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John T Smith* (jsmith@hpu.edu), 1188 Fort Street Mall, Suite 435, Honolulu, HI 96813. *The Efficacy of Online Mathematics Courses: How Well Are Students Learning Mathematics In Online Course Environments.*

Mathematics educators are interested in how the use of technology, particularly computer-based technology and the Internet, has impacted mathematics education and generated methodologies for exploring mathematical learning. As a result of the increase in both the quality and availability of computer-based mathematics education, colleges and universities are making increasing use of this technology to offer more online mathematics courses to more students. However, little research exists on the impact of computer-based technology on learning in mathematics, particularly in reference to the issue of knowledge transfer and how well online mathematics courses are preparing students for additional coursework in both online and traditional classroom learning formats. The purpose of this study was to investigate the efficacy of online mathematics courses by revealing how well learning occurs in an online mathematics course environment. Success was evidenced by both student perceptions of their own level of preparation for subsequent mathematics courses, and by the success of these students in subsequent mathematics courses as revealed by a comprehensive analysis of course grade distributions in both the online course and the subsequent mathematics course. (Received September 13, 2005)