

1035-97-1628

Steven E. Rigdon* (srigdon@siue.edu), Department of Mathematics and Statistics, 1333 Science Building, Southern Illinois University Edwardsville, Edwardsville, IL 62026-1653. *The Use of On-Line Quiz and Homework Systems in Precalculus Mathematics*. Preliminary report.

Many college mathematics textbooks now come with an on-line quizzing and homework system. We investigated how these systems can best be used to help students succeed in precalculus mathematics. In Fall 2005, we conducted an experiment on the use of an on-line quizzing and homework system (MathXL). Some sections used a skills exam, which covered the prerequisite material for the course. Students were required to pass this exam early in the term before continuing with the course. Some sections used the on-line quizzing system throughout the semester. Four sections of precalculus mathematics were selected and used different combinations of these two factors: one section used both the prerequisite skills exam and the on-line quizzes, one section used neither, one section used the prerequisite skills exam and not the on-line quizzes, and one section used the on-line quizzes and not the prerequisite skills exam. After the term, we compared various outputs from the sections of the course, including the pass rates and the scores on the common final exam. The use of the prerequisite skills exam had a statistically significant effect on the pass rates and the score on the final exam. The on-line quizzes had a positive effect, but it was not statistically significant. (Received September 20, 2007)