MSQA ON-LINE: AN INITIAL ASSESSMENT

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ABSTRACT

Southern Polytechnic State University's (SPSU) mission includes providing educational experiences to all of the citizens of Georgia. The Internet provides a mechanism for providing these educational experiences to all qualified students regardless of geographic location and ability to be in a specified location at a specified time. Beginning in the fall of 1997, SPSU began offering its Master of Science with a major in Quality Assurance on the Internet. As a pilot program within the University System of Georgia, the process was viewed as an opportunity to evaluate and assess the Internet as a medium for delivering a complete degree program via distance learning. The following paper discusses a variety of issues including program administration, curriculum development, and initial student/faculty reaction.

INTRODUCTION

The role of teaching is the transfer of knowledge and to date the most common form of learning was through apprenticeship. This one-on-one training is too labor intensive for the educational needs of modern society. The demand for higher education requires new instructional models to serve students at a reasonable cost. Traditional models of one instructor teaching a class of 30 students, a set number of times per week, for a set number of weeks, is too expensive to meet the increased demand. The modern University has evolved into an institution, which controls all aspects of learning. Faculty members have become accustomed to dictating what will be taught, how it will be taught, and where it will be taught. Students must travel to the campus to learn. Fundamentally there is a need to shift from a teacher-centered environment to a learner-centered environment. A major challenge to the education profession is letting go of the assumption that educators are the receptacle of knowledge in today's world.

It is widely believed that the Internet may become the dominant medium of information transmission. It would be logical to conclude that the Internet may be the mechanism by which Drucker's prophecy is realized. In order to test this hypothesis, SPSU's Master of Science degree with a major in Quality Assurance (MSQA) was authorized in July of 1997 by the Board of Regents of the University System of Georgia to serve as the Pilot Internet Degree Program for the entire Georgia system. The program began Internet operation during the fall quarter of 1997. The following paper discusses a variety of issues including program administration, curriculum development, and initial student/faculty reaction.

PROGRAM STRUCTURE

The Industrial Engineering Technology department at SPSU began offering the MSQA in 1991. The program was initially developed to address the response from the professional community for a degree that addressed the needs of the practicing quality professional. As such, the curriculum was developed and the program was structured so that the practicing professional could take one course a quarter and finish within three years. The response of the community was positive and the program rapidly grew to approximately 100 students.

When it was proposed to offer the degree via distance learning on the Internet, the decision was made to maintain the program's initial structure so that it could be completed within three years. As such, the curriculum includes nine semester courses on the following topics:

- Total Quality
- Quality Systems Design
- Statistical Quality Control
- Inspection System Design
- Research Methods
- Quality Cost and Supplier Evaluation
- Process Analysis
- Advanced Statistical Methods
- Training Methods

All of the courses except for the research methods class are available on the Internet. In addition, a variety of courses are offered each term. The research methods course requires the student physically visit the campus for two weekend sessions with the MSQA faculty. The intent is to provide the faculty an opportunity to evaluate the students academic progress and performance in person.

PROGRAM ADMINISTRATION

Students participating in the MSQA on line program are considered to be exactly the same as the students participating in the on campus program. No distinctions are made in entrance requirements. Students may mix and match Internet and on campus courses. Upon being accepted in the program students are advised as to which courses they should take. Typically students are encouraged to initially take only one class their first term in the program. However, many elect to take two courses per term in subsequent terms in their desire to complete the degree program as rapidly as possible.

INTERNET COURSE STRUCTURE

A key aspect of the development of the Internet courses was to ensure that the courses were equivalent to the on campus courses but tailored to cyberspace. It was recognized that in front of the computer, students are challenged to be active learners and actually participate in the learning process, rather than passively absorb information dictated by faculty members. It was realized that, as Diana Bilimoria stated in *The Journal of Management Education*, "Educators now face the challenge of moving beyond conceptualizing themselves as disseminators of knowledge based expertise to facilitators of knowledge criteria: to shift learning centered education for the information age." (1) Today's students are more visual learners than those of previous generations due to the vast stimuli offered in our everyday lives. Today's students are members

of the digital generation and have spent their early lives surrounded by electronic media. These students thrive on interacting with the technology and are inclined to plunge in and learn through participation and experimentation. It was only fitting for the faculty to design learning experiences that fit the student and the medium of instruction.

Each course was designed around a standard structure for its individual home page. It was decided that, in order to make the student become an active learner, the information provided would be sufficient to direct investigation, but not so detailed as to tell the student everything about the specific topics. With this in mind, written assignments were developed for each course which encouraged students to explore both their required texts and the world wide web with the goal of having them weigh evidence, judge authenticity of data, compare different viewpoints on issues, analyze diverse sources of information and construct their own understanding of the topic or issue at hand. These written assignments were presented to the faculty who would critique not only the answers, but also the thought process and ask additional questions of the students based upon the students' writings. A chat room was utilized to electronically discuss student papers with the student and to follow up on issues and questions.

A chat room provided an opportunity for the students, faculty, and various invited guests to electronically interact. Discussion topics would be provided to the students prior to scheduled chat room sessions. The intent was to elicit student opinions related to a specific topic. Students responded to each other's statements as they were posted in the chat room. In addition, the chat room was used to discuss various case studies. The case studies were also distributed prior to chat room sessions and student groups were assigned to formulate answers to the proposed questions. This led to small group use of private rooms within the chat room.

ASSESSMENT

As this paper is being prepared the first MSQA Internet course has been completed. Evaluation of the Internet experience centered on four major topics:

1. Computer/Technical/Internet
2. Course Structure
3. Chat Room
4. General Impressions

The instructor has developed impressions for each of these areas. Each student in the initial Internet class also was surveyed for their evaluation. A wide variety of conflicting observations were expressed by the students.

Regarding technical issues several items stand out. First, the students are not as knowledgeable as they think they are. Second, the ability to perform basic tasks such as send and receive email messages, send and receive files, and participate in the chat room depends upon the student and faculty member's Internet service provider (ISP) and the compatibility of the different systems. For example, some systems encoded files and others did not. Problems some providers, such as AOL have had with email are legendary. The ability of the SPSU system to handle large student files (such as PowerPoint project presentations) was limited. Numerical results showed relatively high scores for the computer literacy of the students. However, an area of weakness which

should have been identified was the actual typing ability of the students. This deficiency was very evident during the chat room sessions.
Representative student comments regarding the technical elements are presented below.

- I am still having problems decoding some messages. I don't understand why I can decode some message and not others.
- There are several times I attempted to open the home page and received an unauthorized user message.
- My computer knowledge has increased dramatically. I had some trouble with (my ISP) at the beginning of the class but eventually the problems were resolved.
- Most of the technical issues I experienced were the fault of my IS group.
- Would like to see chat room discussions archived.
- A contact at SPSU for technical issues would help.

In general the course structure was viewed as very appropriate. Students were not pleased with a group project assignment, but primarily for the reasons that group projects always are subject to criticism. Students found it difficult to communicate with team members long distances (in some cases thousands of miles) away and some of the students felt that their partners were not up to the task. The presentations submitted were of comparable quality to the ones prepared by on campus students. The opinions concerning feedback on student assignments were divided. The majority of the students found the feedback to be very helpful. A minority of students did not share this view. Some felt they did not understand the instructors comments or that they disagreed with the grade based on the instructors comments. It is useful to point out that of approximately 200 graded written assignments during the course, only one student on one occasion requested clarification of a comment. Student workload was generally viewed as appropriate. Too often when the answers to the written assignment's questions were not obviously in the text, the students would not stretch and do any additional research. Several times written responses were of the nature, "I don't know about this topic so I won't/can't answer your question." Representative student comments regarding the course structure are presented below.

- I was not pleased with the group project idea. I think that if someone is looking to work with others that they shouldn't be taking a class from their living room on the Internet.
- The module required a lot of work. Electronically the group project was rough.
- I was overwhelmed by the amount of time I had to spend on the assignments.
- Not as much feedback on written assignments as I would have liked.
- Completing my project with my team members forced me to learn more computer and Internet skills.
- I feel more lecture time is needed instead of having to teach yourself and ask questions.
- The course structure was flexible and still required the right amount of student time and energy to master the course work.
- I found the course forced me to clarify many of the things I already knew. I had to reference my work and thoughts.
- I spent a lot of time completing my assignments and enjoyed every minute.
- Felt very alone in the course.

The chat room is the mechanism that differentiates the Internet course from a correspondence course. The chat room provides an opportunity for student-faculty and student-student direct communication. The chat room also presented a special technical challenge. Most chat rooms are maintained by individual ISP's. The instant appearance of comments is possible because everyone participating is on the same system. Within the 29 students enrolled in the initial course over twenty different ISP's were involved. This required the development of a chat room that could be accessed by all of the students. In order to accommodate this the available technology requires students to refresh their screens regularly. Also, due to different typing speeds, the sequence of questions and answers was not and cannot be linear.

Observations on the chat room from the teaching side are laced with frustration. Due to time zone, work requirements, and Internet availability (home vs. work) it was difficult to get a significant number of students involved in discussions at any one time. It was also difficult to get many of the students to participate. As in the traditional classroom, many students were content to sit and watch and would not even respond to a direct question. Future courses need to give particular attention on increasing the effectiveness of the chat room. Specific recommendations will be for faculty to meet regularly with students one on one and to force small group discussions.

Student reaction to the chat room was mixed. Although the discussion did not support the findings, students did find the case studies useful. The majority of the students did think one-on-ones with the instructor would be worthwhile, although several students were opposed. (Anecdotally it is interesting to note that the student who complained most vocally about lack of feedback on written work also saw no value in meeting one on one with the instructor to discuss written work.) Students also expressed concerns about the actual scheduling of the chat rooms. Representative student comments regarding the chat room are presented below.

- Having to refresh was a pain.
- Want the instructor to make weekly presentations.
- I would like to see more one on one.
- Please schedule chats for the entire term at the beginning of the term so that I can schedule.
- I could never make a chat room due to time conflicts.
- The chat room was a good interaction between the student and the professor.
- The chat room improved significantly after the first few experiences. Expert guests were outstanding.
- I did not like it. I have never used a chat room before. I only went one time.
- Conversations need to be accessible all the time.
- I think the chat room could have been used more by students to make it more useful.
- Our project group used the chat room and found it helped us out tremendously.
- Wish we had more chat rooms.

In general the first MSQA course on the Internet was a positive experience for the instructor. It was time well spent and the concept of the pilot program gave formal notice that the development of the program was to be a learning experience. Seventy seven percent of the students indicated that they were planning on taking all of their courses on the Internet. The overwhelming reaction was that the time required and the workload were appropriate for a

graduate level course. Representative student comments regarding the general nature of the course are presented below.

- I really learned a lot. I LOVE the Internet format. I would not be able to take these courses if it were not for this option. I feel that this course was well worth the money.
- I hated the Bounds book and liked the TQM and HR book.
- I hated the TQM and HR book and loved the Bounds book.
- The course has been very interesting and taught me a new way of learning. I feel that I learned a lot in the course.
- Make sure the students are prepared for the Internet before you permit them to enroll in the program.
- Still some bugs to work out, but overall it has been good.
- I need the structure of the classroom for my style of learning.

CONCLUSION

There is still a great deal to be learned about the use of the Internet as a medium of instruction. Following new developments and incorporating them into evolving professions is vital to advancement. (2) The Internet offers flexibility so instructors can enhance responsiveness to student needs. With Internet education, teaching and learning are freed from classroom and class schedule boundaries. Traditional lectures can become multimedia presentations for students offering a new type of learning experience. The World Wide Web can help us to re-focus our Universities from teaching to learning. (3)

Five years ago most people had no idea what the Internet was or what it might be. The most fitting conclusion to this interim assessment is a quotation from the eminent philosopher, Yogi Berra. He said, “The future isn’t what it used to be.”

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