Chapter 6
Student Performance and Perceptions of Business Courses Delivered Using Lecture Capture

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ABSTRACT
This research compared student performance and withdrawal rates in undergraduate business courses taught using lecture capture and face-to-face. Student perceptions of lecture capture are also described. Lecture capture refers to storing videos of live course lectures, which students may view at their convenience from anywhere with an Internet connection. Results indicate no significant difference in student performance between the lecture capture and face-to-face conditions. Withdrawal rates also were similar, although freshman and sophomores had higher withdrawal rates in lecture capture than in face-to-face. Student perceptions of lecture capture were quite positive. Students were satisfied with the video instruction they received, they liked having more control over their learning, they liked the convenience that lecture capture provided, and about 70% said they would take another course that used lecture capture. However, the majority of students did not feel that lecture capture enhanced their performance or their interest in the course.

INTRODUCTION
Increasing student enrolments combined with funding cuts have resulted in stretched resources and larger class sizes, especially for lower level undergraduate courses. This environment has brought to the forefront the challenge of how best to deliver quality instruction, while still providing access to students. The use of lecture capture with video-streaming of instruction offers a cost-effective approach which eliminates the constraint of physical classroom space, while still maintain-
ing quality. Lecture capture takes advantage of economies of scale in providing course instruction, but also gives students more flexibility in when and where to receive the instruction, while also allowing them the opportunity to review content as they need to. With the growth of lecture capture technology, more research is needed to examine the effectiveness of this instructional delivery approach and issues surrounding its adoption into the culture of higher education.

This chapter describes research that examined both performance and perceptions of undergraduate business administration students at the University of Central Florida who took courses using lecture capture. As college enrollment and individual class sizes increased, the College of Business Administration (CBA) examined ways to provide quality instruction and assessment for its students, including those who may be employed or who are enrolled at one of eleven regional campuses. With the recent advances in computer technology, the CBA decided to move to lecture capture for its undergraduate core and other large course offerings. In this case, lecture capture refers to storing videos of actual course lectures on a UCF computer server, which are then made available to students on demand from course websites. Students may view these videos at their convenience, as often as they wish, and without the need to download the lectures onto their computers.

**LECTURE CAPTURE IN THE CBA**

CBA lecture capture course sections are digitally captured in one of two large multimedia classrooms. The multimedia classrooms use three cameras, including two broadcast quality television cameras to record the lecture, and a document camera. A portable microphone system that allows up to eight individuals to speak at the same time is used to capture audio throughout the classroom so the live class questions and discussion can be recorded.

The lectures (both audio and video components) are captured and streamed during the lecture (with about a 30-second delay). The lectures are archived for later viewing on the course websites. Students have unlimited viewing opportunities during the semester. The videos have standard controls, such as pause, replay, and fast forward, as well as varied playback speeds, and can be downloaded to portable devices such as MP3 players.

This lecture capture system does not change the classroom teaching arrangement and is quite unobtrusive for both the instructors and the students. Because the instructors conduct their lectures in front of students in a live classroom, course content is presented as if it were a face-to-face class.

At present, the CBA is offering 17 course sections that use lecture capture. These courses are in the undergraduate core curriculum and most have enrollments of over 480 students. Because of the large number of students involved, the college wanted to ensure that student performance and student attitudes about these courses were comparable to those same courses taught with live, face-to-face instruction.

The research described here includes two studies. They both provided data on student performance in lecture capture and corresponding face-to-face courses, and student perceptions of the lecture capture delivery medium. The first study examined student performance and perceptions between lecture capture and face-to-face sections in an undergraduate macroeconomics course. The second study inspected the overall general success and withdrawal rates of students across all CBA lecture capture course sections that had corresponding face-to-face sections. Data on general CBA student perceptions of lecture capture were also obtained.

Courses taught using lecture capture may be more challenging for students who choose not