



# **Ratchet Up the Rigor:** *Techniques to Cognitively Challenge Your Students*



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**CENTER FOR  
CHARTER  
SCHOOLS**

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# Do Now

Rigor is...

Rigor is  
not...

The biggest  
challenge to  
ensuring  
instructional  
rigor in my  
class/school  
is...



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# Session Objectives

- Develop a deeper understanding of “rigorous” instruction.
- Consider roles of the student and teacher that foster instructional rigor.
- Explore student-centered techniques that will increase engagement, growth and achievement.



# Group Agreement and Attention Signals



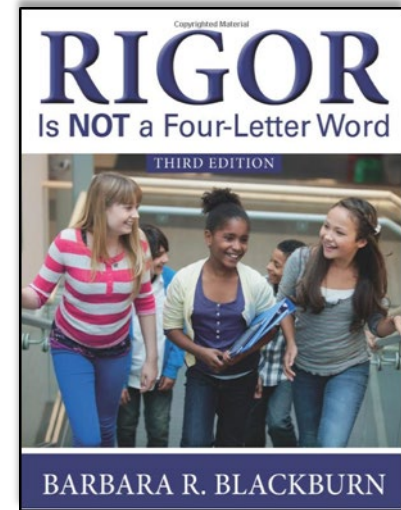
- Respect others
- Use appropriate
- Be diligent and listening



# What is Rigor?

- » Review your Do Now definition of RIGOR with an elbow partner.
- » “Rigor is creating an environment in which each student is expected to learn at high levels, each student is supported so he/she can learn at high levels, and each student demonstrates learning at high levels.”

-Barbara R. Blackburn



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# Rigor In Various Forms

- Rigorous content is cognitively complex, thought-provoking, challenging and conceptual.
- Rigorous environments ensure students perform at their maximum potential while building their will to persevere.
- Rigorous skills foster independent, self-directed and productive learners who are creative and critical thinkers, problem-solvers, and innovators.



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# Rigor and Relevance

» “When it comes to instructional design, relevance helps students see the value of what they’re learning & rigor ensures they are challenged to develop advanced skills and knowledge.”

» -Jill Thompson, *Learning Forward*



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# How vs. What

What matters is HOW things are taught, rather than WHAT things are taught.



# Teacher-Centered vs. Student-Centered

Teacher – Centered	Student - Centered
Focus is on the instructor	Focus is on both students and instructor
Instructor talks and students listen	Instructor models; students interact with instructor and each other
Students work alone	Students work in pairs, in groups or alone
Teacher monitors and corrects every student reply	Students talk without constant instructor monitoring; instructor provides feedback and support
Instructor chooses topics	Students have some choice of topics and projects
Instructor evaluates student learning	Students evaluate their own learning; instructor also evaluates

**Silent Self-Reflection:  
Which column do YOU fall into mostly?**

# Roles in a Rigorous Classroom--Teacher

## What the Teacher Does...

- Build background knowledge.
- Provide students equal #s of informational and literary texts.
- Teach strategies for informational texts.
- Structure the classroom environment for student collaboration.
- Ask quality questions such as “How do you know?” and “Why do you think that?” Then follow with “Show me in the text where you see evidence for your opinion.”
- Build knowledge, fluency and understanding of why and how we do certain tasks.
- Provide students with real world experiences and opportunities to apply what they have learned.



- Teach standards in depth with real-world projects; focus on deep understanding and application.
- Allow students to teach others as a means of sharing their knowledge.



- Spend more time connecting words across “webs” and associating words with others instead of teaching individual, isolated vocabulary.
- Provide exposure to the world through reading.



- Model and teach multiple types of writing.
- Provide students at all grade levels with opportunities for research projects.
- Provide scaffolding.



# Roles in a Rigorous Classroom--Student

## What the Student Does...

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>-Read more.</li><li>-Demonstrate independence.</li><li>-Build strong content knowledge.</li><li>-Comprehend as well as critique.</li><li>-Use evidence to write and speak on literary and informational topics.</li><li>-Use technology and digital media strategically and capably.</li><li>-Engage in more complex texts at every grade level.</li><li>-Engage in rigorous conversations.</li><li>-Verbally collaborate with other students about content.</li><li>-Learn to make sense of problems and persevere in solving them.</li></ul> | <ul style="list-style-type: none"><li>-Participate in problem solving groups.</li><li>-Present ideas and projects formally and evaluate the presentations of others.</li><li>-Spend more time thinking deeply and working on fewer concepts.</li><li>-Understand concepts as well as processes.</li><li>-Engage in more real-world projects.</li><li>-Write and discuss explanations for problem solving.</li><li>-Construct sensible arguments and critique reasoning of others.</li></ul> |
|--|---|

**“Education is not the learning of facts, but the training of the mind to think.”**

**Albert Einstein**  
**1879 - 1955**

# **A Lesson Is Highly Rigorous If STUDENTS:**

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- ✓ **set goals** for their learning outcomes and determine criteria for success.
- ✓ consistently **use metacognition** (without teacher prompting)
- ✓ **participate in high-level discussions**, **generate questions** that require a high-level of thinking, **and produce writing** that is supported with evidence from multiple texts.
- ✓ demonstrate skills for **revising and reflecting** upon their work.
- ✓ participate in **project-based learning** that is relevant to the **real world**.
- ✓ build **critical thinking, communication, and collaboration** skills daily.



# Methods to Enhance Real-World Relevance

- » **Project-based Learning**: A dynamic classroom approach in which students actively explore real-world problems and challenges and acquire a deeper knowledge of the subject.
- » **Inquiry-based Learning**: An instructional method based upon active learning with the core premise being that learning should be based around student questions with the teacher's job being the facilitator of students discovering knowledge themselves.
- » **Experiential Learning**: The process of making meaning from direct experiences (i.e., learning by doing).



# Support A Claim With Evidence and Reasoning

**Make a class slogan:**  
***Prove it!***

- Research
- Argue
- Debate
- Justify
- Critique
- Defend



## 5 Strategies for Using Argument & Debate with Students

1.

### Agree or Disagree

Throw out a statement & have students line up on either side of the room (agree or disagree). After taking sides, have students defend their thinking by citing evidence or providing support for their side.

2.

### Mock Trial

Allow students to practice argument skills by taking sides in a fictional trial. Base it off of a historical event or allow students to create their own cases. A mock trial also provides an opportunity for students to better understand our legal system.

3.

### Debate

This can be formal or informal, but allow students to research & prepare their side of an argument. Build in structures that allow for opening statements, rebuttals, and closing statements. Ask a group of colleagues to serve as judges for the debate.

4.

### Socratic Seminar

This type of questioning activity asks students to respond thoughtfully to classmates, thinking critically and articulating their point of view, while at the same time, providing text-based evidence.

5.

### Point/Counterpoint

Have students team up and choose opposing sides of an issue. After a dedicated amount of prep & research time, ask students to provide a 5 minute point/counterpoint presentation. Ask the rest of the class to vote on who presented their case more clearly with more evidence.





# Constructed Response

**R**

## RESTATE THE QUESTION

Restate or reword the question and turn it into a statement.

**A**

## ANSWER THE QUESTION

What is being asked?

Answer all parts of the question.

**C**

## CITE THE SOURCE

Tell where you found examples and details in the text.

In paragraph 2... The text states ... The author says...

**E**

**EXPLAIN** your response. Give evidence from the text to support your answer. Add your thoughts.

For example... This shows... This means... I believe...



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# Push Student Thinking

- » “Students can do a lot of things during school that don’t require thinking. But they can’t write coherently without thinking, and they can’t speak logically about content without thinking.”

» —Patty Profound

## Ways To Push Our Thinking!

- ✓ In other words...
- ✓ The important thing about this is...
- ✓ As I say this I am realizing...
- ✓ Another example is...
- ✓ This shows...
- ✓ This is important because...
- ✓ This is giving me the idea that...
- ✓ This connects to...
- ✓ To add on...
- ✓ I used to think...but now I'm realizing...
- ✓ What surprises me about this...
- ✓ On the other hand...
- ✓ This is different from...

SAY SOMETHING



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# Student Opportunities to Respond Strategies

- Cold Call (popsicle sticks or tracking sheet)
- Turn and talk then share out other person's answer
- Response Cards (index cards with ABCD or 1234)
- Whiteboards
- Fingers (1-5 ranking)
- Thumbs up/down/sideways
- Sign language (yes/no or agree/disagree or ABCD)
- Stand up / Sit down (if you agree / think the answer is...)
- Write on sticky notes then post on board
- Student-created questions
- Demonstrations by students (come to board /explain)
- Kahoot
- Plickers
- Games (like BINGO or Jeopardy)
- Write-Pair-Share

Do you agree or disagree with  
the following statement?

*Calling on students  
who raise their hands  
to answer the question  
is an effective strategy.*

Be prepared to defend your  
answer.

Be sure to provide ***wait time*** to allow for thinking and processing the questions!



# Protocol for Critical Thinking

## A/B Partners Protocol for Critical Thinking

### 1. Share your Ideas



#### Partner A

- I think \_\_\_\_\_ happened because....
- Evidence that supports my idea is...
- The activity we did with \_\_\_\_\_ helps me know more about \_\_\_\_\_ because...
- One thing I'm wondering about is...

### 2. Listen to understand



#### Partner B

- I heard you say \_\_\_\_\_. What makes you think that?
- I heard you say \_\_\_\_\_. What if \_\_\_\_\_?
- Can you explain the part about \_\_\_\_\_ again?
- What do you mean when you say \_\_\_\_\_?

### 3. Clarify and elaborate



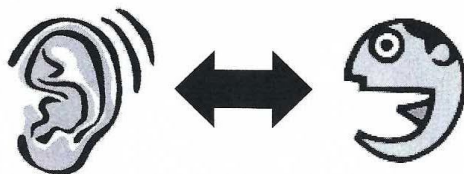
#### Partner A

Answers partner's question or asks for clarification in order to understand the question.

### 4. Repeat steps 2 & 3 until all questions are answered



### 5. Switch roles and repeat steps 1-4

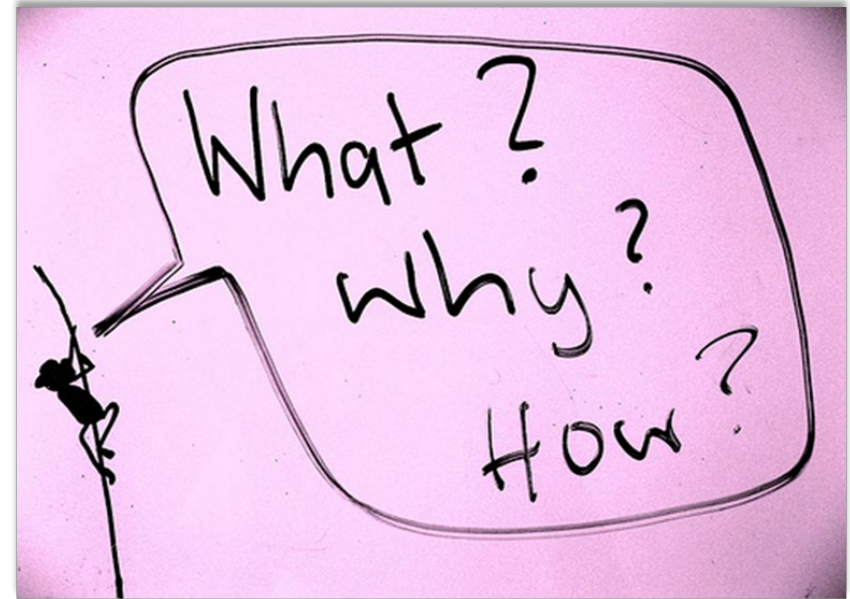


### 6. Reflect on your understanding in writing

- My idea about \_\_\_\_\_ changed when my partner said...
- I will add \_\_\_\_\_ to my idea about \_\_\_\_\_ because...
- I still have questions about...
- I may be able to answer my question(s) if I could investigate \_\_\_\_\_.

# Question Stems

- What evidence...
- What makes you say that...
- What if...



Tip: Focus on structuring open-ended questions for your lessons ahead of time and encourage students to phrase their questions in the same manner.



# Bloom's Taxonomy

Verbs, Sample Questions, Activities

## Knowledge

Useful Verbs	Sample Question Stems	Potential activities and products
tell list describe relate locate write find state name	What happened after...? How many...? Who was it that...? Can you name the...? Describe what happened at...? Who spoke to...? Can you tell why...? Find the meaning of...? What is...? Which is true or false...?	Make a list of the main events. Make a timeline of events. Make a facts chart. Write a list of any pieces of information you can remember. List all the .... in the story. Make a chart showing... Make an acrostic. Recite a poem.

## Comprehension

Useful Verbs	Sample Question Stems	Potential activities and products
explain interpret outline discuss distinguish predict restate translate compare describe	Can you write in your own words...? Can you write a brief outline...? What do you think could of happened next...? Who do you think...? What was the main idea...? Who was the key character...? Can you distinguish between...? What differences exist between...? Can you provide an example of what you mean...? Can you provide a definition for...?	Cut out or draw pictures to show a particular event. Illustrate what you think the main idea was. Make a cartoon strip showing the sequence of events. Write and perform a play based on the story. Retell the story in your words. Paint a picture of some aspect you like. Write a summary report of an event. Prepare a flow chart to illustrate the sequence of events. Make a coloring book.

# Reflect and Set Goals

- Highlight or star key areas of interest or new information.
- Reflect on your typical style for questioning and determining student tasks.
- Determine a goal for strengthening questioning and ensuring rigorous activities in your classroom or building.



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**THANK YOU!**



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***“Rarely do we find men who willingly engage in hard, solid thinking. There is an almost universal quest for easy answers and half-baked solutions. Nothing pains some people more than having to think.”***

**Martin Luther King Jr.**



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