

***Building Capacity for Large Scale Instructional Improvement:
Supporting Mathematics Teachers' Development of Ambitious Instructional Practices***

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Instruction consistent with the principles of RME is an instance of what Lampert calls ambitious teaching in which the teacher builds on students' contributions to achieve a mathematical agenda. Although research on this type of mathematics teaching has made significant progress in recent years, has had only limited impact on instruction in most US classrooms. For the past six years, my colleagues and I have collaborated with mathematics teachers, school leaders, and district leaders in four large urban school districts to investigate what it takes to support improvement in the quality of mathematics instruction at scale. As part of this collaboration, we make recommendations based on the data we collect each year to leaders in each district about how they might revise their policies or strategies for instructional improvement to make them more effective.

In the course of this work, it has become apparent that research can currently provide only limited guidance to school and district leaders who are attempting to support mathematics teachers' development of ambitious instructional practices. The need for investigations that are designed to inform instructional improvement is even more urgent when the goal is to support teachers' development of classroom practices that are equitable as well as ambitious. I present the results of our work to this point by considering key aspects of a coherent theory of action for instructional improvement at scale. These elements include: curriculum materials and instructional guidance instruments such as district-developed curriculum frameworks; pull-out teacher professional development; teacher collaborative meetings; mathematics coaches' practices in providing job-embedded support for teachers' learning; school leaders' practices as instructional leaders in mathematics; and district leaders' practices in supporting the development of school-level capacity for instructional improvement. I conclude by discussing current work in which we are collaborating with leaders in one of the districts to co-design and co-lead coordinated professional development for teachers, coaches, and school leaders.