1116-P1-1323 James Sandefur* (sandefur@georgetown.edu), Department of Mathematics and Statistics, Georgetown University, 37 & O St. NW, Washington, DC 20057, and Kay Somers (somersk@moravian.edu). Using Videocases to Focus Student Thinking (Inside and) Outside of Class.

The authors, to better understand where their introduction to proof students' difficulties lie, have been creating videos of pairs of their own students working together to write proofs. Through this work, we have determined that there are often three steps in the proof writing process: discover a key idea about why the statement is true or false; find some, often algebraic, techniques to convert the idea into a convincing argument; and convert this argument into a well-written proof. The students in our videos frequently discover a key idea of why the statement is true and some algebraic tools that convert these ideas into a (sometimes sketchy) argument, but they do not, generally, produce a well-written proof. In this talk we will illustrate one way we have used our videos to help our current students reflect on their own proof-writing. In this method, we show a video in class, discuss the "proof" and, as a class or in groups, work on producing well-written proofs. As a follow-up, students are also assigned to watch additional relevant videos outside of class, answer questions and write about the positives and negatives of the students' work in the video, and produce a proof. Attendees can have free access to the more than 40 videos we have edited. (Received September 18, 2015)