

## Department of Mathematics and Statistics Colloquium

### *Investigating Student Learning Gains in a Flipped Calculus I Course*

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Abstract: The flipped classroom has garnered attention in post-secondary mathematics in the past few years, but much of the research on this model has been on student perceptions rather than its effect on the attainment of learning goals. Instead of comparing to a “traditional” model, in this study we investigated student learning gains in two flipped sections of Calculus I. In this talk, we will focus on the question of determining immediate and longitudinal learning gains from delivering content via video outside of the classroom and guided inquiry activities inside the classroom. In particular, we will compare student learning gains after watching more conceptual videos versus more procedural ones. We will also consider a sequence of three activities designed to develop the conceptual definition of the derivative. We will share qualitative and quantitative data gathered from surveys and quizzes, as well as aggregate data from exams and student work samples.

**Monday, April 17 at 3:45 in Roop 103**

**Refreshments at 3:30**