Effectiveness of Online Instruction

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In the recent years, there has been rapid growth in the use of web-based distance education. According to the National Center for Education Statistics (NCES), currently, about half of the institutions of higher learning offer distance education courses. Allen and Seaman (2006) reported that in fall 2002; approximately 1.6 million students were enrolled in at least one online class. The web-based courses are available in just about every area of instruction. There are also online teacher education programs throughout the US.

The Web-based technology has the potential to reach a large number of students who are geographically dispersed from the institutions of higher learning and from one another. Today' pressing demand and need for continued professional development makes online technology very suitable (Collins, Schuster, Ludlow, & Duff, 2002). The Web-based teaching and learning can occur at any time and at any place. The convenience and flexibility are two significant variables that add to the popularity of Web-based instruction especially with graduate students (Hofmann, 2002).

In Connecticut as in many other states, there is a critical shortage of special education teachers. The Connecticut State Department of Education has developed several strategies to resolve the current situation. One of the strategies focuses on the preparation of additional quality personnel. It is towards this end that we developed an online graduate program in special education. Our 30-credit program complies with the Connecticut Common Core of Teaching and with Standards established by the International Council for Exceptional Children. We are planning to offer this online

program in near future. One of the courses of this program, which provides introduction to special education and to teaching of exceptional learners, (EDU 582) is a required course for our graduate elementary, secondary, reading/ language arts, and educational technology programs.

In the spring of 2004, we decided to offer online version of this introductory special education course (EDU 582). The class was filled quickly. A total of 25 students, the maximum number allowed in a graduate class, enrolled for this course. As we offered the course, several questions came up about online instruction. We looked into the literature and found that research generally supports the finding that when compared with traditional university classes, Web-based instruction has few differences in the quality and satisfaction of learning experience as measured by student feedback and student scores (Maki, Maki, Patterson, & Whittaker, 2000; Tolmie & Boyle, 2000). Further, learning outcomes as measured by quizzes and tests indicate no significant differences between online instruction and face-to-face instruction (Johnson, Aragon, Shaik, & Palma-Rivas, 2000).

Caro, McLean, Browning, and Hains (2002), offered a collaborative online course in early childhood special education in Wisconsin. They measured the effectiveness of their course for students and faculty. They reported that their students believed that as a result of online course, their technology skills had significantly increased and that they had met all the course objectives. Faculty involved in the delivery of online course felt that the course helped them upgrade their technology skills and they were able to present current information to their students.

Bender and Fore (2002) transformed their five existing special education courses into online courses at a university in Georgia. All of the students enrolled in these courses met the course objectives in a timely manner. The faculty teaching these courses expressed satisfaction with their online teaching experience. However, the faculty did report that teaching in an online format involves more instructional time than teaching a traditional face-to-face class. The researchers concluded that online higher education offers learning opportunities similar to traditional face-to-face classes.

We were disappointed to find out that students are more vulnerable to attrition in online courses. Dixon (2001) has pointed to the critical role that social connections and interactions play, especially with the course instructor in the retention of students. For students to maintain a sense of academic self-forth, timely feedback is essential. If the timely feedback is not available, students lose self-confidence and become susceptible to withdrawing from the course. Gundwardena, Lowe, & Carabajal (2000) also found that the ongoing recognition of a learner's social presence in the learning environment was one of the most significant predictor variables for satisfaction with online learning.

We also found a lot of not so encouraging opinions about online instruction. A number of professionals believe that technology is a passive transmitter of content. And, online instruction is a sheer conversion of knowledge into a web page without any consideration for pedagogy. We also learned that there is a lack of research on students' perceptions of online instruction. We decided to ask our own students who were enrolled in our course, EDU 582, Teaching Exceptional Learners.

Methodology

Participants

Twenty-five students (N=25) enrolled in a graduate introductory online special education course at a small state university in Connecticut represented the sample for the research. Participants were from four different graduate level education programs offered at this University. There were 11 students from Elementary program, 5 students from Secondary program, 3 students from Reading and Language arts program, and 6 students from Educational Technology program. For 24% (n=6) of the participants, this was their first online course and the remaining 76% (n=19) of the participants had previously taken other online courses. The age range of sample members was 23-47 years. Eighty four percent (n=21) of the sample members were females and 16% (n=4) of the sample members were male. The range of graduate credits they had completed towards their graduation was 3-25 credits.

Course Description

We adopted *WebCT*, a course management system for the delivery of this course. The WebCT has several tools such as Assignments, Content Modules, Syllabus, Organizer Page, Discussion, My Grades, Mail, Quiz, and Chat that are instrumental in the delivery of online instruction. All the needed technical support services were available to the instructor and students.

The main purpose of this foundational course (ED 582) is to provide an introduction to the field of special education to students in the teacher preparation programs.   It briefly covers information about various exceptionalities, legislation, court

cases, assessment, educational adaptations, role of family, role of community, as well as current trends and issues in the education of individuals with disabilities. The required textbook for this course is: The Inclusive classroom: Strategies for effective instruction by Mastropieri & Scruggs (2004).

The course content was divided into 12 units. The content of each unit was presented in PowerPoint slides which were uploaded using Content Modules. Every week, students were to participate in asynchronous discussions with instructor and their class mates. The prompts for asynchronous discussions were developed on the basis of readings for the course. The course objectives were attained by readings, two online tests, threaded discussions, and three written assignments. One of these written assignments focused on simulation of a disability such as ambulatory and vision, another on research on significant topics/issues surrounding the disability of a student's choice, and the last one on the issues surrounding grading of students with disabilities in general education classrooms.

The WebCT tracking of students enrolled in the course indicated that 2100 hits were the maximum hits on the course Home page with 314 hits being the minimum during the semester. As far as the asynchronous discussions are concerned, the maximum number of postings read by a class member was 1313 with a minimum of 147 readings. The maximum number of postings by a class member was 198 with 21 being the minimum.

Instrumentation

At the end of this online course students responded to an online Likert-type questionnaire that had some short answer type question. The questionnaire was developed by the

principal investigator after a thorough review of the literature. The questionnaire was uploaded using the WebCT Quizzes and Survey tool. The responding to the questionnaire took 15-20 minutes of the class members' time. The responses were completely anonymous.

Towards, the end of the course, all students enrolled in online EDU 582 were sent an e-mail inviting them to participate in the survey. Non-respondents were sent additional two e-mails that requested them to participate in the study. The response rate was 100%

Findings

Analyses of data indicate that 68% of the respondents believed that they learned in this online class as much as they would have learned in a similar face-to-face class. They also felt that the quality of their online learning was comparable to the learning in a similar face-to-face class. Seventy two percent of the respondents reported that they valued getting to know the instructor of this online class and that they also felt adequately connected to the instructor. Seventy six percent of the respondents reported that they valued getting to know the other students enrolled in this online class. Sixty four percent of the students felt that they received adequate attention from the instructor and peers compared with a similar face-to-face class. Seventy percent of the respondents believed that their online interactions with peers were comparable to a similar face-to-face class. Seventy five percent of the respondents reported that in this online course, asking questions from the instructor was comparable to asking questions in a similar face-to-face class. Eighty four percent of the respondents reported that in this online class, they felt as motivated as they would have been in a similar face-to-face class.

Only 20% of the respondents believed that their academic achievement would have differed if this online class were offered in a traditional face-to-face format. Fifty two percent of he respondents believed that physical presence of the instructor and other students in a class is an important element in learning. Twelve percent of the respondents reported that their learning was hindered by technological aspects of online instruction. One hundred percent of the respondents agreed that online classes should be offered in the future. Lastly, the majority of the respondents believed that convenience and flexibility of online instruction made it extremely attractive.

Implications

The findings of this study have implications for online faculty and researchers. First of all, instructors teaching online classes need to be aware that the course content and course organization can have a considerable effect on the effectiveness of online instruction. In a traditional class, the instructor has almost all the control over the class organization. However, in an online class, this control is shared with the students. Sometimes, students are unable to locate the desired online materials. Also, they may not access and review the online materials in a sequence that the instructor would prefer or recommend. Additionally, the students may choose to skip the needed course content.

Secondly, there is research evidence that suggests that the students benefit from immediate feedback. However, if the online instructor is unable to provide that, the effectiveness of online instruction my get impacted. Since, this study investigated a graduate class; the findings of this study are limited to graduate online instruction only. Further, the sample size for the study is rather small. The reliability and validity of the survey tool is unknown at this time. And finally, in self-reports, the respondents tend to

give socially desirable responses. Despite, the obvious limitations, the study is

significant. It has investigated the effectiveness of online instruction as students perceive

it. The study has the potential to contribute to the literature on online preparation of

special education teachers who in turn would impact many lives.

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