

962-D1-583

Christine L Ebert* (ceberty@math.udel.edu), Mathematical Sciences Department, 114 Ewing Hall, University of Delaware, Newark, DE 19716, and **Patrick Mwerinde** (mwerinde@math.udel.edu), Mathematical Sciences Department, 108 Ewing Hall, University of Delaware, Newark, DE 19716. *Mathematical Literacy in the 21st Century: A Comparison of Student Learning in Contemporary and Traditional College Algebra Courses.*

This study examined and compared the statistical understanding and achievement of college students enrolled in a one-semester College Algebra and Statistics course. The two courses are considered equivalent in that they both satisfy the university math requirement and for approximately 1/3 of the semester both courses focus on descriptive and inferential statistics. However, they differ significantly with respect to the other topics discussed and the emphasis on symbolic manipulation. In this paper, we will describe both courses, including the vision that shaped the development of the contemporary course. This discussion will also emphasize our experiences implementing both courses. In particular, we will examine the statistical understanding and achievement as evidenced by the student project, journals, and examinations. The findings suggest that students in the contemporary course exhibited a significantly higher level of statistical understanding as indicated by the breadth of topics and level of analysis in their projects. These findings illustrate the sophistication and depth of mathematical understanding that can be achieved in a contemporary college algebra course that does not emphasize symbolic manipulation. (Received September 15, 2000)