
ONLINE DELIVERY OF ACCOUNTING COURSES: STUDENT PERCEPTIONS

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ABSTRACT

The authors taught introductory undergraduate, upper-division undergraduate and graduate accounting courses online using Tegrity Campus 2.0 integrated with a learning management system (WebCT, Angel) to prerecord and publish all course lectures and provide all other course-related content to students in the three accounting courses. Students in the three courses could access the archived video presentations over the internet or burn the presentations to a CD or a flash memory drive thus allowing students to view the digital videos at any time and as many times as desired. All of the students in the graduate course agreed that the online delivery of the course was as effective or more effective than a traditional course that meets in a classroom and all of the graduate students indicated that in the future they would prefer to take more online courses, compared with traditional courses. Students in the undergraduate courses were slightly less enthusiastic about online delivery; overall, approximately 75% of such students indicated that the online delivery of the courses was as effective or more effective than a traditional course. Further, unlike the students in the graduate course, less than one-half of the combined students in the two undergraduate courses indicated that they would prefer to take an online course versus a traditional course in the future. The authors agree that online delivery appears to be an effective alternative to physically meeting students in a traditional classroom setting but also believe, in this case, that the fully online delivery was more appropriate for the graduate course compared with the two undergraduate courses. The authors discuss several issues related to teaching the three online courses that accounting instructors may want to consider before undertaking such a teaching approach.

INTRODUCTION

As accounting enrollments grow, the number of qualified accounting faculty decline, and the diversity of student profiles widens, accounting programs may be able to adapt to and harness technological innovation in order to create more efficient and user-friendly ways of delivering course content. Technology, specifically as it relates to computers and the internet was encouraged in the previous decade by many as offering great potential for enhancing higher education (Bonner & Walker, 1994; Drucker, 1997; Ewell, 1994; Geary & Rooney, 1993; Gilbert, 1995). However, it is generally accepted among faculty members who have taught online courses that such courses are often more demanding of time and resources compared with traditional courses. Apparently, even though such course may create added burdens for faculty, higher education administration appears to have a keen interest in pursuing online delivery. For example, over fifty business schools accredited by the Association to Advance Collegiate Schools of Business currently offer an online

graduate degree program (U.S. News & World Report, 2004) and over 200 universities currently offer at least some portion of their accounting coursework online (Bryant, 2005). And it appears that growth of online education will probably continue. For example, the University of Illinois plans to enroll 70,000 students in its online programs by 2018 (Foster, 2007).

One aspect of concern about online course delivery will certainly be how students perform in such courses compared with those courses that meet in a traditional classroom setting. Prior research has been inconclusive regarding the effectiveness of on-line courses (Bernard, et al., 2004). Further, there has not been much written on blended courses, that is courses that combine classroom meetings with online instruction. (Young, 2002; Aycocock, Garnham, and Kaleta, 2002; Waddoups and Howell, 2002).

In one study of student performance in hybrid versus online courses, Robertson and Clark (2007) examined the performance of students in three different sections of an accounting principles course: one section was delivered purely online and the other two were blended sections which employed traditional face-to-face class sessions along with various web based tools. One of the interesting findings of their study was that the students in the section that met face-to-face most often had the highest test scores on all five of the course exams. Their findings suggested that the more face-to-face interaction a student had with the professor the better they performed. However, their results were limited to a one-semester study of accounting principles courses. More research is needed in the area of student performance.

Another important aspect of concern about online course delivery is how such courses are perceived by students in terms of effectiveness compared with traditional courses. This paper examines teaching online two undergraduate accounting courses and a graduate accounting course. Tegrity Campus 2.0 was used to capture and record digital lectures and Angel and WebCT learning management systems were used to organize and make available to students all course materials including digital lectures. Specifically, student perceptions regarding the online courses are examined to gather evidence about how online delivery is perceived by students at different academic levels.

ONLINE DELIVERY

The authors used Tegrity Campus 2.0 integrated with Angel and WebCT learning management system (LMS) to prerecord and publish all course lectures in three accounting courses: an introductory-level course, Principles of Accounting, an upper-level course, Accounting Information Systems, and a graduate course, Advanced Auditing. Tegrity Campus 2.0 was used to automatically capture and record the authors' lectures, including the voice and computer screen activity. The authors each used a tablet computer with web-based Tegrity software and all other software applications (MS Word and PowerPoint) and a simple microphone to prepare and record all of the digital lectures. PowerPoint was used principally to develop presentations in advance and then free-form handwriting was used to write and draw over PowerPoint slides during the recorded lectures to add additional information to the basic slideshow. Tegrity allows for such free-form handwriting and other annotations to be made as it converts the instructor's PowerPoint presentation into a series of graphic images or slides/snapshots. Then, as the instructor delivers the lecture, making annotations and scrolling through his/her presentation the images are combined with the audio and, if used, video of the instructor. The authors' presentations were delivered in lectures ranging from 20 to 50 minutes in length. Lectures longer than 50 minutes were broken down into smaller chunks, with the idea that learning would be enhanced by providing shorter, more manageable sessions. Once a Tegrity presentation was created it was

uploaded to the Tegrity server and then published to the Angel or WebCT LMS. Students then could access the archived presentations via the internet and view the digital videos at any time and as many times as desired. Students also had the option of burning the Tegrity presentations to storage media such as a CD or flash memory drive. This allowed high quality recordings of presentations to be created (in an on-campus lab with high-speed connectivity, for example) and subsequently viewed off-campus by students who may not have had a high speed internet connection. (Based on the authors' experience and feedback from students, Tegrity presentations did not broadcast well over a dial-up connection).

On playback, the Tegrity display that students viewed has two main areas. The largest area is the right side of the screen which shows the instructor's presentation. This is the area in which the instructor's notes, PowerPoint slides and annotations are shown. A smaller area at top left corner of the screen displays pictures or, if the instructor wishes, video of the instructor. Students could navigate through a presentation by allowing it to play from start to finish or "jump" from slide to slide by using a table of contents that breaks down the presentation into different subsections. Additionally, three important functions available to students gave them significant control over their learning experiences; printing, fast-forward, and accelerated viewing. The Tegrity display allows students to print out the instructor's written presentation before it is viewed. Thus, students could have printed and read the lecture notes first, then returned to the lecture and viewed it with the instructor's lecture notes in hand. A function is also provided allowing students to fast forward through a lecture and select a particular part of the video to view. Thus, students had the ability to read through a printout of the lecture, and then, if desired, select a specific part or parts of a lecture on which to focus. Finally, Tegrity allows students to increase the presentation speed to up to 150% of the actual recording speed. Therefore, students had the ability to watch the video lecture, (perhaps for a second or third time) at an accelerated pace and shorter overall viewing time. All other course content and materials were delivered to students using either WebCT or Angel LMS. This included syllabi, course schedules, examination grades, email communications, homework assignments, homework solutions, supplementary reading assignments, study guides, etc.

STUDENT DEMOGRAPHICS

Of the 28 students enrolled in the introductory course, Principles of Accounting, 60% were female and 94% of students in the class were under the age of 25. In the upper-division undergraduate course, Accounting Information Systems, 55% of the 35 students enrolled were female and 76% of the class was under the age of 25. In the graduate course, Advanced Auditing, eight (67%) of the 12 students enrolled were female and four (33%) of the students in the class were under the age of 25. Withdrawal rates for the three courses were as follows: Principles of Accounting, 28%; Accounting Information Systems, 17%; Advanced Auditing, 0%.

STUDENT PERCEPTIONS

Perceptions Regarding Effectiveness

To gather evidence regarding student perceptions of the effectiveness of the online approach, students were asked to respond to two questions regarding their perceived effectiveness of the online course and the

prerecorded lectures compared with traditional courses offering in-class lectures. (A traditional course was defined as one that regularly meets for class and provides all course content delivery in a classroom.) In response to the question concerning the effectiveness of the online course, approximately 75% of students in the two undergraduate courses indicated that the online course was as, or more, effective than a traditional course. (Twenty-five percent believed that online delivery was less effective.) Of the students with self-reported GPA's 3.5 or higher, 100% in the two undergraduate courses indicated that the online course was as, or more, effective than a traditional course. Only 45% of the students in the two undergraduate courses with self-reported GPA's 2.5 or lower indicated that the online course was as, or more, effective than a traditional course. All of the students in the graduate course agreed that the online delivery of the course was as or more effective than a traditional course that meets in a classroom. Regarding effectiveness of prerecorded video lectures versus live classroom lectures, approximately 84% of students in the undergraduate courses and 100% of students in the graduate course indicated that such lectures were as, or more effective than a live classroom lecture. Results seem to indicate that student perception of the effectiveness of online delivery is in some way correlated with factors that lead to higher student success and performance, such as motivation, maturity, intellectual ability, etc. Also, student perceptions regarding effectiveness are not inconsistent with their performance on course exams. The author's noted, from only a cursory analysis of grade distributions, high/low scores, attrition rates, etc., that student performance on exams in the online courses was comparable to that experienced in equivalent courses taught in the traditional format; on the surface, there seemed to be little difference in student performance in the online courses compared with student performance on exams in traditional courses. Because of limited course offerings, it was not possible to teach another section of the same courses using a traditional approach, therefore, it was impossible to do a specific comparison of online course exam performance vis-a-vis a traditional course.

Student Perceptions Regarding Self Learning

One item of interest to the authors was their online students' perceptions about the degree to which they believed they were responsible for their own learning in the online courses compared with traditional courses. In other words, the authors were interested in determining if students felt that they had to accept more responsibility for learning, e.g., reading, in the online courses compared with traditional courses they had completed. The percentage of students indicating that they believed that they had accepted more responsibility for their own learning was 37% in the introductory course, 21% in the upper-level course, and only 17% in the graduate course. One possible explanation for these results is that the lower-level students needed greater explanation of material and more timely attention to questions and were more dependent for additional guidance, i.e., the lower-level students were less self-sufficient compared with the graduate students that were more willing, able, and confident that they could learn the materials on their own and find for themselves solutions to their questions. Further, it is possible that the graduate students were more likely to expect to do more work on their own and the lower-level students were less likely to expect to do coursework on their own.

Summary Student Evaluation of Online Delivery

To gather evidence regarding overall student assessment of online delivery of course content including prerecorded lectures, students were asked to indicate what they liked best and least about their online course. Student responses to the question "What did you like best about the course" were numerous but had two main themes: (1) convenience and (2) flexibility and effectiveness. Overwhelmingly, students indicated a preference for being able to watch lectures at times that were convenient to their schedules. Exemplary comments included "I can watch the lectures anytime I want to, the course is very convenient," "since I commute I don't have to drive to campus for the class," "I like the ability of watching lectures whenever I have time, doing the work on my own schedule," "the ability to review and complete work per my own schedule. There were definitely nights I listened to an Acct A lecture at midnight. This really helps me because I do have a full time job outside of class."

The other major positive theme indicated by student comments suggested that the online format was effective in delivery of content and offered greater flexibility of learning, compared with a course offered in a traditional classroom setting. Students wrote, "I'm able to repeat watching lectures," "the professor can go over the material in more depth," "I like the ability to watch repeatedly," "I like the flexibility...I can watch certain parts of a lecture over again," "I can watch lectures at my own pace," "I can...pause videos."

Student responses to the question "What did you like least about the course" were almost all related to two themes; inability to interact with the professor and fellow students in real-time and technical problems with computer, network, and/or software. For example, one student wrote, "If you have any questions about the information in the lecture, you can't ask a question at that time. You have to make an appointment and go see the professor." Other comments included "I dislike not being able to interact with the professor," and "I dislike not being able to ask questions." With respect to technical problems, exemplary student comments included, "Technical difficulties," "I did not like that the videos were hard to access and choppy when I viewed them," "ERROR (unable to view videos)," "Sometimes didn't play," "Sometimes the sound wouldn't come through." It is interesting to note that most of the comments regarding technical difficulties were made by students in the introductory course. Some of these problems were on the university's side (e.g., server down) and others were on the students' side (web browser down or dial-up Internet connection access). The difficulty of use was usually related to hardware downtime or the attempted use of AOL or Netscape as the browser since Tegrity runs most consistently with the MS Internet Explorer browser.

Student responses to the question "In the future, would you prefer taking an online course using Tegrity compared with a traditional course?" were mixed. All of the graduate students indicated that they would prefer an online course compared with a traditional course. Only 52% of students in the upper-division course and 41% of students in the introductory course indicated that they would definitely select an online course using Tegrity over a traditional course. One possible conclusion that may be made in consideration of the students' comments is that the graduate students possessed greater technical computer skills compared with students in the introductory course thereby resulting in greater satisfaction with online delivery. Another possible inference is that students in the introductory course, possessing less academic experience and confidence than the graduate students, placed more value upon, and needed more, face-to-face time with their instructor. Another possibility is that a greater percentage of students the graduate course lived off-campus and commuted to campus compared with the undergraduate students therefore the graduate students placed a greater premium on the convenience of not having to come to campus to attend class. Additionally, in an

asynchronous environment it may be argued that is more difficult for the professor to stimulate intellectual interest in the subject. One of the benefits often seen in a traditional classroom setting is that the educator may interact and illicit responses from students that will further stimulate their interest in a given subject matter. It is possible that students at lower levels placed a greater emphasis on this factor compared with other factors such as convenience and flexibility and thus would prefer to take a traditional versus online course. Another possible explanation of the mixed results could possibly be related to the roles we have as educators to stimulate and assist our students to assume personal and professional responsibility. Perhaps the lack of direct faculty/student contact in the online course was viewed by the undergraduate students as a lapse of such responsibility on the instructor's part, or perhaps the undergraduate students in the study placed a greater value on this factor compared with the graduate students.

CONCLUSION

Generally, results indicate that students surveyed in this case study, whether undergraduate or graduate, appear to believe that online teaching using prerecorded lectures is an effective alternative to traditional live classroom lectures. Overall, the students in the graduate course assessed the online delivery more positively than did the undergraduate students. Student performance on exams in the online course did not stand out as unusual, compared with results in traditional courses, but, it is important to note that, in this case, the authors were only able to get an overall "feel" for student performance in the online courses. Again, the main question in this study was related to how online delivery is perceived by students at different academic levels. Still, one limitation of the study is that it provides only anecdotal information about the students in the study.

The authors believe, based on results of the current study and their experiences over the past several years in teaching traditional, partially online, and fully online courses, that for the introductory course, the students would have benefited from some regularly scheduled, face-to-face time with the professor. The authors believe that the differences in student "satisfaction" (perceived course effectiveness) noted in the undergraduate and graduate courses may be a function of several factors including educational attainment, age and maturity, motivation, learning experience, learning style, and prior exposure to online teaching. One possible overall conclusion is that the graduate students were more mature, confident, and motivated with significant prior educational attainment compared with the other students in the study and therefore were better suited for the online delivery of the course. With respect to online course offerings, administrators and faculty may want to consider limiting enrollment in online course to only those students that are believed to have a significant potential for success, such as graduate students and undergraduate students with superior GPA's.

REFERENCES

- Aycock, A., C. Garnham & R. Kaleta (2002). Lessons learned from the hybrid course project. *Teaching with Technology Today*, Vol. 8, Number 6: March 20.
- Bernard, R. M., P.C. Abrami, Y. Lou & E. Borokhovski (2004). How does distance education compare with classroom instruction. *Review of Educational Research*, Fall 2004.

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- Bonner, S.E. & P.L. Walker (1994). The effects of instruction and experience on the acquisition of auditing knowledge. *The Accounting Review*, 69(1), 157-178.
- Bryant, S.M. (2005). Distance education: A review of contemporary literature. *Issues in Accounting Education*, 20(3), 255-273.
- Drucker, P. (1997). *Chronicle of Higher Education*, 43(32), B7.
- Ewell, P.T. (1994). A policy guide for assessment: Making good use of tasks of critical thinking. Educational Testing Service.
- Foster, A.L. (2007). *Chronicle of Higher Education*, 53(34), A50.
- Geary, W.T., and C.J. Rooney (1993). Designing accounting education to achieve balanced intellectual development. *Issues in Accounting Education*, 8(1), 60-70.
- Gilbert, S. (1995). Higher education and the use of computer technology. *Change: The Magazine of Higher Learning*, 10.
- Robertson, P.J., and R.K. Clark (2007). On-line versus blended accounting principles courses: A descriptive study of student perceptions and performance, *Proceedings of the American Accounting Association*.
- U.S. News & World Report (2004). *E-learning: Online graduate degrees in business, regionally and professionally accredited (AACSB)*. Retrieved from <http://www.usnews.com/usnews/edu/elearning/.htm>
- Waddoups, G. & S. Howell (2002). Bringing Online Learning to Campus: The Hybridization of Teaching and Learning at Brigham Young University. *International Review of Research in Open and Distance Learning*, January.
- Young, J. (2002). 'Hybrid' teaching seeks to end the divide between traditional and online instruction. *Chronicle of Higher Education*, March 22.

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