Responses to Tentative Questions for “A Genealogy of Mathematics Teacher Effectiveness”

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Participation Background

• Describe your position in the mathematics education community prior to participating on the writing committee.
As a college professor, I had been active in the Mathematical Association of America (MAA), most recently having co-edited the MAA journal Mathematics Magazine. In 1983 I was elected president of the MAA for the term 1985-86.

• What was your relationship with NCTM prior to participating on the writing committee? I only joined NCTM in the early 1980s when I became active in national mathematics education policy; my only interaction was with NCTM presidents and executive director Jim Gates at various national meetings.

• How were you selected to be a part of the standards writing process? NCTM president John Dossey asked me to be to be a member of the Standards Commission; I was not a member of any of the writing committees.

  o Was there an application process or were you selected? I was selected because of my office—President of MAA.

  o How were you notified? John Dossey asked me when we were together at some meeting in Washington.

The Developing Process

• As you understand it, what was the impetus for writing the document? NCTM leaders, especially Joe Crosswhite, concluded that national standards were a necessary and appropriate response to the challenges posed by A Nation at Risk. There was much debate about whether national standards were appropriate in relation to the traditions and constitution of the United States. NCTM leaders decided the appropriate middle ground would be for NCTM as a professional organization of mathematics teachers to take the lead with little or no endorsement from any federal agency.

• Was there a framework provided prior to commencing the writing process? Tom Romberg was in charge of the writing, and I’m sure he provided an outline of goals for the various writing groups. I was not involved in any of that.

The Writing Process

• Describe the makeup of the writing committee. There were four committees as enumerated on the inside cover page of CESSM. I never met with them.

• How did the group function logistically? The various drafts from the writing committees were assembled under Tom Romberg’s leadership and reviewed by the Commission (of which I was a member) every four months or so. Our comments were sent back to the writing groups. At the end, we walked through the entire document, page by page, letting every member of the Commission raise questions and discuss ways to resolve issues. In retrospect, this final step was probably too compressed since it let pass minor errors and questionable assertions that critics later used to discredit the document.

• What was the intent of the document as you understood it? This was the subject of much debate, and even more misunderstanding. The official position (see p. 6) was to articulate on behalf of the nation’s mathematics teachers statements about what they value in the context of a technologically changing society. Many believed (and as many feared) that it was intended to become a US version of the national standards employed by other nations—guides that teachers are expected to follow carefully with relatively little variation. Officially, NCTM asked of its endorsers only that they support the “vision” of school mathematics outlined in CESSM—which is lot less than expecting students or teachers to adhere to most of the details. My own view is consistent with the “vision”
approach, coupled with the value of having a proposal on the table that could (and did) stimulate debate, promote innovation, and challenge outmoded practices.

The Disseminating Process

• **What did you expect would come from the publication of the document?** Widespread discussion among NCTM members and those members of MAA and AMATYC who were involved in teacher education. I expected that as a public document it would make a brief splash and then reside on lots of bookshelves alongside multitudes of other reports on education.

• **How did you feel about the final document that was made available to the public?** It was pretty much what I expected based on the development process that I had observed. I did not anticipate the nature of the criticisms from within the mathematical research community, nor the evolution of the “national standards” argument into a framework for federally supported standards in all other fields—which has now evolved yet again to a multi-state (but not federal) Common Core.

The Implementing Process

• **How do you feel the documents have been implemented?** About as I expected—that is, wide variation. This is what happens with all curriculum reform: enthusiasts adopt, critics resist, most carry on as before.

• **How do you think federal, state, and local departments of education have used the standards?** Badly. Especially at the state and federal level, departments of education have an inevitable tendency to operate in terms of inflexible rules—whether they are mandating procedures or offering grants. Whenever CESSM was interpreted as a set of specific rules rather than as a “vision” to be adapted, extended, and challenged, it motivated critics and undermined teachers.

  o **How has it been beneficial?** For better or for worse, CESSM launched the national standards movement. Most people engaged in today’s Common Core debates have forgotten (if they ever knew) about NCTM’s contribution to this evolving story. Yet since other powerful forces also affect STEM education, it is hard to quantify the specific influence of CESSM. Also, perhaps as important, CESSM contributed strongly to the effort to eliminate dead-end “general math” from the school curriculum. No longer is it acceptable to view the goal of school mathematics as being a filter; today it is expected to be a pump, and for that CESSM deserves much credit.

  o **How has it negated the intentions of the standards?** The proper contrast to the prior question would be “How has it been harmful?” Many teachers and education policy experts now argue that the Common Core, a direct descendant of CESSM, is being used as a “club” to enforce top-down regulations on states, and from states onto districts. This may be true, but if CESSM had not ever been written, it is likely that other groups (e.g., the National Academy of Sciences or AAAS) would have written science standards, so today’s standards movement would have simply grown from a different source.

• **Looking back, how would you describe how the documents have been used in context of the reform conversation that followed?** Initially, criticism within the mathematical community—both from research mathematicians and many scientists and engineers and from within NCTM (including some former presidents)—caused NCTM to clarify and revise CESSM, permitting critics to claim some measure of victory. But neither side really changed classroom practice very much: most teachers selected the approach they felt comfortable with and in that way could be most effective in their own classroom. Some, however, decided to leave teaching rather than change.

  It is important to note, in the context of “teacher effectiveness” as used in the title of your study, that neither the original CESSM nor the current Common Core pretend to prescribe how teachers should teach. The word “evaluation” in the title of CESSM refers to assessment of students, not of teachers. However, there is widespread agreement, backed by evidence, that teacher quality is the most important factor in effective education. Thus both CESSM and its Common Core descendant are in the position of emphasizing something of secondary rather than primary importance in the nation’s agenda to improve STEM education.