

Biology Seminar

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Utilizing Technology to Improve Student Learning in Biology

Technology in the classroom is often touted as a panacea for improving student learning, but is it true? In my research, I am studying different ways of using technology in biology education, including online and blended formats. Blended learning combines face-to-face and online teaching strategies. I have been teaching online since 2002, and in 2006 redesigned the first semester of the year-long sequence of introductory biology for biology majors into a blended-format course. The weekly schedule of the redesigned course includes one large lecture meeting (>100 students), small group recitation meetings (<30 students each), and an online course module. In this new format, approximately 60% of course content is introduced online. The weekly lecture introduces some new content as well as providing further in depth exploration of topics introduced online. The weekly recitation meetings focus on active learning strategies to reinforce concepts previously introduced in the course. As part of the evaluation of this redesigned course format, data have been collected to compare student outcomes in the redesigned sections with those of students in traditional face-to-face sections. Additional information has also been collected from student evaluations, an attitude toward subject survey, and a student assessment of learning gains. This presentation will discuss the results of this ongoing study on a blended-format freshman biology course for majors, provide an overview of lessons learned to date, and look ahead to new applications of technology in biology education.

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