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David Miller, West Virginia University, Morgantown, WV , and **Joshua Case***
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Views of Proof and How They Change During an Introductory Proof Course. Preliminary report.

Research related to undergraduate understanding of proof has produced two views concerning students' preferences regarding empirical and deductive approaches to argumentation. The first suggests that mathematics students who have been exposed to introductory proof instruction may still prefer empirical approaches. The second view posits that, while these students may engage in empirical strategies, they do not actually believe they are convincing. We contribute to this discussion by investigating how mathematics students' views of deductive and empirical arguments change during an introductory proof course. A survey was given at the beginning and the end of the course consisting of four claims and corresponding empirical and deductive proofs that they could choose from. They were also asked to evaluate the validity of each corresponding proof. In terms of proof preference, results suggest that students had improved in their deductive proof choices, supporting the view that these students indeed do not find empirical proofs convincing. In this talk, we discuss our study design, results, and conclusions and end with some teaching implications and future research directions. (Received September 24, 2018)