

Integrate Video-Based Lectures into Online Intermediate Accounting II Course Learning

Lei Wen, Emporia State University, Emporia, Kansas, USA

ABSTRACT

Student engagement is very crucial to the learning effectiveness no matter if it is an online or traditional in-classroom face-to-face teaching delivery method. By integrating video-based lectures into an online Intermediate Accounting II course learning, the instructor could make a difficult and challenging advanced accounting course a little bit easier for students to understand. This paper makes a contribution to accounting education literature by discussing the effectiveness of video-based lectures into the online advanced accounting course learning.

Keywords: Accounting Education, Online Education, Course Effectiveness

INTRODUCTION

Online education has been growing at a very faster speed in recent years at almost all post-secondary education levels (Fisher 2003). Online education provides students the benefits of flexible time management, cost savings at traveling, a good balance of personal and professional life (Salimi 2007; Shanahan 2003). But how to measure an online course learning effectiveness remain an area that is needed to be investigated more.

In recent years, accounting firms are more willing to hire accounting graduates who have some online accounting course work (Grossman and Johnson, 2015). With the marketability of accounting degrees and the growing demands, more accounting courses are offered online. One of three main issues related to online accounting education is how to assess the learning quality and outcome of the online education experience in an accounting course (Bryant et al., 2005). Chen et al. (2012) compares the learning effectiveness of online accounting education to traditional in-class face-to-face teaching delivery. Their results suggest that the traditional classroom environments could generate more favorable learning effectiveness and outcome in advanced accounting courses than online delivery mode. The delivery method, no matter if it is online or traditional in-class face-to-face teaching delivery, is not very important in introduction-level accounting courses (Chen et al., 2012).

Intermediate Accounting II course is an advanced accounting courses, which is the part two of Intermediate Accounting course in accounting curriculum. Since Intermediate Accounting II Course is a major class required by most accounting programs in U.S., it is very important to understand how to improve learning quality and outcome in an online delivery setting. This paper makes a contribution to accounting education literature by discussing the learning effectiveness of video-based lectures into advanced accounting course in an online learning environment.

APPLICATIONS OF VIDEO-BASED LECTURES

The author uses the application of video-based lectures in an online Intermediate Accounting II class in spring 2016. The 15th edition of Intermediate Accounting with 2014 FASB Update, by Kieso, Weygandt and Warfield, is used at this online Intermediate Accounting II course. This online Intermediate Accounting II course has 29 students and most of them are non-traditional students.

Intermediate Accounting II course is a continuation of Intermediate Accounting I course. It covers a variety of very comprehensive and advanced financial accounting topics, such as dilutive securities, basic and dilutive earnings per share, leasing accounting and pension accounting (Kieso et al. 2014). These important topics are also included into the current and future Certified Public Accountant (CPA) exams even though there are some changes at CPA exam effective on date of April 1, 2017 (AICPA, 2016; Whittington, 2015).

Astin (1984) defines the engagement as “the amount of physical and psychological energy that the student devotes to the academic experience”. The cookie cutter approach, such as the use of publisher slides without any changes to

fit specific student groups or body's interests, cannot be very helpful when instructors are dealing with executive MBA students with complex needs and a variety of studying interests (DeBoskey, 2009). Sargent et al. (2013) find that the use of ultra-short 3-minute online videos, a learning innovation, could help students with poor academic performance in principles of accounting courses to have a better class grades and become more confident in passing the class.

Hornik and Thornburg (2010) examine the effectiveness of the use Second Life™, a 3-D Multi-User Virtual Environment (MUVE) created by Linden Laboratories, to integrate an interactive accounting equation and t-account model into first-year financial accounting course. The use of Second Life™, as a virtual learning tool, can demonstrate a positive relationship between student engagement and performance into first-year financial accounting course (Hornik and Thornburg, 2010). Dunbar (2004) indicates that a combination of Flash examples, audio and video files and other learning tools does increase student satisfaction based on the student surveys. In Dunbar's 2004 study, the combination online course learning method is used into a graduate-level tax accounting course, an advanced online accounting course. Premuroso et al. (2011) find that the use of Audience Response Systems (ARS), "whereby the instructor poses questions related to the course material to students who each respond by using a clicker and receiving immediate feedback", has a significantly positive impact on the student examination performance in the introductory financial accounting course. The implementation of interactive learning tool in the classroom, such as Audience Response Systems (ARS), increases student engagement and then student satisfaction (Premuroso et al., 2011).

Porter and Tiahrt (2016) report there are four methods to create video lectures for a course. Method one is "using videos from another source", such as YouTube™ and videos provided by the publishers. Method two is "recording your classes". Method three is "recording studio-style lectures". Method four is "recording lecture segments". All four methods have their own pros and cons (Porter and Tiahrt, 2016). The author chooses the method two to record the whole class period because the author teaches a same face-to-face classroom-based Intermediate Accounting II class at the same semester. It is a best-fit way to provide the same contents for two classes.

Canvas, an online course management system, is used in the author's online Intermediate Accounting II class. Panopto recording, a video-recording software and tool, is embedded into Canvas to record all video lectures to match the following course objectives and student learning outcomes described in table one. Panopto is a very powerful and easy-to-use screen capture software program with many user-friendly functions, including the feature to record all audio and video components on instructor's computer screen (Dorff, 2016). Panopto can also be used to organize and edit the video files.

The classroom is equipped with two cameras to capture the activities of the instructors and students. The author only uses one camera to capture the instructor's activity. There are two windows on the platform of Panopto recording software. One window is linked to camera to capture the instructor's activity, such as the handwriting on the whiteboard. The second window is used to connect to a computer screen or document camera to capture the instructor's class notes and handout demonstrations.

Porter and Tiahrt (2016) suggest that it requires a lot of preparations and planning to create videos for an online course. The author spends significant time to play with all software programs, adjust the angles of camera to capture the right place of the whiteboard, and practice many times in the same classroom to examine the effects of some self-tested small video clips. To choose a good equipment also plays an important role in creating high-quality videos. The author tests out both internal and external microphone and finds out the external microphone works great with the Panopto recording function. In order to allow external microphone to capture high-quality audio, the instructor has to stay close to the podium, where external microphone is put.

Khanlarian and Singh (2013) investigate the relevant factors to affect student performance in Web-based homework (WBH) online learning environment. Students' frustration with software related to the use of WBH online learning environment has a negative impact on student performance (Khanlarian and Singh, 2013). To avoid the potential students' frustration with technology, all lecture video links on Canvas are listed in the order of chapter sequence in this Intermediate Accounting II class. It is easy for student s to browse through all videos under Modules on Canvas in order to reduce the students' frustration with technology in an online learning environment.

Table 1: Course Objectives and Student Learning Outcomes

<p>Course Objectives:</p> <ul style="list-style-type: none"> • Learning to apply accounting material to improve thinking, problem solving, and decisions. • Learning fundamental financial accounting principles, methods, and theories. • Developing specific accounting skills, competencies, and points of view needed by accounting professionals in the field most closely related to this course. <p>Student Learning Outcomes:</p> <ul style="list-style-type: none"> • Students will be able to apply accounting principles to solve intermediate-level financial accounting problems • Students will be able to demonstrate the analytical abilities and critical thinking skills applicable to business decisions and solutions.

*Course objectives and student learning outcomes are based on the IDEA Survey, which is used to measure the course learning effectiveness at the author’s university.

By practicing worked example assignments from the textbook, students could strengthen the remembering and understanding of the relevant accounting concepts, theories and methods (Halabi et al. 2005; Tan et al. 2013). End-of-Chapter Problems from the textbook are required as homework to submit on Canvas electronically. Then the instructor would use these examples on the whiteboard in video-recorded lectures and post all videos on Canvas.

The instructor sends out a short survey to 29 students in this online Intermediate Accounting class at the beginning of the semester. One question is “What is the best time length for each online lecture video for this class prepared by the instructor”? 24 out of 29 students respond to this question on the short survey and the response rate is 83%. Among 24 respondents, 46% of students prefer to have 50-minute lecture videos. 21% of students prefer to have 40-minute lecture videos. 29% of students prefer to have 30-minute lecture videos. Only 1 student prefers to have 20-minute lecture videos. Based on this feedback, the author records all lecture videos in the range of 30-50 minutes.

At the end of semester, the IDEA Survey, a university-level course evaluation tool, is conducted for this online Intermediate Accounting II class. 26 out of 29 students respond to all questions on the survey. The response rate is 90%. The use of video-based lectures to increase student engagement was well-received. Some evidence of learning effectiveness can be noticed through the descriptive statistics report of some selected data from IDEA survey in table two to four and the qualitative reports in table five.

Table 2: Descriptive Statistics of Some Selected Data Related to Students' Perception of Their Instructor's Teaching Procedures

	Hardly Ever-1	Occasionally-2	Sometimes-3	Frequently-4	Almost Always- 5	Mean	Standard Deviation	Total Responses
Demonstrated the importance and significance of the subject matter								
Percentage	0%	3.85%	7.69%	34.62%	53.85%	4.38	0.79	
No. of Students	0	1	2	9	14			26
Made it clear how each topic fit into the course								
Percentage	0%	7.69%	0%	34.62%	57.69%	4.42	0.84	
No. of Students	0	2	0	9	15			26
Explained course material clearly and concisely								
Percentage	4%	0%	8%	31%	58%	4.38	0.92	
No. of Students	1	0	2	8	15			26

In general, table two shows that students have a very positive perception about their instructor's teaching procedures. Among 26 respondents, 58% of students describe their perception of instructor's ability to "explained course material clearly and concisely" as "Almost Always", the highest rank in 5-level scales. 31% of students describe it as "Frequently", the second-highest rank in 5-level scales. Overall, the average value is 4.38 and the standard deviation is 0.92.

To integrate video-based lectures into online Intermediate Accounting II course learning definitely helps students feel more confident about the challenging class materials because students can repeat watching instructor's lecture videos as many times as possible.

Table 3: Descriptive Statistics of Some Selected Data Related to Students' Description of Their Progress

	No Apparent Progress-1	Slight Progress-2	Moderate Progress-3	Substantial Progress-4	Exceptional Progress-5	Mean	Standard Deviation	Total Responses
Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)								
Percentage	0%	0%	23.08%	34.62%	42.31%	4.19	0.79	
No. of Students	0	0	6	9	11			26
Learning to apply course material (to improve thinking, problem solving, and decisions)								
Percentage	0%	0%	15.38%	46.15%	38.46%	4.23	0.7	
No. of Students	0	0	4	12	10			26
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course								
Percentage	0%	0%	11.54%	42.31%	46.15%	4.35	0.68	
No. of Students	0	0	3	11	12			26
Learning appropriate methods for collecting, analyzing, and interpreting numerical information								
Percentage	0%	0%	19.23%	30.77%	50%	4.31	0.77	
No. of Students	0	0	5	8	13			26

Table three demonstrates that students have a very positive description about their progress in this online course. Among 26 respondents, 46.15% of students describe their progress on "developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course" as "Exceptional Progress", the highest rank in 5-level scales. 42.31% of students describe it as "Substantial Progress", the second-highest rank in 5-level scales. Overall, the average value is 4.35 and the standard deviation is 0.68.

Among 26 respondents, 50% of students describe their progress on "learning appropriate methods for collecting, analyzing, and interpreting numerical information" as "Exceptional Progress", the highest rank in 5-level scales. 30.77% of students describe their progress as "Substantial Progress", the second-highest rank in 5-level scales. Overall, the average value is 4.31 and the standard deviation is 0.77.

Table four indicates that not all students feel very confident about this very difficult advanced accounting course at the beginning of the class period. The mean score for the statement that "when this course began, I believed I could master its content." is 3.85 on a 5-point Likert scale with a score of 5 indicating strong agreement with the statement. Only 5 out of 26 respondents choose the highest rank in 5-level scales, "Definitely True", when answering this question. But at the end of the semester, students have an extremely positive view about the course. Among 26 respondents, 50% of students choose "Definitely True", the highest rank in 5-level scales, to answer the question of "overall, I rate this course as excellent". 27% of students choose "More True than False", the second-highest rank in 5-level scales. The mean score for the statement that "overall, I rate this course as excellent" is 4.27 on a 5-point Likert scale with a score of 5 indicating strong agreement with the statement.

Table 4: Descriptive Statistics of Some Selected Data Related to Students' Perception of the Course

	Much Less than Most Courses-1	Less than Most Courses-2	About Average-3	More than Most Courses-4	Much More than Most Courses-5	Mean	Standard Deviation	Total Responses
Difficulty of subject matter								
Percentage	0%	0%	46.15%	30.77%	23.08%	3.77	0.8	
No. of Students	0	0	12	8	6			26
	Definitely False-1	More False than True-2	In Between-3	More True than False-4	Definitely True-5	Mean	Standard Deviation	Total Responses
When this course began I believed I could master its content.								
Percentage	0%	3.85%	26.92%	50%	19.23%	3.85	0.77	
No. of Students	0	1	7	13	5			26
Overall, I rate this instructor an excellent teacher.								
Percentage	0%	0%	7.69%	34.62%	57.69%	4.5	0.64	
No. of Students	0	0	2	9	15			26
Overall, I rate this course as excellent.								
Percentage	0%	0%	23.08%	26.92%	50%	4.27	0.81	
No. of Students	0	0	6	7	13			26

Table 5: Qualitative Reports of Student Comments

<p>Student Comments –*</p> <ul style="list-style-type: none"> • “As a distance student, I really appreciate him posting lecture videos so we get the full experience even without being on campus.” • “Did a fantastic job of bringing the online students into the classroom, by posting his lectures.” • “The recorded lectures- especially going over the homework problems, and the notes posted on canvas were very helpful for understanding the material! Thanks for a great class!” • “I love that he posts videos so that you can see him doing the problems. It makes you feel like you are in class, without the annoyance of it :)” • “His videos were very helpful and informative.” • “Strength: Having videos of lectures in the class.” • “Strenghts - Very informative class videos.” • “Strength: taping lectures, Weaknesses: this should never be an online class” • “The strength of the course was the lecture videos.”
--

*from the IDEA Survey, which is used to measure the course learning effectiveness at the author’s university.

Student comments about video-based lectures in table five provide some qualitative evidence to show video-based lectures in an online advanced accounting course could increase student interests and student engagement in the class materials.

RESEARCH LIMITATIONS

One major problem for this research is that IDEA survey is a university-controlled assessment tool. As an instructor, the author only gets a summary report instead of a more detailed dataset, which really restricts the author from doing further basic and comprehensive statistical analysis.

Second major problem for this research is that there is no control group to test the learning improvements. This on-line course is only offered one time in every two years at the author’s institution. We don’t know if a same advanced accounting course without the integration of video-based lectures would have resulted in similar student responses

and learning effectiveness. Based on the requests from some students in this online class, the author has to provide all lecturing videos on online course management system from the beginning of the semester. As a result, the author does not have a chance to see if students could do better before and after the video-based learning method is adopted.

CONCLUSION

Student engagement is very crucial to the learning effectiveness no matter if it is an online or traditional in-classroom face-to-face teaching delivery method. By integrating video-based lectures into the online Intermediate Accounting II course learning, the instructor could make a difficult and challenging advanced accounting course a little bit easier for students to understand. Future research might be done in other advanced accounting courses to examine the learning effectiveness of video-based lectures and the impact on the learning outcome at other advanced accounting courses in an online learning environment. A more quantitative method can be used to do further analysis.

REFERENCES

- Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel* 25: 297–308.
- American Institute of Certified Public Accountants (AICPA). (2016). Uniform CPA Examination BLUEPRINTS. Retrieved September 12, 2016. Available at: <http://www.aicpa.org/BecomeACPA/CPAExam/nextexam/DownloadableDocuments/2017-CPA-Exam-Blueprints.pdf>.
- Bryant, S., J. Kahle, and B. Schafer. (2005). Distance education: A review of the contemporary literature. *Issues in Accounting Education* 20 (3): 255–272.
- Chen, C. C., Jones, K. T., & Moreland, K. A. (2012). Online Accounting Education versus In-Class Delivery: Does Course Level Matter? *Issues in Accounting Education*, 28 (1), 1–16.
- DeBoskey, D. G. (2009). Enhancing Teaching Effectiveness of Financial Accounting to Chinese Executives—A Generalized Approach with Case Study and Assessments. *Issues in Accounting Education*, 24 (4), 511–529.
- Dorff, P. (2016). Online Accounting Course Design: One Professor's Approach. *Business Education Innovation Journal*, 8 (1), 106–110.
- Dunbar, A. E. (2004). Genesis of an Online Course. *Issues in Accounting Education*, 19 (3), 321–343.
- Grossman, A. M., & Johnson, L. R. (2015). Employer Perceptions of Online Accounting Degrees. *Issues in Accounting Education*, 31 (1), 91–109.
- Halabi, A. K., J. E. Tuovinen, and A. A. Farley. (2005). Empirical evidence on the relative efficiency of worked examples versus problem-solving exercises in accounting principles instruction. *Issues in Accounting Education* 20 (1): 21–32.
- Hornik, S., & Thornburg, S. (2010). Really Engaging Accounting: Second Life™ as a Learning Platform. *Issues in Accounting Education*, 25 (3), 361–378.
- Khanlarian, C. J., & Singh, R. (2013). An Exploratory Study of the Online Learning Environment. *Issues in Accounting Education*, 29 (1), 117–147.
- Kieso, D., Weygandt, J., & Warfield, T., (2014). 2014 FASB Update Intermediate Accounting, 15th Edition, Wiley.
- Porter, J., Tiaht, T. (2016). That's a Wrap: Evaluating Different Methods for Creating Video Lectures. *Business Education Innovation Journal*, 8 (1), 56–66.
- Premuroso, R. F., Tong, L., & Beed, T. K. (2011). Does Using Clickers in the Classroom Matter to Student Performance and Satisfaction When Taking the Introductory Financial Accounting Course? *Issues in Accounting Education*, 26 (4), 701–723.
- Salimi, A. Y. (2007). The promise and challenges for distance education in accounting. *Strategic Finance* (January): 19–21.
- Sargent, C. S., Borthick, A. F., & Lederberg, A. R. (2011). Improving Retention for Principles of Accounting Students: Ultra-Short Online Tutorials for Motivating Effort and Improving Performance. *Issues in Accounting Education*, 26 (4), 657–679.
- Shanahan, J. (2003). Learn without leaving your desk. *Logistics Management* 42 (7): 59.
- Tan, J., Satin, D. C., & Lubwama, C. W. K. (2013). A Real-World Business Approach to Teaching M.B.A. Managerial Accounting: Motivation, Design, and Implementation. *Issues in Accounting Education*, 28(2), 375–402.
- Whittington, O. R. (2015). Wiley CPAexcel Exam Review 2016 Study Guide January: Set (15 edition). Wiley.

Lei Wen, Ph.D., is an assistant professor of accounting and finance in School of Business, Emporia State University, Kansas. His research interests include accounting education, managerial accounting, cost accounting, financial accounting and corporate finance.