

1116-J5-190      **Reva Kasman\*** (rkasman@salemstate.edu), Salem, MA 01970. *From Patterns to Proof: Using Inquiry-Based Learning to Turn Elementary School Classrooms into Communities of Mathematicians*. Preliminary report.

When mathematicians “do mathematics”, they pose questions, play with examples, and eventually develop conjectures which they test and attempt to prove. Peer collaboration and review play significant roles in this process. When elementary students are able to similarly build knowledge within a community, they have the opportunity to become deeply engaged with mathematics. Inquiry-Based Learning provides an ideal basis for these experiences, which are well-aligned with the Mathematical Practice Standards outlined in the Common Core.

This session will share a research project in which 2nd-5th grade students are involved in IBL as they explore the structure of arithmetic operations. Lesson sequences guide the class through noticing patterns, articulating conjectures, and using representations as vehicles for understanding and early notions of proof. Teachers facilitate 20-minute lessons several times a week throughout the year, supplemental to their standard mathematics curriculum. The collaborative nature of the process will be highlighted, as well as the potential impact that behaving as mathematicians can have on students’ perception of mathematics and their role in the subject. (Received August 12, 2015)