



How to Plan Rigorous Instruction

Robyn R. Jackson May 12, 2011


Questions

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Handouts

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What is Rigor?

Rigorous instruction requires students to:

- Construct meaning for themselves
- Impose structure on information
- Integrate skills into processes
- Apply their skills in more than one context and to unpredictable situations.

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Rigorous Instruction

Rigorous instruction involves designing and facilitating learning experiences that help students make meaning for themselves.

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Why Rigor?

- ✓ Rigorous instruction offers rich, robust learning experiences.
- ✓ Rigorous instruction helps students meet or exceed conventional learning standards.
- ✓ Rigorous instruction is just more fun.

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The Four Stages of Rigor

- ✔ Acquisition
- ✔ Application
- ✔ Assimilation
- ✔ Adaptation

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Acquisition Lessons

- ✔ Help students acquire new concepts, content, or skills.
- ✔ Focus on knowledge and understanding.
- ✔ Help students store and organize bits of knowledge.

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The Secret to Rigorous Acquisition

- ✔ The key to rigorous acquisition is **Organization**
 - Graphic Organizers
 - Memory Strategies
 - Making Connections

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Which is More Rigorous?

- ✓ Which of the following acquisition lessons is more rigorous?
- A. Students create word maps to learn new vocabulary.
- B. Students learn new vocabulary in context.

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Application

Help students use what they have learned by teaching individual thinking skills

- Cause and effect
- Compare contrast
- Classification
- Induction
- Deduction
- Abstracting
- Error Analysis
- Evaluation

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The Secret to Rigorous Application

- ✓ The key to rigorous application is **Mindful Practice.**
- Model the thinking skill and highlight the steps
- Provide distributed practice with tips and pointers
- Use feedback to foster reflection
- Promote transfer

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Which is More Rigorous?

Which of the following application lessons is more rigorous?

- A. Students are asked to review and correct their errors on the math quiz they took last week.
- B. Students are asked to analyze a set of completed math problems to determine which ones are incorrect and explain the type of error made.

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Assimilation

Help students synthesize what they have learned by teaching students to combine thinking skills into thinking processes:

- Decision Making
- Problem Solving
- Investigation
- Invention
- Experimental Inquiry
- Synthesis Writing Assignments

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The Secret to rigorous Assimilation

The key to rigorous assimilation is **Meaningful Tasks.**

- Problem solving
- Long-term tasks
- Interesting Problems
- Complexity and ambiguity
- Independent thinking

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Which is more rigorous?

Which of the following assimilation tasks is more rigorous?

- A. Students take what they have learned about circles and use it to learn about ellipses.
- B. Students compare and evaluate the characteristics of circles and ellipses and then determine which shape would make a better swimming pool.

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Adaptation

- Helping students adapt what they have learned to real-world and novel situations.
- Requires a deep understanding of the underlying concepts.
- Helps students develop Habits of Mind.

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The Secret to rigorous adaptation

The key to rigorous adaptation is **Transfer**.

- Help students accurately define the problem.
- Help students detach knowledge and skills from any one context.
- Focus on the process rather than the solution.
- Integrate real-world problems into instruction.
- Gradually release responsibility.

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Which is more rigorous?

Which of the following adaptation lessons is more rigorous?

- A. Students are asked to figure out how to make students in Africa aware of a deadly parasite.
- B. Students are asked to develop a brochure to warn students in Africa of a deadly parasite.
- C. Students are asked whether awareness is the right approach to reducing the rate of parasite infection with students in Africa.

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Struggling Students and Rigor

- Structure acquisition to facilitate application, assimilation, and adaptation.
- Activate or Build Prior Knowledge
- Focus on acceleration rather than remediation.
- Gradually remove supports over time.
- Prioritize curriculum.

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A few final tips...

Rigorous learning experiences must:
must be directly tied to rigorous standards

- Be directly tied to rigorous standards
- Promote student interest and engagement
- Systematically build students' capacity for **INDEPENDENT** rigorous thinking
- Make excellent performance on the summative assessment more likely

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Yes, but...

- ✔ Rigor isn't for everyone
- ✔ This feels like a lot of hard work.
- ✔ What if students have learning gaps? How can they go beyond acquisition?
- ✔ What about elementary students?
- ✔ I don't have time to do all of this.

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To Learn More...

To learn more about rigorous instruction including...

- How to select rigorous learning material
- How to plan rigorous assessment
- How to plan rigorous learning units
- How to move students from one stage of rigor to the next

Check out my book *How to Plan Rigorous Instruction*

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