

1106-L1-729

Dov Zazkis* (zazkis@gmail.com) and **Matthew Villanueva**. *Can mathematics majors make connections between informal arguments and formal proofs?*

A common recommendation in the proof education literature is that students should construct proofs by first constructing an informal argument for why a result holds and then attempting to formalize this argument. However, this type of proof generation strategy is rare among mathematics majors as highlighted by a recent large n study (Zazkis, Weber, & Mejia-Ramos, 2014). The study at hand explores hypothesized reasons for this rarity by testing what causes “distance” between informal arguments and formal proofs. In order to explore these hypotheses mathematics majors were presented with triplets consisting of one informal argument and two correct complete proofs, only one of which was based on the informal argument. This interview data was able to provide evidence for the relative importance of “content distance” when compared to “structural distance” (Pedemonte, 2007). Additionally, the relationships between students’ approaches to reading proofs and their informal-to-formal connection making provide further insights into the informal-to-formal translation process. These highlight that students’ perspectives on proof play a large role in determining whether they make normatively correct informal to formal connections. (Received September 05, 2014)