Teaching Media Design in an Online Setting: A Needs Assessment

Florence Martin
Florence.Martin@asu.edu

James Klein
James.Klein@asu.edu

Ann Igoe
Ann.Igoe@asu.edu

Educational Technology
Arizona State University
United States

Abstract: This paper is a report of the needs assessment conducted among the current graduate students, past graduate students (professionals) and faculty of Arizona State University to find their views on the course "Instructional Media Design" being offered online. The needs assessment helps to identify the gap that exists between the actual and the optimal states of the course. Allison Rossett's purposes for needs assessment (Actual, Optimal, Feelings) are used in the surveys and interviews. Findings indicate that only 14% of the participants preferred a totally online setting for the course, more than 60% preferred a blended approach of online and classroom based learning.

Purpose:

The purpose of this presentation will be to present the results of a needs assessment conducted to examine students, professionals and faculties views on an Instructional Media Design Course being delivered online. The primary focus of the needs assessment was to obtain a clear vision of the optimal and actual state of the course.

Introduction:

Instructional Media Design (EDT 503) is a core course offered by the Educational Technology program of the College of Education at Arizona State University. Students in EDT 503 are introduced to various forms of media and media design principles through the use of text, audio, video, graphics and animation. The needs assessment was conducted to identify the gap between an actual classroom based course and the optimal course in terms of the best delivery method, content covered and skills learned.

Online learning is defined as any class that offers its entire curriculum in the online course delivery mode, thereby allowing students to participate regardless of geographic location, independent of time and place. (Harasim et al, 1995). Online learning has many advantages and some of them being convenience, flexibility, accessibility, and self-pacing. Efficient access to information is another characteristic of online education. (McComb, 1993)

Even as we have so many positive aspects of online learning, there also has been negative aspects of online learning. Participants can more easily procrastinate in reading and/or writing communications (Romiszowski and Jost, 1989). Another consequence of text-based communication is that online education is less responsive than face-to-face, potentially inhibiting expression and eliminating non-verbal communication (Garrison, 1995, Harasim, 1990). This can result in misunderstandings and lack of socio-emotional communication. Additionally, some participants may be hesitant to commit their ideas, experiences, and feelings to print. (Stacey, 1997).

Thus, there has been a lot of research that has been done on the positive and negative aspects of online learning. In this study, we decided to find our participant's views on developing the instructional media design course online and based on their recommendations on the advantages and disadvantages the course will be redesigned.

Method:

The participants or stakeholders in this needs assessment were mainly the students who have studied EDT 503 and instructors who have taught EDT 503. The Academic Program Leader of the Educational Technology Program and an instructor who teaches through distance learning were also interviewed. The non-human planning partner was the existing course material at ASU and similar courses offered at different universities.

Survey:

An online survey was distributed through the Educational Technology listserv at Arizona State University to find the student's and instructor's perception of an optimal course. Twenty current students, fifteen past graduates and three faculty members were surveyed using an online survey which was distributed through the Educational Technology listserv. Their perception of an optimal EDT 503 course was collected through the survey. The tabulation of the data collected is included in Table 1. There were four categories of questions (Delivery Method, Content, Skills and Feelings towards online 503) on the survey.

Interview Protocol:

Seven current students were interviewed in person using the student interview questionnaire, which comprised of ten questions. Each interview lasted about 10 minutes. Their attitudes and feelings about the current state of the course and their perception of an optimal course were collected.

Two instructors who have taught EDT 503 were interviewed. The interview was based on Allison Rossett's purposes for needs assessment (Actual, Optimal, Feelings). An instructor interview questionnaire, which comprised of eight questions, was used for the interview.

An instructor who is the Academic Program Leader of the Educational Technology program was interviewed to determine her feelings about making a core course an online course.

One of the experienced instructor's who has taught courses by distance education was interviewed for feedback on the strategies of distance learning and factors that are considered in the conversion of a classroom based course into a distance-learning course.

Observation:

The current EDT 503 class was observed to collect data on delivery method and interactivity. EDT 503 meets once a week for 3 hours. Most of the classes have either lectures or peer reviews scheduled. One of the classes (Week 10) was observed and information was collected on the interactivity in the classroom.

Extant data:

The existing course material at ASU was analyzed. The different textbooks used by the instructors and the syllabus of each instructor was examined. Similar courses from other universities (Indiana University, San Diego State University, Wayne State University and Syracuse University) were analyzed to find the course goals, the optimal content and the delivery method. Distance learning courses from ASU were studied with regard to the course structure, format and delivery method.

Results:

Survey of current students, past graduates and faculty:

Twenty current students, fifteen past graduates and three faculty members were surveyed using an online survey which was distributed through the Educational Technology listserv. Their perception of an optimal EDT 503 course was collected through the survey. The tabulation of the data collected is included in Table 1. There were four categories of questions (Delivery Method, Content, Skills and Feelings towards online 503) on the survey. The respondents had to rate the questions on a four-point likert scale (Strongly Agree =4, Agree = 3, Disagree = 2, Strongly Disagree = 1).

The data from the online survey suggest that only 14% of the respondents preferred entirely online education, 25% preferred exclusively face-to-face meetings, 30% preferred online activities with classroom meetings and 31% of the respondents preferred face to face meetings with online readings and assignments. Face to face with online readings and assignments were preferred by all the three groups of students (M = 3.30), professionals (M = 3.46), and faculty (M = 4.00). Entirely online instruction was least preferred by all the three groups of students (M = 1.56), professional (M = 1.50) and faculty (M = 1.00). Online activities with classroom meetings were ranked second and exclusively face to face meetings were ranked third by all the three groups. The graphical analysis of the responses of the three groups of audiences is represented in Figure 1.

In terms of content, *design principles of Print, CBT or Web-based screen design, Job aid* was rated very high with the total mean of 3.82, students (M = 3.85) professional (M = 3.73) faculty (M = 4.00). Audio, Video and Multimedia Instructional materials were rated high by professionals (M = 3.80). Games and Simulations were ranked lowest with total mean of 2.92, students (M = 2.75) professional (M = 3.13) faculty (M = 3.00). Message design principles were also preferred by all the three groups and it had a total mean of 3.45. The graphical content analysis of all the three groups is shown in figure 2.

In skills analysis, *Analysis of audiences* and *design and production of instructional media products* were rated high by the students (M = 3.50) and the professionals considered the *analysis of instructional problems* to be the most important skill (M = 3.79). The least preferred skill by both the student and professional categories were developmental skills students (M = 2.75), professional (M = 3.00) and a total mean of 2.89.

The respondent's feelings towards online EDT 503 were mixed. All the three groups agreed that if EDT 503 is delivered online it would help them stay current with technology, students (M = 2.70), professional (M = 3.27), faculty (M = 3.00). The fact that teaching EDT 503 online would create hardship for the student (M = 2.03) was rated very low.

To the open ended questions in the online survey, 6 out of the 38 respondents had mentioned the interactive aspect of the class and how the instructor, peer reviews helped in the design of the project.

	Weighted Mean			
	Student	**Professional**	**Faculty**	**Total**
Delivery Method				
Exclusively Face to Face	2.83	2.25	3.33	2.67
Face to Face with online readings and assignments	3.30	3.46	4.00	3.42
Online activities with classroom meetings	3.12	3.33	3.00	3.19
Entirely online (Class never meets face to face)	1.56	1.50	1.00	1.48
Content				
Media research related to learning theories, perception, principles and Instructional Design	3.30	3.40	3.33	3.34
Media selection models and approaches	2.95	3.50	2.67	3.14
Design principles (Print, CBT or Web-based screen design, Job aid)	3.85	3.73	4.00	3.82
Design principles (Audio, Video, and Multimedia Instructional Materials)	3.70	3.80	4.00	3.76
Games and simulations	2.75	3.13	3.00	2.92
Learning theory design guidelines	3.05	3.20	3.67	3.16
Message design principles	3.40	3.40	4.00	3.45
Website design and development	3.20	3.07	3.00	3.13
Skills				
Analysis of instructional problems in order to design effective instructional media	3.35	3.79	3.00	3.49
Analysis of audiences in order to design effective instructional media	3.50	3.60	3.33	3.53
Specify requirements, select, design, and evaluate instructional media	3.32	3.27	3.00	3.27
Design and produce instructional media products	3.50	3.27	3.67	3.42
Apply theory and principles of learning, instructional design, and perception	3.35	3.73	3.67	3.53
Analysis of instructional and informational media	3.30	3.40	3.33	3.34
Developmental skills for creating instructional materials	2.75	3.00	3.33	2.89
Designing instruction for diverse learner populations	3.10	3.33	3.00	3.18
Feelings towards the course being offered online				
Encourage faculty-student contact	2.32	3.29	2.67	2.72
Encourage student- student contact	2.37	3.29	2.67	2.75
Enhance student – content contact	2.42	3.21	3.00	2.78
Help students stay current with technology	2.70	3.27	3.00	2.95
Prepare students for the job market	2.63	3.07	2.67	2.81
Create hardship for the student	2.10	1.87	2.33	2.03
Put an unfair emphasis on computer literacy	2.35	2.00	1.67	2.15
It will be inappropriate for this course content	2.42	2.29	3.00	2.42

Table 1: Mean Analysis of participants ratings towards EDT 503 Online

Interview of current students:

Seven of the current students were interviewed using the ten questions from the student interview questionnaire. The students were interviewed about the current state of the course and their perception of an optimal course. All the seven students had taken the course using face-to-face classroom meetings. Six out of the seven students interviewed preferred to have a blended delivery method of face-to-face meetings with online readings and assignments. Five out of seven students interviewed considered the interactivity in the class as the best feature and expressed concerns about interaction if the course is redesigned to be an online one. There were suggestions to have a better text book, examples of good and bad project designs to be shown to the students in class, minimal number of projects to be assigned to the students and projects developed to a professional level.

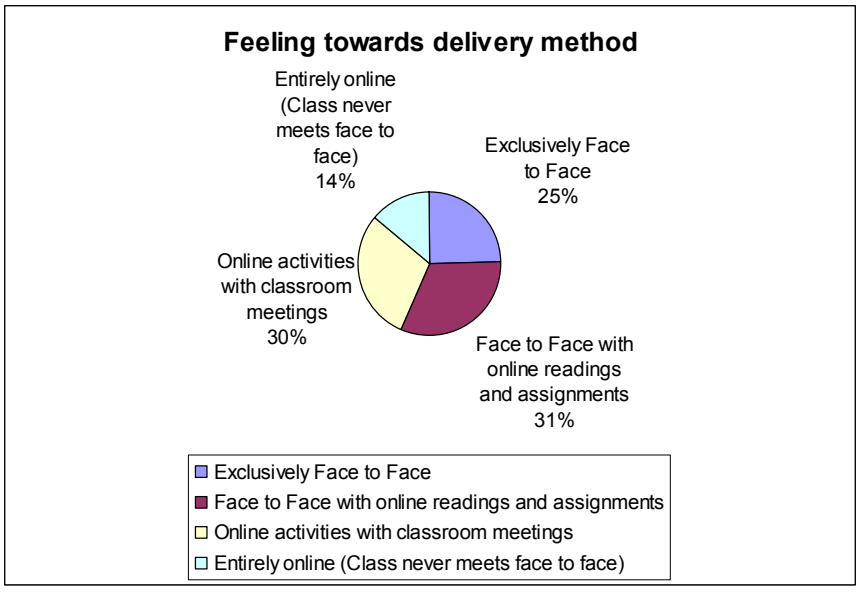

Figure 1: Feelings towards delivery method of EDT 503

Interview with the Academic Program Leader of the Educational Technology program:

The Academic Program Leader of the Educational Technology program was interviewed and the Academic Program Leader's feelings about making a core course online were noted. The Academic Program Leader mentioned that the students should have the same experience for a core course irrespective of the delivery method. The Academic Program Leader also hoped that the online instructional media design course would increase the enrollment rate in the program and would be a recruitment tool to get non-majors into the program.

Course materials:

The existing course material was analyzed. The different textbooks used by the instructors and the syllabus of each instructor who taught EDT 503 were analyzed. EDT 503 syllabus from the past three years was compared. Most of the instructors had similar objectives and taught similar content. It was also noted that one of the experienced instructors taught this course almost all the semesters except twice over the last three years. Slight changes have been made to the content over the three years. Video and video scripting had been removed and more importance

has been given to media selection models and media research related to learning theories. Most of the other topics remain the same.

The *Instructional Message Design* textbook (1993) by Malcolm Fleming and W. Howard Levie was examined. Students and instructors were not satisfied with this book as it seemed to be a bad example of teaching message design principles, though the book was rich in content. Other textbooks such as *Instructional Media and Technologies for Learning (2002)* by Robert Heinich, Michael Molenda, James D. Russell and Sharon E. Smaldino, *Non-Designer's Design Book* by Robin Williams and John Trolled, and *Creating Graphics for Learning and Performance (2003)* were analyzed.

These books were found to be with rich content. *Instructional Media and Technologies for Learning (2002)* by Robert Heinich, Michael Molenda, James D. Russell and Sharon E. Smaldino seemed to be a book which could be used in EDT 503.

Class Observations:

EDT 503 class meets once a week for 3 hours. They have lectures or project reviews scheduled for each week. The current class was observed on week 10 to collect data on delivery method and interactivity. A lecture was scheduled for the week on Games and Simulations. The delivery method was entirely face-to-face classroom delivered instruction. There was significant interactivity in the class between the peers and also with the instructor.

Similar Courses from other Universities:

Similar courses from other universities (Indiana University, San Diego State University, Wayne State University and Syracuse University) were studied in terms of course goals, optimal content and delivery method. The syllabi and course descriptions helped in the analysis of the content taught in the courses More than two of the universities had developmental skills taught in the media design course.

Distance learning courses:

Distance learning courses from ASU and also from other universities were studied with regard to the course structure, format and delivery method. EDT 523, a distance education course offered by educational technology program was analyzed. The course used the blackboard technology extensively, and the different features (discussion board, virtual chat, email) available in the blackboard enhanced interactivity within the classmates and with the instructor.

Interview with Distance learning Instructor:

One of the experienced instructor who has taught courses at a distance was interviewed for feedback on the strategies of distance learning and factors to be considered in the conversion of a classroom based course into a distance-learning course. According to the instructor, time, support and technical difficulties with infrastructure could be some of the constraints involved in a distance-learning course. The instructor mentioned that it would take double the time for development of the course and in order to be successful the whole course structure has to be changed from a classroom-based course. Directions for the distance-learning course should be written clearly. The

instructor suggested that the faculty member would be able to do better if they have gained experience in distance learning course design from an online workshop or from any course.

Conclusion:

The needs assessment was conducted to identify the gap between an actual classroom based EDT 503 course and the optimal course in terms of the best delivery method, the content covered, and the skills learned. Data was collected using the different data collection methods. Based on the findings outlined in the report, the following recommendations were made.

1. Preference for blended delivery (face to face meetings, with online activities and assignments)

An online survey was anonymously completed by students, professionals and faculty of the educational technology program at Arizona State University. Surveys included 38 respondents (20 students, 15 professionals, 3 faculties) and they identified that they did not prefer an entirely online delivery for EDT 503.

31% of the respondents preferred either face-to-face meetings with online readings and activities and 30% preferred online activities with classroom meetings. It is suggested that the course be redesigned as a blended course, with face-to-face meetings and online activities.

2. Course designed with interactivity

Most of the needs assessment findings stress on the importance of interactivity. Interviewees (students and faculty) and respondents to the survey stressed on the importance of interactivity during the instructor and peer reviews on the design and development of the projects. It is suggested that if the course is designed using a blended delivery method (face to face meetings with online activities), care should be taken to include interaction.

3. Content and Skills

From the collected data on content analysis it is noted that the importance of the different topics were rated in between agree and strongly disagree. Games and Simulation had a mean of 2.92 which was the lowest. Importance is given by all the three group members (students, professionals, and faculty) to all the content topics listed in the survey.

From the collected data on skills analysis it is noted that the importance of the different skills were rated in between agree and strongly disagree by the three groups. The developmental skills was rated the lowest at a mean of 2.75.

Based on the results, it is suggested that all the listed contents and skills on the survey be taught in the blended EDT 503. Developmental skills need not be taught as there are other specialized courses to teach the developmental skills.

Reference:

Garrison, D.R. Computer conferencing: the post industrial age of distance education. *Open Learning*, 3-11, 1997.

Harasim, L.M., Hiltz, S.R., Teles, L., & Turoff, M. *Learning networks: A field guide to teaching and learning online*. Cambridge, MA: The MIT Press, 1995.

McComb, M. Augmenting a group discussion course with computer-mediated communication in a small college setting. *Interpersonal Computing and Technology, 1*(3), 1993.

Romiszowski, A.J., & Jost, K.L. Computer conferencing and the distance learner: Problems of structure and control. *Proceedings of Helping Learners at a Distance: Annual Conference on Teaching at a Distance*. (pp. 131-137). Madison, Wisconsin: University of Wisconsin, 1989.

Stacey, E. Learning collaboratively online. *Proceedings of the 18th International Conference on Distance Education*. University Park, PA: The Pennsylvania State University, June, 1997