

An Online Course Development and Improvement Life Cycle

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ABSTRACT

This research presents a description of the development and adoption process of a five-phase iterated process (analysis, development, implementation, feedback and assessment) named online course development and improvement cycle (OCDIC). The purpose is to smoothly transform a required computer literacy course from the traditional teacher-pushed classroom teaching environment using the technology equipped electronic lecture classroom and computer laboratory to an anytime and anywhere student-pulled online learning via the Internet.

INTRODUCTION

Every student requires completing a Computer Literacy course (MIS 123) before majoring in the College of Business Administration (CBA). It is a “Credit” or “No Credit” course that has three five-week one unit and adjacent sub sessions named MIS 1 Microcomputer Hardware and Electronic Communication, MIS 2 Spreadsheets and MIS 3 Word Processing and Presentation Graphics. Around 500 students enroll in each sub session per semester. An online course development and improvement cycle (OCDIC) has been developed and adopted by the CBA to smoothly transform this MIS 123 from the traditional teacher-pushed classroom teaching environment using the technology equipped electronic lecture classroom and computer laboratory to an anytime and anywhere student-pulled online learning via the Internet.

PHASE DESCRIPTION

The OCDIC is a five-phase iterated process including the analysis, development, implementation, feedback and assessment. Each phase consists of several tasks for creating the new student-pulled online learning course and promoting continuous improvement to achieve the learning objectives. Tasks in the analysis phase are assessing critical background factors, defining course learning objectives, deciding course subjects, determining courseware selection criteria, selecting courseware, and consolidating suggestions. The one general task in the development phase is constructing syllabus, regulations, lesson, practice exam, and final exam. Three tasks in the implementation phase are hiring student assistants, informing students on how to complete the course, and communicating with students. Two tasks in the feedback phase are identifying learning problems and generating revisions for future improvement. Tasks included in the assessment phase are understanding the learning behaviors, identifying the leaning effective factors, evaluating student performances, investigating course strengths and weakness, and producing tactics for further improvement.

ADOPTION EXPERIENCE

The MIS 123 OCDIC transformation process of each phase experienced by the CBA in terms of “what is to be done”, “who will do it”, “when it will be done”, “how it will be done” and “how to improve it” for delineating a set of appropriate actions to reach desirable objectives is presented in the following.

Analysis Phase

There were several critical background factors such as organizational information technology infrastructure, administration support and technical assistance within the CBA that must be assessed before proceeding. Regarding these issues, the CBA has done the following: (1) renovating its communication systems to T1 lines (2) increasing the computer laboratory capacity to accommodate 120 students; (3) upgrading its computer system every two years; (4) two in house technology consultants and (5) the total support from the CBA administration.

The three major objectives of the MIS 123 are (1) to equip the student with the fundamental computer skills required in further business courses; (2) to provide the student with the self-learning abilities so that they can maintain the latest computer literacy throughout their professional lifetimes and (3) to enhance career opportunities for the student with innovative problem solving and decision making proficiencies.

The following was the initial list of the general selection criteria for choosing appropriate courseware.

1. Ease of use course management system with interactive and interaction contents
2. Immediate feedback for questions
3. Presentation approaches including textual presentation, verbal explanation and practice exercise using high quality graphics, animation and sound
4. Practice exam and final exam test banks
5. Instant student assessment facilities for the instructor
6. Security tools for monitoring student performance

Some specific selection criteria required by the MIS 123 and CBA were (1) the inclusion of every subject; (2) an affordable price tag for the student; and (3) a local technical support staff.

Three major publishing companies having the related courseware for MIS 123 were contacted and evaluated. The selected Courseware technical support team was requested to conduct an open demonstration and discussion meeting before starting the next phase. The purposes of the meeting were to (1) inform the CBA faculty and staff members regarding the new student-pulled online learning format of the computer literacy course; (2) consolidate suggestions; (3) address any objections, possible administrative process and/or technical issues; and (4) include everyone to be on the same page to proceed the transformation with minimum problems and conflicts.

Development Phase

A course syllabus for each sub session was created to provide students with the information regarding (1) the course learning objectives and contents; (2) the required Courseware code, registration steps and technical support; (3) the student-pulled online learning methodology; (4) the steps for taking the lesson and practice exam; (5) the final date, procedure, regulations and course grade; and (7) the student communication with the course administrator.

The lessons for each sub session were prepared by using the Coursework modules. The entire practice

exam bank was always available for the student. The parameter settings for taking the practice exam were 30 attempts per exam, no time limit on each attempt, hints for any wrong answer, and printing capability. The final with 30 interactive questions for each sub session was set up. The parameter settings for taking the final were only one attempt per exam per student, a 50 minute time limit, 30 attempts for each question, advancement to the next question regardless of the previous answer, no hints for any wrong answer, random question sequence, and no printing capability.

Implementation Phase

Two part time student assistants were hired with sufficient knowledge about Coursework for helping student, proctoring the final; and reporting any problem during the final. The course syllabus along with the “Coursework Online Student User’s Guide” and “Coursework Student Quick Start” and other important information were posted on the MIS 123 homepages.

Students enrolled in each session were given five weeks to study the online lessons and drill the practice exams at his/her own pace, time and place without any scheduled classroom meetings on the campus. Student could take each lesson via reading, visual and interactive. The entire studying process solely depended on the motivation and commitment of the student to achieve the learning objectives which is the intended format of student-pulled online learning.

The final exam was given to the student on the last Friday of the fifth week. Students could only take the final in the controlled computer laboratory. The course administrator would only schedule a makeup exam for a student if the problem was caused by the computer system and reported by the exam proctor.

Feedback Phase

Unfortunately, an online facility course evaluation from the students was unavailable at that time. No students expressed any complaints regarding online learning approach to the course administrator or staff. This result implied that the students enjoyed the free form of pace, time and location during their online learning experience. The inputs for improvements were solely based on student’s performance records and the communications between students and the course administrator.

Assessment Phase

Three student performance records were used as the evaluation. The lesson completion rate was equal to or less than 69% and the recorded practice correction rate was equal to or less than 71% in the first semester. There were around 30% of the students that did not prepare for the final exam. Close to 70% of the students did not start to take the lesson and work on the practice exam until the last 4 to 5 days before the final exam.

In the second semester, three adjustments were implemented to improve the student learning process. First, the course syllabus was revised to include study guidance as “pacing your study within the five weeks” and “mastering the course material using the lessons and practice exams”. Second, the weekly announcement was not only posted to the homepage, but also sent to every student via the email system to emphasize important dates and reinforce constant self-study within the five weeks. Third, students were encouraged to meet with the course administrator for a review of their in-progress performance records.