

1077-VA-2134

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With NSF funding, we experimented with how we teach Calculus at Clemson and how we interact with at-risk students. Increased student interaction and improved instructor presentation in Calculus have been achieved through the use of digital ink and web-based software from the Computer Science Department, and through the use of a technology classroom facilitating group work and providing multiple projections. Sharing our active-learning model and our technology with a neighboring community college initiated an online calculus course, joint-taught in real time in Fall 2011, to help at-risk transfer students. The investigation of student learning difficulties through an extensive online error-tagging project (analyzing more than 5000 pages of free-response solutions) directed the development of online interventions to remediate and focus student attention on targeted concepts outside the calculus classroom. Also, beginning in Fall 2011, a few calculus students participated in the first of four creative-inquiry modules (over four semesters) that relate mathematical concepts to biomedical applications, with the dual purpose of motivating greater interest in calculus and of monitoring online remediation and tutoring to promote successful completion of their current course. (Received September 21, 2011)