The TE-Mathematics Education Search Committee cordially invites you to a talk by

Ryan Seth Jones

Wednesday, February 12, 2014
10:00-11:30, 116H Erickson Hall

Measuring Approximations to Epistemic Practices in Data Modeling Classrooms

In this talk I discuss classroom practices that productively resemble the epistemic practices STEM professionals use to construct and revise knowledge. Although many of the disciplinary-specific goals, tools, and values that motivate professional practice are not commonplace in the students’ worlds, I describe how student invention and revision of data representations, measures (statistics), and models of variation can provide students access to epistemic statistical practices. I will also discuss my current research effort to design a classroom observation measurement system to indicate the nature and quality of discursive interactions in a large-scale efficacy study of a middle school curriculum that supports the development of epistemic statistical practices. I will represent the measure in the form of a validity argument that explicitly relates instructional design theories and the visible manifestations of these theories in materials, tasks, and classroom interactions. This work contributes to current math education research in two ways. First, a measurement perspective on classroom discourse provides opportunities for improving large-scale attempts to support teacher practice. For example, measures of classroom interactions that inform the guiding instructional theories can provide much needed information for tailoring teacher professional development efforts to the needs of particular communities. Second, this work illustrates the ways a measurement frame can provide productive guidance for representing the theoretical intentions of particular aspects of designed learning environments.

Ryan Seth Jones is a doctoral candidate working on his dissertation at Vanderbilt University's Ph.D. Program in Learning, Teaching and Diversity with advisor Dr. Richard Lehrer. His scholarship is grounded in the work of mathematics teaching and learning and considers the work of teaching as socially and institutionally distributed. He is interested in representing the development of epistemic mathematical practices (practices that support the generation, critique, and revision of concepts) in K-12 classrooms with the goal of building new infrastructures for supporting the collective practices of teachers. He is approaching this problem-space by focusing on how to adequately represent and measure productive teacher-student interactions that lead to diverse and productive ways of thinking about statistical phenomena and potentially to a more powerful and distributed understanding of those ideas.