

By ROBERT ROTHMAN

In a recent survey, William Schmidt, a University Distinguished Professor of education at Michigan State University, found some good news and bad news for supporters of the Common Core State Standards. The good news was that the vast majority of teachers have read the Standards and nearly all like them. The bad news was that about 80 percent of mathematics teachers said the Standards were “pretty much the same” as their current state standards.

Those teachers might want to take a closer look. While the Common Core State Standards share many features and concepts with existing standards, the new standards also represent a substantial departure from current practice in a number of respects. Here are nine important differences:

In Mathematics

1. *Greater Focus.* The Standards are notable not just for what they include but also for what they don't include. Unlike many state standards, which include long lists of topics (often too many for teachers to address in a single year), the Common Core Standards are intended to focus on fewer topics and address them in greater depth. This is particularly true in elementary school mathematics, where the standards concentrate more on arithmetic and less on geometry. Some popular topics (like the calendar) are not included at all, and there are no standards for data and statistics until sixth grade—a controversial change. The reasoning is that teachers should concentrate on the most important topics, like number sense, *in depth* so that students develop a real understanding of them and are able to move on to more advanced topics.

2. *Coherence.* One of the major criticisms of state standards is that they tend to include the same topics year after year. The Common Core Standards, by contrast, are designed to build on students' understanding by introducing new topics from grade to grade. Students are expected to learn content and skills and move to more advanced topics. The Standards simultaneously build coherence within grades—that is, they suggest relationships between Standards. For example, in seventh grade the Standards show that students' understanding of ratio and proportion—used in applications such as calculating interest—is related to their understanding of equations.

3. *Skills, Understanding, and Application.* The Standards end one of the fiercest debates in mathematics education—the question of which aspect of mathematics knowledge is

most important—by concluding that they all are equally central. Students will need to know procedures fluently, develop a deep conceptual understanding, and be able to apply their knowledge to solve problems.

4. *Emphasis on Practices.* The Standards have eight criteria for mathematical practices. These include making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, and constructing viable arguments and critiquing the reasoning of others. These practices are intended to be integrated with the standards for mathematical content. To provide students opportunities to demonstrate the standards of practice, then, teachers might allow students more time to work on problems rather than expect them to come up with solutions instantaneously. Or they might provide students with a variety of tools—rulers and calculators, for example—and ask them to choose the one that best fits the problem rather than requiring them to choose a tool in advance.

In Language Arts and Other Subjects

5. **More Nonfiction.** Reflecting the fact that students will read primarily expository texts after high school, the Standards call for a much greater emphasis on nonfiction. The document proposes that about half the reading in elementary school and 75 percent in high school should be nonfiction. This would include informational texts in content areas as well as literary nonfiction in English language arts; publishing companies are likely to respond by revising their textbooks. Narrative fiction will become less prevalent. The Standards also expect students to write more expository prose.

6. **Focus on Evidence.** In reading, students will be expected to use evidence to demonstrate their comprehension of texts and to read closely in order to make evidence-based claims. To prepare them to do so, teachers will need to take time to read carefully with their students and in many cases reread texts several times. In writing, students are expected to cite evidence to justify statements rather than rely on opinions or personal feelings.

7. **“Staircase” of Text Complexity.** Students will be expected to read and comprehend increasingly complex texts in order to reach the level of complexity required for success in college courses and the workplace. The Standards document cites evidence that the complexity of texts used in schools has actually declined over the past forty years. To reverse this trend, teachers will have to choose materials that are appropriate for their grade level; states and organizations are now developing tools to help teachers evaluate complexity.

8. **Speaking and Listening.** The Standards expect students to be able to demonstrate that they can speak and listen effectively—two aspects of literacy rarely included in state standards. One of the consortia developing assessments to measure

student performance against the Standards will create a speaking and listening assessment. Expect to see teachers asking students to engage in small-group and whole-class discussions and evaluating them on how well they understand the speakers' points.

9. Literacy in the Content Areas. The Standards include criteria for literacy in history/social science, science, and technical subjects. This reflects a recognition that understanding texts in each of these subject areas requires a unique set of skills and that instruction in understanding, say, a historical document is an integral part of teaching history. This means that history teachers will need to spend time making sure that students are able to glean information from a document and make judgments about its credibility. Science teachers will need to do the same for materials in that discipline.

To prepare teachers to make these shifts, states and private organizations are planning and implementing substantial professional development efforts. In Kentucky, for example, the state department of education is undertaking a massive campaign to inform teachers about the Standards and their implications for practice and is making available sample lessons and other materials on a website. But these efforts will only be successful if all teachers understand the Standards and how they differ from current practice.

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