UC SANTA BARBARA

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Study to Probe how Technology Helps Students Learn

Although instructional technology is widely used in higher education, research on how students learn with technology has not kept pace.

"We do not yet know how best to use technology to help students learn or how to accommodate differences among students," said Bruce Bimber, director of the Center for Information Technology and Society at UC Santa Barbara.

Bimber and a team of researchers at the center have begun a three-year study---one of the first of its kind---to determine if the use of instructionally relevant technology in college classrooms affects the quality of student learning, especially comparing men and women.

The project, recently funded by a $340,000 grant from the Andrew W. Mellon Foundation, will examine whether men and women use technology in different ways while learning and whether gender is a relevant factor in learning outcomes.

"Technology is running ahead of science when it comes to what we know about the effects of computer technology on learning," said Richard Mayer, professor of psychology and education at UCSB.

Mayer is an expert in the field of multimedia learning and problem solving and one of the project leaders.

The study will be an important first step in the development of research-based principles that will help shape educational practice in higher education as well as theories about how people learn in realistic settings.

"Our goal is to help inform the process of technology adoption that is occurring so rapidly around the nation with a reliable and scientifically sound set of findings," said Mayer.

Until now, most instructional technology studies have been conducted in controlled laboratory settings, rather than in classrooms.

The UCSB researchers will examine learning outcomes in a variety of classes and disciplines to identify productive ways to use computer technology to stimulate and improve learning.

Among the questions the study will address are: What is an effective way to use video playback of lectures?

How best do we use a website to stimulate learning?

Is the effectiveness of technology intervention equally strong for men and women?

Other UCSB faculty members leading the project are Kevin Almeroth, associate professor of computer science, and Dorothy Chun, professor of German, Slavic, and Semitic Languages.

Julie Bianchini, associate professor of education and co-director of the Center for Equity in Mathematics and Science Education, is also participating.

"We expect our findings to be of interest to a wide audience, most importantly educators making teaching choices, developers of technology, as well as other researchers," said Bimber, a professor of political science and communication who has done extensive research on technology and society.

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Richard Mayer Website

Bruce Bimber Website

Center for Information Technology and Society

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