with your family.
- Choices might include show me what the word looks like, draw it, act out the word, verbalize it in a sentence.

"Post it" classification strategy. Give students a reading. They each write key info from reading on sticky notes. They then work in groups to *silently* classify the info.



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 21<sup>st</sup> 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?

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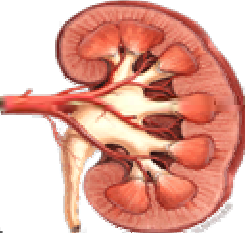
**ABC Book Publishing project**

Traveling Through the Human Body with ABCs

Full color paperback book for under \$12 per book

**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.

**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.



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.



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](http://www.FlipNLearn.com)
- Paperback books with EdteckPublisher [www.edteck.com/publish](http://www.edteck.com/publish)

