

How Much Time Do Students Really Devote to Face-to-Face and Hybrid General Education Classes?

David DiBiase, Eric Spielvogel, Martin Gutowski, Mark Wherley and Khusro Kidwai
John A. Dutton e-Education Institute

Research supported by the 2005 Gladys Snyder education grant, College of EMS

Executive summary

2 October 2006

The research team compared student performance and attitudes before and after the redesign of a natural science general education course to a “hybrid” delivery format. Fifty-five percent fewer face-to-face lectures were presented in the hybrid version than in the previous version. Ten of the original 22 lectures were replaced with online activities, including weekly automated low-stakes quizzes. Objectives of the ongoing course redesign project are to increase student time-on-task, to increase student and faculty satisfaction, and ultimately to increase the course’s enrollment capacity. Student volunteers were paid to keep detailed diaries of time devoted to their studies (58 students in 2005, 45 students in 2006). Results confirm that students in this undergraduate general education course devote too little time to their studies. In Spring 2005, students devoted an average of only 2.7 hours per week, including 1.6 hours attending weekly lectures. In Spring 2006, students in the redesigned hybrid course invested 2.0 hours per week on average, including 0.6 hours in class. Thus, while total time-on-task decreased by 26 percent in the redesigned course, the amount of time spent on activities outside of class—including readings, exercises, and weekly automated quizzes—increased from 1.1 hours per week in 2005 to 1.4 hours in 2006—a 27 percent improvement. The difference in student performance on proctored final exams in 2005 (mean score 76) and 2006 (mean score 74) is not statistically significant. Student ratings of the quality of the redesigned 2006 course offering (mean rating 4.96 on a scale of 7) were markedly higher than in the 2005 offering (4.60), and their ratings of instructor quality were significantly higher in 2006 (5.67) than in 2005 (5.05). The faculty instructor who led both the 2005 and 2006 offerings sensed that students in the hybrid class spent more time studying outside of class, and appreciated his greater freedom for research-related travel. We conclude that additional online activities must be implemented in the hybrid course to achieve the objective of increasing student engagement overall. Enrollment capacity will be increased substantially when a fully online version is developed in the second stage of course development, in Spring 2007.