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Younggon Bae and **V. Rani Satyam***, satyamvi@msu.edu, and **Mariana Levin, Kevin Voogt** and **John P Smith III**. *How do students experience the transition to proof?*

Proof is a foundational activity for upper-level undergraduate mathematics courses. Learning how to prove is a difficult transition, shifting from largely computation to now argument-based work. While we know many of the difficulties inherent in learning how to prove, we do not know much yet from the students' perspective about how they experience this transition. We interviewed 14 undergraduates about their experience in a semester long introduction to proof course. This work differs from previous work in the focus on experience as the object of interest. We report on how students describe their reasoning while proving, the challenges they face, the adaptations they make to their learning activity, and their sense of success. Results indicate that students are acutely aware of the differences in what they are now being asked to do but continue to re-use or adapt past resources and behaviors, to try to be successful at this new activity. This work has implications for the design of introduction to proof courses and in exploring how students deal with transitions in mathematics. (Received September 26, 2017)