Rushing Too Fast to Online Learning?

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(PhysOrg.com) -- A combination of fiscal constraints and improvements in technology has led to an increased reliance on online classes of all types -- many of which use Internet versions of traditional, live lectures. Now a new study released by the National Bureau of Economic Research (NBER) raises questions about that fast-growing trend in higher education.

"Online instruction may be more economical to deliver than live instruction, but there is no free lunch," said David Figlio, Orrington Lunt Professor of Education and Social Policy at Northwestern University and primary author of the NBER working paper released this month. "Simply putting traditional courses online could have negative consequences, especially for lower-performing and language minority students."

The rush to online education may come at a greater cost than educators suspect, according to Figlio and study co-authors Mark Rush and Lu Yin of the University of Florida. The release last summer of a report by the U.S. Department of Education added to the growing trend.

"Our findings suggest that universities interested in exploiting economic efficiencies should carefully consider whether they want to put traditional lecture classes online," said Figlio. "Our study for the first time presents experimental evidence about the relative efficacy of face-to-face versus recorded traditional lectures.

"We didn't test whether Internet courses are good or bad per se," said

Figlio, who teaches in Northwestern's School of Education and Social Policy and is a faculty fellow at its Institute for Policy Research. "But we did find modest evidence that live-only instruction results in higher learning outcomes than Internet instruction."

The study, "Is it Live or is it Internet? Experimental Estimates of the Effects of Online Instruction on Student Learning," is by no means definitive, according to Figlio. It does, however, provide the first "apples-to-apples" comparison of live versus online delivery of traditional classes.

The study's strongest findings in favor of live instruction were for relatively low achieving students, male students and Hispanic students. While they may be better served by face-to-face education delivery, often those are the students who are most likely to receive online education.

"At the least, our findings indicate that much more experimentation is necessary before one can credibly declare that online education is peer to traditional live classroom instruction, let alone superior to live instruction," the authors write.

The study made use of data from an experiment conducted in a Principles of Microeconomics class taught at a large, selective doctorate-granting university.

Typically, students register for a "live" section of the microeconomics class in which they can watch the lecture in a room with 190 seats or they can register for an online section in which they watch the lecture online. Because 1,600 or more students typically participate in the class taught by a single instructor, most students register for an online section.

Prior to the Spring 2007 semester, the instructor of the class offered

students the opportunity to participate in the experiment. Of nearly 1,600 registered students, 327 volunteered to take part and, in return, were given a half letter boost in their grade at the end of the semester.

The volunteers were randomly assigned to watching the lecture live or to watching the lecture online. Measures were taken to ensure that instruction delivery was made only in the manner in which students were randomly assigned.

"Until further studies on the effectiveness of online learning versus in-class learning are necessary, universities would be wise to recognize that all Internet courses are not created equally," Figlio said. That, he added, was the salient point of last year's U.S. Department of Education report.

Provided by Northwestern University