

Strategies and Practices Related to Teaching Large Online Classes

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This paper aims to discuss two key elements (i.e., course design and course communication) in teaching large online classes. After reviewing literature, it concludes that a successful online course needs to have an integrated and easily navigated course structure, adopt learner-centered instruction approaches to deliver the course materials, and employ versatile and prompt communication with the students. By using two large fundamental economics online courses as examples, the author also introduces good course design and communication practices as well as approaches that have been proven effective via student evaluations and feedback. Statistically, strong correlations were shown among student satisfaction, course design, and communication in the course evaluations.

INTRODUCTION

The popularity of online education has seen an explosive increase in the past decade. According to the 2015 Survey of Online Learning conducted by the Babson Survey Research Group, more than one in four students (28%) takes at least one distance education course (a total of 5,828,826 students) in the United States, an increase from 1,602,970 students in 2002 (Lederman, 2013). Online programs and education have become a part of the strategic plans of many colleges and universities, such as in Indiana University (IU) East. Founded in 1971, IU East is a regional campus of Indiana University and has an enrollment of over 4,700 students (as of the fall semester 2016). Beginning in 2007, IU East became heavily involved in online programs and education, which have, since then, experienced a significant growth in enrollment and program expansion. This investment in online education was primary reason for the doubling of student enrollment at the institution since 2007. However, during the same period, the number of full-time faculty members only increased from 81 to 100 (about 23%). With the minimal requirements for physical facilities and a small number of full-time faculty, the class sizes of these online sections are inevitably larger than the traditional courses. According to the IDEA Center, class sizes can be categorized as small (10-14), medium (15-34), large (35-49), and very large (50+) (Benton & Pallett, 2013).

Some common challenges exist when teaching large face-to-face and/or online classes. Cuseo (2007) identified eight deleterious outcomes associated with large classes: 1) increased faculty reliance on the lecture method of instruction; (2) less active student involvement in the learning process; (3) reduced frequency of instructor interaction with and feedback to students; (4) reduced depth of student thinking inside the classroom; (5) reduced breadth and depth of course objectives, course assignments, and course-related learning strategies used by students outside the classroom; (6) lower levels of academic achievement (learning) and academic performance (grades); (7) reduced overall course satisfaction with the learning experience; and (8) lower student ratings (evaluations) of the course instruction. Other researchers have also addressed similar challenges. After an extensive review of the research literature,

Mulryan-Kyne (2010) stated that large classes at the college-level create particular problems for staff and students, many of which can contribute to less effective teaching and learning. Students experienced the lack of interactions and exchanges with teachers in a large class, which can result in anonymity and passivity among the students (Ward & Jenkins, 1992; Carbone & Greenberg, 1998; Biggs, 1999). Gibbs (1992) pointed out that high absences, low levels of participation, social isolation, and a lack of adequate resources also figured in among the problems inherent in large classes. Carbone and Greenberg (1998) found an overall dissatisfaction among students with large classes because of the inadequacy of the classroom facilities and environment, lack of structure in the lectures, and lack of interaction with faculty and peers.

Similar challenges also exist in large online classes to some extent (Hara & Kling, 1999; Petrides, 2002; Vonderwell, 2003). Sometimes, they are even exacerbated in the online format due to the physical distance between the students and instructor. A lack of a sense of community and/or feelings of isolation in the online classroom were other reported challenges in the literature (Woods, 2002; Vonderwell, 2003). For example, Hara (2000) found that the level of student distress was high due to technological problems and communication issues in a web-based distance course. Students reported confusion, anxiety, and frustration due to the perceived lack of prompt and/or clear feedback from the instructor as well as from the ambiguous instructions on the course's website and in e-mail messages from the instructor.

The author, as a full-time faculty member, has encountered some of the challenges described above in online sections on my campus. I use two fundamental economics online courses (i.e., ECON E103: Principles of Microeconomics and ECON E104: Principles of Macroeconomics) as examples by which to illustrate the practices and approaches used in these two courses to overcome the challenges in teaching large online sections. On my campus, ECON E103 and E104 are two general-education elective courses on campus and are required courses for business majors. The enrollment for these two classes is usually large, at least 60 students, in spring and fall semesters. After analyzing the course evaluations and student comments, two elements (i.e., course design and course communication) were identified as keys to conquering online teaching challenges.

These two elements have been shown in existing literature to cultivate student learning and increase student satisfaction. Technological infrastructures used to teach in asynchronous classrooms will change over time, but effective delivery of content will remain dependent upon appropriate instructional design techniques (Richards, Dooley, & Lindner, 2004). Tricker, Rangelcroft, Long, and Gilroy (2001) evaluated a variety of distance education courses and found that the students were attracted to the online courses because of their flexibility. Although flexibility was the initial attraction, the students still expected high quality courses with assignments and course materials that were professionally meaningful. In addition, they wanted high-quality feedback and good communication from their instructors. Student satisfaction within the online classroom is directly affected by the quantity and quality of the interactions between the instructor and the online students (Chickering & Ehrmann, 1996; Roblyer & Ekhaml, 2000; Shea et al, 2004; Valenta et al, 2001; Ausburn, 2004). A study conducted by Arbaugh (2001) of 25 online sections in a graduate program found that the "immediacy behaviors" of professors correlated with student satisfaction in the online environment, more so than student satisfaction with an instructor's mastery of technology (Hutchins, 2003).

However, practices and approaches related to online course design and communication can vary from instructor to instructor. Fisher and Baird (2005) found that the integration of web-based learning communities and collaborative group assignments into the course design had a positive influence on student retention in online courses. Neuhauser (2004) emphasized that the maturity model of online course design may serve as a tool in regard to planning and assessing courses for improvement based on best practices. Learner-centered online teaching approaches have been adopted by many educators (Diaz & Bontenbal, 2001; Rovai, 2002; Tinto, 1993; Carnevale, 2000; Anderson, 2008). Diaz and Bontenbal (2001) presented differences between the traditional teacher-centered, instructive approach and the newer learner-centered, constructivist approach. The learner-centered approach "demands more active forms of classroom instruction that engage the student in the process of learning and that rely on student input for shaping instructional objectives" (page 2). Building learning communities in an online course can remove

challenges for distance learners, such as physical separation, feelings of isolation, a lack of support, and feeling disconnected (Angelino, Williams, & Natvig, 2007). As a result, the students actively engage in the learning process with their cohorts (Wilson, 2001), thus reducing attrition levels (Ravai, 2002).

In order to address the challenges in the ECON E103 and E104 online classes, I embraced techniques from literature as introduced previously and developed an integrated and easily-navigated online course structure that utilized learner-centered approaches to deliver the course materials. The next section is to introduce good practices and approaches in the course design and communication in these two large online classes that have been proven effective via student evaluations.

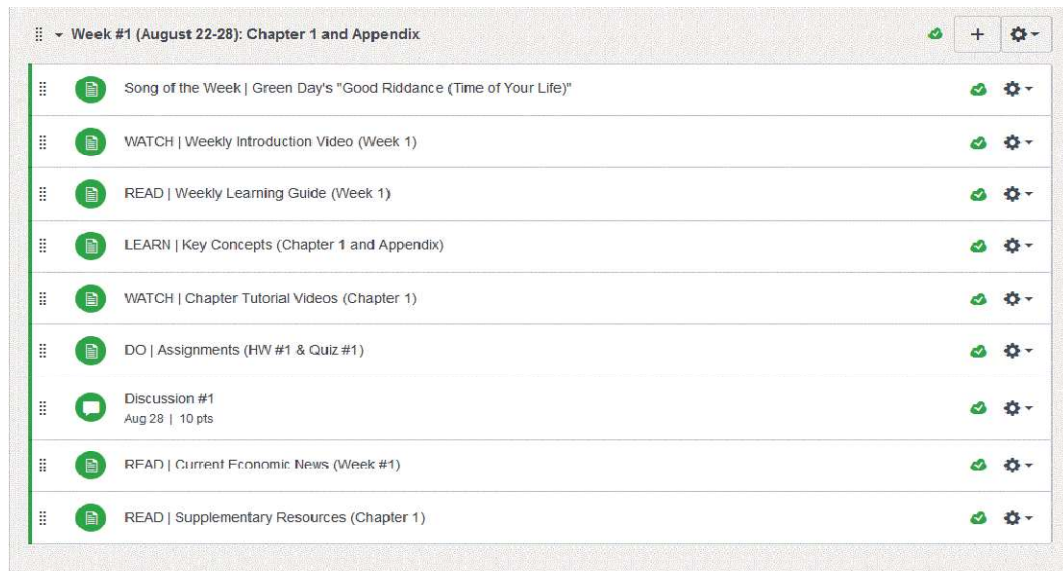
EFFECTIVE COURSE DESIGN FOR TEACHING LARGE ONLINE CLASSES

Some research on asynchronous online learning has shown that course designs heavily impact students' learning. Swan et al. (2000) examined significant correlations between the clarity, consistency, and simplicity of course designs and students' perceived learning. In her later research, Swan (2003) found commonalities among the various antecedent web-based course design principles (Chickering & Ehrmann, 1996; Janick & Liegle, 2001; Keeton, Scheckley & Griggs, 2002) and proposed six new course design principles that support computer-based learning: (1) clear goals and expectations for learners, (2) multiple representations of the course content, (3) frequent opportunities for active learning, (4) frequent and constructive feedback, (5) flexibility and choice in satisfying course objectives, and (6) instructor guidance and support. As a matter of fact, most online course materials are delivered via the course modules in the online learning management systems (i.e., Canvas, Moodle, Blackboard), Swan (2001) claimed that the greater the consistency among the course modules, the more satisfied the students were and the more they thought they learned.

My campus utilizes Canvas as its online learning management system (LMS). Canvas is an open source, intuitive, well-designed, and easy-to-use LMS. Based on the theoretical background developed by Swan (2000; 2001; 2003) for online course design, in the online ECON E103 and E104 courses, I built an integrated and easily-navigated course structure using the Canvas "Module" tool to present the course materials. The course modules were divided up by week with each module employing nine sub-sections to serve different instructional goals (see Figure 1): (1) Song of the Week, (2) Weekly Introduction Video, (3) Weekly Learning Guide, (4) Key Concepts, (5) Chapter Tutorial Videos, (6) Assignments, (7) Discussion Forum, (8) Current Economic News, (9) Supplementary Resources. This structure of course modules applies Swan's (2003) six online course design principles. Each sub-section in the module serves an application of one of these six principles.

The first sub-section, Song of the Week, is to offer an easy and entertaining start each week. Economic concepts seem to be mundane to most students. Some educators have suggested using popular media and culture in the classroom in order to engage students (Kane, 1999; Leet & Houser, 2003; Harter, 2003; Mateer, 2005;). As such, at the beginning of each module, I attempt to put the students at ease by providing them with an economics-related song. While listening to the music, students are encouraged to think about questions related to economics. I've found that the songs pique the interest of the students in regard to the chapter that we are about to study. A comment from the ECON E104 class in Fall 2015 was mentioned "*The song of the week is also a fun addition to the course material.*" A similar feedback was seen in the ECON E104 class of Summer 2016 "*I thought the songs were a unique touch. I have never seen that in any of my previous classes. I liked the idea that the topics we would cover could be found in songs that I may have been familiar with already.*" Another student in the same class said "*I loved listening to the songs of the week. I thought they were cool and funny and were something to brighten my day.*"

FIGURE 1
THE SCREENSHOT OF ONLINE ECON E104 WEEK #1'S MODULE



Learning objectives and information about and instructions for completing specific assignments are ranked highly by online students as successful factors (Diaz & Bontenbal, 2001; Ausburn, 2004). In order to provide clear guidance and expectations to the students, I rely on the Weekly Introduction Video and Weekly Learning Guide in each module (i.e., an application of Swan's principles #1 and #6). The weekly introduction videos allow my students to get to know me better. Building personal connections with students is comforting for the students, particularly those students taking their first online courses or struggling to do the assignments based on text directions and examples. In each weekly introduction video, I tend to follow a similar theme: (1) greeting the students, (2) a brief introduction of the upcoming chapter, (3) a preview of the weekly learning objectives, and (4) a reminder of the assignments and due dates. Students say they feel more connected, understand expectations better, and get a better sense of the weekly assignments when I use the weekly introduction videos. Similar to the Weekly Introduction Video, the written Weekly Learning Guide reinforces the weekly learning goals and introduces the week's activities. I usually insert economics-related comics into this section. I've found that having a sense of humor helps the students connect with me and become more engaged in the course. For example, one student from the ECON E104 class in Fall 2014 stated "*I enjoyed the comics and music added to help keep us awake and positive while doing our studies.*" while another student expressed that "*I like your sense of humor with the songs for each lesson and the cartoons in the weekly lesson introduction.*" A student from the ECON E104 class of Summer 2016 pointed out that "*the comic book strips and the songs you provided were humorous and helped show how much the state of our economy affects us all and at every level.*"

Multiple representations of the course content can be delivered via the Key Concepts and Chapter Video Tutorials in each module (i.e., an application of Swan's principles #2, #3, #5, and #6). In the Key Concepts subsection, I highlight and summarize the key concepts, definitions, and economic models on which the students will be tested in their homework and quizzes. This section warms students up with a preview of the chapter before they dive into the readings. The next subsection, Chapter Video Tutorials, serves a critical role in the course. Because of taking the web-based classes, students lose the opportunity to listen to vivid lectures from their instructor in the classroom. Thanks to technological advancements, an increasing number of instructors have begun recording instructional videos for their online classes. Such instructional video tutorials have proven to be pivotal to the student learning experience, in particular to the average and lower performing students in the class (Milkent & Roth, 1989; He et al., 2012). I found

this information to be true for my classes as well as the students who were struggling seemed to do better once I began making short (i.e., between five and 20 minutes each) instructional videos for each chapter to further discuss the challenging content and illustrate quantitative examples. These video tutorials were greatly welcomed and appreciated by students. One student from the ECON E104 class in Fall 2014 commented on the evaluation that “...once you started posting the videos my grades improved and my overall knowledge of each subject increased.” while another student affirmed that “At the beginning of the semester I felt like I struggled a bit, but after you started posting the videos, I felt like it helped me a lot. I think that is a good idea to post those videos from the instructor so students can further excel in the course.”

After studying the course materials from the first five subsections in the module, students should be ready to proceed with assignments. Weekly assessments can be implemented via weekly assignments and discussion forums (i.e., an application of Swan’s principles #3 and #4). In my modules, the weekly assignments consist of one homework assignment and one quiz. The assignment questions are selected in such a way as to assess the week’s learning goals. The homework extensively reviews all of the key concepts and helps the students digest the chapter materials. The quiz is used to reinforce the hard concepts and definitions in the chapter, which helps foster the students’ analytical and critical thinking skills. In addition to the weekly assignments, I also assign 10 discussion forums to be completed throughout the semester. Student-student interactions through course discussions are one of the most influential features of online courses (Swan et al., 2000; Swan, 2001). The asynchronous nature of the discussions offers students opportunities to reflect on their peers’ opinions, while creating their own thoughts (Swan, 2001). Discussion forums tend to create a certain mindfulness among students and a culture of reflection in the course (Hiltz, 1994; Poole, 2000). Swan (2001) revealed that the more weight the discussions play in the course grade, the more satisfied the students and the more they thought they learned from the course. In my ECON E103 and E104 classes, most of these forums are open-end topics relating to recent economic events. For example, I recently asked the students to share their opinions on the Affordable Care Act, the government shutdown, and recent fiscal and monetary policy changes. The students not only used this platform to exchange ideas and thoughts, but also applied the knowledge learned in the course to real life events. Prior to the first discussion forum, I explained to the students that the topics presented do not have right or wrong answers. Instead, they should view the forums as opportunities to discuss and understand the thoughts of the others in their class. On the course evaluation of ECON E103 in Spring 2015, one student stated that “I also enjoyed the discussion boards. The topics were interesting and allowed us to express our opinions instead of the typical discussion board where you just use information out of the book.” Another student in the same class remarked that “I think the discussions did a great job of getting the weekly topics across. Reading everyone’s discussions was also very helpful because we were able to read their opinions.”

The use of Current Economic News and Supplementary Resources are intended to offer the students flexibility and choices in regard to studying materials related to their own needs (i.e., an application of Swan’s principle #5). After learning the basics of economics, one must learn how to apply it in everyday life. To this end, every week, I post course-related headlines from *The Wall Street Journal (WSJ)* and encourage the students to read these articles. In addition, the students are encouraged to subscribe to the *WSJ* with the promotional student rate. The final portion of the module contains the supplementary resources. In this section, I post publisher resources, such as PowerPoint slides and lecture videos. I also post topic-related movie clips. While the students may be familiar with these clips, they may not be familiar with the economic intuitions related to the clip or the movie as a whole.

This module layout is welcomed and appreciated by many students as shown by the following feedback. One student from the ECON E103 class in Spring 2016 said “The way its set up is really simple as far as having a predictable work load, and I am learning more than I have in face to face classes. Thank you for your time in developing the course.” A student from the ECON E104 class in Fall 2015 made a note that “I feel really comfortable with your teaching structure. A combination of the readings, video’s and the key concepts really help me grasp the concepts for that week’s lesson. Out of all of those, I do have to say the video’s help the most, with my learning, in this course.” A student from the ECON

E103 class in Spring 2015 presented that “*You have provided a well-organized and structured online classroom, and I am enjoying the experience...and I am even learning some new things!*”

EFFECTIVE COURSE COMMUNICATION METHODS FOR TEACHING LARGE ONLINE CLASSES

Effective course communication, which is mainly reflected in student-instructor interactions, is another critical factor to the success of online teaching and/or learning. The importance of student-instructor interactions and learning outcomes has been well-documented in online teaching (Short et al., 1976; Walther, 1994; Picciano, 1998; Rourke et al., 2001; Swan 2002). Students welcome and enjoy a class with frequent and constructive student-instructor interactions (Swan, 2001). For example, Jiang and Ting (2000) found strong correlations between perceived interactions with instructors and the average numbers of responses per student that the instructors made. Other researchers (Pascarella & Terenzini, 1991; Tinto, 1997; Shea et al., 2006) have argued that effective course communication is the nexus bridging online learners’ sense of scholarly belonging, also known as “learning community,” and overall student success in higher education. In particular, Chickering and Gamson (1987) affirmed that the learning community promoted high levels of student-teacher interactions, prompt feedback, active roles for learners, and a respect for diversity in approaches to learning. Similarly, Anderson et al. (2001) proposed that a successful community of learners develops as a result of the joint work of instructors and students. They proposed that an online course reflects the cognitive, social, and teaching “presence” (i.e., instructional design and organization, facilitation of discourse, and direct instruction).

Based on the above theoretical backdrop, in order to promote effective course communication and foster the online learning community, in the ECON E103 and E014 online classes, I employed versatile approaches to stay connected with the students and provide a rich instructor presence in the online classes, such as using weekly announcements, a pre-semester welcome, weekly introduction videos, weekly video tutorials, weekly follow-up emails, and additional phone calls to students.

On the Canvas course landing page, a pre-semester instructor’s welcome video is the first sight presented to the students. In this video, I warmly greet and welcome the whole class, introduce my personal and professional background so as to give the students a real image of their online instructor at their first sight of this course, as well as explain the requirements and expectations of the course for the whole semester. Besides this pre-semester welcome video, each week, detailed weekly instructions and guidance were given via two channels, the weekly introduction videos and instructional announcements. Both of which briefly summarize the chapter content, highlight the weekly learning objectives, and remind the students about any assignments that are coming due. These introduction videos do not only supply needed information to students, but also deliver instructor presence to students and stay connected with them.

As discussed in the previous section, the instructional video tutorials are deemed to be central to the students’ success and satisfaction in the asynchronous classroom (Milkent & Roth, 1989; He et al., 2012; Sargent et al., 2013). For the weekly modules, I created a series of dynamic videos to explain the course content that I felt might be difficult for the students to comprehend. In the face-to-face classroom, I prefer to draw economic models and write notes on the board while talking. Although multiple video-recording technologies and tools have been studied in the literature (Hornik & Thornburg, 2010; Dunbar, 2004; Premuroso et al., 2010; Dorff, 2016; Porter & Tiahr, 2016), their functionality does not fully match my teaching style or meet my instructional demand. Fortunately, I was able to locate an interactive whiteboard application, *Explain Everything*TM, that is “an easy-to-use design, screencasting, and interactive whiteboard tool with real-time collaboration that lets users animate, record, annotate, collaborate, and explore ideas, knowledge and understanding” to help me record video lectures. The recording file can be easily converted to a MP4 file, which is compatible to our online teaching platform, Canvas. The students have expressed their appreciation for these videos:

"The videos were useful when coming across a topic that was a little more complex in nature and the textbook did not elaborate or explain the subject matter in detail or in a way that the material could be easily understood."

"The instructional videos were very helpful, and all of the suggested resources in addition to the text, were very relevant. They helped to support the topics covered in each section."

"The videos were a huge help for me to understand the course and made the material of the book clear."

"The videos you make are awesome!"

"The instructor posted tutorial videos on concepts in every chapter that I thought were very useful and helpful."

In the online classroom, course communication largely relies on emails. When students send emails containing questions, they are often eagerly awaiting the instructor's response. As such, providing the students with prompt and sufficient communication and feedback can lead to student satisfaction and success (Chickering & Gamson, 1987; Vonderwell, 2003). To this end, I have pledged to respond to student emails as quickly as possible. In order to achieve this goal, all of my course email and message boxes are linked to my campus Outlook email account, which is left open throughout the day. Whenever receiving a student inquiry email, I try to reply to it right away with a detailed answer. I have received many compliments from my students for the prompt responses.

"Professor was very helpful and responds quickly."

"The professor was very involved. I really loved that since most of our professors tend to not have the necessary time to answer questions and communication with us. Our professor was very communicative."

"The instructor was kind, and I loved how he responded to my email very quickly."

"My instructor was always available and promptly responded to emails and homework questions. He made sure that this course was easily understood by his students and what he expected of us."

"Loved the course, thank you for caring and always responding back in a timely manner."

"...He maintained timely and consistent communication with the class..."

In addition to these traditional communication methods, I send out an announcement at the beginning of each semester to inform students that I will be calling each one of them for a one-on-one conversation sometime in the semester. During these conversations, I ask the students for their opinions on the course and directly address any questions and/or concerns they might have. If the students cannot be reached via phone, a follow-up email is sent to solicit their opinions. While these phone calls are time consuming, they are worth the time. Often, online students feel ignored by their instructors (Woods, 2002; Vonderwell, 2003). As such, this phone call is a neat tool that I can use to overcome the distance barrier and deliver attention to my students. My online students appear to appreciate my efforts as can be seen by these comments selected from the course evaluations and thank you emails:

"Thank you for contacting me, that is really good for online teachers to do and you're the first one to do so."

"Thank you so much for asking my opinion, it really means a lot to me that you care about my input..."

"...I have never had an instructor reach out to their students like this and I am completely amazed and heart-warmed that there is a professor who cares enough for his/her students to gain feedback by personally calling and emailing ALL OF THEIR STUDENTS! Simply amazing!"

"Mr. X was very eager to help students succeed in his class. Reached out to each of us to ask for comments or concerns. This shows me he how much he loves teaching and his student success. Very respectable!"

"The professor was always there if you needed any assistance and gave us all the tools we needed to be successful, not to mention he actually checked in with us on a regular basis. This might be the first time a professor has actually called my cell phone, like ever."

OUTCOMES OF EFFECTIVE COURSE DESIGN AND COMMUNICATION IN LARGE ONLINE CLASSES

Although some of the students' feedback and comments on my courses have been presented in the previous sections, this section will formally address the course design and communication effectiveness of these two online economics courses as measured by the semester-end course evaluations. The teaching evaluations contain 18 objective rating questions on a 5-point Likert scale with a score of 5 indicating strong agreement with the statement. The student's overall satisfaction can be measured by the question #18: "Would highly recommend this course to other students." The other 17 questions can be classified into two groups, course design evaluation and instructor evaluation (mainly in instruction and communication), which are sorted in Table 1.

TABLE 1
UNIVERSITY COURSE EVALUATION ITEMS

Course Design Evaluation		Instructor Evaluation	
Item #	Question Context	Item #	Question Context
#1	Knew what was expected of me in the course	#2	My instructor was available and committed to my success
#3	Assignments used contributed to my learning	#5	Received timely and useful feedback on my work
#4	Course contributed to my understanding of relevant business concepts	#10	Teaching methods used helped me to learn well
#6	Class materials such as the text, videos, and learning labs were useful	#11	Instructor responded to my questions and concerns in a timely manner
#7	Objectives of the course were clear	#12	Instructor clearly communicated ideas and concepts
#8	Assignments and grading criteria were clear	#13	My work was graded fairly
#9	Course was well structured and organized	#14	My instructor was engaged in the subject matter and the instruction of the course
#16	Quality of the entire course was excellent	#15	Instructor encouraged interaction in the course and communication between students
		#17	Quality of my instructor was excellent

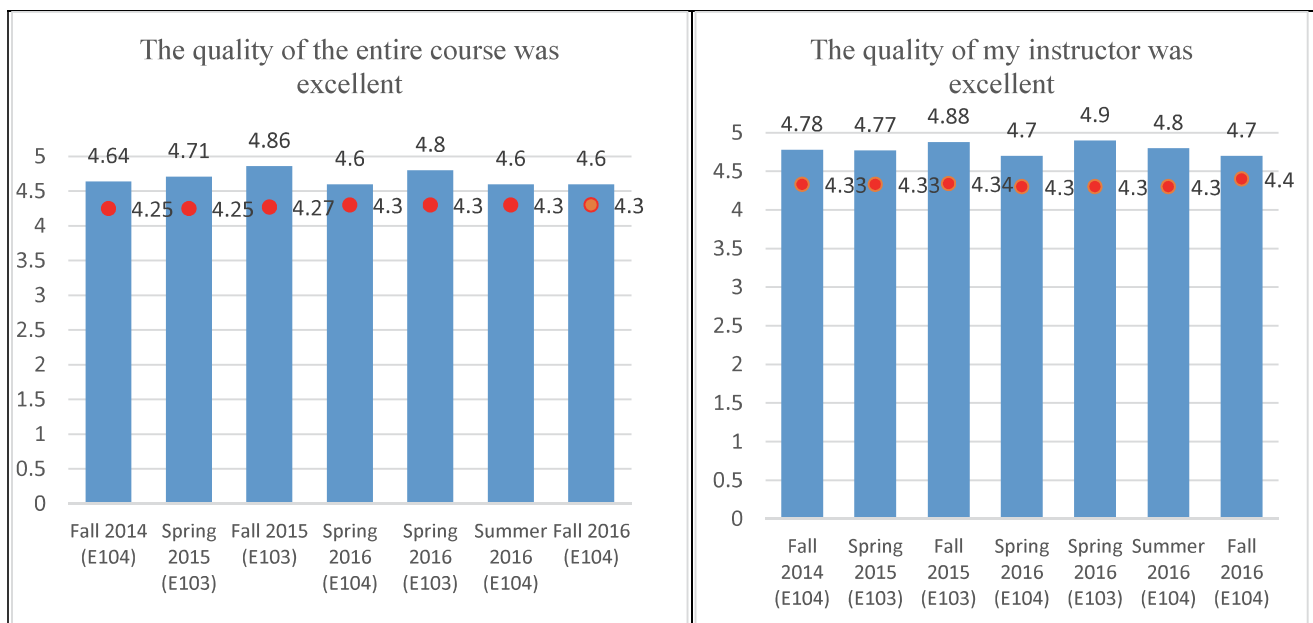
We can consider questions #16 and #17 as an overall evaluation of the course design and instructor, respectively. Therefore, these three key questions (#16, #17, and #18) should reflect the students' overall learning experiences in each course. Figure 2 demonstrates the course evaluations on these three items in online ECON E103 and E104, combined, since the fall semester of 2014. ECON E103 was taught in Spring 2015 and Spring 2016, while ECON E104 was taught in Fall 2014, Fall 2015, Spring 2016, and Fall 2016 by me. The class size varied from 52 students (Summer 2016) to 138 students (Spring 2015), and the response rates to the course evaluation were very high (above 65 percent).

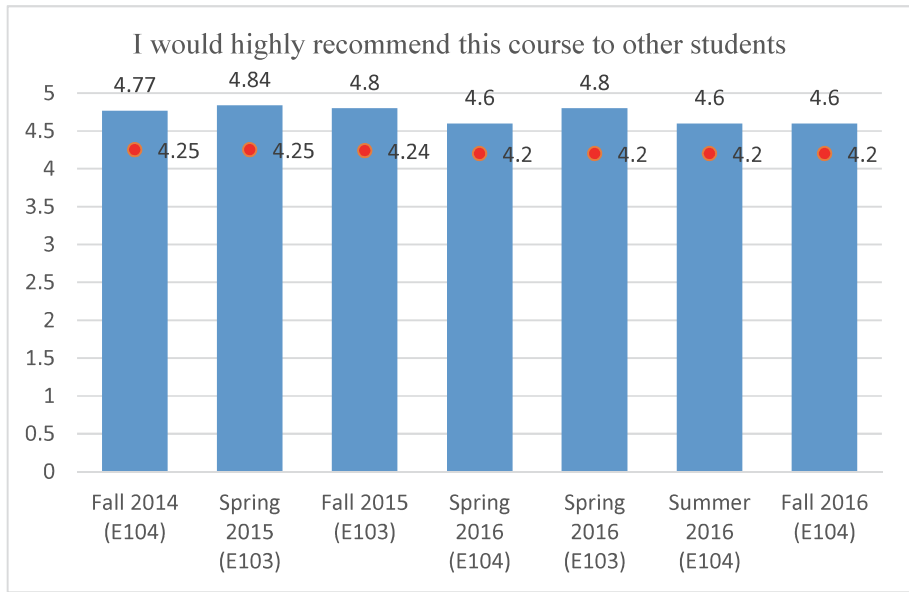
The effectiveness of the course design and communication was clearly shown in the course evaluations. The weight scores of all 18 evaluation items for my courses were all above the school means each semester. As shown in Figure 2, the weighted average scores in the quality of course (item #16), the quality of instructor (item #17), and student satisfaction (item #18) consistently remained at high marks (above 4.6 out of 5.0) and were clearly higher than the school's means each semester. The course evaluation scores explicitly draw a conclusion that an integrated and easily navigated course structure

with learner-centered instruction approaches and versatile and prompt communication methods is well received by online students.

Table 2 shows the correlations among the evaluation items. Clearly, student satisfaction (item #18) is highly correlated to the overall quality of the course (item #16) and quality of the instructor (item #17) with a 92.7 percent and 77.4 percent, respectively. To be more specific, under the quality of the course, some course design-related factors were revealed as having a high correlation with student satisfaction, such as item #1 (“Knew what was expected of me in the course,” 52.3 percent), item #3 (“Assignments used contributed to my learning,” 84.8 percent), item #4 (“Course contributed to my understanding of relevant business concepts,” 60.9 percent), item #6 (“Class materials, such as the text, videos, and learning labs, were useful,” 73.7 percent), and item #9 (“Course was well-structured and organized,” 57.6 percent). Similarly, under the quality of the instructor, some course communication-related factors had high impact on student satisfaction, such as item #5 (“Received timely and useful feedback on my work,” 68.4 percent), item #11 (“Instructor responded to my questions and concerns in a timely manner,” 71.4 percent), item #12 (“Instructor clearly communicated ideas and concepts,” 59.6 percent), item #14 (“My instructor was engaged in the subject matter and the instruction of the course,” 79.1 percent), item #15 (“Instructor encouraged interaction in the course and communication between students,” 83.8 percent).

FIGURE 2
THE WEIGHT AVERAGE SCORES FOR ITEMS #16, 17, AND 18 IN TWO COURSES





Note: Red dots represent the school means.

TABLE 2
THE CORRELATION OF EVALUATION ITEMS

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18	
#1	1																	
#2	0.703	1																
#3	0.508	0.816	1															
#4	0.587	0.91	0.739	1														
#5	0.632	0.764	0.497	0.671	1													
#6	0.753	0.655	0.645	0.628	0.665	1												
#7	0.51	0.008	0.067	-0.15	0.226	0.535	1											
#8	0.74	0.665	0.308	0.59	0.609	0.402	1											
#9	0.635	0.571	0.473	0.565	0.405	0.746	0.508	0.739	1									
#10	0.659	0.87	0.953	0.755	0.592	0.771	0.208	0.432	0.598	1								
#11	0.809	0.469	0.243	0.289	0.664	0.516	0.46	0.463	0.281	0.413	1							
#12	0.563	0.779	0.6	0.748	0.375	0.561	0.043	0.758	0.752	0.66	0.53	1						
#13	0.639	0.845	0.748	0.734	0.489	0.614	0.157	0.703	0.712	0.799	0.287	0.933	1					
#14	0.546	0.91	0.929	0.879	0.503	0.603	-0.11	0.435	0.549	0.924	0.243	0.776	0.842	1				
#15	0.586	0.879	0.951	0.811	0.544	0.742	0.058	0.487	0.589	0.948	0.266	0.772	0.846	0.953	1			
#16	0.624	0.737	0.89	0.679	0.517	0.873	0.304	0.388	0.61	0.942	0.321	0.595	0.707	0.819	0.908	1		
#17	0.776	0.862	0.741	0.811	0.705	0.86	0.224	0.576	0.643	0.886	0.552	0.68	0.754	0.812	0.826	0.877	1	
#18	0.523	0.622	0.848	0.609	0.684	0.737	0.265	0.314	0.576	0.868	0.714	0.596	0.722	0.791	0.838	0.927	0.774	1

Note: The evaluation items are:#1. Knew what was expected of me in the course. #2. My instructor was available and committed to my success. #3. Assignments used contributed to my learning. #4. Course contributed to my understanding of relevant business concepts. #5. Received timely and useful feedback on my work #6. Class materials such as the text, videos, and learning labs were useful #7. Objectives of the course were clear #8. Assignments and grading criteria were clear #9. Course was well structured and organized #10. Teaching methods used helped me to learn well #11. Instructor responded to my #12. Instructor clearly communicated ideas and concepts questions and concerns in a timely manner #13. My work was graded fairly #14. My instructor was engaged in the subject matter and the instruction of the course #15. Instructor encouraged interaction in the course and communication between students #16. Quality of the entire course was excellent #17. Quality of my instructor was excellent #18. Would highly recommend this course to other students Below are some excerpts of students' comments from the course evaluations:

"I have never had a Professor as caring as Mr. X. He took time out of his day to reach out to his students to make sure they were comfortable in the class and provide answers to any questions they may have. When I was sick and didn't do so well on an assignment, he made a special point to e-mail me and ask if I needed further explanation of the lesson because he felt my grade was lower than normal. If every single professor was as kind, caring, and willing to help their students as Mr. X, I would stay in school my whole life!!! Kudos to X!!"

"Professor X provided a well -organized and structured online class. He maintained timely and consistent communication with the class. He even made personal phone calls around mid-semester to touch base with each student. I missed my call, but he then emailed me and we communicated that way. PUT THIS GUY IN A POSITION TO SHOW OTHER INSTRUCTORS HOW TO RUN AN ONLINE CLASS!!!"

"I think Professor X is one of a kind. He makes himself available to students and is so enthusiastic about their success. We need more professors like him."

"While economics is not my favorite subject, this was my favorite online class. Extremely, well organized, each activity was useful, not only was it organized well but it was organized in a fun way with color coding, comics, and videos! Hands down, Professor X did a great job! IU East is very lucky to have him!"

"Professor X is the perfect example of how an online course should be. it's very well organized, clear expectations, manageable workload, and always available and willing to help. He has a genuine interest in helping his students succeed!"

"I really enjoyed this class and that was honestly not expected. If I ever have to take another Econ class, I will be sure to look up Professor X."

"this instructor is probably the best instructor I have had at IU east. he is responsive and he works very hard to help students learn the material."

CONCLUSION

With the increase in demand for online education, instructors are facing challenges in teaching large, online classes. Though there are many solutions to resolving challenges, the author focused on two key elements: course design and course communication. The existing literature and the author's own experiences suggest that a learner-centered course design and communication approach can better engage students and build a learning community in an online class that can overcome challenges for online learners, such as physical separation, feelings of isolation, a lack of support, and feeling disconnected. Student feedback and course evaluations offer conclusions that student satisfaction is highly correlated to these two elements.

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