

1035-D1-1411

Gary W, Hagerty* (garyhagerty@bhsu.edu), 1200 University, Box 9115, Spearfish, SD, and **Stan S. Smith** and **Danielle Marie Goodwin**. *Redesigning College Algebra: Combining Educational Theory, Forward Thinking Pedagogy and Web-Based Learning to Improve Student Performance.*

In this paper, we examine our six year journey in redesigning College Algebra. During the process, we have examined educational theories of Constructivism, Self-Efficacy, Mastery Learning and more. The MAA's (CUPM) curriculum guide is evaluated for appropriate and effective pedagogy for the purpose of redesigning the College Algebra Course. Technology advances have also been strongly considered throughout the process. During the redesign process, the effects of the changes have been studied using instructor made tests, nationally normed tests, surveys and tracking students through follow-up courses. The redesign process has resulted in student centered course that focuses on individual needs with significant increase in real world style problems (20% of the in-class time); mathematical modeling (13% of the in-class time); mathematical history (6% of the in-class time); conceptual understanding (28% of the in-class time); and maintaining traditional course concepts (33% of the in-class time). The talk will provide an overview of the redesign, important implementation issues and results (including an increased passing rate of 83% of those students enrolling in the course and the effects on follow-up courses in mathematics and other disciplines.) (Received September 20, 2007)