

13th International Congress on Mathematical Education
Hamburg, 24-31 July 2016

**TECHNOLOGY FOR LEARNING MATHEMATICS:
WHAT CAN WE LEARN FROM LARGE-SCALE STUDIES?**

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Many kinds of research designs contribute to knowledge of how technology can contribute to improved mathematics teaching and learning. Our nonprofit research group has had an unusual wealth of opportunities to conduct studies involving 25 or more schools at a time, and many of the studies used a rigorous, random assignment methodology. This presentation will share what we have learned in some of those studies, and consider the potential role of such studies in an overall portfolio of mathematics education research. At least two large evaluations will be presented in some detail, along with findings. First, I'll share findings from the Scaling up SimCalc project and its successors, which evaluated a dynamic representations approach originally pioneered by Jim Kaput. Second, I'll share new results from an evaluation of an online formative assessment platform called ASSISTments. Other studies, including those relating to graphing calculators, virtual courses, Khan Academy, intelligent tutoring systems, and other technologies may be discussed more briefly. I will consider both the distinctive contributions such studies can make, but also the downsides including difficulties, costs, and the importance of continuing to include other, complementary research designs.