Mathematics for teaching: What is it and why is it important that we talk about it?

Jill Adler

School of Education
University of the Witwatersrand

SAMS Subject Classification: 18

In this presentation I will look at examples of “problems of practice” that mathematics teachers confront as they go about their work in various school classrooms. I will illuminate the mathematics and mathematical reasoning that teachers need to do to solve such problems. I will argue that this kind of mathematical work is specific to the practice of teaching, and is reflective of the specialized knowledge of teaching Lee Shulman identified twenty years ago. I will then discuss the research being done in the QUANTUM project, and particularly its focus on the kind of mathematics produced in current teacher education practice in South Africa. This reveals that, at the level of assessment, this specialized mathematical knowledge teachers need to know and be able to use to teach well is, by and large, absent. I will offer some explanations of why this is so, and thus why it is important that we talk about this kind of knowledge across communities of mathematicians and mathematics teacher educators, and implications then for the mathematical education of prospective and practicing teachers.