

Milos Savic* (savic@ou.edu), **Melissa Mills** (memills.math@gmail.com) and **Robert Moore** (moorer@andrews.edu). *Mathematicians' views on transition-to-proof and advanced mathematics courses*. Preliminary report.

This study explores mathematicians' views on 1) knowledge and skills students need in order to succeed in subsequent mathematics courses, 2) content courses as transition-to-proof courses, and 3) differences in the proving process across mathematical content areas. Seven mathematicians from three different universities (varying in geographic location and department size), were interviewed. Precision, sense-making, flexibility, definition use, reading and validating proofs, and proof techniques are skills that the mathematicians stated were necessary to be successful in advanced mathematics courses. The participants agreed unanimously that a content course could be used as a transition-to-proof course under certain conditions. They also noted differences in the proving processes between abstract algebra and real analysis. Results from this study will be used to frame a larger study investigating students' proof processes in their subsequent mathematics content courses and investigating how these skills can be incorporated into a transition-to-proof course. (Received September 13, 2013)