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Yi-Yin Ko* (winnie.ko@indstate.edu), **Dalton Edgecomb** and **Nathan Kooi**. *Making Proof Accessible to Undergraduate Students through Communal Engagement*. Preliminary report.

Although proof is a critical element for deepening individuals' mathematical understanding and ability to communicate mathematical ideas (Stylianides, 2007), undergraduate students' difficulties with proof are well documented. One of the primary challenges undergraduate students face in constructing proofs is that their experiences with proof have often been limited to passively observing an instructor's completed and polished proof (Stylianou, Blanton, & Knuth, 2009). Under teacher-centered instruction, undergraduate students have little opportunity to make sense of why a particular proof method (proof by contrapositive or proof by contradiction) is appropriate and when a mathematical argument can be considered a proof. In this presentation, we will share a three-component instructional sequence (Ko, Yee, Bleiler-Baxter, & Boyle, 2016) used in a proof course. We will also share how the sequence increased undergraduate students' involvement in proving and enhanced their ability to construct and critique mathematical arguments by developing and revising their initial list of proof characteristics throughout the semester. Implications for how using the three-component instructional sequence can make proof accessible to undergraduate students will be discussed. (Received September 18, 2018)