

## Effective Strategies That Successful Mathematics Majors Use to Read and Comprehend Proofs

Proof is a dominant means of conveying mathematics to undergraduates in their advanced mathematics courses, yet research suggests that students learn little from the proofs they read and find proofs to be confusing and pointless. In this presentation, we examine the behavior of two successful mathematics majors as they studied six proofs to identify productive proof comprehensive strategies. Prior to reading a proof, these students would attempt to understand the theorem by rephrasing and trying to determine why it was true. While reading a proof, these students would partition the proof into sections, attend to the proof framework being employed, and illustrate confusing aspects of the proof with examples. Implications and limitations of this study will be discussed.

Keywords: Proof, proof reading, proof comprehension.