

1106-D5-1094 **Rebekah Gilbert*** (rgilber1@illinois.edu), 273 Altgeld Hall, 1409 W Green Street, M/C 382, Urbana, IL 61801. *Using computers to challenge misconceptions of “been there, done that” calculus students.*

During the Fall 2014 semester, we experimented with incorporating interactive Mathematica demonstrations into two large-lecture sections of Calculus I at the University of Illinois which served five hundred students who had previous exposure to calculus. Our innovations for these classes were twofold. First, we challenged the common misconception that calculus consists merely of memorizing formulas. We accomplished this by incorporating the demonstrations into active discussion assignments in order to help the students better visualize the important concepts of calculus. Second, we confronted students’ unreserved trust in computers and graphing calculators as a substitute for analytical skills honed when solving problems with pencil and paper. By utilizing demonstrations in which the computer produces results that are inexact and sometimes manifestly incorrect, we taught the students the importance of critically evaluating computer-generated results by comparing with analytical work. We evaluated the effectiveness of these innovations in several ways. In the Spring 2015 semester, we will teach Calculus II courses with a similar structure, informed by our findings from Calculus I. (Received September 10, 2014)