

## Statistics and Data Science Seminar

### *On the Impact of Formative Assessment on Student Motivation, Achievement, and Conceptual Change*

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**Abstract:** Formative assessment was hypothesized to have a beneficial impact on students' science achievement and conceptual change, either directly or indirectly by enhancing motivation. We designed and embedded formative assessments within an inquiry science unit. Twelve middle-school science teachers with their students were randomly assigned either to an experimental group ( $N = 6$ ), provided with embedded formative assessment, or control group ( $N = 6$ ). Teachers varied significantly as to their impact on student motivation, achievement, and conceptual change. But the impact of the formative assessment treatment on these outcomes was not statistically significant. Variation in both teachers' classroom management and the degree to which they used informal formative assessment, regardless of group, were conjectured as possible reasons for the absence of an overall formative assessment effect.

Wednesday, October 15 at 4:00 PM in SEO 612