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Developing a Web-Based Course Model at an Urban University

Introduction

In 1997, Hunter College offered the first Web-based course in the City University of New York (CUNY). This graduate course, entitled *Organization and Administration of the Public Schools II - The Principalship*, was offered as part of the Education Administration and Supervision (ADSUP) Program in the School of Education. Funded by the Alfred P. Sloan Foundation, this course was intended to serve as a model for other courses at Hunter College and CUNY. Since 1996-1997, faculty in the ADSUP Program have converted a number of their courses into the Web-based, asynchronous learning network (ALN) format and students can now finish the majority of their program online. In addition, as part of the CUNY Online Program, hundreds of faculty throughout the University now use pedagogical techniques developed originally with this model in Web-based learning courses. This paper will present an overview of the model, its evaluation, and continuing evolution. This model may be of special interest to faculty in education and other professional programs particularly those in an urban environment.

The Setting and Academic Program

City University of New York is the largest urban university in the United States with an enrollment of approximately 200,000 (headcount) students in regular college programs and another 150,000 in continuing education, contract, and grant funded courses. CUNY traces its beginnings to 1847 with the creation of The Free Academy. Hunter College, founded in 1870, is the largest of CUNY's twenty colleges, with an enrollment of approximately 20,000 (headcount) students. Hunter College is comprised of four schools in Arts and Science, Social Work, Health Sciences, and Education.

The Education Administration and Supervision Program is housed in the School of Education and is a thirty-credit graduate program leading to New York State certification as a school administrator. New York State requires a minimum of eighteen graduate credits plus an internship to be certified for any K-12 school administrator position. The program at Hunter requires twenty-four credits (eight courses) plus a six-credit internship. Web-based courses have been offered in this program since 1997, and students can complete a majority of the coursework for the program online.

The Students

To enroll in the graduate program in Education Administration and Supervision at Hunter College, all students must have at least five years of teaching experience and earned masters

degrees. More than 80% are women. Approximately 25% are students from minority groupings. Almost all of them pay their own tuition which for some is a financial burden. Some students have made the decision to attend classes rather than take on a second job as coaches, tutors, or other after-school positions. Approximately 80% percent of these students work in New York City public schools while the remaining 20% work in private schools or in public schools outside of New York City. For the past ten years, the program has maintained an enrollment of 100 to 125 students, almost all of whom are part-time. Because of funding and a desire to insure academic quality, the enrollment in the program has been limited.

All of the students are education professionals already certified as teachers by New York State. They are dedicated to their profession and are expending enormous energy in improving their skills and abilities in order to become school administrators (principals, assistant principals, directors of programs, etc.). New York State, as does most states, requires a graduate program for individuals to become certified as school administrators. These students represent a group of self-starters who are conscientious and view their studies as vehicles for professional growth and advancement. They recognize the importance of technology and almost all of the program's enrollees have access to computer and Internet technology either in their homes or in their schools. Many of these students are professionally curious about an alternative pedagogical experience such as asynchronous learning using the Internet and other current technological tools.

All of the students are commuters who balance full-time jobs, families, parenthood, and higher education in a carefully planned day which includes rushing for subways and buses to meet the next commitment. They are a mature group who organize their daily lives around lesson plans, making sure their children get to the baby sitter or day care center, maintaining a home, and when time permits, completing home work assignments. Offering a Web-based ALN program to them that can be taken at anytime or in anyplace has a good deal of appeal. They are able to fit their graduate studies into their busy lives and eliminate the need to travel several times per week to the College. These students typify the mature, self-directed, and busy "students" who can take advantage of and benefit from this form of instruction. As experienced teachers, they are also attuned to pedagogy and provide valuable insight into an evaluation of the instructional components of the model

The Instructional Model

A completely asynchronous instructional model is used for course delivery via a course Web site utilizing the BlackBoard course management system (CMS). Originally LISTSERV software combined with custom-developed Web pages were the main software components of the model. However, with the acquisition of BlackBoard in 2000, all of the online courses in the program migrated to this CMS environment.

An underlying framework for this model is student-centered learning (see Figure 1). The model assumes that the students in this program are all adults who bring knowledge and experiences upon which the instructor can build through course readings, discussions, and

other instructional activities. The instructors in the Administration and Supervision Program have adopted this model based on the maturity level of the students and the fact that all of them are experienced educators and use it in traditional face to face courses as well. The basis for the framework is founded in experiential learning (PIAGET, 1952), constructivism (VYGOTSKY, 1978) and, andragogy or adult learning theory (KNOWLES, 1978). Malcolm Knowles posited that adults learn differently than children and that programs directed to them have a different purpose. Adult learners, whether they seek an education that they were not able to pursue earlier in their lives, or wish to enhance their professional skills, or want to satisfy their curiosity about some subject, are different than children. Programs for adults should be designed for students who have made decisions regarding careers and occupations, who are spouses and parents, and who live within an adult social context. Knowles recommends taking advantage of the knowledge that adults have acquired during their social and professional lives.
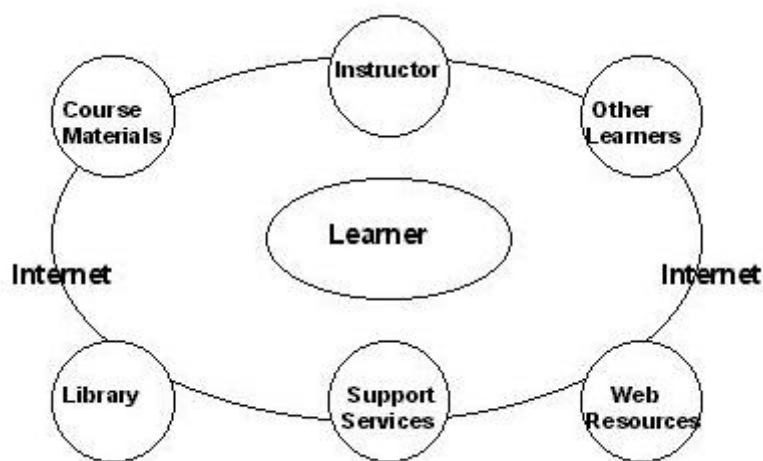

Figure 1. Student Centered Learning

The course model is organized into weekly themes and topics. The Web site for the course includes a syllabus, reading assignments, weekly discussion topics and questions, supplementary reading material, and related links. These materials are always available and serve as the organizational anchors for the course. The model assumes that interaction among students, instructor, and content are critical for effective learning. As a result, each topic serves as the basis for an asynchronous discussion on an electronic discussion board during a specific week and is based on assigned readings and case studies. Several students are selected each week to work with the instructor as discussion facilitators. The use of students as facilitators is designed to encourage them to be active contributors and to take responsibility for their learning. Once the discussion of a topic commences, any student can contribute to the discussion, ask a question of another student or the instructor. At the end of the week's discussion, the instructor summarizes the topic, adds additional notes and comments, and posts these to the Web site for access by the entire class.

Evaluation of the Model

Since first offering online courses in 1997, the faculty in the Administration and Supervision Program has carried out a number of formative and summative evaluation activities. A basic assumption of the evaluation of the model is that multiple measures need to be used and where possible repeated over time. The following are examples of some of these activities.

Student Satisfaction

In Spring, 1997, data on student satisfaction with their learning experiences were collected using a student satisfaction survey administered at the fifth week and again at the fourteenth week of the semester. The survey asked a series of questions regarding student experiences while taking an online course in comparison to traditional face-to-face courses. The survey was administered twice to determine if there was any change in student satisfaction during the course. In the data provided in Table 1, responses were based on a five-point Likert scale where 1= decreased, 2 = somewhat decreased, 3 = no change, 4 = somewhat increased, and 5 = increased. A sample question was: "In comparison to a traditional class, in this course the quantity (or quality) of interaction decreased -> increased?" The means of the student responses to the items are summarized in Table 1.

Survey Item	5th Week	14th Week	Total
Amount of interaction with other students decreased/increased	4.12	3.88	4.00
Quality of interaction with other students decreased/increased	4.29	4.29	4.29
Amount of interaction with the instructor decreased/increased	3.82	4.06	3.94
Quality of interaction with the instructor decreased/increased	4.06	4.41	4.23
Quantity of your learning experience decreased/increased	4.06*	4.64*	4.35
Quality of your learning experience decreased/increased	4.41	4.53	4.47
Motivation to participate in class activities decreased/ increased	4.35	4.47	4.41
Overall Experience - poor/excellent	4.41	4.70	4.56

*Statistically Significant Difference at the .05 Level

Table 1. Student Satisfaction with the Course - Mean Responses (N=17)

The data in Table 1 indicate that a high level of student satisfaction with their learning experiences was present at both intervals (fifth and fourteenth weeks). With the exception of the

"quantity of your learning experiences" students were consistent in their responses on all questions. The "quantity of your learning experiences" was the only question that had a statistically significant difference in Week 5 compared to Week 14. One interpretation of this difference was that after fourteen weeks, the students were exposed to significantly more material than after five weeks and hence the "quantity of learning experiences" increased. The last item in this table "Overall experience - poor/excellent" indicates that students' overall satisfaction with the online course was high at 4.56. Responses to this question were based on: 1=poor, 2=satisfactory, 3=good, 4=very good and 5=excellent.

The student satisfaction survey has been administered in every online course offered in the program since 1997. Figure 2 provides a graph of the student responses to the question relating to their "Overall Experience - poor/excellent" for online courses offered between Spring 1997 and Spring 2001. Responses indicated that student satisfaction was rated high (between 4.00 and 5.00) throughout the period.
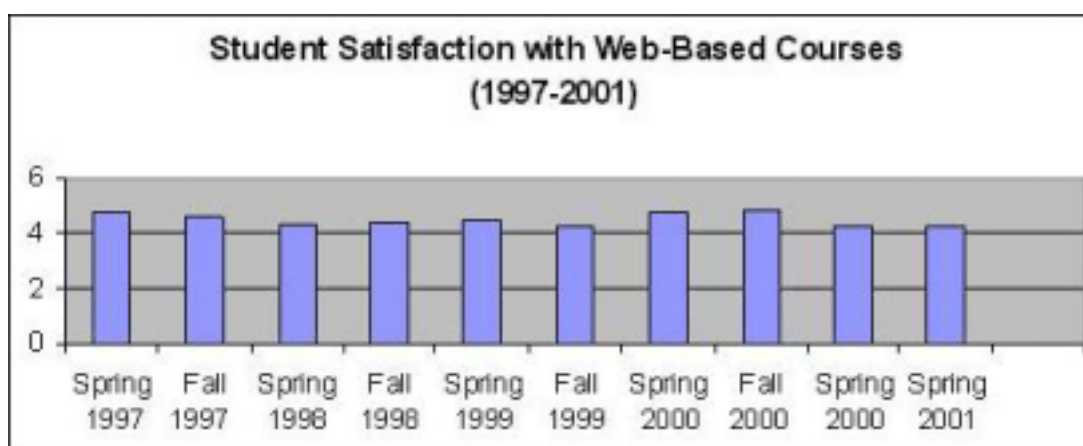

Figure 2. Overall Satisfaction with Online Courses - 1997-2001
(Scale 1=Poor/5=Excellent)

Student Performance

In Fall 1997, as part of the second asynchronous learning course (ADSUP 701) using the model described above, a quasi-experiment was conducted with students from another section of the same course taught in traditional mode by the same instructor. A two-week school law module on Brown v. Board of Education of Topeka, Kansas was conducted in both courses during the same period. In the traditional course section, the instruction was centered on a multimedia presentation using video clips from the award-winning *Eyes on the Prize* documentary series produced by the Public Broadcasting System (United States). In the asynchronous course section, the same content was covered without any multimedia presentation but using additional text-based materials available on the World Wide Web.

At the end of the two-week module, both classes were given the same assignment to write a short (3-5 pages) essay on the relevance of the Brown Decision to education in the 1990s.

These papers were graded blindly by an outside evaluator who did not know any of the details of the experiment. The evaluator was asked to give a numerical grade for substance as well as for writing ability. The mean grades for the traditional class were 91.27 (Substance) and 92.90 (Writing Ability). The mean grades for the asynchronous class were 93.38 (Substance) and 95.0 (Writing Ability). A One-way Analysis of Variance indicated that there was not a statistically significant difference for the means for any of the grades. In this quasi-experiment, it was concluded that student performance using asynchronous learning was comparable to student performance in a media-rich traditional learning environment.

External Evaluation

Hunter College requires all academic programs regardless of delivery mode to be evaluated on a cyclical (every five to seven years) basis. During the most recent evaluation of the Administration and Supervision Program in Fall 2000, three external evaluators were asked to evaluate plans for expanding our online program by responding to the following questions:

> *Does the asynchronous learning aspect of the program contribute to the learning curve of these future administrators?*

> *Would a completely on line program enhance or inhibit students' learning?*

The responses of the three evaluators were generally positive and indicated that with careful planning and monitoring the online component of the ADSUP program could and should expand. A sample of their comments follows:

> *"The fact that the 3 full time instructors are using technology as a teaching tool is a strength. Modeling effective use and knowledge of technology with students is a way to reach more students and teach students different modes of instruction. Students see their teachers using, not just talking about technology in teaching... It is important to analyze on a continuous basis, the positive and negatives of teaching each individual course through [online] technology. I encourage you to continue thinking about where it is a strength and where the face-to-face interaction is essential in developing a successful school leader."*
> -- Evaluator No. 1 (From California)

> *"This [online learning] is a strong aspect of the program. It will have an even greater value when the mapping is completed and there is a stronger assessment profile of incoming students.*

> *A full on-line program is another avenue of services offered by the Administration and Supervision Program. The kinks will have to be worked out first. For example, who will assess and supervise these students? How does one overcome the face-to-face interaction? How do these on-line graduates compare to traditional graduates?"*
> -- Evaluator No. 2 (From New York)

> *"The technology component of your program has great merit. The business of schools is both "high tech and high touch." Many interactions that take place in a class designed to promote meaningful dialogue cannot be replicated on line at this time. [Technology] program enhancements, tutorials, chat rooms on topics of interest appeal to some, but not others."*
> -- Evaluator No. 3 (From Connecticut)

The comments from the three external evaluators were shared with administrators at Hunter College and the City University of New York. As a result of these and other evaluation results, a decision was made to seek formal approval from the New York State Education Department for approval of the online component of the Administration and Supervision Program in Fall 2001. New York State has a policy which requires any academic program in which more than fifty percent of the course work can be taken in a distance learning mode be separately reviewed and approved.

Formative Evaluation

The results from the above activities have been used for both summative and formative evaluation purposes. Where necessary, components of the model have been adjusted and fine-tuned. For example, students have voiced concern about the amount of work involved in reading and responding to colleagues' comments in an online course especially if enrollment is high. As a result, enrollment limits for online courses in the program are set at a maximum of twenty students.

While readily available in the BlackBoard course management system, the use of synchronous (chat) activities has been used sparingly in online courses since most students have consistently indicated that they prefer the freedom and convenience that the asynchronous nature of the courses provides.

Multimedia has been used sparingly as well because students do not have access to high-speed modem connections. However, it is anticipated that in the not too distant future, voice and video will become a more integral component of most of the online courses.

Conclusion

In Spring, 2002, the Administration and Supervision Program at Hunter College was the first program in the City University of New York formally approved by the CUNY Board of Trustees and the New York State Education Department to offer a majority of the courses in the program in an online mode. As a result of curriculum mapping completed in Spring 2001, the faculty in the program decided that two of the required courses will be offered only in traditional face-to-face mode. The remaining required courses including the internship experiences, as well as several elective courses can now be taken online.

While it is still a bit too early to determine how many students will complete the majority of their courses online, indications are that some will do so. Most students in the program now request and enroll in at least one or more online courses. Overall enrollment in the Administration and Supervision Program has also increased. Some of this increase is attributable to the availability of online courses.

This paper suggests that the development of an online course model and the expansion of courses into a program should be an evolutionary rather than a revolutionary process. Multiple evaluation techniques were described to adjust and fine tune the course model over time. The results of this activity were shared with colleagues at the City University of New York and other colleges and universities. While presently online courses are becoming commonplace throughout higher education in the United States, there will still need to be careful evaluation of online teaching techniques. As the technology changes, as it surely will, so will the need to examine and evaluate online course delivery. It is highly recommended that faculty teaching online and planning to expand their course offerings in this mode, carefully evaluate what techniques work pedagogically and what needs to be adjusted or improved.

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