

1125-O1-2894 **Brett C Smith*** (brett.c.smith@yale.edu), 109 Church St, Apt 302, New Haven, CT 06510,
and **James S Rolf**. *Teaching Pre-Calculus through Gaming*. Preliminary report.

The Yale Math Department, the Yale Center for Teaching and Learning, the Yale Center for Health and Learning Games and PreviewLabs have collaborated to create a video game, Cartes, focusing on pre-calculus material, exploring algebraic functions and their graphs. In particular, we are interested in the question, "How does playing Cartes impact student learning, motivation to learn, and confidence to learn?"

Our experimental design requires a two stage process. We will report on the first stage of our experiment in which we focus on understanding a) any differences between single player and multi-player use, b) student perception of learning and c) impact on student motivation to persist in learning in the context of gameplay. Our methods for this report include taking a stratified random sample of students from our differential calculus course and asking them to play both a single player version and a multi-player version of Cartes. Data will be collected in the form of focus groups and surveys.

The second stage will be assessment of implementation in a multi-section Differential Calculus course, to be reported at a later time.

Future work includes implementing the Cartes at local institutions, the University of Bridgeport and Housatonic Community College. (Received September 20, 2016)