Marzano Center Essentials for Achieving Rigor

In collaboration with Dr. Robert J. Marzano, Learning Sciences Marzano Center has developed a model of instruction to refine and supplement teacher instructional skills to meet rigorous new standards. The model focuses on 13 essential classroom strategies for achieving rigor, drawn and condensed from the instructional content strategies illustrated in Figure 2, along with a foundation of supported steps for standards-based planning, data reflection and action, collaboration, and setting optimal conditions for learning. As we continue our research, we will update the model accordingly.

**Thirteen Essential Classroom Strategies for Achieving Rigor**

A new model of instruction, developed by Dr. Robert Marzano and the Learning Sciences Marzano Center, focuses on 13 essential teaching strategies necessary for rigorous instruction.

The Marzano Center’s Essentials for Achieving Rigor model posits that, while many factors influence student learning, the greatest contributor to student achievement is classroom instruction.\(^7\)

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Rockoff (2004) found, for example, that a high-performing teacher is four times more effective in driving student learning than a low-performing teacher. Sanders and Rivers (1996) demonstrated that three consecutive years with a high-performing teacher raised student achievement 40 percentile points.
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The Marzano Center Essentials for Achieving Rigor model scaffolds instruction through the taxonomy from content retrieval to knowledge utilization while conveying high expectations to all students in a student-centered classroom. This model provides teachers with the tools they need to intentionally align their instruction with higher taxonomic levels as well as purposefully plan for student autonomy.

Figure 5 illustrates the 13 core instructional strategies. These 13 strategies, as noted, were drawn and condensed from the content strategies illustrated in Figure 2 (see p. 11). Considered and implemented as a set, these strategies represent a dramatic shift from traditional classroom pedagogy and align directly with the goals of college and career readiness standards.

Note that while these 13 strategies are listed in a linear fashion, they may be used in any phase of instruction, from building foundational content, to deepening content, to utilizing knowledge and skills to engage in complex tasks.

For example, the strategy “Identifying Critical Content” articulates the responsibility of the teacher to continually highlight the important information that is being addressed in class. Further, this strategy functions as the foundation for rigorous instruction. Identifying critical content is crucial when a teacher is introducing new information. It is just as important during content review. Even during activities designed for cognitive complexity, it is essential that students know what is critical about the content for which they are generating and testing hypotheses. The difference lies in the level at which the student is working with the critical information. All of the strategies can be used with intentionality throughout the progression of learning.
The 13 essential strategies are:

- **Identifying Critical Content.** As described above, teachers identify which information or skills are critical to mastery of the standards on which they are working. The teacher highlights this crucial information throughout the lesson and across the unit, to enable students to focus on key points, helping them build a logical foundation on which to build from simpler to more complex learning.

- **Previewing new content.** Previewing allows for students to access prior knowledge and analyze new content. It may be used in any level of lesson to connect new content to previously learned information.

- **Organizing students to interact with content.** Students are organized into appropriate groups that facilitate their interaction with content. Shared experience and cooperative learning are essential building blocks of the teaching-learning experience (Marzano & Brown 2009). Whether it's learning introductory content or knowledge utilization, students are provided help regarding how to collaborate in a manner that will help them interact with content and ways they might focus on cognitive or conative skills.

- **Helping students process content.** This strategy systematically engages student groups in processing and generating conclusions about content. Note: For the student-centered classroom, the focus shifts from teacher to student. The teacher is “helping students process content.” Inherent in this phrase is that students are expected to work with, summarize, and elaborate on content, not just listen as the teacher discusses or lectures.

- **Helping students elaborate on content.** Helping students elaborate requires students to make inferences about the information addressed in class. Equally important, students are asked to provide evidence and support for their inferences. This strategy has great purpose in any lesson.

- **Helping students record and represent knowledge.** This strategy allows students to create their own representations of the content and processes with which they are interacting. Rigorous standards highlight the need to expand the types of representations elicited from students to include mental models, mathematical models, and other more abstract representations of content.

- **Managing response rates with tiered questioning techniques.** The teacher purposefully asks questions with ascending cognitive complexity in order to support students in deepening their thinking about content. In addition to ensuring that all students respond, the teacher ensures that student responses are backed up by evidence.

- **Reviewing content.** Reviewing content engages students in a brief review that highlights the cumulative nature of the content. For rigorous standards, the teacher also reviews activities to ensure that students are aware of the “big picture” regarding the content.

- **Helping students practice skills, strategies, and processes.** With this strategy, students perform the skill, strategy, or process with increased competence and confidence. The shift in instructional practice to demonstrate rigorous standards also requires students to both develop fluency and alternative ways of executing procedures.
• Helping students examine similarities and differences. This strategy engages students in activities such as comparing, classifying, and creating analogies and metaphors that address the “big ideas” and “conclusions” as well as specific details. The strategy can be useful not only when students are deepening their thinking but throughout the learning cycle. There are times when examining similarities and differences is appropriate for previewing, but it is also a highly effective strategy when students are asked to analyze at a deeper level, or to utilize their knowledge to solve a real-world problem.

• Helping students examine their reasoning. With this strategy, students produce and defend claims by examining their own reasoning or the logic of presented information, processes, and procedures. The shift to rigorous standards requires the analysis of information for errors or fallacies in content or in students’ own reasoning, as well as the examination and critique of the overall logic of arguments.

• Helping students revise knowledge. Students revise previous knowledge by correcting errors and misconceptions as well as adding new information. Additionally, this instructional strategy involves viewing knowledge from different perspectives and identifying alternative ways of executing procedures. This strategy allows students to build a sense of themselves as active learners as they broaden and deepen their knowledge throughout a unit of instruction.

• Helping students engage in cognitively complex tasks. Engaging in cognitively complex tasks is not merely an end-of-unit or culminating activity. Students must begin to “live” in a land of cognitive complexity. Students who are presented with a complex knowledge utilization task at the end of a unit, for instance, with no questions, tasks or activities built-in along the way that required them to use that level of thinking, will have much more difficulty making meaning of the task. Effective teachers incorporate “short visits” throughout the unit to help build student capacity for complex tasks.

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