Mathematics classrooms at many universities have incorporated new approaches to student learning using redesign policies advocated by the National Center for Academic Transformations’ (NCAT) roadmap to redesign (R2R). This article discusses the results of a well-designed classroom experiment involving students in beginning statistics, a general education course designed to meet core freshman mathematics requirements. The study involved three instructors randomly assigned to two of six sections. Each instructor taught one section using technology and an additional section using standard face-to-face teaching practices. The infusion of the technological component advocated by NCAT significantly improved student scores on the common, comprehensive final examination. (Received June 25, 2010)