

**Teaching Teachers
in the
Era of the Common Core**

Reflections

and

Where do we go from here?

Special Thanks

Brookhill Foundation

National Science Foundation

Math for America

CBMS

Joan Ferrini-Mundy

- Abundant digital resources
- New tools, ideas and representations
- Changing Federal emphasis and policies
- Central role of mathematics in the STEM workforce

Suzanne Wilson

Common Core State Standards

Represent an unprecedented and unified effort to promise U.S. children a high quality, focused mathematical and scientific education

Problems/Challenges of the Current System

Many K-12 students do not learn challenging mathematics

Those students enter college unprepared for college mathematics; the ones who do understand mathematics often do not to enter teaching

Teachers are left to their own devices in terms of continuing their mathematical education

Those same prospective teachers are apprenticed in classrooms of teachers who themselves know little mathematics

Future elementary teachers take very few mathematics courses; those taken by secondary teachers do not prepare them to develop mathematical knowledge for teaching

Ten Breakout Sessions discussed draft documents and offered advice that will inform The Mathematical Education of Teachers 2

Sample comments from the Recommendations session:

- What about including a statement about mentoring new teachers?
- Math courses need to model the kind of teaching we want teachers to emulate.
- The recommendation for preparation of future elementary teachers should not include courses like college algebra – please don't be subtle about these recommendations.

Bill Schmidt

Discussed Lessons for U.S. Teacher Education
from the International TEDS-M Study

Among other comments, he said there was a strong correlation between student success in TIMSS and teacher knowledge of mathematics.

Three inspiring teachers offered their perspectives on teacher education

Catie Carrigan

Matt Coleman

and

Paula Millerd

Offered insights into the real work of teaching in U.S. public schools and the impact of their preservice education and professional development experiences.

Bob Moses

Mathematics Education and the case for
Quality Public Education as a
Constitutional Right

I don't think the country has come to grips with the idea that it really has never committed to educating all its children.

Act Locally

- CEISMC – Center for Education Integrating Science, Mathematics and Computing
- EMS&TL – Elementary Mathematics Specialists and Teacher Leaders Project
- PROMYS for Teachers
- Math for America
- NebraskaMATH

Leadership from Professional Organizations

- Association of Mathematics Teacher Educators
- Association of State Supervisors of Mathematics
- National Council of Supervisors of Mathematics
- National Council of Teachers of Mathematics

Mathematics Teaching a Profession and a Community

- Sybilla Beckmann argued that we must intentionally work towards a community focused on strengthening the teaching of mathematics.
- Aaron Orzech spoke about teaching as a profession.
- Brad Findell argued that the educational system is not set up to support learning to be an excellent teacher.

MET2

Sybilla Beckmann

Bill McCallum

Dan Chazan

Ira Papick

Al Cuoco

Barbara Reys

Karen Fuson

Ron Rosier

Cathy Kessel

Katherine Socha

Karen King

Denise Spangler

Jim Lewis

Alan Tucker

Issues for MET2

- **Who is our audience when we talk about professional development for current teachers?**
 - Only university-based providers or can we also influence non-university-based providers of PD?
 - Will faculty in mathematics departments become significantly more involved in offering teachers content based professional development?
 - How can we create a community in which master teachers are more directly involved in providing professional development?
- **Can we make the case that learning mathematics should be a substantial part of professional development?**

Issues for MET2

- Can MET2 influence certification requirements for middle level teachers? In particular, can we be effective in arguing that elementary preparation is not appropriate for 5th and 6th grade teachers?
- Can we contribute to a common vision for the appropriate education for math coaches or elementary math specialists?
- Are there ways to significantly improve the mathematical knowledge of large numbers of current elementary teachers? This is a daunting issue of scale.

Issues for MET2

- The opportunity to learn in a teacher certification program is limited and is not likely to expand. What choices does this force with respect to the mathematics is taught?
- Must teacher preparation programs try to prepare high school teachers for their complete professional career, or might it be acceptable to certify teachers as well-started beginners who still need continuing education?
 - What statistics education should be part of initial certification?
- Should passing some type of mathematics exam be a required part of certification to be a mathematics teacher?

Setting a research agenda for the Common Core

Horizon Research has a grant from NSF,
*Development of a Research Agenda for
Understanding the Influence of the Common
Core State Standards in Mathematics*

whose purpose is to create a research agenda
for understanding the influence of the
Common Core State Standards for
Mathematics (CCSSM).