

Raising Rigor In Your Classroom!



By
Dr. Mills



Activating Strategy!

- Watch the movie clip from *Lean On Me* and write down things you notice about the teacher's presentation such as content, process, product and the environment.



Raising Rigor In Your Classroom!

- How can you increase rigor in the following areas: **Content, Process and Product**? Think in terms of strategies as they relate to student engagement/interest, depth and complexity, context and application. Discuss and write down ways in which you can increase rigor in these areas. Please be prepared to share!



Multiple Paths of Differentiation

- Content Differentiation
- Process Differentiation
- Product Differentiation
- Environmental Differentiation



Differentiation and Rigor in Action...Content

- Reading Partners/ Reading Buddies
- Read/Summarize
- Visual Organizer/Summarizer
- Choral Reading
- Note Taking Organizers
- Guided Notes
- Books on tape/iPod



Differentiation and Rigor in Action...Process

- Tiered Tasks/Products
- Group Investigations
- Model/demonstrations by teacher
- Use part-to-whole and whole-to-part approaches
- Problem Based
- Inquiry
- Alternative Forms of Assessments



Differentiation and Rigor in Action...Product

- Diagram
- Article
- Timeline
- Scrapbook
- Debate
- Flow Chart
- Mock Trial

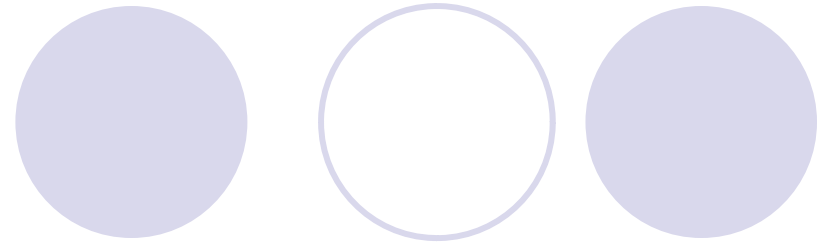


Differentiation and Rigor in Action...Environment

- Flexible learning spaces and options
- Whole Group (lecture, presentation, demonstration, video, guest speaker)
- Work in a cooperative group
- Vary teacher mode of presentation (visual, auditory, kinesthetic, concrete, abstract, multi-sensory)
- Adjust for gender, culture, language differences

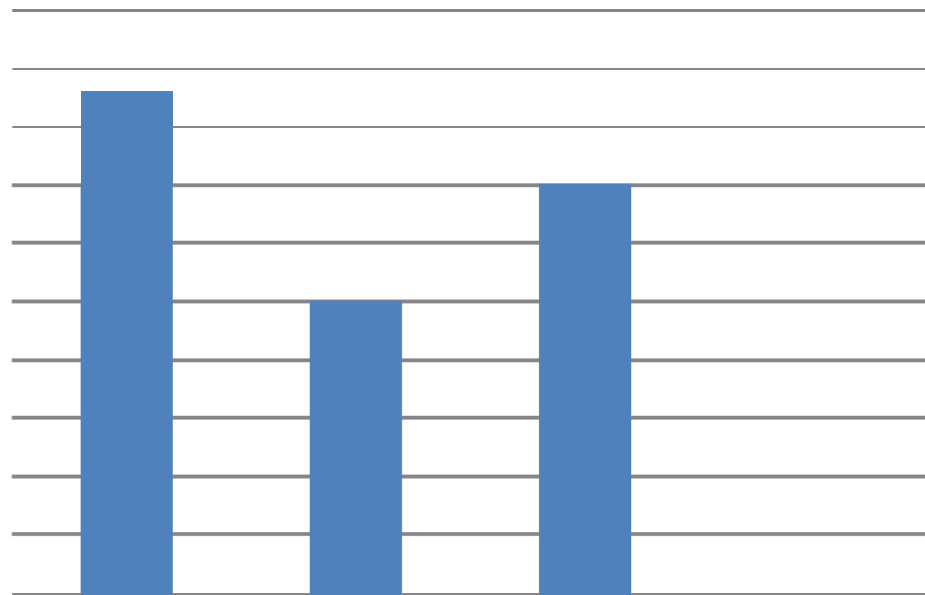


“Sticky Bars”



- Within which area do you think you will have the most difficulty increasing rigor?
Plot what you think under the following categories:

- Content
- Process
- Product



Let's Get To Work...

- Look back at your notes from the movie clip *Lean On Me*.
- If you were having a conference with a teacher, what suggestions might you give about **Content, Process, or Product** to increase the rigor of the activity?



Group Work

- Discuss with your group why it is crucial to ask students higher order thinking questions.

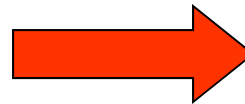
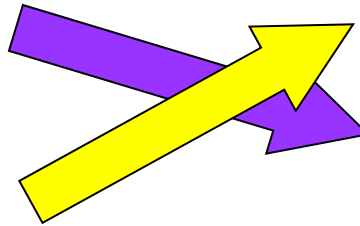


Original Terms

New Terms

- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

- Creating
- Evaluating
- Analyzing
- Applying
- Understanding
- Remembering



What Does The Research Say?

- Questioning is the key to success in the 21st century.
- The most recognized and accepted method to foster critical thinking is questioning.
- Research shows that more than 50% of a teacher's questions in one lesson are lower level questions.

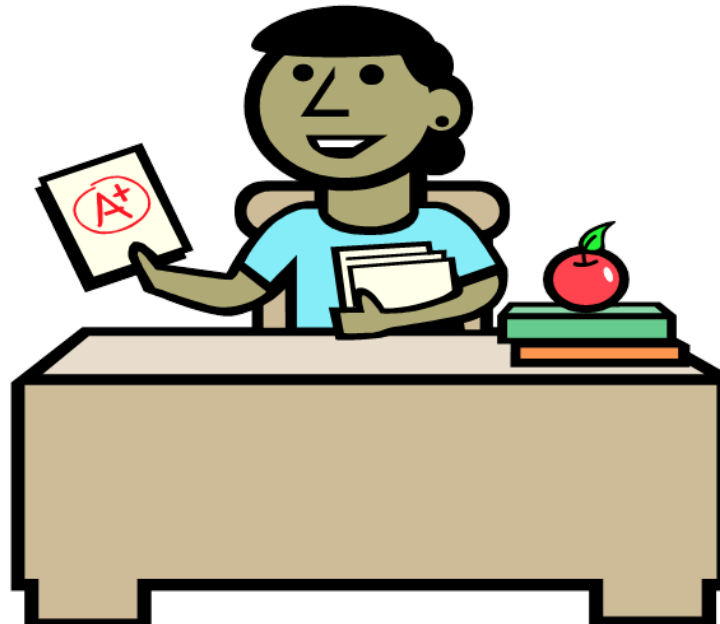


Bloom's Taxonomy

- Questions should be used purposefully to achieve well defined goals.
- Bloom's Taxonomy gives teachers and students an opportunity to learn and practice a range of thinking.
- Teachers need to vary the level of questions within a single lesson.



- Think back to your favorite lesson. What percentage of your questions were low level and what percentage were high level?



Essential Questions

- Allow students to explore key concepts, themes, theories, issues
- Provoke inquiry, foster questions and are not answerable in a brief sentence or not answerable at all
- Spark meaningful connections and promote transfer of ideas



Points to Consider with Essential Questions...

- Can the question be addressed in many subjects?
- Does it generate a personal interest that will “hook” the students?
- Does it lend itself to real world applications?
- How are the essential questions addressed?



How Do We Write Good Essential Questions?

- Essential questions are concepts in the form of questions.
- Essential questions are organizers and set the focus for the lesson or unit.
- Essential questions are initiators of creative and critical thinking.
- Essential questions are conceptual commitments focusing on key concepts.



Sample Essential Questions

- Must a story have a beginning, a middle, and an end?
- Must heroes be flawless?
- In what ways is Algebra real and in what ways is it unreal?
- Who is the “winner” in athletics?
- What makes a mathematical argument convincing?



Quick Question Challenge!

- In your group, write as many higher order essential questions about the story Cinderella!



Open-Ended Questioning

- Rigorous questions and tasks tend to be open-ended rather than having one simple answer. Although it is important to ask questions about facts and details that have only one answer, higher-level questions generally have several possible responses.



Open-Ended Questioning

- You can promote open-ended questions by using a Question Matrix.



Question Matrix

What Is	When Is	Where Is	Which Is	Who Is	Why Is	How Is
What Did	When Did	Where Did	Which Did	Who Did	Why Did	How Did
What Can	When Can	Where Can	Which Can	Who Can	Why Can	How Can
What Would	When Would	Where Would	Which Would	Who Would	Why Would	How Would
What Will	When Will	Where Will	Which Will	Who Will	Why Will	How Will
What Might	When Might	Where Might	Which Might	Who Might	Why Might	How Might



Matrix Activity!

- With your group, read the books found at your station. After reading your book, each person must draw several cards from the bag and finish the question. The rest of the members in your group must answer the question.



Students' Comments About Questioning Matrix

- I learned how to quickly think of a question on the spot. I learned that it is also very difficult to come up with answers. I was better at answering them.
- I learned that we might have understood the book differently than other people. Meaning, other people might have gotten more out of it than you might have.



Students' Comments About Questioning Matrix

- I learned if someone didn't read on of the chapters.
- By playing the small review game, I learned that even the tiniest of events have a ton of information that can be pulled from it and evaluated.
- I just learned that using different words to begin a questions greatly affects the answer.
- I learned that inferential questions are a lot harder to create and answer than literal ones.



Questioning Rules to Keep in Mind

- Ask open-ended questions- “What evidence do you have...”, “How would you explain...”, “Why do you think...” Probe responses
- Ask questions that raise questions
- Ask hypothetical and complex questions



Wait/Think Time

- As teachers, we need to be very conscious of wait time.



Wait/Think Time

- Research shows that teachers typically wait less than 1 second (or less) after posing a question.





Wait/Think Time

- Benefits:
- Improvement in student achievement
- Increases variety of teacher's questions
- Decrease in students' failure to respond



Summarizing Activity: 3-2-1

- Write: 3 things you learned today.
 - 2 things you plan to use
 - 1 thing you really liked

