As you view the video, you will have an opportunity to see rigor in practice in a variety of classroom settings across several grade levels and content areas. Use this study guide as a way to record your observations of the featured classrooms and further explore some of the elements discussed during the classroom visits. You will be asked to reflect on the rigorous instruction taking place in each classroom and apply the thinking processes and skills from the video to your own practice.

Prevideo Reflection Questions

How do you currently define rigor?

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Think about your current teaching and lesson-planning practices. What methods and strategies do you use in order to do the following?

Guide students in making meaning for themselves

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Create opportunities for students to take new information and impose a structure on it (e.g., a graphic organizer)

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Help students synthesize what they learn using thinking processes

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Encourage students to take what they learn and apply it across different content areas and contexts

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_______________________________________________________
What does rigorous instruction require students to do?
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What does rigorous instruction do for students?
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What does rigorous instruction require teachers to do?
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Classroom Observation Reflection Questions

2nd Grade Classroom
• Based on the definition of rigor provided in the video, what evidence of rigor did you observe?
• How were students asked to make meaning for themselves?
• What strategy did the teacher use to help students master the essential question she posed?
• What was required of the students in the lesson?
• What was required of the teacher to plan for rigor?
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Elementary School Classroom

- Explain how the Statement Strategy uses the elements of rigor.
- Explain the term ambiguity in the context of rigor.
- How did the teacher use the Statement Strategy to create a rigorous lesson?
- What was required of the students in the lesson?
- What was required of the teacher to plan for rigor?

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High School Classroom

- Describe how the elements of rigor were applied during this classification activity.
- As you watched students in action, what became obvious about the thinking that went into the teacher’s planning of this lesson?
- What different student results might occur if this lesson were planned and delivered differently?
- What was required of the students in the lesson?
- What was required of the teacher to plan for rigor?
Thinking Processes Activity

Consider the thinking processes, learning goals, and reflection questions in the chart on the next page. Select a standard from your curriculum and decide which thinking processes students would need to understand and utilize in order to master that standard.

How do you currently teach these processes? What might you do differently to explicitly plan ways to teach your students to apply these thinking processes?

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## Thinking Processes

<table>
<thead>
<tr>
<th>Thinking Processes</th>
<th>Reflection Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision Making</strong></td>
<td>• Is there an unresolved decision that needs to be made?</td>
</tr>
<tr>
<td>Learning Goal:</td>
<td>• Is there an unresolved issue about who or what is best or worst, or most or least?</td>
</tr>
<tr>
<td>Evaluating alternatives to determine a course of action</td>
<td></td>
</tr>
<tr>
<td><strong>Investigation</strong></td>
<td>• Is there an unresolved issue about the defining characteristics of something?</td>
</tr>
<tr>
<td>Learning Goal:</td>
<td>• Is there an unresolved issue about how something happened?</td>
</tr>
<tr>
<td>Using knowledge to study perplexing and interesting issues by identifying what is commonly known and accepted; identifying contradictions and confusions; and resolving these contradictions and confusions and offering and justifying solutions</td>
<td>• Is there an unresolved issue about why something happened?</td>
</tr>
<tr>
<td><strong>Hypothesis Testing/Experimental Inquiry</strong></td>
<td></td>
</tr>
<tr>
<td>Learning Goal:</td>
<td>• Is there an unexplained phenomenon or historical event for which explanations can be generated and tested?</td>
</tr>
<tr>
<td>Generating and testing explanations of phenomena or events; making predictions based on hypotheses</td>
<td></td>
</tr>
<tr>
<td><strong>Problem Solving</strong></td>
<td>• Is there a situation or process that has major constraints or limiting conditions?</td>
</tr>
<tr>
<td>Learning Goal:</td>
<td>• Is there a situation or process that could be better understood if constraints or limiting conditions were placed on it?</td>
</tr>
<tr>
<td>Achieving a goal by overcoming obstacles</td>
<td></td>
</tr>
<tr>
<td><strong>Invention</strong></td>
<td>• Is there a situation that can and should be improved?</td>
</tr>
<tr>
<td>Learning Goal:</td>
<td>• Is there something new that can be created?</td>
</tr>
<tr>
<td>Creating something that fills an unmet need or desire</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from *How to Plan Rigorous Instruction* by R. Jackson, 2011, Alexandria, VA: ASCD. Copyright 2011 by Mindsteps Inc. Adapted with permission.
Thinking Skills Activity

Consider the thinking skills and learning goals in the chart on the next page.

Using the same standard from the previous activity, decide which thinking skills students would need to understand and utilize in order to master that standard.

How do you currently teach these skills? What might you do differently to explicitly plan ways to teach your students to apply these thinking skills?

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## Thinking Skills

<table>
<thead>
<tr>
<th>Thinking Skills</th>
<th>Learning Goals</th>
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</thead>
<tbody>
<tr>
<td><strong>Abstraction</strong></td>
<td>Finding, identifying, and explaining general patterns in specific information or situations</td>
</tr>
<tr>
<td>Is there a pattern or theme in this information?</td>
<td></td>
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<tr>
<td><strong>Analyzing Perspectives</strong></td>
<td>Describing reasons for personal viewpoints as well as the viewpoints of others</td>
</tr>
<tr>
<td>Are there multiple perspectives related to this content?</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td>Grouping items or concepts into definable categories based on their attributes</td>
</tr>
<tr>
<td>Can this content be organized into groups?</td>
<td></td>
</tr>
<tr>
<td><strong>Compare and Contrast</strong></td>
<td>Identifying and articulating similarities and differences among items or concepts</td>
</tr>
<tr>
<td>How are X and Y similar or different?</td>
<td></td>
</tr>
<tr>
<td><strong>Constructing Support</strong></td>
<td>Building a case for assertions by providing evidence, proof, or logical arguments</td>
</tr>
<tr>
<td>Is there a position that can be defended related to this content?</td>
<td></td>
</tr>
<tr>
<td><strong>Deductive Reasoning</strong></td>
<td>Identifying specific examples to support a general statement, conclusion, rule, or principle</td>
</tr>
<tr>
<td>Are there specific rules that apply to this content?</td>
<td></td>
</tr>
<tr>
<td><strong>Error Analysis</strong></td>
<td>Identifying and describing errors in thinking and performance</td>
</tr>
<tr>
<td>Are there errors in thinking or in processes related to this content?</td>
<td></td>
</tr>
<tr>
<td><strong>Inductive Reasoning</strong></td>
<td>Inferring unknown generalizations or drawing conclusions from information, specific examples, or observations</td>
</tr>
<tr>
<td>What conclusions can be drawn from this content?</td>
<td></td>
</tr>
</tbody>
</table>

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Classroom Observation Reflection Questions

Pyle Middle School—7th Grade Advanced Language Arts Classroom

Use the chart below to answer the following questions.

<table>
<thead>
<tr>
<th>The Stages of Rigor</th>
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</thead>
<tbody>
<tr>
<td><strong>Acquisition</strong></td>
</tr>
<tr>
<td>Organization</td>
</tr>
<tr>
<td>• Help students acquire new concepts, content, or skills</td>
</tr>
<tr>
<td>• Help students store and organize bits of knowledge</td>
</tr>
<tr>
<td><strong>Application</strong></td>
</tr>
<tr>
<td>Mindful Practice</td>
</tr>
<tr>
<td>• Help students use acquired knowledge to solve problems, design solutions, complete work, and apply appropriate knowledge to new and unpredictable situations</td>
</tr>
<tr>
<td><strong>Assimilation</strong></td>
</tr>
<tr>
<td>Meaningful Tasks</td>
</tr>
<tr>
<td>• Help students synthesize what they have learned by teaching them to combine thinking skills into thinking processes</td>
</tr>
<tr>
<td><strong>Adaptation</strong></td>
</tr>
<tr>
<td>Transfer</td>
</tr>
<tr>
<td>• Help students adapt what they have learned to real-world and novel situations</td>
</tr>
<tr>
<td>• Help students develop habits of mind</td>
</tr>
</tbody>
</table>

Source: Adapted from How to Plan Rigorous Instruction (p. 59), by R. Jackson, 2011, Alexandria, VA: ASCD. Copyright 2011 by Mindsteps Inc. Adapted with permission.

- During the postvisit discussion, Jackson explains that she saw evidence of application and assimilation during the lesson. What evidence of these two elements did you observe?
- What did the teacher do to facilitate acquisition of the skills students would need in order to be successful with this lesson?
- The teacher uses ambiguity and creates opportunity for the students to make predictions and meaning for themselves. In what ways might this teacher build opportunities for adaptation?
- Based on the teacher’s description of her thinking in the planning process, as well as Jackson’s observations of the students in action, describe how the next steps they decide on add rigor to the learning process.
Pyle Middle School—Energy in the Environment Classroom

• What was the task that students were asked to complete?
• What did the teacher do to plan for a predictable result?
• Describe how the lesson took students through each of the stages of rigor.
• What thinking processes and thinking skills were required of students?
• In what ways does the teacher help students build habits of mind?
• What predictions can be made based on students’ responses to the teacher’s questions?

Pyle Middle School—Physical Education Classroom

• What does rigor look like in a nontraditional classroom?
• What did the teacher do to help students apply prior knowledge and skills?
• What evidence of planning for rigor were you able to observe?
Notes

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Resources

For additional resources, strategies, and ideas, visit www.mindstepsinc.com/rigor.

Other titles by Robyn R. Jackson:


