Commentary

In My Opinion

Revising the NCTM *Standards*

When the first volume of the National Council of Teachers of Mathematics's *Standards* for K–12 mathematics education came out in 1989, no one, including the authors, imagined how influential it would be. Mathematicians had been asked to participate in the project but, with few exceptions, had declined. The U.S. had never had national standards in any subject. Who could have predicted that the 1989 *Standards* would matter? But it did. State standards were rewritten, major curriculum projects were funded, assessments were radically overhauled, and, once people realized what was going on, a backlash movement began whose greatest effect has perhaps been a rather astonishing politicization of mathematics education.

People learn. Three years ago, when I was asked to help with the *Standards* revision (later titled *Principles and Standards of School Mathematics*), I jumped at the chance, as did several of my colleagues: five of the twenty-six *Principles and Standards* writers are mathematicians.[1] What did we jump into?

Nothing we were used to. Mathematics may be, as Barbie said before she was reprogrammed, hard, but this was much harder. It was hard because (a) this was education, with fractured communities (including our community of mathematicians), each speaking a different dialect; (b) we were necessarily, not of our own choosing, going to be embroiled in politics largely not of our own making; and (c) it wasn't a question of what we personally wanted to say, but of distilling direction and consensus out of a fractured and varied field.

It was also hard because of its public nature. Work like this is eventually very public, but *Principles and Standards* was public before it began. There was an oversight committee, the Commission on the Future of the Standards. There was the NCTM Board, which had to agree that what we wrote represented the organization.[2] And there were the ARGs, the Association Review Groups—the AMS had one—which responded to formative questions and later provided extensive critiques of the draft.

And, after a first draft was widely distributed in the fall of 1998, there was feedback: about 630 individual responses, scores of organizational responses, and commissioned reviews from a wide range of people, including outspoken critics of the 1989 *Standards*.

The responses were, of course, conflicting. If one person liked a particular sentence, another person hated it. If one person had a suggestion for change, another person had a different, incompatible suggestion. Making sense of all this took a good computer program and, more important, classification and coding by an intelligent and careful staff. Broad feedback summaries, variously organized, were distributed.

To focus us as we went through this maze, *Principles and Standards* was put through the National Research Council (NRC) review process, concentrating on our response to nineteen issues drawn, by the Commission, from the feedback. These issues largely were the flashpoint issues of the feedback; they encapsulated areas of concern and contradiction in what we were hearing. These nineteen issues with NRC comments were presented to us before we wrote the final draft, along with representative, generally contradictory, comments from the feedback process. We then had to present the NRC with a plan of response for each issue. And, ultimately, we had to write a final draft.

As we began to absorb the feedback and respond to the NRC, it became clear that not only were we not speaking for our individual selves, we were not even speaking for our writing group or for the constituencies we represented. Our primary job had become to respond to the varied and conflicting opinions we were presented with, to try to understand the deep concerns underlying specific comments, and to try to honor them. It is much easier to give your own opinion than to distill the conflicting opinions of others into comprehensible form.

Would I do it again? Yes, in a heartbeat, and no, not in the same lifetime. I learned an enormous amount about kids, schools, how people learn, and how people teach. I think about school mathematics very differently. I have tremendous respect for my *Principles and Standards* colleagues and will miss not only our personal collaboration but collaboration with people of their professional interests. It is vital that the mathematics community be involved in this kind of work. It should be seen as a major area of our responsibility, and I am continually astonished that it is not. Our community generally does not reward or honor this sort of time-consuming, challenging, socially important, and intellectually interesting work. Until it does we should not complain that our students come to us unprepared nor wonder why so few mathematicians are involved in educational policy.

—Judith Roitman
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[1] *Of the rest, about one-third are classroom teachers, one-third are professors of mathematics education, and the rest are administrators, curriculum writers, and so on.*

[2] *Or as close as it is possible to represent an organization as large and varied as the NCTM, whose annual meetings far dwarf the Joint Mathematics Meetings.*