

Ratchet Up the Rigor: Techniques to Cognitively Challenge Your Students

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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.

Do Now

Complete the following sentence starters.

Rigor is _____

Rigor is not _____

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

Rigor in Various Forms

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

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 ever 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



Roles in a Rigorous Classroom--Teacher

What the Teacher Does...

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

Project-Based Learning: A _____ classroom approach in which students actively explore _____ problems and challenges and acquire a deeper knowledge of the _____.

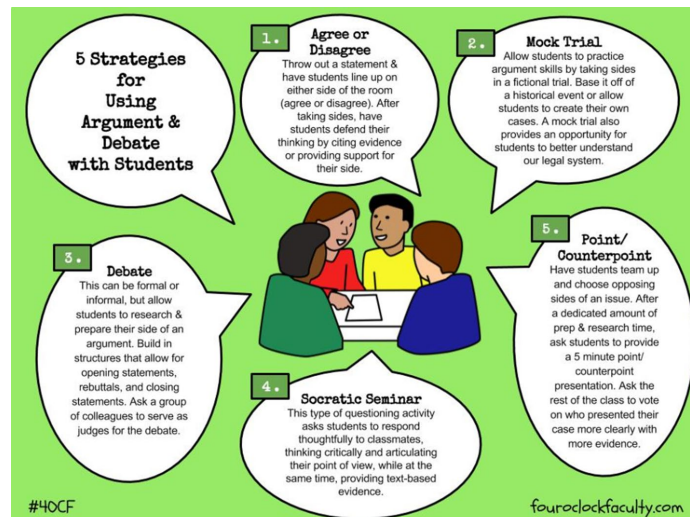
_____ **-Based Learning:** An instructional _____ based upon active learning with the core premise being that _____ should be based around _____ questions with the teacher's job being the facilitator of students discovering knowledge themselves.

Experiential Learning: The _____) _____ of making meaning from direct experiences (i.e., learning by _____).

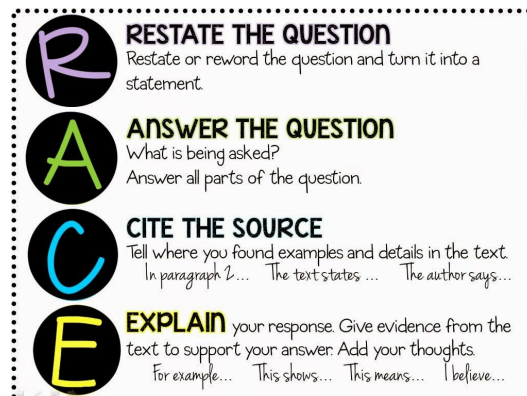
Additional Strategies

Claim, Evidence and Reasoning: _____

5 Strategies:



Constructed Response:



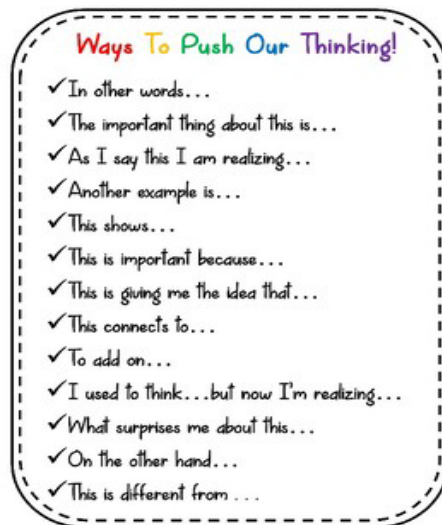


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Push Student Thinking:



Opportunities to Respond:

- 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

Critical Thinking Protocol

A/B Partners Protocol for Critical Thinking

<p>1. Share your Ideas</p> <p>Partner A</p> <ul style="list-style-type: none">- 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...	<p>2. Listen to understand</p> <p>Partner B</p> <ul style="list-style-type: none">- 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 _____?
<p>3. Clarify and elaborate</p> <p>Partner A</p> <p>Answers partner's question or asks for clarification in order to understand the question.</p>	<p>4. Repeat steps 2 & 3 until all questions are answered</p>
<p>5. Switch roles and repeat steps 1-4</p>	<p>6. Reflect on your understanding in writing</p> <ul style="list-style-type: none">- 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 _____

My Goal: _____

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.

Application

Useful Verbs	Sample Question Stems	Potential activities and products
solve show use illustrate construct complete examine classify	Do you know another instance where...? Could this have happened in...? Can you group by characteristics such as...? What factors would you change if...? Can you apply the method used to some experience of your own...? What questions would you ask of...? From the information given, can you develop a set of instructions about...? Would this information be useful if you had a ...?	Construct a model to demonstrate how it will work. Make a diorama to illustrate an important event. Make a scrapbook about the areas of study. Make a paper-mache map to include relevant information about an event. Take a collection of photographs to demonstrate a particular point. Make up a puzzle game using the ideas from the study area. Make a clay model of an item in the material. Design a market strategy for your product using a known strategy as a model. Dress a doll in national costume. Paint a mural using the same materials. Write a textbook about... for others.

Analysis

Useful Verbs	Sample Question Stems	Potential activities and products
analyze distinguish examine compare contrast investigate categorize identify explain separate advertise	Which events could have happened...? I ... happened, what might the ending have been? How was this similar to...? What was the underlying theme of...? What do you see as other possible outcomes? Why did ... changes occur? Can you compare your ... with that presented in...? Can you explain what must have happened when...? How is ... similar to ...? What are some of the problems of...? Can you distinguish between...?	Design a questionnaire to gather information. Write a commercial to sell a new product. Conduct an investigation to produce information to support a view. Make a flow chart to show the critical stages. Construct a graph to illustrate selected information. Make a jigsaw puzzle. Make a family tree showing relationships. Put on a play about the study area. Write a biography of the study person. Prepare a report about the area of study.

Synthesis

Useful Verbs	Sample Question Stems	Potential activities and products
create invent compose predict plan construct design imagine propose devise formulate	Can you design a ... to ...? Why not compose a song about...? Can you see a possible solution to...? If you had access to all resources how would you deal with...? Why don't you devise your own way to deal with...? What would happen if...? How many ways can you...? Can you create new and unusual uses for...? Can you write a new recipe for a tasty dish? can you develop a proposal which would...	Invent a machine to do a specific task. Design a building to house your study. Create a new product. Give it a name and plan a marketing campaign. Write about your feelings in relation to... Write a TV show, play, puppet show, role play, song or pantomime about...? Design a record, book, or magazine cover for...? Make up a new language code and write material using it. Sell an idea. Devise a way to... Compose a rhythm or put new words to a known melody.

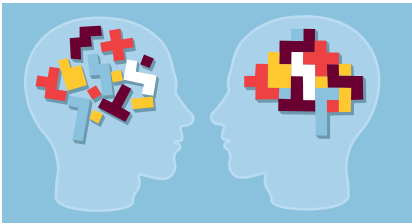
Evaluation

Useful Verbs	Sample Question Stems	Potential activities and products
judge select choose decide justify debate verify argue recommend assess discuss rate prioritize determine	Is there a better solution to... Judge the value of... Can you defend your position about...? Do you think ... is a good or a bad thing? How would you have handled...? What changes to ... would you recommend? Do you believe?	Prepare a list of criteria to judge a ... show. Indicate priority and ratings. Conduct a debate about an issue of special interest. Make a booklet about 5 rules you see as important. Convince others. Form a panel to discuss views, i.e. "Learning at School." Write a letter to ... advising on changes needed at... Write a half yearly report. Prepare a case to present your view about...



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RIGOROUS INSTRUCTION STRATEGIES



Definition

“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

Strategies to Promote Rigor

Setting Goals — Effective teachers set and communicate clear lesson goals to help students understand the success criteria, commit to the learning, and provide the appropriate mix of success and challenge.

Relevance — Be sure to address the question, “Why do we have to learn this?” Develop learning experiences that are either directly applicable to the personal aspirations, interests, or cultural experiences of students (personal relevance) or that are connected in some way to real-world issues, problems, and contexts (life relevance).

Project-Based Learning — Make lessons meaningful by allowing students to actively explore real-world problems and acquire a deeper knowledge of the subject.

Inquiry-Based Learning — Pique student interest and heighten motivation 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 — Ensure hands-on learning by intentionally planning for students to make meaning from direct experiences (i.e., learning by doing).

Bloom's Taxonomy/DOK — While lesson planning, utilize one of the taxonomies to ensure questions and student activities are intentionally scaffolded and appropriate for each student's readiness level. Start by asking questions beginning with “Why?” and “How?”

Constructed Response/Writing — Incorporate writing across the curriculum with intentional focus on teaching the writing process. Consider the “RACE” strategy (Restate the question, Answer the question, Cite the source, Explain), CER (Claim, Evidence, Reasoning) and various graphic organizers and sentence stems.

Discussion — Require students to frequently engage in discussion about the content. Provide a prompt, set a timer, and determine partners/groups. Try partnering structures like: Think-Pair-Share, Socratic Seminar, Give One/Get One, Write-Pair-Share, and Notice/Wonder responses.

Resources

» Edutopia.org

» Teachertube.com

» Teachingchannel.com

» ***Rigor is Not a 4-Letter Word*** by Barbara R. Blackburn

» ***Teach Like a Champion*** by Doug Lemov