Nicholas Wasserman* (wasserman@tc.columbia.edu), Keith Weber and William McGuffey. Leveraging Real Analysis to Foster Pedagogical Practices.

Real analysis is frequently a required course for prospective secondary mathematics teachers. However, most teachers view real analysis as unnecessary and unrelated to the work of teaching secondary mathematics. In accord with a theoretically-motivated instructional model for improving the teaching of advanced mathematics courses for teachers, we implemented a course that framed real analysis content by ‘building up from’ and ‘stepping down to’ teaching practice. In this session, we describe how this model was implemented in a single module – about “attending to scope” – and analyze secondary mathematics teachers’ engagement in and reflections on the desired pedagogical aims. In addition, we followed six of these secondary teachers into their classrooms to observe their subsequent teaching. Both in-class data and teaching observation data provide evidence that what they learned in the real analysis module was useful for informing their pedagogical practice. We discuss the design approach and its potential implications for secondary mathematics teacher education. (Received September 05, 2017)