

Department of Mathematics and Statistics Colloquium

Fostering Prospective Teachers' Metacognition During Mathematical Problem-Solving

Job Candidate

Abstract: As students learn new mathematical concepts and problem-solving strategies, they should also learn how to manage and regulate the application of this new knowledge in authentic problem-solving situations. These process skills are especially important for prospective teachers who will directly impact K12 mathematics students. Metacognition, or thinking about thinking, has long been identified as an essential component of the problem-solving process. However, results of metacognition research have not meaningfully impacted the mathematics classroom. In this talk, I will present research exploring the use of portfolio problem-solving sessions and write-ups to mediate metacognitive thinking in a mathematics content course for pre-service elementary teachers. I will share both micro-level results documenting a shift from product- to process-oriented metacognitive norms, and highlight additional social mediators as catalysts for such change. Finally, I will discuss implications for future work and undergraduate classroom teaching.

Thursday, November 2 at 3:45 in Roop 103

Refreshments at 3:30