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‘Focal Points’ Being Eyed in Math-Standards Revisions

By Sean Cavanagh

The National Council of Teachers of Mathematics is promoting its new, much-publicized curriculum guidelines among state officials and textbook publishers, two crucial audiences for the organization as it seeks to refine how that subject is taught.

So far, NCTM officials say, they have been encouraged by the response. The organization has been in touch with at least 10 states that are either planning to make changes to their math standards to reflect principles in the document or are considering such revisions.

In addition, association officials met last week with about 20 representatives of the textbook-publishing industry to explain the content of the new guidelines, “Curriculum Focal Points for Prekindergarten Through Grade 8 Mathematics,” NCTM President Francis M. “Skip” Fennell said.

“We’ve had preliminary conversations with some states, and more direct conversations with others,” Mr. Fennell said. “Generally, they’re saying thank you for tightening” recommendations on how math should be taught, he added.

When the NCTM released Focal Points in September, the group’s leaders said they hoped the 41-page document would present educators and others with a streamlined set of crucial math skills and principles that elementary and middle school students should master. (["Math Organization Attempts to Bring Focus to Subject,"](#) Sept. 20, 2006.)

The document was in some ways a follow-up to the NCTM’s publication of an influential set of K-12 math standards in 1989 that was revised in 2000.

FOR MORE INFO

"The Intended Mathematics Curriculum as Represented in State-Level Curriculum Standards: Consensus or Confusion?" is available for purchase from Information Age Publishing Inc.

Critics have complained that those standards did not place enough emphasis on essential math skills and basic arithmetic, and instead pushed a “fuzzy math” model. NCTM officials dispute those claims, saying the standards call for both the cultivation of basic math

skills and more conceptual understanding of the subject.

Focal Points, however, has won praise from some critics of the original standards.

Broad Impact Anticipated

NCTM officials hope that state curriculum officials will revise their math standards to reflect the more streamlined approach advocated in Focal Points. If that occurs, they suggest, textbook publishers that cater to states' individual demands can respond by narrowing their focus.

One state paying attention to the NCTM document is Florida, which is revising its math standards for the first time since 1996. A team of educators, both K-12 and college teachers, are working on that project, said Todd Clark, the deputy bureau chief for instruction and innovation for the Florida education department.

Those experts heard a presentation this fall on Focal Points from Jane F. Schielack, the associate dean for assessment and prekindergarten education at Texas A&M University, who chaired the team that wrote the NCTM document.

Florida officials are likely to reduce “dramatically” the number of expectations by grade level in math, in an attempt to encourage teachers to emphasize what is most important, and Focal Points could help them, Mr. Clark said. State officials want to better coordinate math lessons from grade to grade so that students can “gain mastery at each grade level, then move on,” he said.

Officials in Utah are also embarking on a revision of their math standards, and are likely to draw from the Focal Points in that process, said Nicole Paulson, an elementary math specialist for the state office of education. That process was originally not scheduled to occur until 2012, but state legislators now say they would like a revision to be complete by next year.

Most states revise their math standards every six to 10 years, said Barbara Reys, a professor of mathematics education at the University of Missouri-Columbia. Ms. Reys also co-directs the Center for the Study of Mathematics Curriculum, a research group that evaluates state and school math policies that is based at her university. In a recent survey, the center found that more than 80 percent of state officials said their state standards had been strongly influenced by the NCTM's 2000 standards.

Ms. Reys, who served as one of several formal reviewers of Focal Points, believes the new document will also have a broad impact. “People have been looking for leadership from the national level,” she said.

Mastery Expectations

A recent report by Ms. Reys’ organization, in fact, says there are big differences in when states expect students to master different math concepts. In most states, students are introduced to fractions anywhere between 1st and 4th grades, her study found. Expectations for when they should become adept at adding and subtracting fractions also vary, with states making that demand somewhere between 4th and 7th grades, according to the study, “The Intended Mathematics Curriculum as Represented in State-Level Curriculum Standards: Consensus or Confusion?”

“We’re not sending clear messages to teachers on when major topics should receive major focus,” Ms. Reys said.

That lack of uniformity also makes it difficult to gauge student proficiency in math accurately in different states on measures such as the National Assessment of Educational Progress, she said. States are required to have students participate in the math NAEP in 4th and 8th grades.

Ms. Schielack, who has had several conversations with state officials about Focal Points, said states could use the document to revamp teacher guides and other professional-development materials in addition to their standards.

“The states I’ve been to, the reaction has been exactly what I’d hoped for,” Ms. Schielack said. There was no feeling among state officials that they “have to throw away everything that they have,” she added. “I haven’t heard any comment that, ‘Oh this is so different, or this is going back to the basics.’ ”