

## INVESTIGATING THE EXPERIENCES OF ONLINE LEARNING: AN EVALUATION

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### Abstract

With the push to on-line courses by many universities, online degrees are becoming more prevalent. The University of Missouri is no exception. In 2002 an online course development committee was formed to address online learning within the college of education. In summer of 2001, three courses in the adult education master's program were offered in a web-based environment, with a substantial evaluation built onto the process. The preliminary findings are presented here.

### The Problem

Like many institutions of learning, the University of Missouri-St. Louis is on the cusp of full technology integration. Faculty and students have been on a fast track for learning and using Blackboard since its introduction a year ago as the course management tool for online content. Three colleges of five have missions to deliver online courses or academic programs. The online MBA is a hybrid of face-to-face seminars with online communication and course content by the College of Business Administration. The College of Nursing will launch an RN-to-BSN online program in the fall of 2001. The College of Education is in the process of developing online Masters' programs in Adult Education and Early Childhood Development. The focus of the evaluation study was on Education's online courses, specifically the Masters in Adult Education, in cooperation with the Office of Continuing Education and Outreach and Information Technology Services.

### Purpose

The purpose of evaluating these beginning efforts in online delivery of credit courses is to document the experiences of three key stakeholders: enrolled students, teaching faculty, and the administration of Continuing Education and the College of Education. Secondly, the areas of questioning and subsequent analyses will focus on improvement of the learning experiences for our online students.

Key evaluation questions determined by the process owners (Continuing Education and Outreach Associate Dean and the instructors) are: 1) Who are the students (learning styles and computing sophistication)? 2) How did faculty and students use the electronic learning environment? How did students know that they had been successful? 3) How did instructors know that they had been successful? 4) What did participants learn from their experiences? 5) What would they do differently in future online courses?

### Representative Studies

Since the advent of online programs is relatively new, the research is mixed in relation to the above questions. Recently one study found that the amount of time spent by instructors was not greater for online courses (DiBase, 2000). At the same time another posited that online teaching took a great deal more time (Visser, 2000). Another study on student perceptions found that students perform as well as, or even better, online (Navarro and Shoemaker, 2000). Yet perceptions of educators predict that the quality of education is substandard when delivered at a distance. The complexity of learning totally on the Internet has more variables than can be accounted for in one study, in fact for each study asserting one outcome, another finds a different or opposite outcome.

## Modes of Inquiry

Three discrete time periods were determined to administer formative and summative surveys among the participating students and faculty. In addition, feedback mechanisms will be put in place to gather formative data in order to make adjustments (i.e., continuously improve) throughout the semester.

Individual learning styles and computing experience (sophistication) were assessed using the Kolb Learning Style Inventory (Kolb, 1999) and a technology sophistication and use survey (Flashlight Student Inventory, 1997).

Week 2: June 25-29, 2001

*Technology Use Students Survey*

*Kolb Learning Style Inventory™*

Week 5: July 14-22, 2001

*How Are We Doing?* (Assessment of progress, possible improvements for instructor and technical support)

Surveys for students were developed and completed online. Randomly selected students, the teaching faculty, and identified administrators were interviewed by semi-structured interview near the end of the semester.

Weeks 8-9: August 6-17, 2001

*SS Course Assessment* (online)

Semi-structured Interviews

Specific questions in the surveys and interviews asked respondents to compare online delivery of course content with more traditional, face-to-face classroom settings, provide details about their computing and access capabilities, time commitments, and academic goals.

The end-of-course assessment included five tracks: *self-efficacy, technical requirements, time, verbiage, and course design*. The self-efficacy tendencies (as measured on a Likert scale) will be compared to the learning styles represented by our students. A "Quality improvement" team of students in one of the summer courses developed self-efficacy and course design questions to collect summative data. Another group of students are collecting ethnographic data by journaling about the online experiences." This interpretive text has yet to be analyzed, but will comprise an qualitative study within the larger study, and will be focused on the process, feelings and issues that the learners were not comfortable sharing with the larger group.

These preliminary findings will be analyzed further using reliability tests to determine sufficient alpha reliability, ascertaining internal consistency of the instrument.

We're going to ascertain levels of self-efficacy and we are going to correlate these levels with satisfaction perceptions using Pearson Product Moment Correlation. Moreover, we'd like to know what percentage of satisfaction variance is explained by self-efficacy and what percentage of frustration is explained by low levels of efficacy.

## Summary of Findings, Recommendations and Reports

### Technology Use Students Survey.

A formative survey conducted at week 2 yielded a preliminary count of certain learning tasks (i.e., discussions and work with other students, assistance given, communications with instructor, and applications made to "non-academic projects or activities). These questions were selected from the Flashlight™ Student Inventory (1997).

Table 1. Reported Times at Learning Tasks (Week 2 & Week 8)

Since this course began, how frequently have you:	3 + Times (%)	1-2Times (%)	None (%)
Worked on an assignment for this course with a group of other students	5 /(41)	33 /(20.5)	56 /(35)
Discussed the ideas & concepts with other students	43.5 /(79.4)	38.5 /(12)	15 /(6)
Assisted other students who ask for help with work	15 /(47)	36 /(29)	46 /(17.6)
Discussed what you are learning in this course with the instructor	13 / (38)	38.5 /(47)	46 /(12)
Applied what you are learning in this course to non-academic projects or activities	28 / (52.9)	38.5 /(32)	31 /(12)

Increased frequencies of student-to-student and student-to-instructor interactions. Students reported the frequency of times they engaged in group-work and in discussions with other students as well as discussions with their instructor, and the learning applications they had made to work-related or other projects, at the beginning and the end of summer session.

The most common learning tasks were discussions of ideas and concepts among the students; this is mainly accomplished through the use of topic-specific Discussion Forum. Nearly 80% (79.4%) of the students reported they had discussed ideas and concepts 3 or more times with one another by the end of class. Over half (52.9%) indicated they had applied what they learned to non-academic projects. Eighty-five percent of the respondents indicated they had discussed what they were learning with their instructor, at least one time (47%, 1-2 times; 38%, 3+ times) by the end of the course. There was an eight-fold increase in group-work reported from early on to the end of the summer session (5% at Week 2; 41% in Week 8 reported 3+ times). The critical interactions, student-to-student and student-to-instructor, "happened" in these online courses.

Early online learning experiences. Open ended questions asked: (1) What do you wish you had known before you signed up for an online course; (2) What problems have you had; and, (3) What have you learned so far about yourself or the online learning environment?

Major themes for "*Wish I Had Known*" included:

- How to use the technology, both Blackboard, the course management tool and student email
- Course requirements and how to be successful. Comments were "what exactly is required," "how self-directed the class is," and "the logistics of working as a team from a distance"

Major themes from "*Problems I've Had*" included:

- Getting into email; getting to My Gateway; finding my assignments
- Initial confusion with course requirements and assignments
- Keeping up with discussion threads
- Working with a team at a distance

Major themes from "*What I've Learned About Myself*" included:

- Learning preferences or styles, need more structure; gives me time to reflect, feel less inhibited, THAT I DON'T LIKE ONLINE CLASSES
- Better fit with life demands, such as "I like the freedom it gives me to get my work done and still be available for my family."

Computing capabilities and access. In the early survey, students were questioned about computing capabilities and access. In answer to a question about numbers of hours spent on a

computer per week, 61.5 percent reported working on an office computer, 10 or more hours, while 43 percent work on their home computers 10 or more hours per week.

The respondents comprised 10 males and 28 females. (Technology Use Survey, June 25-July 1, 2001).

#### Mid-course Evaluation

The second formative evaluation took place during week five. Additional questions sought out what students found helpful and what they would like to see improved in the online courses. The following "helpful" themes are listed in order of frequency: Time flexibility and convenience; Discussion among students; Fast, courteous teacher feedback; Ongoing communication; Information always there.

As for what they would like to see "changed," these students suggested: Reference manual or hands-on training for how to navigate the web course management system; More structure and clearly defined syllabus for the course; Strategies for participating in online discussions; No group work

Students ranged in age from under 25 to 56. The majority (54.5%) of online students were aged 26-35, 21% indicated ages 36-45, while 12% are aged 46-55. Those under 25 comprised 9%, and one person indicated 56 and older. (Formative Mid-course Evaluation, July 12-18, 2001).

#### End-of-Course Evaluation

Positive vs. Negative Reactions to an Online Course. Students were asked to respond to the following open-ended questions:

- (1) Describe both positive and negative reactions to this online course; and
- (2) Please provide any additional comments you feel would aid the instructors in providing a better course.

#### What Is Positive about Online Learning

The following quotes are taken directly from student responses. They represent the variety of reactions to online learning.

- The ongoing interactions among peers and instructor. The constant learning by reading everyone's opinions and points. I felt many friendships were made even though I have seen the faces.
- It was convenient, interesting, just about the right level of difficulty... enjoyed participating
- I LOVED it! Allowed me to work at my own pace and access computer at convenient (sic) times, such as midnight or 6 in the morning. With two children and both my husband and me working, this class worked perfectly with my schedule. THANKS for offering this course. Learned so much from classmates
- Diversity of viewpoints in response to the readings. Everyone was free to present themselves and their feedback to the readings in the way that was most comfortable to them
- I enjoyed setting time that was convenient to me for studying. I really enjoyed this class and would recommend it as a new learning experience not only for the material but because of the online learning process
- Since I live 20 miles from campus, this delivery method was very convenient. The online discussion board allowed for a much deeper reflection by the group on the reading assignments
- Accessing the computer and working at home was more relaxing and enjoyable.

- I enjoyed the group work but I think there should be specific time set up when everyone is required to be online at the same time. Sometimes I got responses to my question or comments and sometimes not. If everyone was online at the same time, I don't think this would happen.

### What is Negative about Online Learning

Some students expressed the following negative comments about their experience:

- Hard to keep up with chatty classmates. If you miss a day, you can count on 100 responses to read
- Discussion Board occasionally would not open for me. Another difficulty [was in] sending attachments or sending things to instructor via the Drop Box
- Technical Support needs to have people there that actually UNDERSTAND some of these problems, and can give some suggestions on how to correct them. It is NOT comforting to have someone say, "Well, I don't know what's causing your problem. I guess you'll have to figure it out on your end"
- Too many guidelines, vague directions, too many assignments at first [were] overwhelming
- Need time to get used to [online environment]
- Small-group project work was difficult, but not impossible
- Time spent waiting for group members to respond to discussion
- I spent more than 9 hours a week on the computer...2 hours every night and 8 hours on the Saturday and Sunday

Common themes emerged in these students' expressions of the negative -- technology not working correctly or their personal feelings of being overwhelmed and uncertain of their progress. Knowing and/or having realistic time expectations for what it takes to successfully complete an online course was also raised as a concern.

There was a strong call for knowing ahead of time technical requirements and have training and trouble shooting opportunities with UMSL technical support. Two basic problems involved use of the discussion board "options" to efficiently deal with the volume of postings and the process of uploading documents (both attachments to postings in the Discussion Board and files uploaded to the Digital Drop Box).

Structuring the web course site was also a potential improvement area. Where to place documents and how many of the features to use for these documents were suggested. How much material to reveal at any one time is a related issue for the instructors to consider in their structuring of the course site.

A need for specific "Help" documents or additional resource persons might increase the variety of ways to help students solve their individual problems or concerns. Instructors became attuned to being available 24x7, but perhaps identifying other resources could alleviate that load.

The evaluation team will continue to analyze the findings for implications regarding administration, instructional planning and management, as well as student support services for delivery of future online courses and academic programs by our university. Reports will go to the College of Education, Office of Continuing Education and Outreach, and the academic departments represented.

### Conclusions/points of view

Students struggled with the amount of work required to keep up in the online courses during a Summer Session. They reported that the actual amount of work far exceeded their expectations

at the outset. This was also true for the instructors. Students also needed to quickly learn navigation of the course web site, where to locate the various course documents, how-to-use the Discussion Board and how to upload their assignments to the Digital Drop Box.

Communicating the difficulties of working online, including the time commitment and the anticipated learning curves of using a new or unfamiliar web course tool would be a practical outcome of this study. One instructor launched a peer mentoring strategy -- she felt students might be reticent to admit their concerns and problems to her. The peer mentors did an undisclosed amount of personal counseling, but one of the three was conversant on the Discussion Board, helping with unfamiliar terms and with approaches she used in tackling the assignments.

In another course, the amount of time proved to be less than that of the classroom for the second instructor, but that could have been due to a number of factors, smaller class size, greater familiarity with computers, or course design.

A second course also facilitated by the second instructor, and designed in the exact same way, required an exceptional amount of time. However, that may have been due to the nature of the learners, (i.e., learning style, needs to bond as a group, or the amount of flexibility provided by the instructor).

#### Educational Importance

As more and more educational offerings will be presented on the Internet, it is important for educational institutions to realize the complexity of online education. The amount of variables involved with each of the questions that were asked in this study cannot be explained simply. The amount of evaluation still required on this study is indicative of the need for many further studies.

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