



Meeting Summary

Developmental Mathematics

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Building Paths to Success for All Students

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“Freshman remedial courses are the burial grounds for student aspirations.”

— Uri Treisman

At the ECS National Forum on Education Policy, Uri Treisman stressed the importance of celebrating things we have done really well. “If people aren’t clear about what they’ve accomplished, they’ll find it hard to have the courage to take the next step(s).”

To illustrate, he suggested looking at the TIMSS data, which indicates “we’re kicking butt” in 4th-grade math. Only five countries outperform the United States.

A test such as the PISA, however, focuses on how well 10- to 15-year-olds can *apply* what they’ve learned. The message from these results is that we’re not teaching kids to use what they’ve learned in school. We’ve gotten as much as we can out of teaching all kids something, Treisman says. The next step is to teach all kids a lot. Teachers will need much deeper content knowledge to do so.

Also, says Treisman, math gets its greatest power in science and some social sciences. For the most part, we haven’t moved mathematics into the domains in which math skills are used.

For those students who need to take college remedial courses, the news is not good. “Freshman remedial courses are the burial grounds for student aspirations,” says Treisman. Sixty percent of students enrolling in community college take remedial courses — 90% of low-income and minority students at some community colleges. The number of students moving from remedial to college-level courses can drop as low as 15%.

“We allow people to believe there are things they’re good at and that they’re NOT good at. This erodes personal freedoms and creates deep limitations on what people believe is possible.”

In California, only 9% of students place into transfer-level math courses. In Texas, 25-50% of students taking remedial math courses fail to complete them. In Florida, only 15% of students who failed to complete developmental coursework remained in college.

We have to examine the purposes of these courses, Treisman says. Most of the content is never used in the remainder of college coursework. We need to raise the level of evidence for what coursework allows students to qualify for the next levels of study.

The typical math “on-ramp,” Treisman says, needs fundamental reconstruction. He suggests a one-year college success course to replace the traditional developmental pre-requisites for college algebra. Such a course would build on “just-in-time” pre-algebra, elementary algebra and intermediate algebra.

There are promising models for this type of reconstruction, but most are wrapped in local particulars that make it hard to disseminate or take them to scale. Some essentials for creating change, he says, are:

1. Supportive policy environment
2. Institutionalizing strategies and prioritization
3. Mobilizing grassroots faculty action
4. New research and development engines
 - a. Re-engineering best practice for use at scale
 - b. Surfacing practices worthy of attention
 - c. Building new models

Treisman on math phobia:

“It has impact, but it’s overstated. It’s relatively easy to reshape student attitudes. We should be teaching that math achievement is a matter of effort. It only takes 2-3 positive experiences to change students’ attitudes.”

Uri Treisman is executive director of the Charles A. Dana Center and Professor of Mathematics and of Public Affairs, University of Texas at Austin.

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