

1096-E1-1597      **Robert Talbert\*** (talbertr@gvsu.edu), Department of Mathematics, Grand Valley State University, 1 Campus Drive, Allendale, MI 49401. “*A different type of math*”: *Addressing student difficulties with proof by flipping the transition-to-proof course*. Preliminary report.

To prepare for proof-based courses, many Mathematics majors take courses designed to teach the reading and writing of mathematical proofs, often called *transition-to-proof courses*. Students who complete such courses, it is hoped, will be able to focus on the content of proof-based mathematics courses and not on the process of proof-writing itself.

However, many studies of transition-to-proof courses show that this goal does not always materialize. Students encounter a variety of cognitive difficulties both during and following their proofs courses, but not many of which are actually related to mathematical content. Instead, difficulties arise from a persistent view of mathematics as computation, from a lack of self-regulated learning behaviors, and from an insufficient acquisition of professional norms.

In this talk, we will examine the redesign of a transition-to-proofs course using the flipped classroom model in an effort to address intentionally these sources of difficulty students encounter. We will examine the instructional design, resources, and finally the student reactions to their experience in the course and map out plans for future work. (Received September 16, 2013)