Main article

A comparison of academic performance in traditional and hybrid sections of introductory managerial accounting

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\textbf{ABSTRACT}

This paper reports the results of a comparison of academic performance (course grade) in two sections of a principles of managerial accounting course, one held in a traditional format (classes held two days per week in a classroom setting) and one in a hybrid format (one class period held in a classroom setting and one in a web-based environment). After controlling for other factors, academic performance was not significantly associated with class delivery format (traditional or hybrid).

Control variables significantly associated with course performance were SAT Score and performance in a prerequisite accounting course. Gender, Transfer status, and age were not significant if SAT Score and prerequisite grade were included in the model. The findings of this study are relevant to accounting educators who are contemplating using hybrid-type courses or who may want to design studies to evaluate the effectiveness of hybrid courses.

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1. Introduction

This paper presents the results of a study comparing academic performance (course grade) for students in principles of managerial accounting course taught in two different formats, traditional...
The principles of managerial course is a one-semester course required for all students at the Indiana University Kelley School of Business, and most students who take the course are classified as sophomores. The traditional class met two days per week, with one class period being a lecture day and the second class period being used to present advanced problems designed to apply concepts presented in the lecture. Students worked in teams to solve the problems, and answers to the problems were analyzed in a class discussion lead by the instructor.

For the hybrid class, one class period was for lecture, identical to the traditional class. Students in the hybrid class did not physically attend class on the second day, nor were they expected to be available during class time. Students were assigned to teams, and the teams organized themselves to work outside of class on the assigned problems and to submit solutions to the instructor electronically by the end of the second class day. The instructor later posted solutions via the web by the next day.

The same instructor conducted both the traditional and hybrid classes. The instructor made a deliberate effort to keep the material assigned to both sections consistent: (1) the same lecture was delivered; (2) the same problems were covered and (3) the same midterm, final, and web-based practice quizzes were administered to both sections. The course bulletin indicated that the hybrid class would meet once per week in person and once per week via the web. Thus, students who enrolled in the traditional and hybrid classes knew in advance which format would be used.

Indiana University created its own web-based platform, Oncourse, as an alternative to commercial products such as Blackboard™. Oncourse is used on all Indiana University campuses and in every class at Kelley.5 Oncourse allows for posting communications from instructor to students; therefore, the web-based interface for the hybrid accounting section was familiar to students in both traditional and hybrid sections. The instructor used Oncourse similarly for both sections.

2. Prior literature, research question, and research design

2.1. Education literature regarding traditional and hybrid classes

A recent US Department of Education and Evaluation (2009) meta-analysis evaluated evidenced-based studies in online learning. The document reported about 46 studies (with 51 effects), most published since 2004, that (1) related to web-based instruction, (2) included studies with random assignment or controlled quasi-experimental designs, and (3) examined objective measures of student learning. Web-based instruction included online-only and hybrid (blended) conditions. Excluding studies of K-12 students, 44 of the 51 effects were drawn from studies of adult learners. A summary of the meta-analysis findings is provided in Exhibit 1.

Readers interested in individual studies comparing traditional and web-based courses could also reference the following studies, of which four found no difference in performance for web-based and traditional courses and two found significantly higher performance for the web-based courses: Dowling, Godfrey, and Gyles (2003), Klein, Noe, and Wang (2006), Krawiec, Salter, and Kay (2005), Rivera and Rice (2002), Utts, Sommer, Acredolo, Maher, & Matthews (2003) and Tang and Byrne (2007).

2.2. Research question, design, and model

The research question is as follows: does student performance differ in the traditional and hybrid sections of the course after controlling for other factors that could affect student performance? Performance was measured using the course grade.6

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4 Some education literature describes these classes as blended classes, e.g., Tang and Byrne (2007).
5 Oncourse is described at http://oncourse.iu.edu/portal.
6 Note that the US Department of Education (2009) meta-analysis would lead to the thesis that performance in the hybrid class should be significantly better; however, we were not able to specify the direction of expected differences at the time the study was conducted.
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