

# A Tale of Two Classes

*Teaching one section of an advanced computer science course face-to-face and another online yielded data on the effectiveness of the two approaches*

By **Carol W. Wilson**

Are the distinctions between classroom, Web-based, and online learning disappearing? The effect of the instructional media on student achievement has been vigorously debated. To explore the distinction between classroom and online learning, I conducted a study of student achievement and satisfaction in two sections of an advanced computer science course. The same instructor taught both sections of the course, one online and the other face-to-face. All students used the same textbook, had access to the same Web-based resources, and completed the same assignments.

The face-to-face section had 150 minutes of lecture per week, and students had the opportunity to ask questions during this time. The online section was provided with lecture notes, and students asked questions via e-mail or phone. The online section included 8 undergraduate and 8 graduate students, while the face-to-face section had 15 undergraduate and 11 graduate students.

Student achievement was measured by the total points earned. The achieve-

ment in both sections was equivalent to earning a grade of B+. The average number of points earned by students in the online section was 277 out of 310 possible points, or 89.4 percent. The average number of points earned by students in the face-to-face section was 270 out of 310, or 87.2 percent.

Students completed a short survey in which they rated their level of satisfaction on a five-point Likert-type scale ranging from five for "very satisfied" down to one for "very dissatisfied." Both the online and face-to-face students reported that they were satisfied with the course ( $M = 4.20$  and  $M = 4.25$ , respectively) and the content material provided on the course Web site ( $M = 4.22$  and  $M = 4.10$ ). The online students used the Web resources substantially more than the face-to-face students ( $M = 486$  page accesses and  $M = 290$  page accesses, respectively).

Student-teacher communication is critical, no matter the teaching method. Both sections were more than satisfied with access to the instructor ( $M = 4.67$  and  $M = 4.70$ ). The overall satisfaction


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level of both sections was almost identical across categories (see Table 1).

The online section students reported they were likely to take another online course ( $M = 4.0$ ,  $SD = 0.5$ ), while the face-to-face section was tentative about switching to an online course ( $M = 3.06$ ,  $SD = 1.30$ ). Both sections cited a flexible schedule as the main advantage of taking an online course and missing the lecture format as the major disadvantage.

As often happens, there were no statistically significant differences in achievement or satisfaction between the two sections.

I was pleased with the nearly equal performance of both sections. The students' self-selection of the delivery method that fit their learning modes and schedules contributed to high performance and satisfaction. Both delivery methods are viable.

For more information, including how to access the full research report, contact me at [carol.wilson@wku.edu](mailto:carol.wilson@wku.edu). 

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**Table 1**

## Student Satisfaction with Various Aspects of the Course\*

Student Satisfaction with:	Online		Face-to-Face	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
The course overall	4.20	0.91	4.25	0.64
Material provided on the course Web site	4.22	0.44	4.10	0.55
Access to the instructor	4.67	0.71	4.70	0.47
Test material reflecting the learning objectives	4.56	0.53	4.45	0.60
Weekly labs	4.44	0.53	4.00	0.86

\* 5 = very satisfied; 1 = very dissatisfied