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Creating an Online Management Information Systems Course

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ABSTRACT

This paper discusses the design and implementation of a Management Information Systems course offered online. We discuss the rationale for the design and the structure of the course as implemented, keeping in mind the special challenges that face students and faculty in an online learning environment.

KEYWORDS: Online Learning, Course Design, Information Systems, Assessment

INTRODUCTION

There is a greater emphasis on online learning as institutions of higher education attempt to attract more students (Comer, Lenaghan, & Sengupta, 2015). This creates challenges for faculty as they try to enhance student engagement, and/or struggle with the implementation of effective assessment of learning. These challenges and more may impact the perception of the value and legitimacy of online education (Allen & Seaman, 2013). Research shows that negative perception about meaningful student engagement, reliable learning assessment, and overall efficacy of online delivery dissuade faculty from delivering their traditional face-to-face courses completely online (Aggarwal, Adlakha, & Mersha, 2006; Barker, 2010). We believe that a course that has traditionally been taught face-to-face can be designed in a way that it provides an environment for effective interaction among learners and between learners and the teaching faculty. The rest of this paper describes the design and implementation of a Management Information Systems course, offered online, as part of the MIS curriculum at a comprehensive state university.

COURSE DESCRIPTION, OBJECTIVES, AND FORMAT

“Management Information Systems” is a senior level, required course for students in the MIS major, and an elective for students in the Management major. Given the student demand, at least one section of the course is offered every semester, sometimes even in the summer. The course has traditionally been offered in a class room setting at an AACSB accredited business school. There has been increasing demand from students to offer the course in an online format, due to their desire for more flexibility. There is also demand for online elective courses from students at a branch campus which is more than 100 miles from the main campus. So the Management Information Systems course was re-imagined as an online offering in order to cater to this need. Since this was a required course for the major, while converting the format from face-to-face to online, the course learning objectives needed to stay the same and are: 1)

the ability to discuss the importance of information as an organizational resource and to develop an appreciation for issues in managing data/information/knowledge, 2) the ability to describe management concerns and trends in the administration of the information systems function, 3) to be able to apply concepts covered on the planning, analysis, design, implementation and management of IT and IS to the analysis of business situations, 4) become familiar with current IT/IS technologies and methodologies used by organizations and relevant terms and terminology.

Course Design

This course as designed followed a full semester format, that is, a full 15 weeks of course material was covered over the entire semester. Since this was a fully online class, all course engagement, including content, assignments, quizzes, discussion comments, and exams were submitted online through the learning management system (LMS). The university switched over to Moodle, a few years ago, and has continued to enhance the system in response to faculty and student feedback. At the beginning of the semester, students were informed that they should expect the online format to be demanding, and that they must be able to self-regulate and learn the material independently. The content was delivered through a chunking strategy (Gaskin & Skousen, 2016), in order to help the students with self-regulation and focus. Chunking refers to the process of breaking up the content into more manageable modules and has been shown to help content recall, comprehension, and focus. It also helps learners to prioritize, organize, and identify core elements of the course as the content is presented in smaller, more manageable pieces.

IMPLEMENTATION

First, in order to be consistent with the face-to-face environment, we organized the 15 week content into 15 chunks (modules). Each content module had its own lectures, review slides, readings, discussion forums, videos, and web links. Each module also had its own assessments consisting of assignments and quizzes. All deliverable due dates and module start dates were noted on the syllabus. Table 1 shows the first six modules and the start and due dates for those. The deliverables and the due dates also showed up in each module introduction. Moodle made it possible to highlight the current module, and show the upcoming deadlines for the assessments in the left margin of the course page.

The "General" section of the course page in Moodle contained a) syllabus, b) the News Forum (for communicating with all enrollees in the course), c) the general course discussion forum d) the introductions forum. The syllabus was quite comprehensive and contained instructions for assignments which clearly specified the formatting and length requirements for the assignments in general. Specific details were provided in the instructions for each individual assignment in the appropriate content module. A Trouble Report block allows a student to create a trouble report, or simply ask a Moodle/Technology related question of the Moodle/Technology helpdesk if the student runs into any issue with technology.

Table 1: Course Modular Design (Sample Modules)

Module #	Date	Topic and Deliverables	Reading Assignment
1	01/23	<u>Module 1 – Creating the Context</u> Introductions and Participation comments, Quiz and Assignment 1 are due on <u>1/30</u> at 9:00 am.	Chapter 1
2	1/30	<u>Module 2 - Strategy and Technology</u> Participation comments, Quiz and Assignment 2 are due on <u>2/6</u> at 9:00 am.	Chapter 2
3	2/6	<u>Module 3 – Information Systems and Work Design</u> Participation comments, Quiz and Assignment 3 are due on <u>2/13</u> at 9:00 am.	Chapter 3
4	2/13	<u>Module 4 – Strategic use of Technology</u> Participation comments, Quiz and Assignment 4 are due on <u>2/20</u> at 9:00am.	Chapter 4
5	2/20	<u>Module 5 – IT Fundamentals</u> Participation comments, Quiz and Assignment 5 are due on <u>2/27</u> at 9:00am.	Chapter 5
6	2/27	<u>Module 6 – Disruptive Role of Technologies</u> Participation comments and Quiz are due on <u>3/6</u> at 9:00am. Technology Report Topic and Outline are due 3/6 at 9:00 am	Chapter 6

We used the Topics format for the Moodle course structure. The “Main” section of Moodle consisted of eighteen topics (sections). Fifteen of these topics corresponded to the fifteen content modules. There were two topics for the exam modules, one for the mid-term and one for the final exam. The final topic was for the Technology Report module. Each content topic included the module overview including the learning objectives and the content outline, review slides, short narrated lectures, for the chapter covered in the module. The topic also included links to videos and additional readings relevant to the specific content covered in the module. The information in these videos or links was often referred to in the corresponding discussion forum threads for that module.

ASSESSMENT

Learning was assessed in the form of two exams, fourteen assignments, fifteen quizzes, a technology report, and participation in fourteen discussion threads. Please see Table 2 for values of assessment components.

Table 2: Course Learning Assessment

Assessment	Quantity	Total Value
Exams	2	37 percent
Assignments	14	15 percent
Participation	14	25 percent
Quizzes	15	10 percent
Technology Report & Video Presentation	1	13 percent
TOTAL		<u>100 percent</u>

Exams

There were two exams in the course. The exam questions were derived from the readings, case applications, assignments, and videos. The exams contained both multiple choice and open ended questions. Exams were taken online with open book and notes; students were informed that they were required to take the exams on their own and without any cooperation with other individuals. The exams consisted of two parts. Part one was timed, meaning once the student started the exam, s/he had to complete within a certain amount of time, while part two consisted of questions individualized for the student and was available for the duration of the exam module. So each exam was largely different for each student. For part one, approximately 7-10 questions per chapter were used. Exam questions were randomized from about 70-80 questions per chapter. Students answered 60 multiple choice or true false questions, for 1 point each, in 70 minutes. The exam closed automatically and submitted for the student at 70 minutes, if the student had not finished by then. Upon completion, students received a grade and at the end of the exam module duration, feedback with regards to the questions they missed and the correct answer was provided. The open ended questions in part two required the students to reflect on the value and implications of the concepts and topics covered in the chapters. The student could take as much time as needed on the second part for the duration of the exam module availability. Each exam module was open for 14 days to maximize flexibility and accommodate student schedules.

Assignments

There were fourteen assignments in the course, one for each content module (except one). The objective of the assignments was to have the student reach an applied understanding of the course material on an individual level. Assignments were made available for the duration of the module, typically 7 days and students had a one day (with 10% penalty) or two day (with 20% penalty) grace period. Assignments were research based and each had specific questions for students to research and write. An example question is: "Make a table/chart of the various firms (at least six) offering video streaming services. In the table, list the pros and cons of each service, along with its revenue model. Which of these firms/efforts do you think will survive a shakeout? Why do you think so? Please answer all questions and be as detailed as possible in your answers."

Quizzes

Each content module had a quiz associated with it. The purpose of the quiz was to ensure that the student went through and had a fair understanding of the material covered in that module. Each quiz consisted of ten true/false and/or multiple choice questions to be completed in 11 minutes. To ensure that each student received a significantly different quiz, the questions were drawn at random from a pool of 60-70 questions. At the completion of the quiz, the student got a grade, and received feedback on the questions they got wrong, once the module had closed.

Technology Report

Each student was required to study a current or emerging information system/technology in depth and produce and present a technology report. This module provided instructions on the structure of the report as well as examples of potential topics. There were three deliverables associated with this assessment. The first deliverable was a one page description of the topic chosen and an outline of the report, and was worth 10 percent of the grade on the technology report. Based on feedback from the instructor, the student wrote the technology report, and this deliverable was 80 percent of the grade. The final deliverable was a 5 minute video synopsis/presentation of the report highlights. This was worth 10 percent of the grade.

Participation

Participation in discussion forum threads of fourteen of the fifteen content modules was required and graded. Each content module had its own discussion forum and each student was required to start a thread based on the topic under discussion. Discussion topics involved issues and their implications based on the readings, chapters, cases, videos, articles, and web links in the module and were designed to encourage student participation and interaction. Students were required to maintain an online presence at all times during the course. Both the quality and the quantity of students' comments counted toward the course grade. With regards to the quantity, students were expected initiate at least one thread and comment on at least 2 more threads on the current module's discussion forum during the week. The main purpose of the discussion threads was to hold a conversation, not answer questions originally posted. The professor monitored and facilitated all discussions.

In order to earn the full points for participation, students were encouraged to participate early and often and with meaningful posts that were neither too long (like over 10 sentences) nor short (like one sentence responses...e.g., "I agree", "that is right"). They were further instructed to have an online presence, requiring them to comment and participate in the discussion on multiple days of the week. With regards to quality, student comments had to show a correct understanding of the issue and an understanding and appreciation of other students' comments, basing their thoughts off of others' ideas not duplicating them. Students had to have correct and appropriate writing, spelling, and grammar.

Results

The authors are collecting and analyzing the results of the course. The metrics used include student performance, student engagement, student satisfaction with the course and their perception of the efficacy and effectiveness of the learning environment provided in the course. The authors propose to present these results and show examples of the various course

components, with information on what worked and what did not work for this particular course. They will discuss the generalizability of their experience with the “Management Information Systems” course. The authors will also share any changes and enhancements they will be incorporating into the course design and implementations for future offerings of the course.

REFERENCES

- Aggarwal, A. K., Adlakha, V., & Mersha, T. 2006. Continuous improvement process in web-based education at a public university. *E-Service Journal*, 4: 3–26.
- Allen, I. E., & Seaman, J. 2013. Changing course: Ten years of tracking online education in the United States. Babson Park, MA: Babson Survey Research Group. Retrieved from <http://www.onlinelearningsurvey.com/reports/changingcourse.pdf>
- Arbaugh, J. B., Desai, A., Rau, B., & Sridhar. B. S. 2010. A review of research on online and blended learning in the management disciplines: 1994-2009. *Organization Management Journal*, 7: 39-55.
- Barker, R. 2010. No, management is not a profession. *Harvard Business Review*, 88: 52–60.
- Gaskin, J. E., & Skousen, T. 2016. Time-**chunking** and hyper-refocusing in a digitally-enabled workplace: Six forms of knowledge workers. *Frontiers in Psychology*, 7: Oct 24, 2016. Retrieved from <https://doi-org.proxy-tu.researchport.umd.edu/10.3389/fpsyg.2016.01627>