

# ***An Inherent Tension: Students Engaging with Proof in Intermediate Algebra***

**Ruthmae Sears**, University of South Florida

## ***Abstract***

Intermediate algebra instructors are expected to address gaps in students' content knowledge and ensure that students acquire the prerequisite skills needed for college algebra and other tertiary level mathematics courses, which may create an inherent tension between "covering" the curriculum and allocating time for students to prove. Attending to proof in intermediate algebra can strengthen students' understanding of mathematics, and enhance their abilities to develop mathematical arguments. Therefore, this article provides practical strategies for instructors to increase opportunities for students to engage with proof in intermediate algebra, namely: articulate objectives pertaining to reasoning and proof in the course syllabus, modify tasks, orchestrate mathematical discourse within the classroom setting, integrate technology, and include proof tasks on assessments.



**Ruthmae Sears** is an assistant professor at the University of South Florida. She coordinates the intermediate algebra and the introduction to mathematics courses and the mathematics education doctoral program. Her research interests include curriculum issues, reasoning and proof, and technology. Currently, she is the principal investigator for *Using Improvement Science to Transform STEM* curriculum at Carrollwood Day School, and is the coprincipal investigator for the NASA STEM Constellation–Network of Evidence-Based STEM Educator Professional Development grant. She currently volunteers with the Ronald McDonald House Charities of Tampa Bay.