

Department of Mathematics

MOBILE LEARNING: THE TEACHER'S PERSPECTIVE

McCALEB CONFERENCE ROOM B, HUNTER WELCOME CENTER

A FACULTY PANEL FACILITATED BY DWAYNE HARAPNUIK
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- **Title:** Dr. John Ehrke, *Assistant Professor of Mathematics, Abilene Christian University*
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- 2010-2011 ACU Mobile Learning Fellow, *“A Case Study on the Efficacy of Mobile Computing Platforms: A Research Agenda”*
- **Research Interests:**
 - Integrating screencasting, podcasting, creative media projects into upper level undergraduate mathematics courses.
 - Studying the effects of calculator bias, mobile platforms on student performance in a first year undergraduate mathematics course.
 - Exploring \LaTeX for mathematical typesetting in the mobile environment.
 - Creating high quality instructional video, multimedia content for the mathematics department.

A Case Study on the Efficacy of Mobile Computing Platforms

- Case study centered on two sections of Quantitative Reasoning in Fall 2010 semester.
- One group used industry standard, Ti-83 Calculator and was taught conventionally without leveraging mobility. Other class was required to use SpaceTime, a mobile computing app and had wide access to mobile resources: podcasts, TurningPoint, HeadsUp, ...
- Study seeks to evaluate student performance in light of the significant difference in computing platform and pedagogies.

Preliminary Results:

- Students were more likely to bring their mobile devices than their calculators.
- Students using mobile devices displayed a higher grasp of graphical properties and more developed graphical intuition.
- Students struggled with data entry and human error increased due to small key sizes in the mobile device as compared to the traditional devices.
- Study should be continued long term to collect data over multiple sections, and semesters.

