Academic Rigor:
The Core of the Core

Explaining the Common Core State Standards to students promotes metacognition and provides relevance.

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There are two types of educators, and luckily, one group is getting smaller with each passing month: those who are concerned about the rigorous demands of the Common Core State Standards and those who know little about the standards and are proceeding through the school year as if nothing were changing. Although some educators see the standards as reason for stress, most recognize the positive possibilities associated with them and are willing to make the professional commitment to implementing them so that academic rigor for all students will increase.

But business leaders, parents, and the authors of the Common Core are not the only ones who recognize the need for college and career readiness; students want to be prepared too. They do not want to sit in classrooms where rigor is minimal, engagement is limited, and nothing of substance is discussed or learned. They have a vested interest in the rigor associated with secondary education.

Begin With the Standards

Although it is not necessary for students to be overly familiar with the origin of the Common Core, no discussion of academic rigor would be comprehensive without familiarity with the standards. For students to be willing to put forth the effort it will take to learn at the levels designated by the new educational goals, they must have a general understanding of the standards' purpose and the reasons for mastery. The students sitting in secondary classrooms often resist course content if the reasons for learning are not fully explained.

Building understanding among students about the Common Core should begin with a general discussion about the purpose and origin of the standards. Students should know that the Common Core is the result of a cooperative effort between government and business to be competitive within an international workforce. Most secondary students understand the idea of global competition, and teachers can tap into their competitive spirits for the purpose of motivation.

Secondary students should understand that different types of text require different types of reading. Sometimes reading quickly and skimming is sufficient; other times, it is necessary to slow down, read each word for meaning, and reread for a deeper understanding.

Discuss the new emphasis on reading original documents. In the past, it was sufficient to read an author's interpretation of a primary source document, but students will now be given the opportunity to evaluate the meaning of phrases, word selection, and main ideas for themselves. When students understand the change in expectations and reasons for the change, they are more likely to meet the challenges ahead.

Teachers can explain the emphasis on writing in all areas of the curriculum. Arguments, expository information, and narratives already exist, to some extent, in most curricular

areas. Students should understand that the instructional objectives in a variety of classes are often interconnected and teachers must strategically look for opportunities where content crosses courses.

Use Bloom's Taxonomy

Teachers can use Bloom's taxonomy (Anderson & Krathwohl, 2001) to write their instructional objectives, then post the objectives for students and explain the reasons why the content is important. As part of the anticipatory set for each lesson, teachers can point to the objective, explain it, and emphasize that the goal is related to learning rather than doing.

After students understand Bloom's taxonomy, they will be able to use it to design questions at each level and then answer their own questions. Their answers will reveal how well each student processes information at the highest levels of cognition.

Emphasize Vocabulary

Although there are a number of ways to effectively teach vocabulary terms and words, teachers should use strategies that not only help students remember the terms but also help them understand the meaning in context. The following vocabulary strategies not only support understanding of a definition, they also support rigor at the highest levels of Bloom's taxonomy.

WORD WALL

Although originally believed to be more suitable for elementary classrooms, a word wall is a novel way of reinforcing words and terminology (Brunner, 2012):

1. Select vocabulary terms that students need to know to understand instructional content.
2. Present the words in context.
3. Have students write individual words on cards and include a definition, the word used in a sentence, and a nonlinguistic representation (*application*).
4. Ask students to design a visual display that communicates how terms are related and connected to the instructional objective (*analysis*).
5. Direct students to display the words in a

manner that communicates a hierarchical order of importance for each term related to the overall instructional objective (*evaluation*).

WORD SORT

The word sort strategy is applicable in all subject areas, is easily implemented, and facilitates understanding of the relationship between vocabulary terms. This activity can be done as an introduction to the unit of study or as a review exercise (Gillet & Kita, 1979):

1. Select important terms and display for students to see.
2. Ask students to review the words, either individually or in small groups, and group them according to a category.
3. After words have been grouped, ask students to label each group.
4. If the words are from a text and part of a prereading assignment, ask students to predict the content of the reading selection.
5. Ask students to explain how each term contributes to the overall understanding of the lesson objectives (*application*).
6. Have students examine the words to determine how they are interrelated (*analysis*).
7. Ask students to prioritize the words and explain the prioritization in relation to the instructional target (*evaluation*).

CONTEXTUAL REDEFINITION

The contextual redefinition strategy is designed to teach contextual analysis by helping students make educated guesses about the meaning of specific terms. This strategy actively engages students in the process of deliberation while facilitating a deeper understanding of the term within the context of the instructional objectives (Readance, Bean, & Baldwin, 1998):

1. Select important terms from the instructional unit.
2. Ask students to work individually or in small groups to define each term on the basis of their background knowledge.
3. Locate the word within a text and display the sentence with the term.
4. After reviewing the words in context, ask students to modify (if necessary) their previous definitions.

5. Instruct students to verify definitions using a glossary or dictionary.
6. Ask students to draw a nonlinguistic representation of the word or term (*application*).
7. Instruct students to list additional words that could be included within the instructional unit. Explain that they should be prepared to justify their selections (*analysis*).
8. Ask students to display their nonlinguistic representations online or in the classroom. After terms are displayed, direct each student to give feedback to his or her classmates about the representation. This feedback can be in the form of a question, a suggestion, or a compliment (*evaluation*).

Supporting Rigor Through Academic Independence

Teachers can support rigor and independence of learning in a number of ways, but few are more important than teaching students how to take notes during a class lecture or while reading an important text. Although students are usually expected to take notes proficiently by the time they are in secondary school, they can seldom do so in a systematic, research-based way that supports deeper learning of content. Instead, some take a hit-or-miss approach, such as attempting to write down everything a teacher or an author says, and others take few, if any, notes at all.

Educators should remember the most effective way to teach any type of study skill is in the context of a particular subject. Far too many students fail to make the connection between taking notes and learning. Rather, they believe that note taking is an end in and of itself, rather than a tool for future knowledge. The following note-taking strategies will help students become self-sufficient, independent, and successful lifelong learners.

THE GRAPHIC INFORMATION STRATEGY

The purpose of the graphic information strategy is to help students understand how to efficiently interpret pictures, graphic organizers, and diagrams. It requires little advance preparation by the teacher and supports independent learning across the content areas (Brunner, 2012):

1. Explain that pictures, graphic organizers, and diagrams help explain complicated ideas and text.
2. Locate a graphic or picture within a text, and ask students to read it by paying close attention to its details, headings, and so forth.
3. If text is included, instruct students to skim it to understand the connections between it and the picture or graphic.
4. Ask students to write a brief paragraph summarizing what the picture or graphic helps them understand.
5. Direct students to pair with a partner or small group to discuss each interpretation and its significance to the instructional objective.
6. View a different graphic, and explain to a partner how to read it (*application*).
7. Compare and contrast two graphic representations that relate to content, design, and informational accuracy (*analysis*).
8. View more than one graphic within a designated text. Choose the ones that are the most helpful in understanding the instructional objective. Explain to a partner why those graphics are more informative and helpful to the reader than the others (*evaluation*).

THE PREDICT, ORGANIZE, REHEARSE, PRACTICE, EVALUATE (PORPE) STRATEGY

The purpose of the PORPE strategy is to help students organize and study for examinations that require essay answers. This strategy is easily adapted for independent studying, helps students monitor comprehension, and provides a ready-made study guide for further use (Simpson, 1986):

1. After studying a unit of content, ask students to use Bloom's taxonomy to predict and formulate possible essay questions and possible answers to each question.
2. Ask each student to share his or her questions with a classmate.
3. Instruct students to organize possible answers to the essay questions by brainstorming with a classmate or a small group.
4. After their answers are recorded, direct students to rehearse the possible answers.

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5. Tell students to self-evaluate the quality of their essay answers.
6. At the conclusion of the exercise, ask students to explain to their classmates how this type of study method could be used in one other content area (*application*).
7. Discuss with students the steps in this strategy. Ask them to analyze why the strategy works or why it might not work in all learning situations (*analysis*).
8. Ask students to evaluate the usefulness of this type of study method in math, social studies, science, and English (*evaluation*).

DOUBLE-ENTRY JOURNAL

The primary purpose of the double-entry journal (Vacca & Vacca, 2008) is to facilitate learning while students are reading for deeper meaning. It encourages active and purposeful learning, requires little teacher preparation, and provides a study guide for future use:

1. Ask students to make a double-entry journal by dividing sheets of notebook paper in half lengthwise.
2. Explain that the left column of the journal is used to record words, quotes, or passages from a lecture or a text that they believe are relevant to their understanding of the instructional objective.
3. After recording in the left column, ask students to use the right column to record their reactions, interpretations, and responses to the information previously recorded in the column on the left.
4. Ask students to explain how the information supports understanding of the overall content (*application*).
5. Ask students to reread the text for deeper meaning or find a reading selection on the topic of the lecture or discussion. What conclusions can be drawn from what was read (*analysis*)?
6. Consider other note-taking strategies. Ask students to list and evaluate the pros and cons of each strategy and compare them with this method and explain why one strategy might be superior to another (*evaluation*).

When students are learning how to use this strategy, the teacher should provide headings for both columns. For some students, it may work best to write "What is…?" over the column on the left and "What does it mean to me?" over the column on the right.

PLANNING FOR RIGOR

Getting students excited about academic rigor is possible, but educators must work smarter, not harder. Strategies for 21st century learners must incorporate differentiation, engagement, and the requirements of learning at the highest levels of Bloom's taxonomy. Regardless of content or grade level, all educators must know how to support learning when students are required to master difficult and challenging content.

Whether organizing ideas, questioning an author's conclusions, drawing inferences, or using and applying information to a variety of situations, the more students understand why they need the information, the more likely they will be to engage and be willing to use their mental energy. All assignments must be related to the objective, and students must understand the need for—as well as their personal connection to—the content. It is the educator's responsibility to facilitate learning that is relevant and encourages and ensures curiosity. **PL**

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