Creating Online Courses: Instructional Designers’ Perspective

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Abstract: The study describes preliminary assessment of a grant from the U.S. Department of Education’s Fund for the Improvement of Post Secondary Education (FIPSE). The grant (Innovative Technology for Teaching) involved the production of numerous online courses to support three new Master’s degree programs at a major metropolitan research university. The perspectives of the instructional designers who were assigned to each of the faculty members are of particular interest for this study. Information from interviews with the designers was synthesized with data gleaned from content analyses of design documents (Instructional Design Plans).

Introduction

The National Center for Education Statistics recently reported that 89 percent of public four-year institutions and 90 percent of public two-year institutions offered distance education courses during the 2000-2001 academic year (Tabs, 2003). This shows a marked increase from the previous report (based on the 1997-1998 academic year), which reported 78 percent for four-year institutions and 62 percent for two-year institutions (Lewis, Snow, Farris & Levin, 1999). The trend toward increased offerings of online courses places tremendous pressure on college faculty to transition some, or all, of their classes into an online format. However, creating online courses is a time-consuming process, requiring both design expertise and technical skills (Barron, 2003; National Education Association, 2000). It can be a very challenging experience for college faculty, many of whom are not familiar with curriculum design, online strategies, course management systems, or HTML (Wolcott, 1993). Although workshops can be helpful to address some of these issues, faculty members may be too busy or simply not interested in learning the intricacies of course production and delivery.
To help alleviate the burden on faculty members, many institutions hire personnel to assist in the
development of distance learning courses. Although budgets are usually tight, it is essential to have team members
who are familiar with needs assessment, planning, instructional design, curriculum development, research, and
program evaluation (Hill, 1998). In his article, Seven Secrets of Successful Online Learning Programs, Feldberg
emphasizes the importance of “the use of instructional designers and course uploaders for course conversion and
development” (2001, p.1). As an example, the University of Central Florida has several instructional designers on
staff to provide support in curriculum development, instructional materials design and development, and curriculum
delivery (Course Development & Web Services, 2004). The Pennsylvania State University, University of South
Florida, James Madison University, and several others have a similar support structure (Pyatt, 2001; Center for 21st

Working as an instructional designer with college faculty can be a challenging experience. As Carter and
Goodrum (2002) noted:

While the faculty member is a critical member of the online course development team, working
with faculty (which has sometimes been likened to herding cats) often poses many challenges.
Many times, faculty members tapped to work on online courses have prestigious reputations and
busy schedules. They also are typically used to working alone, teaching in face-to-face
environments, and having total control of their content. This combination of characteristics makes
for very interesting and challenging interactions between faculty members and instructional
designers (p. 1).

Purpose

This research was undertaken to assess issues and techniques related to a large online development
initiative – from the instructional designers’ perspectives. The goals of the course conversion processes were to
select innovative technology, course content, and delivery methods to enhance student learning; to improve the
competencies and skills of participating faculty to effectively support the development of distance learning courses;
and to utilize instructional designers whose specific knowledge and skills would serve as a resource to faculty in the
development of effective asynchronous courses. To meet these goals, three instructional designers were hired to
work with approximately ten faculty members over a three-year period, during which time three new online graduate
programs would be completed.

This research was conducted at a Carnegie Doctoral Research Extensive Institution in the Southeastern
United States serving a diverse population of approximately 40,000 students across four campuses. Within this
university, there are fourteen individual colleges, including the College of Public Health, the College of Arts and
Sciences, and the College of Education. The development, validation and pilot testing of the assessment system
were conducted as part of the evaluation of a grant from the U.S. Department of Education’s Fund for the
Improvement of Post Secondary Education (FIPSE).

Method

Data Gathering Procedures

Four evaluation team members developed an interview protocol to be used for guiding the discussion
during the interviews with designers. It included questions related to (1) the designers’ training and experience; (2)
instructional design methods and procedures including design, development, and formative evaluation; (3) the
technology used in developing and delivering instruction; (4) interacting with faculty including the roles assumed by
designers and faculty and the actual materials produced by each group; and (5) lessons learned on the project in
terms of what went well and what was problematic. The team conducted three interviews, two with two designers
and one with a single designer who could not attend the first two sessions. During the interviews, one team member
asked questions from the protocol, one audio-recorded the conversation, and all team members took notes. All
persons present were encouraged to elaborate on any question or point to ensure all designers were comfortable
during the interviews.
Data Analysis Procedures

A four-stage process was used to analyze the content of the designers’ interview discourse. The first step involved synthesizing and classifying information from notes taken during the interviews. The second step was to review the original audio recordings from the interviews, the third step was for the team to verify the topic identification and synthesis into classifications from the audio recordings. The final step was a member check of the data summarization, in which the team’s interpretations of the conversations were sent to the designers for verification.

During the first phase of synthesis and interpretation, the evaluation team met to review the notes produced from all interviews. The purpose for this was to identify topics mentioned by designers for each question and to classify the topics into possible themes. An open discussion process was used for the analysis, and the discussion continued for each question until all team members agreed to the content of topics named and possible themes that occurred in designers’ discussions. During the second phase, two team members reviewed the audio recordings from the interviews to verify the topics and themes from the notes and additionally to identify other topics and categories from the tapes that were not included in the notes. During the third phase the total team met again to review the more complete list of topics and themes and to reach agreement on any new information that emerged from the additional data. Finally the summary of topics and categories for each question area was sent to the instructional designers for their review. They were asked to make any additions that were missed during the interviews (things they intended to say but did not), to correct any misinterpretations they found, and to add any new information that had emerged in the project since the interviews.

Results

Instructional Designer Interviews

Initial data reduction resulted in a matrix containing categories of interest including both positive and negative themes based on the original question format. Continued review identified additional themes and folded some into fewer categories. The resulting matrix was sent to the instructional designers for review and verification. Overall the resulting matrix provides a vivid picture of the issues the instructional designers found both challenging and rewarding throughout the process.

The information gleaned from the designer interviews is summarized for seven major areas: Faculty/Designer Interaction; Monitoring, Maintenance, and Evaluation; Course Management System; Resources; Designer Perspective; Instructional Design; and Instructional Development (see Table 1).

Positive and negative themes were documented for each category. In general, the interaction among the faculty members and the designers mutually increased knowledge and was perceived as effective. The monitoring, maintenance, and evaluation area demonstrated that the instructors were working in a reactive manner rather than a proactive manner. Thus, mainly due to limitations of time and resources, there was little formative or summative evaluation evidence. As experienced designers, they expressed concern regarding multi-platform compatibility, yet they did not have the equipment to test their materials in advance.

The course management system mandated by the University was described as helpful in its structure, yet limiting to innovation potential. The designers were able to work around these challenges in creative and inventive ways. Regarding resources, the designers were enthusiastic to have specialists (graphic artist and videographer) available. However, the logistics required to benefit from their expertise sometimes was inconsistent with the timeline for the courses. It was obvious that the instructional designers have a positive perspective regarding working on these courses and that they are enjoying their work. The instructional design of the courses was carefully planned through the use of Instructional Design Plans (IDPs). Regarding the instructional development, the designers are using a variety of tools and actively seeking new ones to fit the application. Overall, these seven areas provide a rich picture of the issues that produce both challenges and opportunities for online course innovation as experienced by instructional designers.
<table>
<thead>
<tr>
<th>Major Areas</th>
<th>Positive Themes</th>
<th>Negative Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Designer Interaction</td>
<td>• Encouraging Faculty skill development: content design and technology design</td>
<td>• Inability of faculty member to envision end product</td>
</tr>
<tr>
<td></td>
<td>• Encouraging each other to embrace new things/approaches</td>
<td>o Misconceptions about the complexity and time commitment</td>
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<td></td>
<td>• Effective collaboration</td>
<td>o Limited, sporadic timelines</td>
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<tr>
<td></td>
<td></td>
<td>o Scheduling</td>
</tr>
<tr>
<td>Monitoring, Maintenance, and Evaluation</td>
<td>• TAs (if available) review sites</td>
<td>• Lack of time to test materials before going live</td>
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<td></td>
<td>• Technical forum for students to post problems</td>
<td>o Lack of formal evaluation</td>
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<tr>
<td></td>
<td>• Test for multi-platform compatibility (although the resources for doing so are not easily accessible)</td>
<td>o Reactive rather than proactive</td>
</tr>
<tr>
<td></td>
<td>• Content is designed to be transferable to other systems</td>
<td>• Assessments (quizzes) are not transferable to other systems</td>
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<tr>
<td>Course Management System</td>
<td>• University-wide common course management system available</td>
<td>• Limited capabilities</td>
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<td></td>
<td>o Large testing base</td>
<td>• Problematic and unstable</td>
</tr>
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<td></td>
<td>o Best Practices shared</td>
<td>• Inflexible</td>
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<td>Resources</td>
<td>• Have access to technical support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Have access to specialists (graphic designers)</td>
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<tr>
<td></td>
<td></td>
<td>• Additional TAs needed</td>
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<td></td>
<td></td>
<td>• Software updates needed</td>
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<tr>
<td></td>
<td></td>
<td>• Response times</td>
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<tr>
<td></td>
<td></td>
<td>o Need better response from Academic Computing</td>
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<tr>
<td></td>
<td></td>
<td>o Timelines for getting specialists support hinder the probability of using the support</td>
</tr>
<tr>
<td>Designer Perspective</td>
<td>• Enjoy what they are doing (innovation, seeing improvements, variety, independence)</td>
<td>• Frustration with crunch time crises</td>
</tr>
<tr>
<td></td>
<td>• Enjoy collaborating with experts (team members and others)</td>
<td>• Feel their innovative potential is limited by the delivery system</td>
</tr>
<tr>
<td>Instructional Design</td>
<td>• Courses carefully planned</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Use of IDPs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Conducting audience analysis and technical analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Conducting instructional objective congruence analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Technology being used in novel ways</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Consistent strategies and presentation</td>
<td></td>
</tr>
<tr>
<td>Instructional Development</td>
<td>• Variety of tools being utilized</td>
<td>• ADA compliance not addressed</td>
</tr>
<tr>
<td></td>
<td>o Actively seek new tools for desired applications</td>
<td>• Innovation limited by band width and formats</td>
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<td></td>
<td>o Multi-media being incorporated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Multi-platform issues being addressed</td>
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Table 1: Positive and negative derived from instructional designer interviews.
Instructional Design Plan (IDP)

The primary purpose of the IDPs is to document the analysis for the course and provide a mechanism for communicating learning objectives, design strategies, and production schedules between the instructional designer and the course instructor. The instructional designers construct the IDPs based on preliminary syllabi from the courses and on-going discussions with the course instructors. Although individual IDPs differ slightly based on the content and the designer, they all cover the analysis, design, technical specifications, and production schedule of the course. The Analysis portion of the IDP consists of goals for the course, learning objectives, and audience analysis. The Design portion provides information relative to the instructional strategies, course structure, and specific tools (such as bulletin boards and chat) that will be implemented into the course. The Technical Specifications section covers aspects of both the development and delivery environments. The Production Schedule outlines the tasks, responsible parties, and due dates.

Currently, the IDPs have been examined from the standpoint of the design strategies implemented and the “innovativeness” of the strategies. A total of nine IDPs were reviewed. Within the IDPs, a variety of approaches was noted across the courses. From this review, two major themes emerged – an emphasis on collaboration and project-based learning. In every case, the design plans stipulated that students would engage in discussions (synchronous and/or asynchronous) and work in groups to produce projects related to the course objectives. Several innovative uses of technology were also noted – seven of the design plans explicitly mentioned narrated presentations, and several plans called for the implementation of video, either as an introduction ($n=7$), presentation of content ($n=5$), or student project ($n=3$). All of the courses were divided into several units, with related content, links, and assignments for students. Only two of the courses included activities with immediate feedback (e.g., computer-assisted instruction tutorials).

Future planned analyses with respect to the IDPs include an examination of the relationship between the information in the IDP and the course syllabus, as well as an investigation of the consistency between the content of the IDP and the actual course content and delivery. A checklist developed to document the course content will be employed in these auxiliary analyses.

Conclusions

The results of this study underscore the need for open, collegial relationships between designers and instructors. Both faculty members and instructional designers indicated that effective development and delivery of distance-learning courses is predicated on a close and collaborative working relationship. Although some of the challenges addressed in literature still remain, the processes and procedures put into place during the design and development of these courses alleviated many issues associated with moving to distance education. This collaborative approach is an example for others to follow as support of distance education becomes prolific.
References


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