

1014-Z1-961 **Edwin P Herman*** (eherman@uwsp.edu), Department of Mathematics, Univ. of Wisconsin,
Stevens Point, Stevens Point, WI 54481. *Playing Games to Teach Multivariable
Calculus*. Preliminary report.

How beneficial is the use of a competitive game in the classroom as a tool to inspire new learning and aid in the retention of previous material? The goal of this research is to find out.

Last year I tested a board game in my business calculus sections. One section played the game, while the other did more traditional worksheets. Statistical analysis of final scores showed no significant difference in performance. On the other hand, the students in the game section rated the course significantly better than those in the other section.

This fall I continued to test the game, improving the testing method to eliminate some of the variables that had confounded the previous study. My subjects this time were students in two sections of Multivariable Calculus (Calc III). One section will play the game while the other works on an in-class assignment; results on chapter exams will be compared. By alternating which section plays the game and by testing earlier than the end of the semester, I hope to improve the precision of the results. It will also be interesting to see if more sophisticated students respond as favorably to the game as previous ones did.

In the talk I will describe the game design and feedback as well as the statistical results. (Received September 26, 2005)