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IDENTIFYING THE ATTITUDES OF ROWAN UNIVERSITY'S
COLLEGE OF EDUCATION GRADUATE STUDENTS
TOWARDS WEB-ENHANCED COURSES AND
THE USE OF WEBCT

by
Kathy J. Cyliax

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
May 1, 2003

Approved by _____
Professor

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ABSTRACT

Kathy J. Cyliax

**IDENTIFYING THE ATTITUDES OF ROWAN UNIVERSITY'S
COLLEGE OF EDUCATION GRADUATE STUDENTS
TOWARDS WEB-ENHANCED COURSES AND
THE USE OF WEBCT**

2002/03

Dr. Marilyn Shontz

Master of Arts in School and Public Librarianship

Many important issues need to be addressed in order to implement distance education programs successfully. In order to evaluate the effectiveness of using technology for course delivery, the attitudes of the students participating, must also be considered. The purpose of this study was to identify the attitudes of a sample of College of Education graduate students at Rowan University in order to understand their acceptance of or resistance to Web-enhanced courses and the use of WebCT as an instructional delivery tool. Surveys were delivered to 24 professors in the College of Education, who used WebCT as an instructional tool, to be distributed to graduate students at the end of their Fall 2002 courses. A total of 155 completed surveys provided the results. The survey results indicated that 59% of the College of Education graduate students and 48% of the School and Public Library Program graduate students said that they would rather take a course that used WebCT than one that did not. However, the students indicated a need to address the following issues: server technical problems, student training on WebCT, professor training on WebCT, and the need for the University to continue to provide both Web-enhanced and traditional courses.

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CHAPTER I

INTRODUCTION

Distance learning, is not a future possibility for which higher education must prepare—it is a current reality creating new opportunities and challenges for educational institutions. It is a reality offering students additional choices in where, when, how, and from whom they learn, and a reality making education accessible to a greater number of people. Distance education is defined by the National Education Association (NEA, 2000) as courses that have instruction taking place when students and faculty are in different locations. This asynchronous type learning allows students to work according to their own schedules, providing tremendous flexibility. During the past several years, there has been a dramatic increase in the number of colleges, universities, and other providers offering distance education courses, workshops, and programs.

The National Center for Education Statistics (NCES) of the United States Department of Education (USDE) released a recent national survey on distance learning in higher education. This report indicated that from 1997-98, almost 44% of all higher education institutions offered distance-based courses, an increase of one-third since 1994-95. During the same period, the number of distance courses and enrollments doubled (National Center for Education Statistics, 1999). Many observers believe that this growth is likely to continue. Why? Properly implemented, distance education can enhance the learning experience and increase access to higher education for a variety of potential students, especially those who are unable to take advantage of traditional

on-campus courses.

Competition among colleges and universities in the state of New Jersey to respond to the demand for such higher education programs and new developments in digital technology have led many institutions to revise the ways in which they offer traditional classroom courses. Some faculty members at Rowan University for instance, have added online components to the courses they teach on campus within their programs. WebCT (Web Course Tools) is the tool used by many Rowan professors to create Internet-based courses. WebCT does this in three ways:

1. It provides an interface allowing the design of the presentation of the course. (color schemes, page layout, etc.)
2. It provides a set of educational tools to facilitate learning, communication and collaboration.
3. It provides a set of administrative tools to assist the instructor in the process of management and continuous improvement of the course.

These supplemented classroom-based courses are called Web-enhanced courses, or Hybrid courses, different from Web-based courses, in which the majority of the interaction occurs electronically. These courses incorporate Internet components such as Web sites, e-mail, chat rooms, and discussion groups. These enhancements can be used asynchronously, providing students with both convenient access and greater schedule flexibility. In asynchronous online courses, instructors post instructional material and assignments, including text, images, video, audio, and interactive simulations, on the course Web site. Using messaging systems, or bulletin boards,

instructors can start online discussions by posting a comment or question. Students can log on using a password and join in the discussion at their convenience (WebCT, Inc. 2002).

Technology is not the only factor creating the interest in Web-based, or Web-enhanced courses. The need for many adult students to pursue higher education degrees, in spite of full-time employment, marriage, childrearing, and community commitments is another factor. Some seek degrees, having only limited access to colleges or universities because of distance or schedule conflicts. Online courses make it possible for many students to get an education without interfering with life's other commitments.

Statement of the Problem

With the current growth of the use of WebCT in courses being offered at Rowan University, there is a need to examine the attitudes of graduate students with regard to this type of online instruction. Recent research has indicated both positive and negative attitudes towards Web-based and Web-enhanced courses with regard to students' comfort with technology, course delivery methodology, and overall attitudes towards WebCT as an instructional tool.

Rationale for Study

The use of WebCT is becoming a viable and attractive means to increase access to higher education. Students participating in these Web-enhanced courses expect to receive the same high quality educational experience as they would in an on-campus course. Much research has been published on students' reasons for taking online courses and their positive attitudes towards them. What about its problems and limitations? Only a few researchers have examined the negative aspects. Instructors

must consider the attitudes of their students and discuss their actual experiences with WebCT, good and bad. With this knowledge, instructors can develop new remedies for the problems and different approaches to managing their use of WebCT.

Purpose of the Study

Ultimately, understanding the attitudes of a student population permits an instructor to optimize effectiveness in the delivery of course content using technology. The purpose of this study was to identify the attitudes of a sample of College of Education graduate students at Rowan University in order to understand their acceptance of or resistance to Web-enhanced courses and the use of WebCT as an instructional delivery tool.

Areas of concern for this study included the following research questions:

- What prior use of and experience with WebCT enhanced instruction do graduate students in Rowan's College of Education have?
- What knowledge and use of the Internet and WebCT do graduate students in Rowan's College of Education have?
- What attitudes towards online course formats and WebCT do graduate students in Rowan's College of Education have?
- Do attitudes differ between graduate students in the School and Public Library Program and other College of Education graduate programs towards online course experiences?

Definition of Terms

The following terms were defined to clarify their meanings in the context of this study.

Asynchronous:

Not simultaneous or concurrent; for example, discussion groups in online courses are asynchronous because students can log on and post messages any time (Castellucci, 2001, p. 181).

Attitudes:

Feelings or emotions towards a fact or emotion (Dieter, Mrtek, Therriault, & Valenta, 2001, p. 112).

Chat Room:

A site on the Internet in which people can communicate by typing messages to one another (Castellucci, 2001, p. 181).

Distance education:

Courses that have instruction taking place when students and faculty are in different locations; also called distance learning (National Education Association, 2000).

E-Mail (electronic mail):

Text or other messages sent over the Internet (Castellucci, 2001, p.182).

Hybrid course:

A course with part of the instruction delivered online and part in a traditional classroom setting (Eastmond, 1995, p. 20).

Internet:

The globally interconnected series of smaller computer networks (Hollister, McGahey, & Mehrotra, 2001, p. 84).

Listserv:

A mass e-mail program designed to serve an audience with a specific common

interest (Hollister, et al., 2001, p. 87).

Online components:

Parts of course content being taught over the Internet (Castellucci, 2001, p. 183).

Online course:

A course offered primarily over the Internet (Castellucci, 2001, p. 183).

Online instruction:

The delivery of educational programs to students over the Internet (Castellucci, 2001, p. 182).

Traditional course:

For the purpose of this study, a traditional course is a course taught on campus, during regularly scheduled times.

Web-Based course:

A course where the majority of the student-teacher interaction occurs online (Hollister, et al., 2001, p. 9).

WebCT:

A software which provides templates that instructors can use to publish their own course materials on the Internet (Hollister, et al., 2001, p. 86).

Web-Enhanced Course:

A classroom-based course which is supplemented with online interaction using a software such as WebCT (Hollister, et al., 2001, p. 9).

Assumptions and Limitations

One assumption for this study was that the student respondents responded truthfully and accurately to the questionnaire.

This study was limited to College of Education graduate students at Rowan University in New Jersey who were enrolled in Web-enhanced courses using WebCT. The sampling was a convenience sampling rather than a random sampling. This study does not reflect the national status of student attitudes towards online instruction using WebCT; however, it does offer some insight as to how Rowan graduate students perceive distance learning and this particular delivery tool.

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CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Although the body of literature is growing, the amount of research dealing with graduate students' attitudes toward technology and web-based courses was small. "Students' attitudes toward distance education are as important a metric as students' achievements in determining the effectiveness of distance education" (Dieter, Mrtek, Therriault, & Valenta, 2001, p. 112). Understanding the attitudes of graduate students who take Web-based or Web-enhanced courses towards delivery methods will help instructors design more effective courses for Web delivery and to more accurately determine their effectiveness.

In order to conduct this study, first general information on distance education and its history was gathered, to have a better understanding of how online instruction originated, how it worked, and how it was progressing. Research was then narrowed down to the history of WebCT as a delivery tool, and more specifically Rowan University's history of WebCT use on its campus. Finally, literature and survey results regarding graduate students' attitudes towards web-enhanced courses and WebCT as a delivery tool were analyzed.

Distance Education

In the last five to ten years, distance education has become an increasingly significant factor in higher education. However, today's distance education, based primarily on

Internet technologies, had its start in the correspondence courses that were used in the late 1800s. Instructors would send print materials to students by mail, and students would do their assignments and return them by mail. Correspondence courses were asynchronous; meaning the student would do the work when it was convenient. Correspondence courses still exist, but they have lost ground over the last seventy years to more current technologies. The first kind of technology that was used to implement correspondence courses was radio in the 1930s, followed by broadcast television in the 1950s and 1960s (Castellucci, 2001, p. 2). Radio and television courses provided one-way communication, and so they were used for delivering information from the instructor to the students. Typically, there was only minimal interaction between instructor and students, and no interaction at all among students. Another constraint on radio and television courses was time. Broadcast courses forced students to be listening to the radio or watching television when the course was broadcast, or they would miss the class (Castellucci, 2001, p. 3).

By 1960, the introduction of cable television, audiocassette recorders, and videocassette recorders solved the time problem posed by the broadcast courses. Courses could be broadcast over cable channels several times so that students could watch at their convenience. With a VCR or tape recorder, a student could record a lecture of class when it was broadcast and view it or hear it at any time. A class could also be recorded on an audiocassette or videotape and sent to the students to view or listen to at their convenience. These types of recording technologies provided convenience for students, but did not solve the problem with broadcast courses—the lack of interaction among instructors and students (Castellucci, 2001, p. 3).

Starting in the 1980s, the personal computer, two-way audio and video conferencing,

and the Internet greatly expanded the scope of distance education. Much more information could be conveyed from instructor to student, with these new technologies. Two-way communication became possible, using interactive video technology or e-mail, newsgroups, bulletin boards, and chat rooms on the Internet (Castellucci, 2001, p. 3). Today's distance education makes use of a wide variety of technologies. WebCT is one of those technologies. "WebCT is dedicated to delivering the state-of-the-art e-learning solutions that institutions need to compete effectively, today and years from now" (WebCT, Inc., 2002).

WebCT and Rowan's Use of WebCT

WebCT began with an experiment. In 1995, Murray Goldberg, a computer science professor at the University of British Columbia, wanted to research the Web's potential as a teaching tool. He conducted a study in which three groups of students were taught the same course. One group studied with Dr. Goldberg in a traditional lecture format. Another group never met in person but had all course content delivered via a Web site designed by Dr. Goldberg. The remaining group combined face-to-face teaching with the course Web site. At the end of the course, students' learning was measured (Samuels, 2000, p. G.8).

Based on the study, Dr. Goldberg developed software for his colleagues to use to create their own course Web sites. Calling the program Web Course Tools (WebCT), he handed out free copies. In 1997, he joined with Universal Learning Technologies of Peabody, Mass., to market the program commercially (Samuels, 2000, p. G.8).

Universal Learning Technologies states that in 2000, WebCT was being used by nearly 50,000 teachers at 1,500 colleges and universities. Institutions pay between \$4,000

and \$29,000 per year to license the product, depending on the size of the institution.

Training and consulting services are available at additional costs (Samuels, 2000, p. G.8).

In April of 1998, members of Rowan University's newly formed Instructional Technology Department began researching different providers of integrated e-learning systems to find one that would meet Rowan's needs. After narrowing their choices down to BlackBoard 5.5, and WebCt 3.7 Campus Edition, the committee chose WebCT.

Their research on WebCT provided the following information:

The 3.7 Campus Edition of WebCT is user-friendly, gives faculty members the pedagogical flexibility to teach their own way, provides tools to enhance interaction between students and faculty, and offers the broadest selection of quality course material and well designed content from all of the major college textbook publishers. The Campus Edition also gives institutions a robust, scalable product suitable for large-scale implementation across multiple servers as well as features for enhanced scaling and integration with campus portals and student information systems (WebCT. Inc., 2002).

The members of the Instructional Technology Department felt that WebCT's online system provided the best components and services for future growth. The WebCT 3.7 Campus Edition was implemented on Rowan's campus in January of 1999. Four faculty members signed on to provide Web-enhanced courses by putting a copy of their course syllabus, a course calendar and a page for announcements on WebCT. As the faculty members grew more comfortable with the software, they added more sophisticated

elements, like chat rooms, bulletin boards and private e-mail. With each passing semester, the number of Web-enhanced courses, and the amount of coursework presented online, grew drastically. In the Fall Semester 2002, Rowan had 137 courses using WebCT to supplement traditional course instruction. Twenty-four of those courses were graduate courses. Twenty-two of those graduate courses were in the College of Education. Rowan does not yet offer any undergraduate, or graduate courses completely online (G. Sahn, personal communication, October 11, 2002).

Research on Graduate Students' Attitudes Towards WebCT

The Western Cooperative for Educational Telecommunications (WCET) stated, "Today's technology-enhanced environment finds that education is becoming more learner-centered, focusing on creating an environment in which the learner is actively involved in their learning instead of passively absorbing information conveyed by the instructor". The WCET also stated that in order to have a positive, successful online experience, it was important for instructors to understand the attitudes of their students towards this new, evolving learning environment. Researchers needed to look beyond outcomes and achievements at learner attitudes and perceptions to discover the circumstances that lead to success (Connick, 1999, p. 6).

Although there was much obtainable literature on students' attitudes toward Web-enhanced courses and their experiences with WebCT, much of this literature dealt with undergraduate students, whereas the purpose of this study was to determine the attitudes of College of Education graduate students at Rowan University. Therefore, in analyzing the results of student surveys, only those studies dealing with graduate students were included.

Analysis of published survey results indicated both positive and negative attitudes of graduate students towards the use of WebCT for distance learning. In one study done in 1999, by Brown, Buchanan, Casanova, Wolfram, and Xie, at the University of Wisconsin-Milwaukee, researchers compared traditional classroom courses with Web-enhanced equivalent courses in a Masters of Library and Information Science (MLIS) program. The study investigated differences in overall student performance, student attitudes towards the courses, and the learning approaches used. The purposes of the study were to gain a greater understanding of:

- the appropriateness and effectiveness of Web-based courses for graduate education,
- which technologies and approaches worked best from graduate students' perspectives,
- how graduate students could best be prepared to participate in Web-enhanced and Web-based courses,
- how faculty could best be encouraged and aided in developing and implementing such courses, and
- cost and time issues related to developing and delivering Web-based and Web-enhanced courses.

Six courses in the MLIS program were selected for this study. WebCT was used to present the Web-enhanced courses as it permitted synchronous and asynchronous communication between the instructor and students. The courses were taught by the same instructor, in order to help control presentation style, pedagogical approaches, and course content. A total of 129 post-surveys by graduate students in traditional sections were received and 53 post-survey responses were received from graduate students in Web-enhanced courses. A much lower response rate and generally smaller environments

accounted for the lower number of responses in the courses using WebCT. Twelve students participated in follow-up telephone interviews regarding their experience with a Web-enhanced course (Brown, Buchanan, Casanova, Wolfram & Xie, 1999, p. 2). The results of the survey stated student attitudes and were written in summary form. No percentages were given (except for age percentages).

Demographic data collected from the surveys indicated that students in both instructional environments came with a mix of educational backgrounds representing the humanities, social sciences, sciences, and professional fields. The Web-enhanced environment contained a higher percentage of students with prior education in a professional field. This group was also more mature with 38% over 40 years of age, compared to 29% for the traditional environment (Brown, et al., 1999, p. 3).

Other findings in the University of Wisconsin-Milwaukee study revealed that there were no significant differences in the importance of student flexibility, communication skills, and organization skills between the two environments. Students in the courses using WebCT, however, felt that self-discipline, self-motivation, technical expertise, and patience were necessary attributes in their instructional setting. One student explained that not having an assigned time to be in class was difficult. Another student commented that lack of computer skills led to frustration (Brown, et al., 1999, p. 3).

Students were also asked about the importance of instructor subject knowledge, flexibility, patience, communication skill, and ability to facilitate discussions. Students in the Web-based courses felt instructor knowledge of technology and organization skills were very important. Stating clear expectations, facilitating discussions, and giving feedback were instructor qualities that were stated as essential to the students

(Brown, et al., 1999, p. 3).

The University of Wisconsin-Milwaukee graduate students in the traditional classroom environment stated that the classroom setting helped with open discussions and information sharing. These students felt that this setting enabled more personal interaction, both academically and socially. The student in the courses using WebCT thought that the discussions that took place on the bulletin boards were more in-depth and well thought out. Students felt that the opportunity to share ideas and to have everyone be heard was invaluable. One concern expressed by Web-enhanced students was not being able to see each other. Regarding interaction with the professor, the findings were mixed. Many students in the traditional classroom setting felt that a student-instructor relationship was enhanced in their classroom setting with face-to-face interaction. Students using WebCT, felt that there was adequate interaction with the instructor through e-mail. Yet at the same time, some students saw this practice of having to send e-mails and wait for responses as a barrier (Brown, et al., 1999, p. 3).

Technical problems were among the most frequently cited issues in these student surveys and interviews. Students stated that they had problems with online chat sessions “freezing up” or “booting them out”. There were also frustrations when students tried to retrieve electronic reserve items or when the Web server went down completely. Some students were also concerned that a few instructors needed more training in the use of WebCT as an instructional tool. Students suggested developing a coordinator position to oversee administrative issues and to act as a contact person for general questions and to report problems (Brown, et al., 1999, p. 4).

Finally, when asked if they would take a course using WebCT in the future, those who

responded “yes” stated that they would because of the convenience of making their own schedule and the independence of working on their own. Those who would not want to take a course using WebCT in the future said it was because of the “lack of personal interaction with peers and the professor”. Also, some students stated that they were not comfortable enough with the computer and felt that would affect their learning (Brown, et al., 1999, p. 4).

In another study conducted at the end of the 1999 spring semester at the University of Georgia, students taking classes in which instructors were using WebCT to supplement their class materials, were surveyed. The purpose of this survey was to gain information on students using WebCT, and opinions about WebCT. The responses of 1,654 students were included in the results. Ten percent of the student responses were from graduate students. In presenting the survey results, Anderson and Ashley placed some of the findings in figures based on students’ class standings, making it easier to detect the responses of just graduate students. The results were presented in percentages (Anderson & Ashley, 2000, p. 1). Survey topics were closely related to the topics found in the University of Wisconsin survey.

When asked, “Did you know how to use the Web before you began using WebCT?”, 60% of the graduate students responded “very well”, 21% responded “somewhat”, and 19% responded “not at all”. When asked about their experience with using WebCT, 94% of the graduate students found WebCT very easy to use, easy to use, or somewhat easy to use, with only 6% of the students having some difficulty using WebCT. The students indicated that they had prior experience with using the Web, which helped with the use of WebCT (Anderson & Ashley, 2000, p. 3).

Questions on the survey were asked to find out graduate students' general satisfaction with WebCT. One question in this section asked, "What is your overall satisfaction rating for WebCT?". Seventy-one percent of the graduate students thought WebCT was either very good or good, 22% said it was fair, and only 7% thought it was bad or very bad. When asked which of the following statements most closely matched their opinion, 60% of the students chose the statement, "I wish more courses I took used WebCT.", 13% chose the statement, "I wish every course I took used WebCT.", 14% chose the statement, "I do not want to use WebCT with any course.", and 13% chose the statement, "I wish fewer courses I took used WebCT". Yet, when asked if the students would take a course that was totally online and did not meet for classroom lectures, 32% responded "Yes" and 68% responded "No" (Anderson & Ashley, 2000, p. 9).

Another question of general interest was "Which do you believe would be the most effective way for you to learn to use WebCT?" Thirty-two percent of the graduate students said by hands-on workshops, 32% said by a demonstration in class, 30% said by interactive web tutorial, 4% said by having a manual, and 2% said by video tutorial. These results apply specifically to WebCT, yet might give insight into how students would prefer to learn other applications (Anderson & Ashley, 2000, p. 13).

Overall, WebCT was well received by the graduate students at the University of Wisconsin-Milwaukee and the University of Georgia. As these universities moved forward in the implementation of WebCT, students' attitudes and experiences provided valuable guidance and feedback.

Summary

Understanding the attitudes of graduate students who take online courses is important

for several reasons. Higher education institutions should want to offer a good education to their students. But in addition, education is evolving rapidly into a far more competitive business than ever before. Universities and colleges may see significant decreases in the enrollments of graduate students in certain programs, if other institutions are offering a large percentage of their graduate courses online, catering directly to the student who needs the flexibility of Web-based or Web-enhanced courses. Universities such as Rowan, must continuously evaluate the delivery method of WebCT, and gather students' attitudes towards WebCT, in order to design the courses that today's graduate students seek.

This study determined the attitudes of Rowan University's College of Education graduate students towards Web-enhanced courses and the use of WebCT as an instructional tool.

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CHAPTER III

METHODOLOGY

Overall Design and Justification

The overall purpose of this applied research study was to determine the attitudes of Rowan University graduate students towards Web-enhanced courses and the use of WebCT as a course delivery tool.

The study was conducted through the distribution of a descriptive survey (quantitative data) to Fall 2002 graduate students, enrolled in College of Education courses using WebCT at Rowan University in New Jersey. The design of a descriptive survey was selected because “the basic purpose of a descriptive survey is to describe characteristics of the population being studied, estimate proportions in the population, make specific predictions and test associational relationships” (Powell, 1997, p. 61). Similarly, Babbie stated, “Descriptive surveys offer several advantages, including economy of design, relatively quick data collection, and the ability to attribute characteristics from a small group to a larger population” (Babbie, 1998, p. 256). Powell also stated that, “the basic assumption of most survey research is that, by carefully following certain scientific procedures, one can make inferences about a large group of elements by studying a relatively small number selected from the larger group” (Powell, 1997, p. 57). Descriptive research can provide a clear, accurate description of individuals and processes.

The method selected for this study was the use of a self-administered questionnaire (see Appendix C). The questionnaires were delivered to those Rowan College of

Education professors who were using WebCT in their Fall 2002 graduate courses. The professors were asked to distribute the surveys to students at the end of the Fall 2002 semester. A survey was used as the method of inquiry in this study due to the number of graduate students to be questioned, and the time factor limitations. According to Babbie, “Survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly” (Babbie, 1998, p. 256).

Statement of Purpose and Research Questions

Ultimately, understanding the attitudes of a student population permits an instructor to optimize effectiveness in the delivery of course content using technology. The purpose of this study was to identify the attitudes of a sample of College of Education graduate students at Rowan University in order to improve the understanding of their acceptance of or resistance to Web-enhanced courses and the use of WebCT as an instructional delivery tool.

Areas of concern for this study included the following research questions:

- What prior use of and experience with WebCT enhanced instruction do graduate students in Rowan’s College of Education have?
- What knowledge and use of the Internet and WebCT do graduate students in the Rowan’s College of Education have?
- What attitudes towards online course formats and WebCT do graduate students in Rowan’s College of Education have?
- Do attitudes differ between graduate students in the School and Public Library Program and other College of Education graduate programs at Rowan towards

online learning experiences?

Population and Sample

The population selected for this study was graduate students attending Rowan University in New Jersey. This population was selected based on accessibility to the researcher, desired size, and parameters of the survey purpose. The researcher contacted Mrs. Georgette Sahm of the Instructional Technology Department at Rowan University for assistance. Mrs. Sahm provided to the researcher a list of Rowan professors using WebCT in their graduate courses in the Fall 2002 semester. A list of course names and corresponding departments were also included. The list was then narrowed down to graduate courses within Rowan's College of Education. A total of 24 classes were surveyed; 9 from the Educational Leadership Department, 8 from the Secondary Education Department, 4 from the Special Education Department, 2 from the Elementary Education Department, and 1 from the Reading Department.

Since the population was restricted to a specific criteria, and exclusively to Rowan University, the sample was the same as the population. The results do not represent the attitudes of all graduate students.

Variables

The term variable is defined as "any property of a person, thing, event, setting, and so on that is not fixed" (Powell, 1997, p. 30). The variables that were considered important in evaluating students' attitudes toward Web-enhanced courses and WebCT were:

- students' past experience with Web-enhanced courses,
- students' evaluation of technology experience,

- students' evaluation of course delivery methodology,
- students' attitudes towards WebCT as an instructional tool, and
- students' enrollment in courses in School and Public Librarianship.

Instruments Used

Using *The Practice of Social Research* (1998) by Earl Babbie as a guide, a self-administered survey questionnaire (see Appendix C) was created in order to obtain information from the participating graduate students. A cover letter (see Appendix A) stating the purpose of the study was provided for each participating professor. An additional cover letter (see Appendix B) was provided to each participating graduate student, also stating the purpose of the study. The students were told that participation was strictly voluntary, that they did not need to respond to all questions in the survey, and that responses would be kept anonymous and confidential.

The survey consisted of four sections (see Appendix C). Each section asked the participant to make a selection by placing a check in the box beside the appropriate answer. Section 1 contained three closed-ended questions. The questions in this section pertained to students' past Web-enhanced course experiences. Section 2 also contained three closed-ended questions. The questions in this section pertained to students' evaluation of their technology experience. Section 3 asked for students' evaluation of course delivery methodology. There were 5 statements given, to which students had to choose a response using the code: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, and 1=Strongly Disagree. In Section 4, the same response code was used for the first four statements pertaining to students' attitudes towards WebCT as an instructional tool. The last three questions of the survey were open-ended questions also pertaining to the

use of WebCT at Rowan.

Method of Data Collection

The surveys were delivered to the participating Rowan professors the week of December 2, 2002. A cover letter written to the attention of the professor stated the purpose of the study and asked that they distribute the surveys to their graduate students on the last scheduled class of the Fall semester. The professors were then asked to collect the surveys and forward them to Mrs. Georgette Sahm at the Instructional Technology Department in Memorial Hall at Rowan. Attached to each survey was a cover letter addressed to each graduate student stating the purpose of the study and asking them to complete the survey and return it, in a sealed envelope, to their professor in class. Returned surveys were picked up at the Instructional Technology Department on December 20th, 2002.

Returned surveys were categorized according to educational department. Data were analyzed by using a percentage for each response and displayed in chart format.

Reliability and Validity

According to Powell, as one develops and conducts a research study, one should always be concerned with its validity and reliability. Research is considered to be valid when the conclusions are true, and reliable when the findings are repeatable, but validity and reliability are actually requirements for both the design and the measurement of research (Powell, 1997, p. 37). The researcher was concerned with reliability and validity when designing this study.

Before distribution, the survey was pre-tested among a group of colleagues in the Graduate Thesis in Library Studies course. The pretest was conducted to help ensure

the reliability of the questionnaire and in order to make revisions before distribution.

Revisions were made based on suggestions by the thesis advisor and those colleagues.

References

Babbie, E. (1998). *The practice of social research* (8th ed.). Belmont, CA: Wadsworth Publishing Corp.

Powell, R.P. (1997). *Basic research for librarians* (3rd ed.). Greenwich, CT: Ablex Publishing Corp.

CHAPTER IV
ANALYSIS OF DATA

Procedure/Methods

A descriptive survey (quantitative data) regarding the attitudes of Rowan University graduate students towards Web-enhanced courses and the use of WebCT as a course delivery tool was distributed to students in twenty-four graduate classes in the College of Education at Rowan. The survey consisted of a combination of fifteen closed-ended questions and three open-ended questions. The questions were placed in four sections, according to the study's research questions. Exact enrollments were not known for each graduate class, therefore surveys were distributed to professors in groups of twenty-five. Data were summarized from the returned surveys.

Response Rate

Out of the 24 envelopes sent to professors (each containing 25 surveys), 19 of the envelopes were returned with a total of 155 completed surveys. Five professors stated either in e-mail messages, or by returning the incomplete surveys, that their students did not use WebCT in their Fall 2002 course and therefore would not be completing the surveys. These five classes were not included in the final tabulation for response rate. All data analysis was based on 155 returned surveys from 19 different classes of graduate students.

Since exact enrollments were not known prior to the distribution of surveys, the 155 surveys returned were considered a 100% return rate. All of the 155 surveys completed

were usable. The College of Education departments who returned surveys were: Educational Leadership Department (63 surveys), Reading Department (25 surveys), Elementary Education Department (11 surveys), Special Education Department (20 surveys), and Secondary Education Department (36 surveys). Twenty-five of the surveys returned by the Secondary Education Department were completed by students in the School and Public Library Program.

Tables and figures were developed using Microsoft Excel, to report the results in a clear and understandable format. Narrative descriptions were provided to further explain the results.

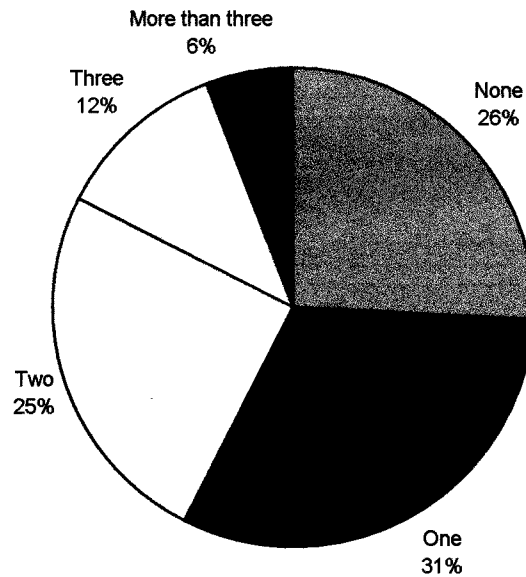
Presentation of Results

The first section of the survey labeled, “Background/Web-Enhanced Course Experience,” had to do with students’ prior use of, and experience with, courses using WebCT. There were three questions in this section. In Question #1, graduate students were asked how many courses they had taken in the past that had used WebCT instruction. Twenty-six percent of the students had not taken a course in the past that used WebCT. Thirty-one percent had taken one course in the past, 25% had taken two courses in the past, 12% had taken three courses in the past, and 6% had taken more than three courses in the past that used WebCT. Figure 1 provides the results to Question #1.

Figure 1

Percentage of Past WebCT Enhanced Courses Taken

Question #1: Not including this course, how many courses have you taken in the past that have used WebCT instruction?

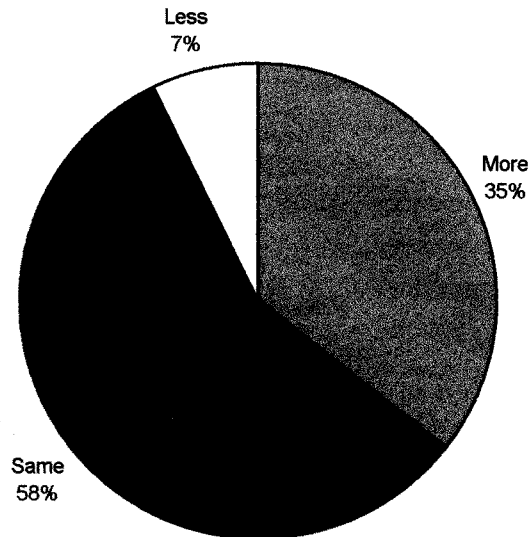


Question #2 provided results referring to the amount of work students felt they did in a course using WebCT, as compared to a course that did not use WebCT. Eighty-nine (58%) of the students thought that they did the same amount of work in a course using WebCT, as compared to a course that did not use WebCT. Fifty-five students (35%) stated that they did more work, while eleven students (7%) indicated that they did less work. Figure 2 shows the results of Question #2.

Figure 2

Amount of Work By Percentage

Question #2: Compared to a course that you have taken that did not have any WebCT instruction, do you think you did more, less, or about the same amount of work to complete the course?

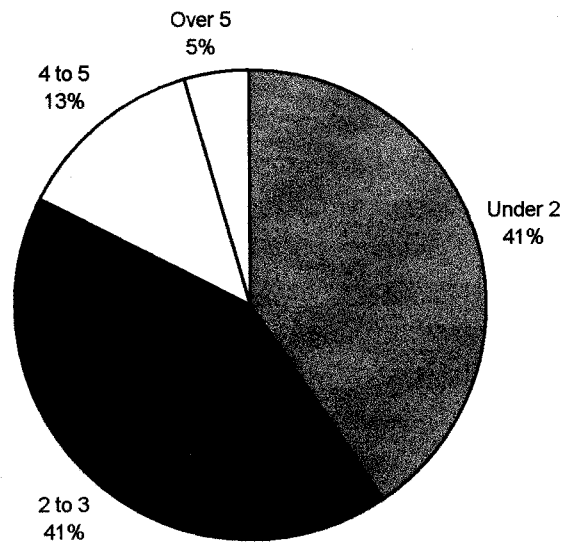


For Question #3, the respondents were asked to tell about how many hours per week they spent online completing work for their WebCT enhanced course. They had the following answer choices to select from; “Under 2”, “2-3”, “4-5”, or “Over 5”. Sixty-five students (41%) indicated that they spent 2-3 hours per week completing work for their on WebCT enhanced course. Sixty-three of the students (41%) stated that they spent under two hours per week completing their online coursework. Thirteen percent indicated that they spent 4-5 hours on their online coursework, while 5% said that they spent over 5 hours on their online coursework per week. The results for Question #3 are found in Figure 3.

Figure 3

Percentage of Hours Per Week Spent on WebCT Enhanced Coursework

Question #3: When online for your coursework, about how many hours per week did you spend completing your work?

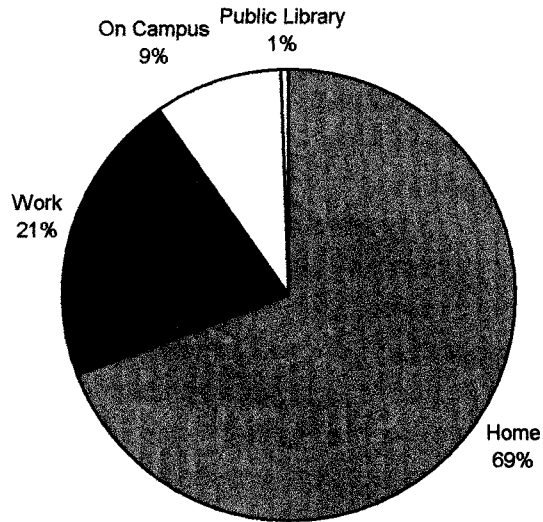


The second section of the survey labeled, “Evaluation of Technology Experience”, contained three questions surveying Rowan graduate students’ knowledge of and access to technology. In Question #4, students were asked where they primarily accessed their online coursework. Sixty-eight percent stated that they accessed their online work from home, while 21% accessed their coursework from work. Fourteen students stated that they used computers at Rowan (9%), while one person (1%), stated that they used a public library. This question had an “Other” category. None of the respondents checked the “Other” box. The results for Question #4 are charted in Figure 4.

Figure 4

Place of Access for WebCT Enhanced Course

Question #4: Where do you primarily access your online coursework?

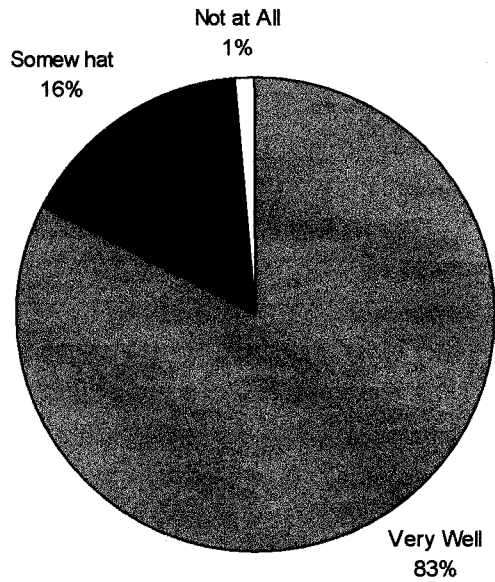


Question #5 asked the students if they knew how to use the Internet before beginning their Fall 2002, WebCT enhanced course. The response choices were, “Very Well”, “Somewhat”, or “Not at All”. One hundred twenty-five of the respondents (83%) selected “Very Well”. Twenty-five (16%) of the students said “Somewhat”, and two students (1%) said that they did not know how to use the Internet at all before taking their current course. The results for Question #5 can be found in Figure 5.

Figure 5

Percentage of Students with Prior Internet Experience

Question #5: Did you know how to use the Internet before you began this course?

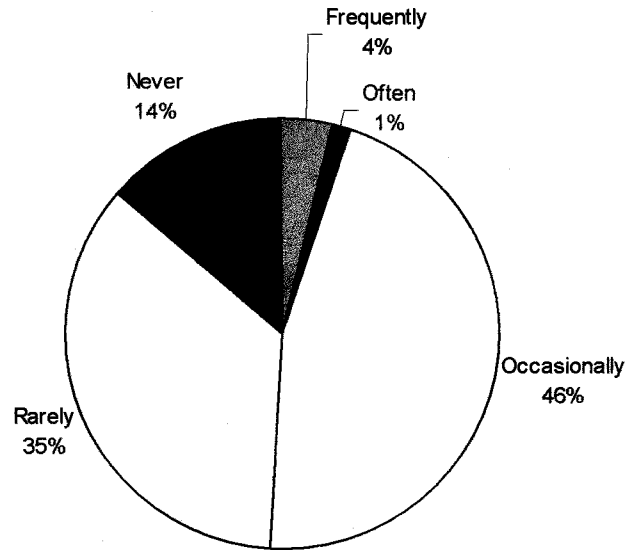


In Question #6, participants were asked to indicate how often they have experienced technical difficulties with WebCT. The largest response rate (46%), indicated that students occasionally had technical difficulties with WebCT. Thirty-five percent of the students said they rarely had technical difficulties, while 14% stated that they never had any technical difficulties with WebCT. Six students (4%) indicated that they frequently had technical difficulties with WebCT, while two students (1%) indicated that they often had technical difficulties with WebCT. The results for Question #6 are shown in Figure 6.

Figure 6

Percentage of Students Experiencing Technical Difficulties with WebCT

Question #6: How often have you experienced technical difficulties with WebCT?

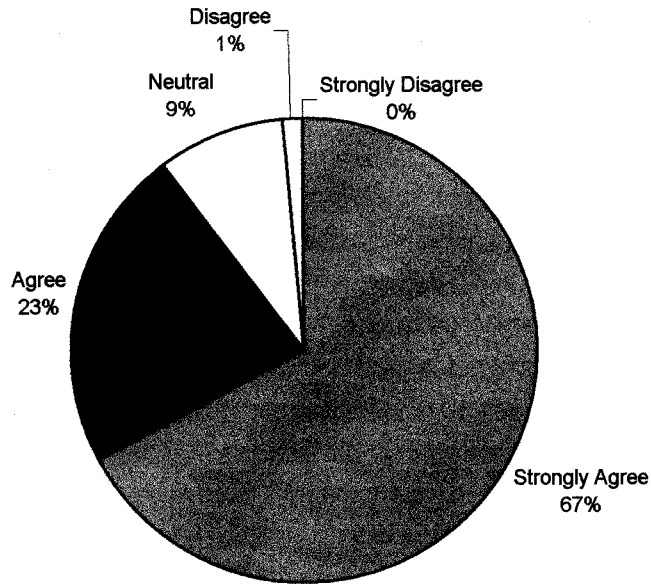


The third section of the survey entitled, “Evaluation of Course Methodology”, asked participants to respond to five statements regarding online courses using the rating: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree. Statement #7 pertained to the online clarity of course delivery using WebCT. Ninety percent of the students stated that they strongly agreed or agreed that the course objectives, contents, and procedures were made clear online for the courses that used WebCT. Nine percent of the students indicated that they were neutral on this statement. Two students (1%) stated that they disagreed that the course objectives, contents and procedures were delivered clearly online. None of the students indicated that they strongly disagreed with the statement. The results for Statement #7 are summarized in Figure 7.

Figure 7

Presentation of Course Objectives, Contents, and Procedures

Statement #7: The course objectives, contents, and procedures were made clear online.

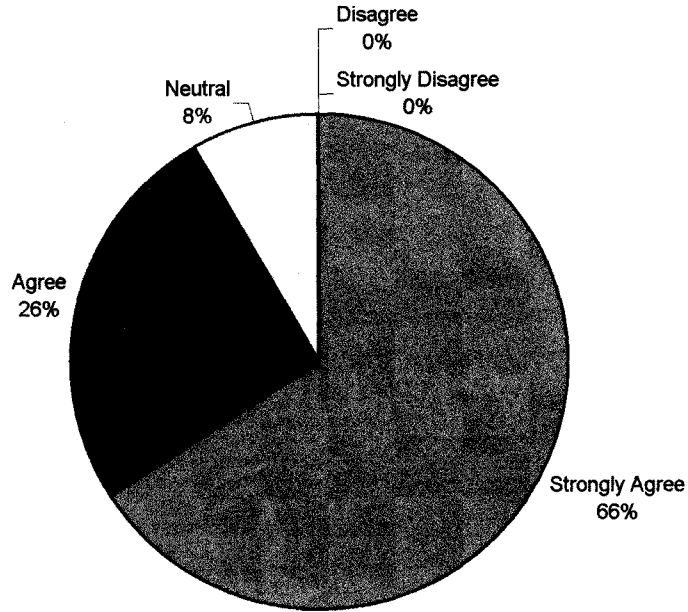


For Statement #8, participants were asked to use the same answer responses as with Statement #7. This statement pertained to online materials being presented on WebCT in a clear and well organized manner. Ninety-two percent of the respondents chose “Strongly Agree” or “Agree”. Eight percent of the students answered “Neutral”, and none of the students answered, “Strongly Disagree”, or “Disagree”. The results of Statement #8 are shown in Figure 8.

Figure 8

Presentation and Organization of Online Materials

Statement #8: The online material was presented in a clear and well organized manner.

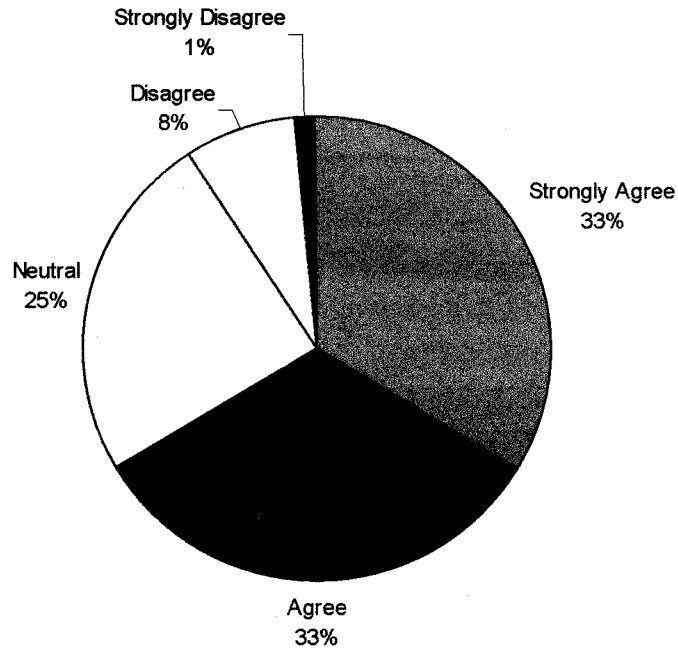


In Statement #9, using the same answer code, students are asked if the online activities stimulated their learning. Fifty-two students (33%) strongly agreed, and fifty-one students (33%) agreed that the online coursework stimulated their learning. Also in the results, thirty-eight students (25%) indicated that they were neutral on the statement, while twelve students (8%) disagreed, and two students (1%) strongly disagreed with the statement. The results to Statement #9 are shown in Figure 9.

Figure 9

Online Activities and Learning Motivation

Statement #9: The online activities stimulated my learning.

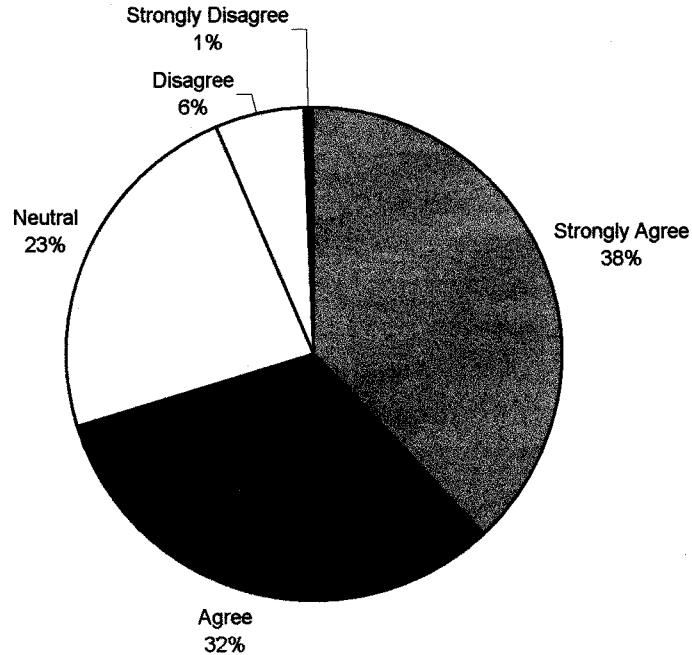


Statement #10 pertained to the online format of WebCT providing sufficient interactive communications between the instructor and the student. Students used the same response code as the previous statements. One hundred nine (70%) of the 155 participants strongly agreed, or agreed, that there were sufficient interactive communications between themselves and their professors. Twenty-three percent of the students were neutral, while 6% disagreed and 1% strongly disagreed with the statement. All of the results for Statement #10 are presented in Figure 10.

Figure 10

Instructor and Student Communication

Statement #10: The online format provided sufficient interactive communications between the instructor and myself.

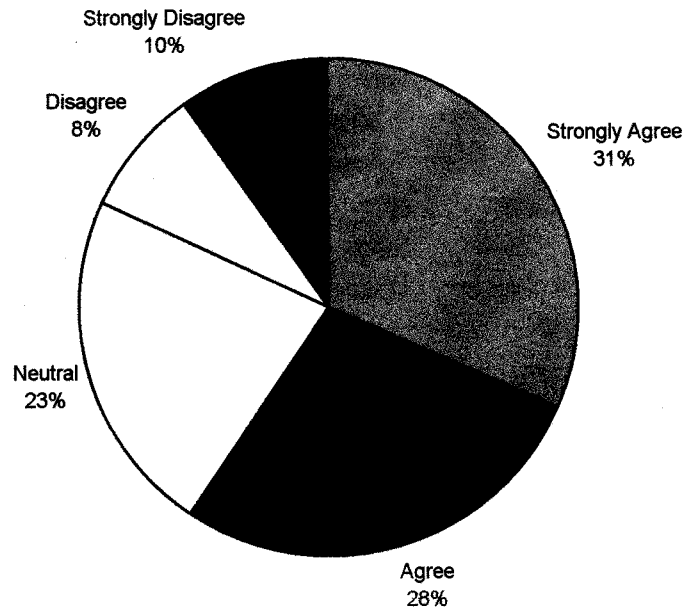


For Statement #11, the students were asked to respond to a statement pertaining to the online course format providing sufficient interactive communications between themselves and their classmates. The same response codes were used. Fifty-nine percent of the respondents stated that they strongly agreed or agreed that there were sufficient opportunities for interactive communications with their classmates. Twenty-three percent of the students stated that they were neutral, while 8% disagreed, and 10% strongly disagreed. Figure 11 provides the results for Statement #11.

Figure 11

Student and Classmate Communication

Statement #11: The online format provided sufficient interactive communications between myself and my classmates.

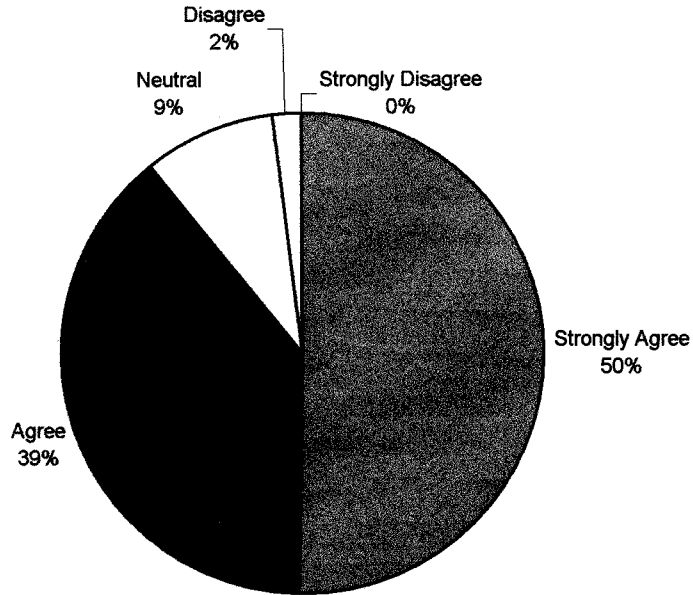


In the last section of the survey entitled, “Attitudes Towards WebCT as an Instructional Tool”, there were four statements and three open-ended questions to respond to. Statement #12 pertained to the students’ ease of using WebCT. Seventy-eight of the students (50%) strongly agreed that WebCT was easy to use. Also indicated in the results, 60 students (39%) agreed, 9% answered that they were neutral, while only 2% disagreed that WebCT was easy to use. No one responded with “Strongly Disagree”. The results are shown in Figure 12.

Figure 12

Ease of WebCT Use

Statement #12: I found WebCT easy to use.

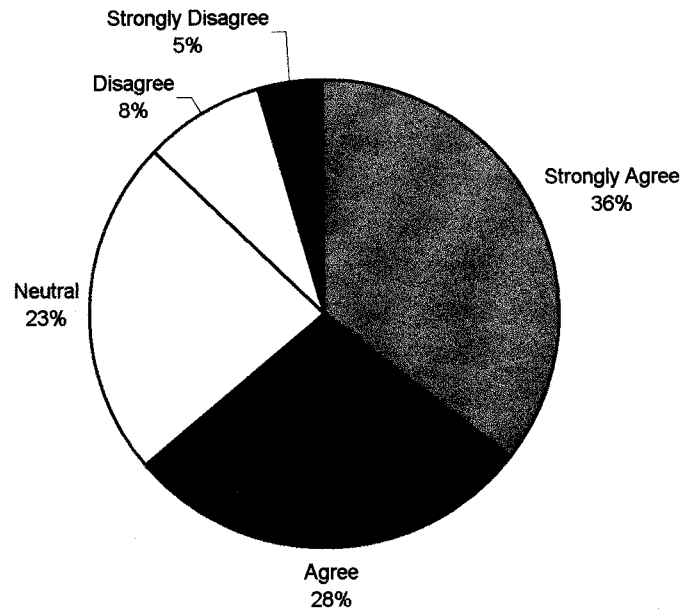


Statement #13 pertained to the students training in the use of WebCT. The response choices were the same as previous statements. Sixty-four percent of the students stated that they strongly agreed or agreed that they had adequate training before using WebCT. Twenty-three percent answered, “Neutral”, while 8% disagreed and 5% strongly disagreed. The results for Statement #13 can be found in Figure 13.

Figure 13

Opinion on WebCT Training

Statement #13: I found my training in how to use WebCT adequate.

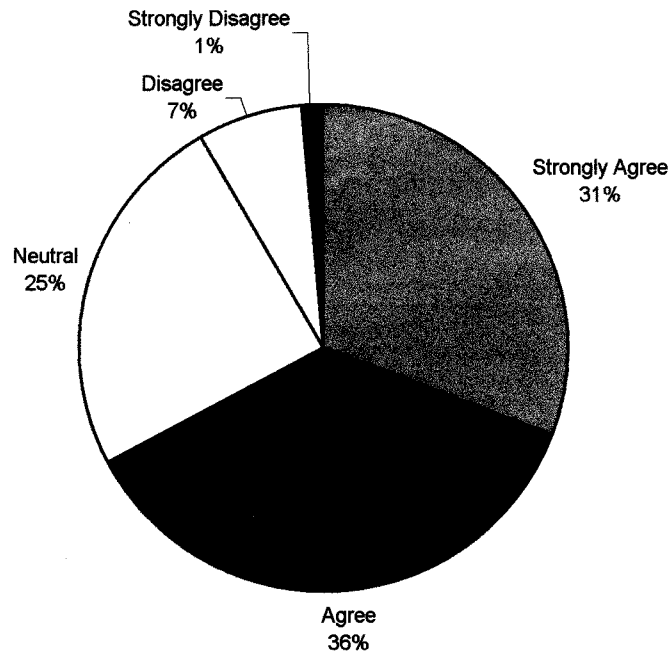


In Statement #14, students responded as to whether or not they considered the WebCT enhanced format an enjoyable way to learn. Using the same response codes, 31% of the students strongly agreed, 36% agreed, 25% were neutral, 7% disagreed, and 1% strongly disagreed. The results to Statement #14 can be found in Figure 14.

Figure 14

Learning with WebCT Was Enjoyable

Statement #14: The WebCT format was an enjoyable way for me to learn.

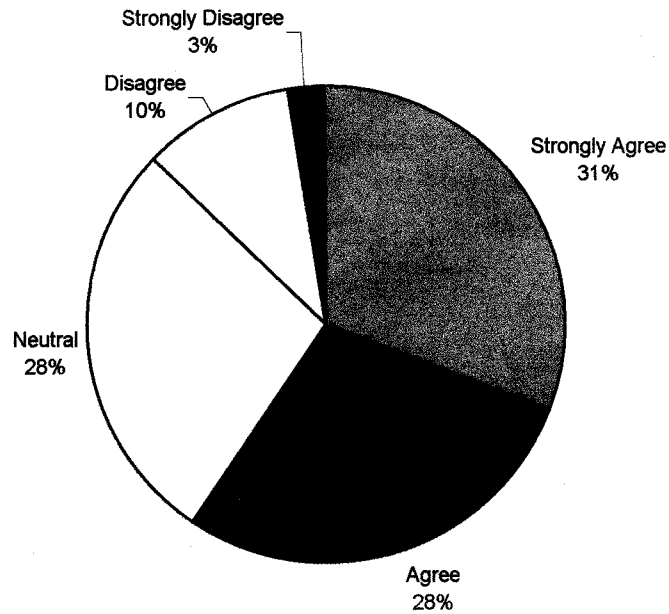


In Statement #15, the final statement in the survey, students were asked to respond to whether they would rather take a WebCT enhanced course, or a course that did not use WebCT. Thirty-one percent responded that they strongly agreed, and 28% agreed that they would rather take a course that used WebCT, than one that did not. Twenty-eight percent chose “Neutral”, while 10% disagreed and 3% strongly disagreed. The results to Statement #15, can be found in Figure 15.

Figure 15

Preference of Course Format

Statement #15: I would rather take a course that uses WebCT than a course that does not.



Comparison of Attitudes

An area of concern for this study was whether attitudes differed between graduate students in the School and Public Library Program and other College of Education Education graduate programs towards Web-enhanced courses and the use of WebCT as an instructional delivery tool. The following 15 figures (Figure 16-Figure 30), present results of the 155 College of Education graduate students' surveys, alongside the results of just the 25 School and Public Library graduate students' surveys. Each figure presents the results of one question or statement on the survey.

Figure 16
Comparing Number of Past WebCT Enhanced Courses Taken

Question #1: Not including this course, how many courses have you taken in the past that have used WebCT instruction?

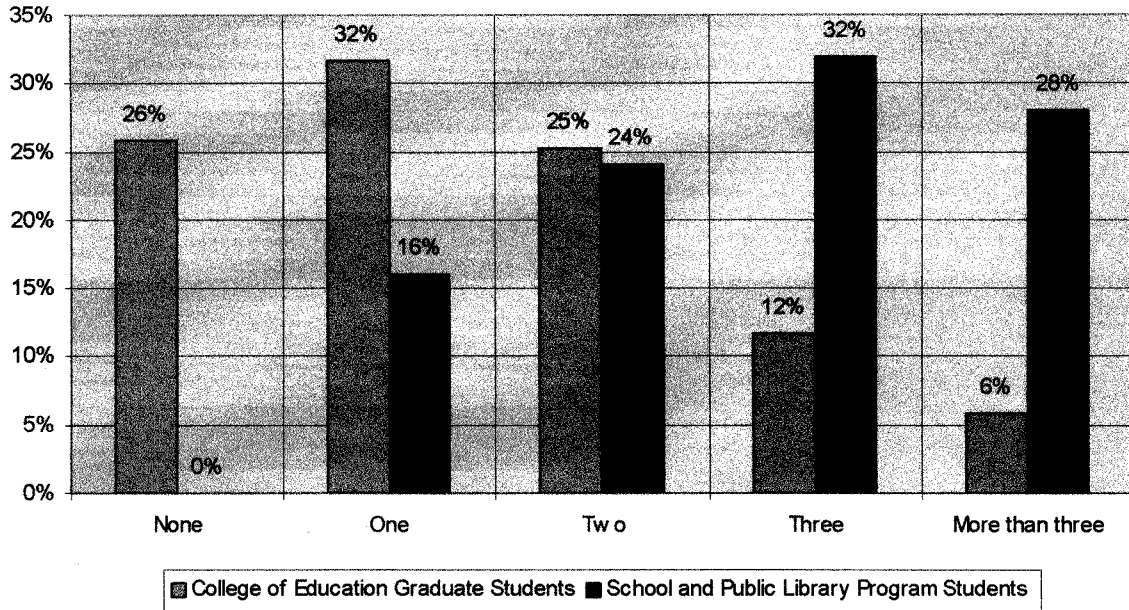


Figure 17
Comparing Amount of Work to Complete Course

Question #2: Compared to a course that you have taken that did not have any WebCT instruction, do you think you did more, less, or about the same amount of work to complete the course?

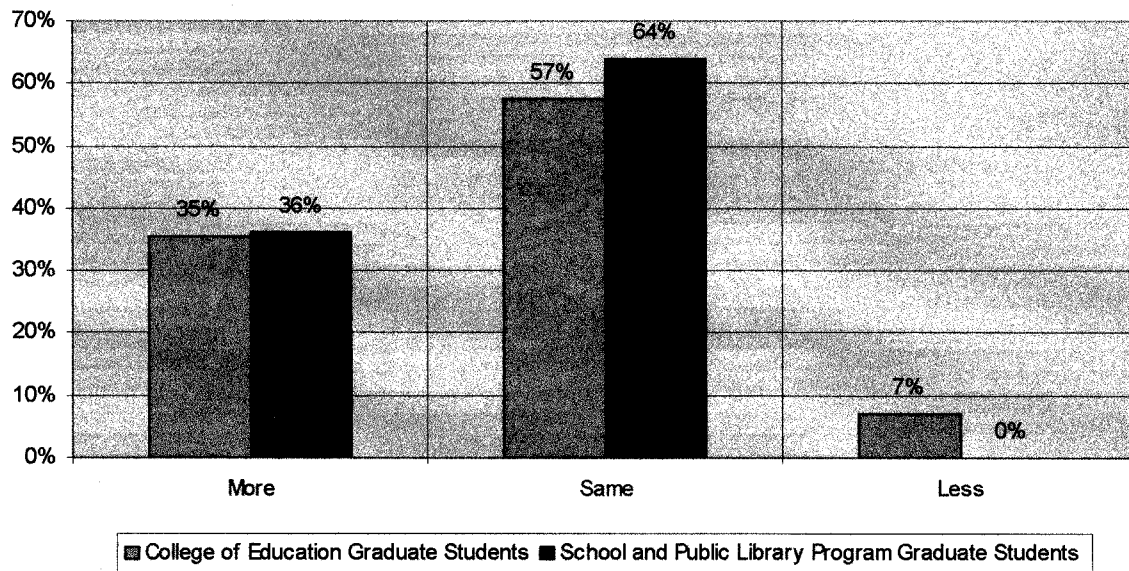


Figure 18
Comparing Hours Per Week Spent on WebCT Enhanced Coursework

Question #3: When online for your coursework, about how many hours per week did you spend completing your work?

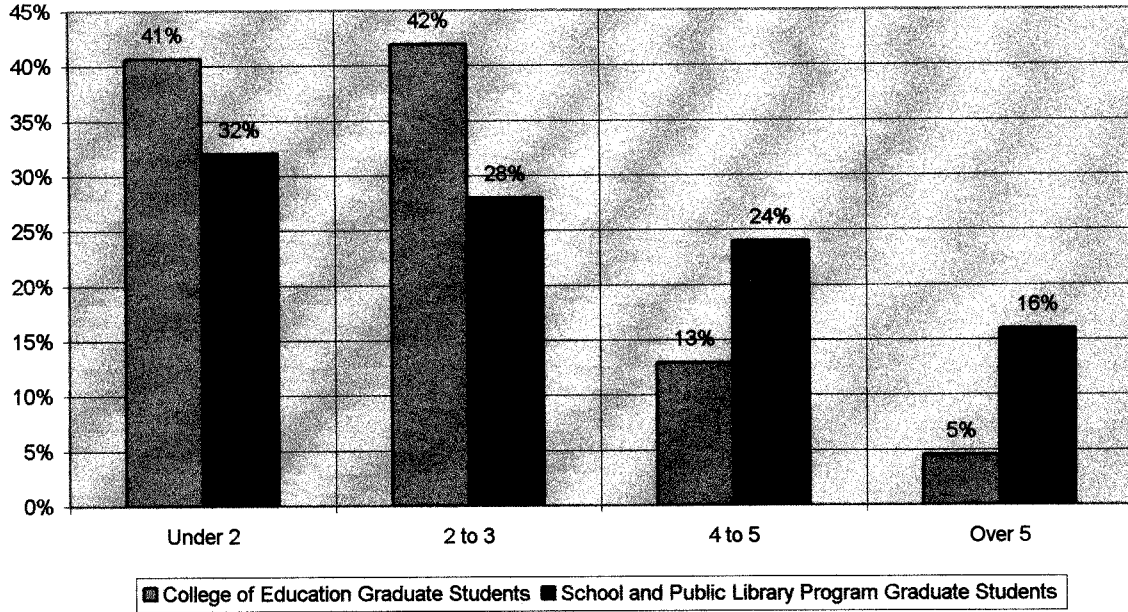


Figure 19
Comparing Place of Access for WebCT Enhanced Course

Question #4: Where do you primarily access your online coursework?

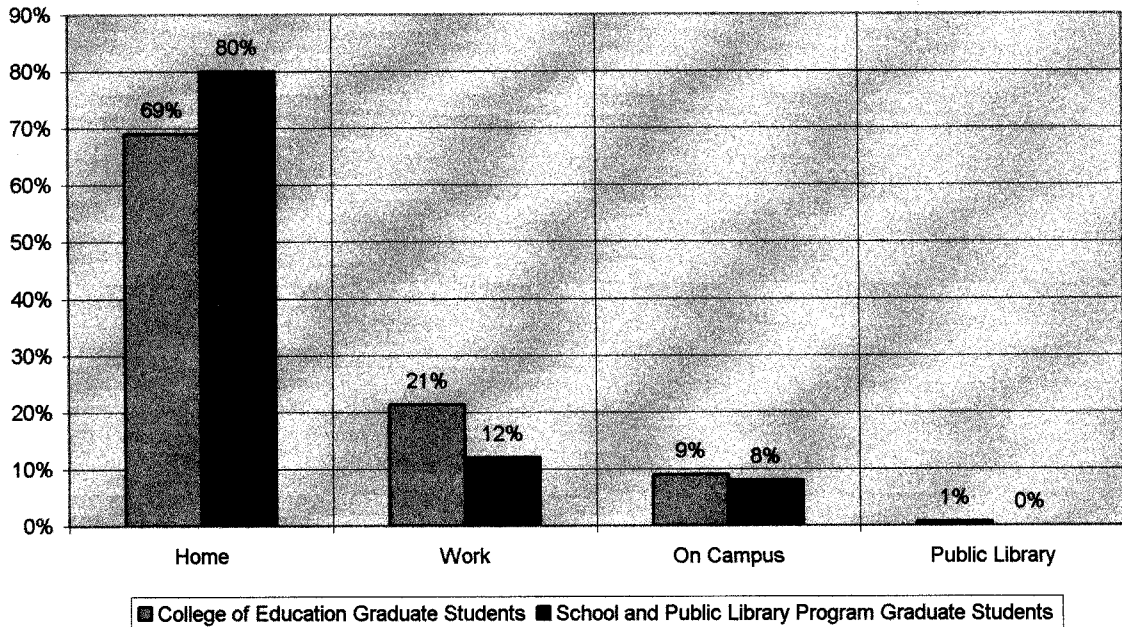


Figure 20
Comparing Prior Internet Experience

Question #5: Did you know how to use the Internet before you began this course?

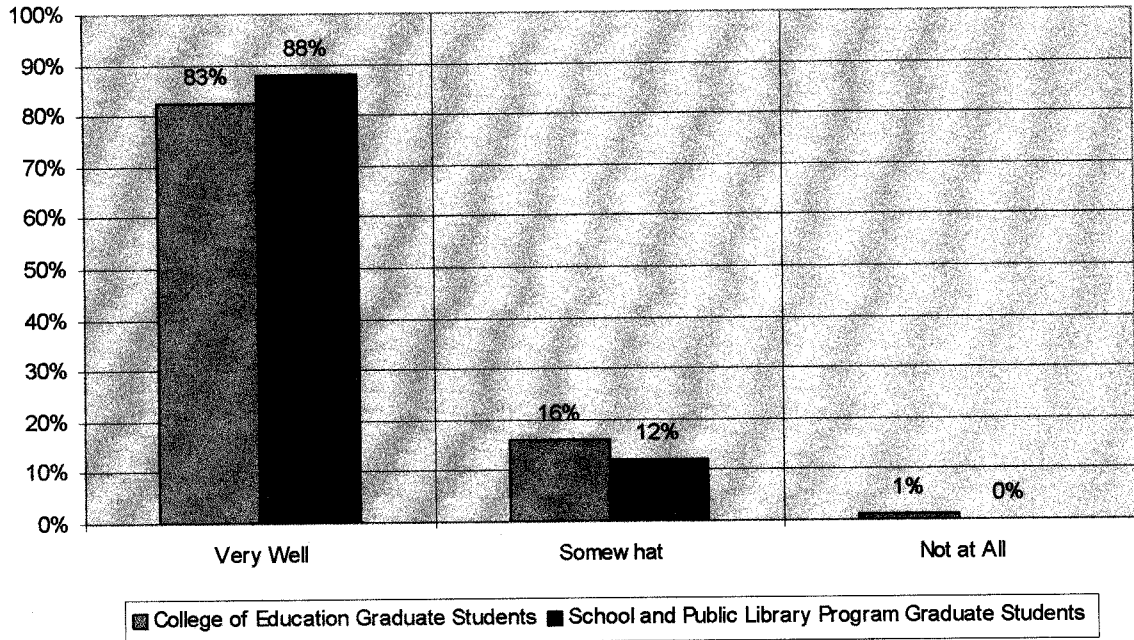


Figure 21
Comparing Technical Difficulty Experiences with WebCT

Question #6: How often have you experienced technical difficulties with WebCT?

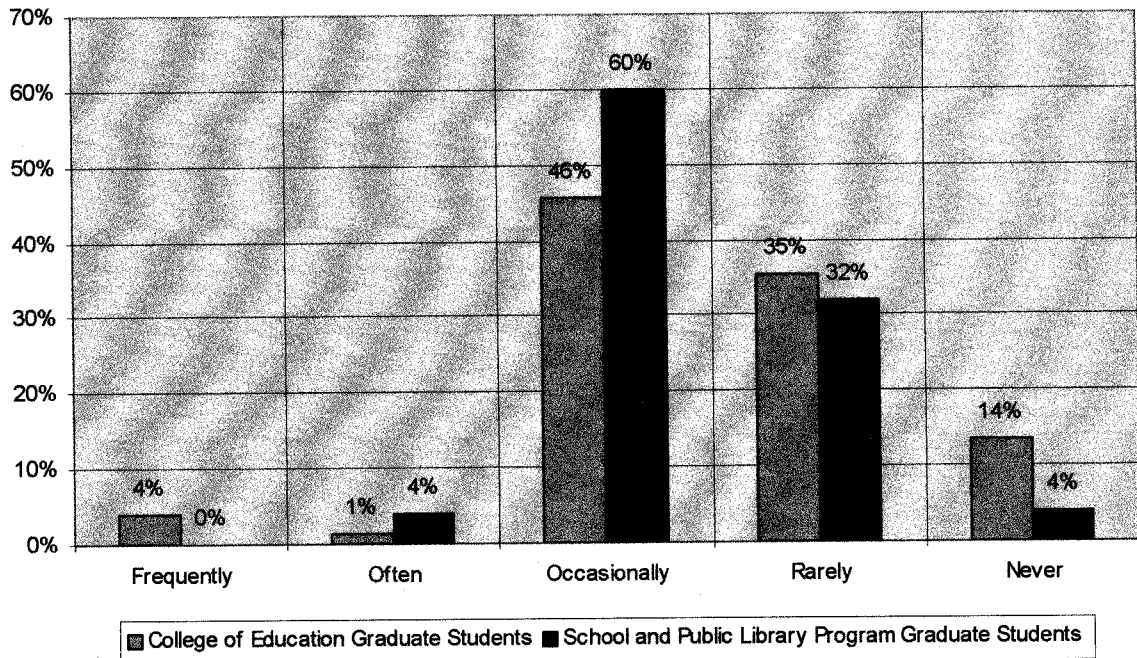


Figure 22
Comparing Opinions of Presentation of Course Objectives, Contents, and Procedures

Statement #7: The course objectives, contents, and procedures were made clear online.

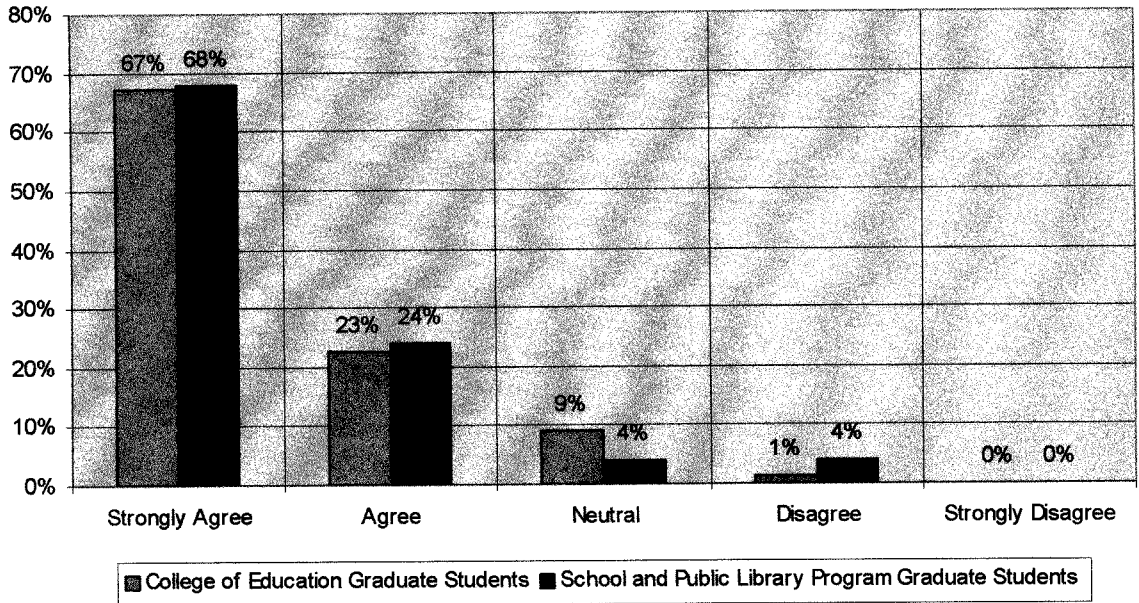


Figure 23
Comparing Opinions of Presentation and Organization of Online Materials

Statement #8: The online material was presented in a clear and well organized manner.

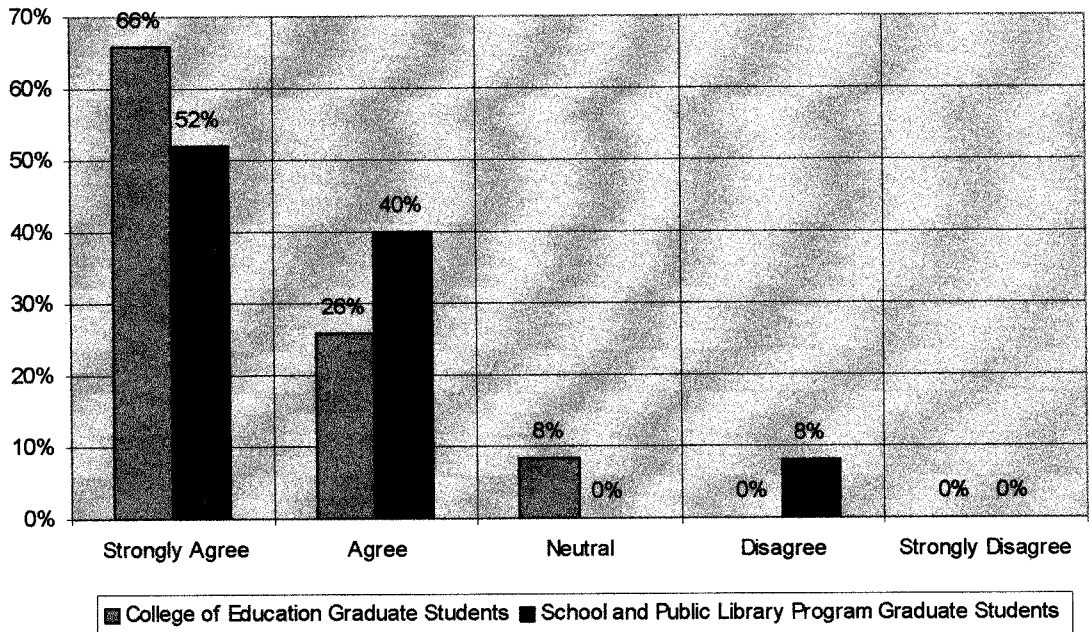


Figure 24
Comparing Opinions of Online Activities and Learning Motivation

Statement #9: The online activities stimulated my learning.

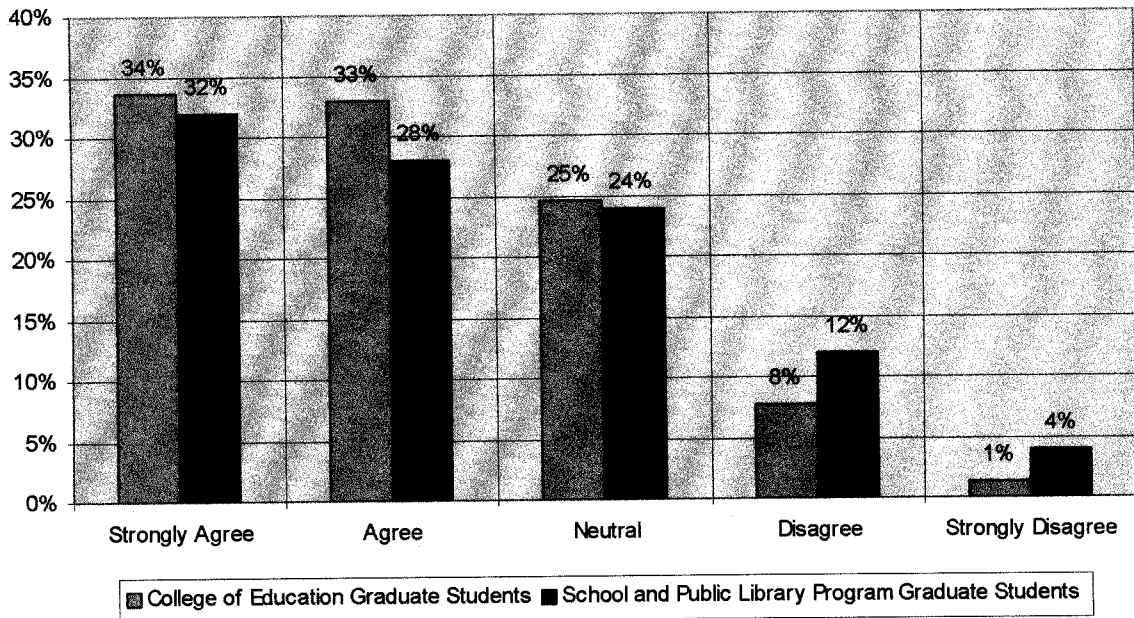


Figure 25
Comparing Opinions of Instructor and Student Communication

Statement #10: The online format provided sufficient interactive communications between the instructor and myself.

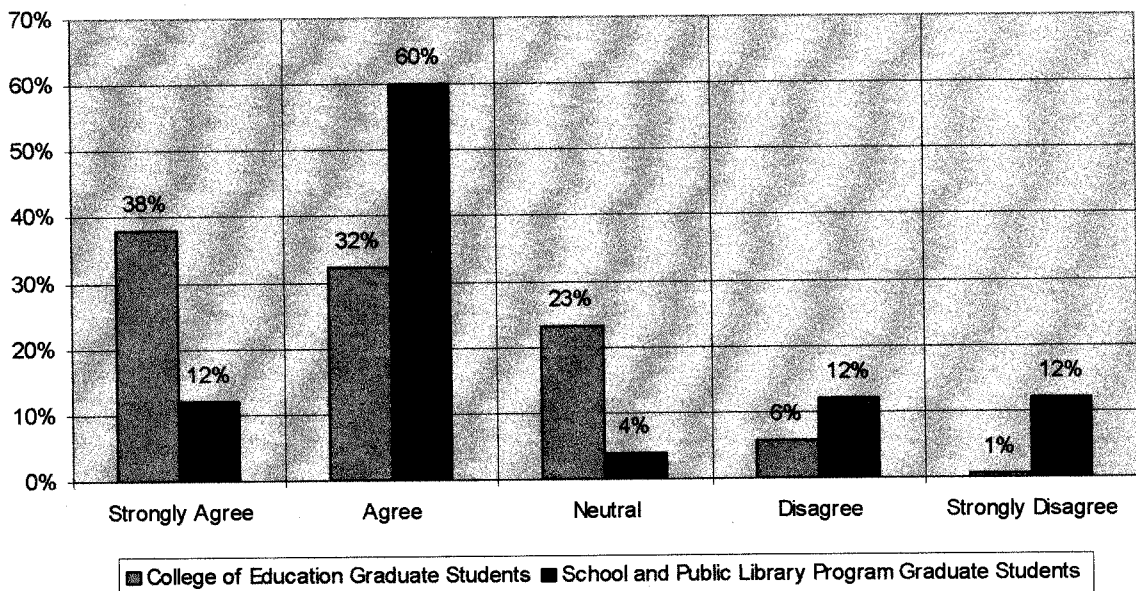


Figure 26
Comparing Opinions of Student and Classmate Communication

Statement #11: The online format provided sufficient interactive communications between myself and my classmates.

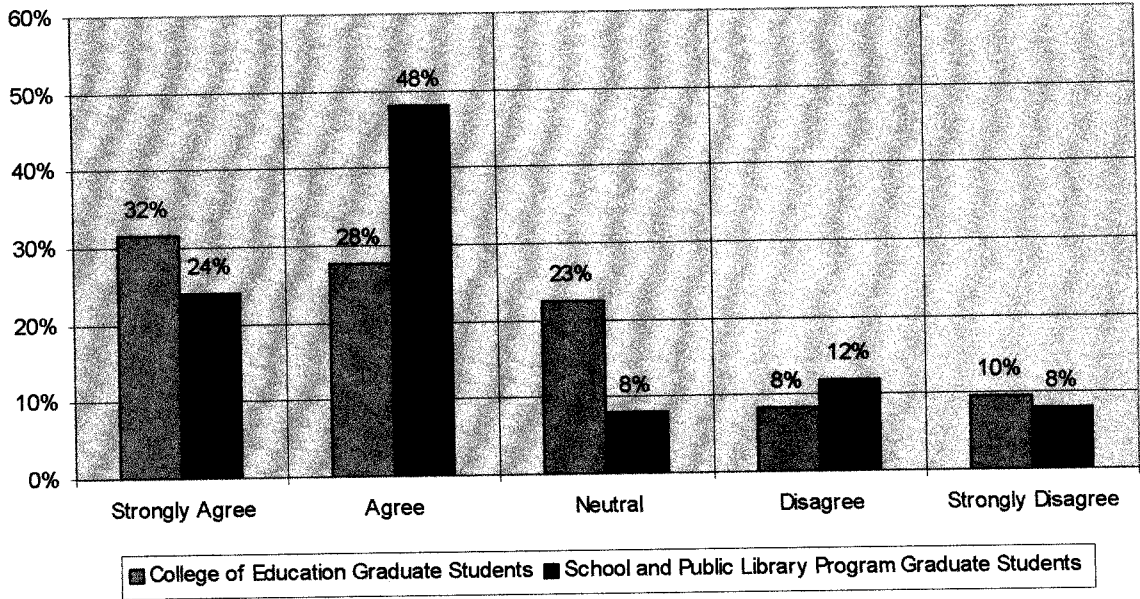


Figure 27
Comparing Opinions on Ease of WebCT Use

Statement #12: I found WebCT easy to use.

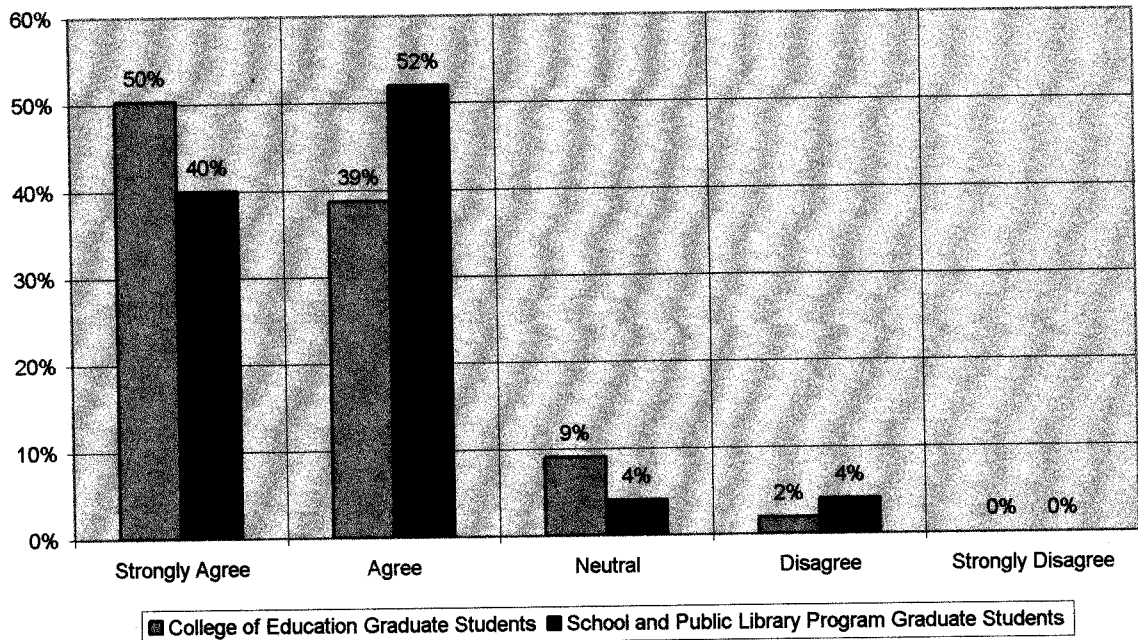


Figure 28
Comparing Opinions on WebCT Training

Statement #13: I found my training in how to use WebCT adequate.

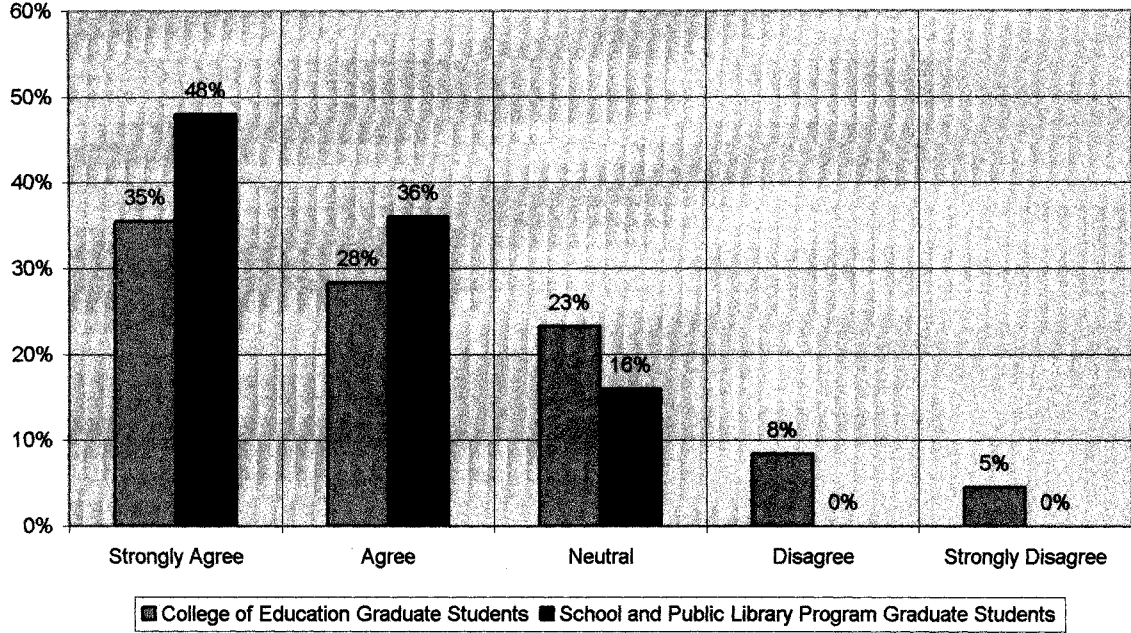


Figure 29
Comparing Opinions on the Enjoyment of Learning with WebCT

Statement #14: The WebCT format was an enjoyable way for me to learn.

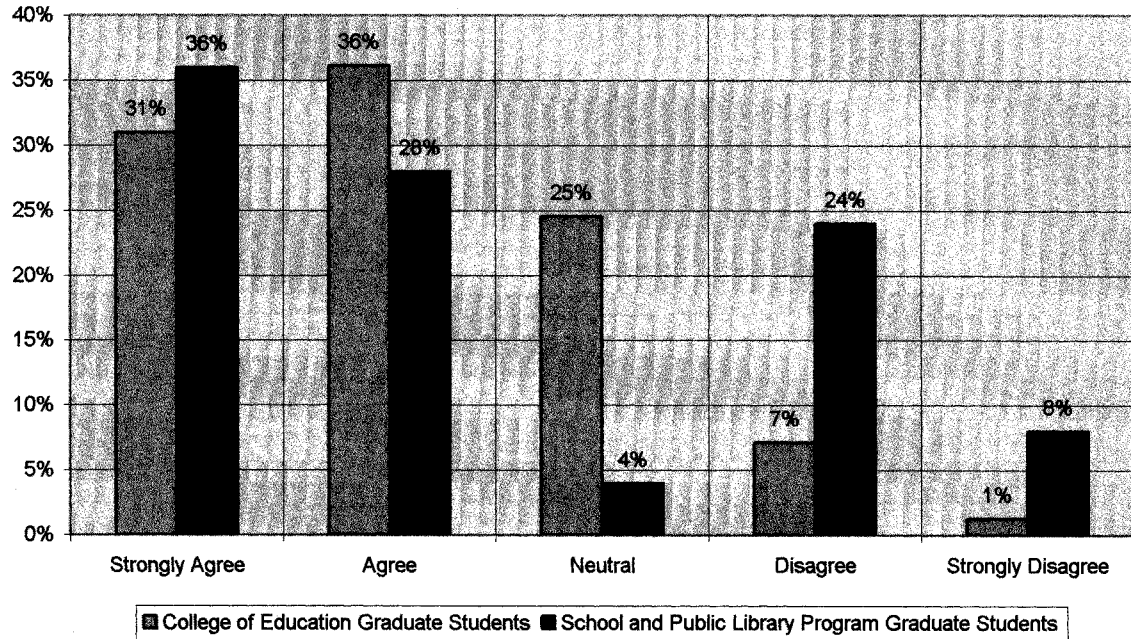
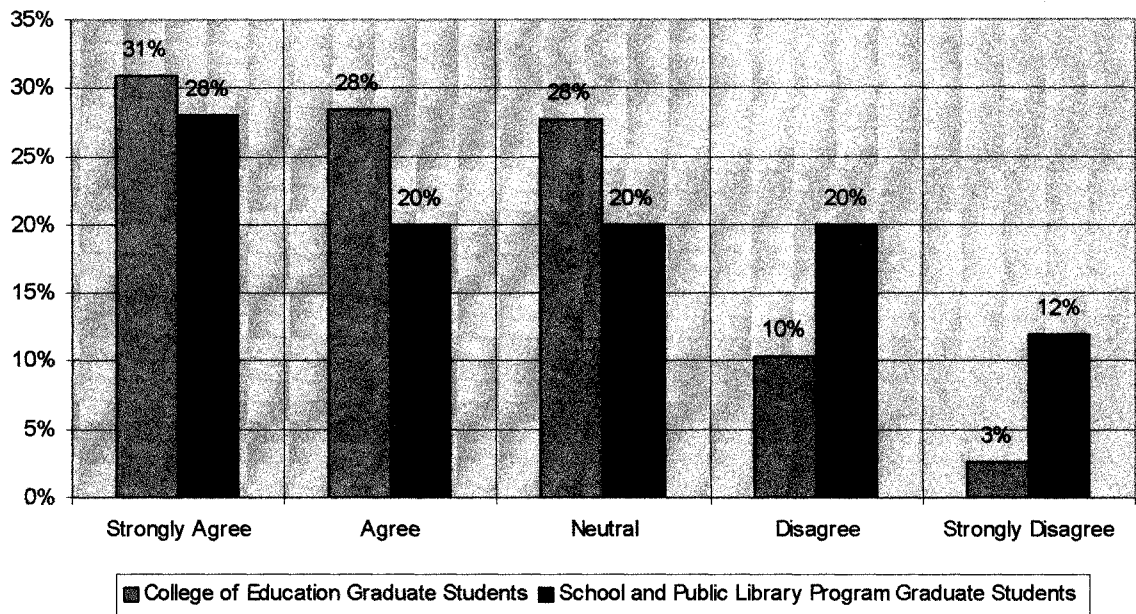


Figure 30
Comparing Preferences of Course Format

Statement #15: I would rather take a course that uses WebCT than a course that does not.



Responses to Open-Ended Questions

Three open-ended questions were included at the end of the survey. Students were asked to reflect on their experiences and then respond to the questions. One hundred thirty-eight students gave some response to these questions. Many of the responses were very similar in content. Some of those comments listed below, appear exactly as they appeared in the survey:

Question #16: What did you like most, or what was most beneficial, about using WebCT for this graduate course? (n = 121)

- In this course, WebCT gave us the opportunity to interact throughout the week.
- Ongoing communication between class members.
- I like being able to stay at home. It's less driving and parking!

- I like that I have the time I need to think and to respond. In person, I don't always think before I talk.
- It was convenient to work at my own pace at home.
- Getting to hear all of my classmates responses.
- Being able to discuss what went on in class—it's a good supplement.
- The flexibility of doing the work when I wanted to.
- If you miss a class, the information is posted online.
- Having all of the information organized in one place and always accessible.
- Spending less time handwriting notes.

Question #17: What did you like least about taking this graduate course using WebCT? (Another way of thinking about this would be, "What did you miss most that you would have had if this course were taught in a "traditional format?")

(n = 138)

- Asking questions was more difficult. You could not get an immediate answer.
- I often encountered technical problems, which was very frustrating.
- I need personal, face-to-face interaction to learn most effectively.
- Often, the instructor took several days to provide feedback via WebCT, whereas feedback would have been immediate in a classroom.
- I prefer the give and take of a live discussion.
- Additional work to post, but not allowed extra time.
- Felt like it created extra work. Sometimes hard to convey information via computer versus group interaction.
- I was frozen in WebCT many times.

- Type of interaction with the professor made me feel uncertain about my progress.
- It's time consuming.....it was like having another class.
- The expectation to use WebCT. It is a convenient "back-up", but unfair to assume that all have equal access to the Web.

Question #18: What suggestions do you have for Rowan to improve the use of WebCT in its graduate programs? (n = 94)

- Encourage professors to use it.
- Train the professors on how to use it.
- Provide more classes online.
- Work on the "chat" aspect of WebCT. Only so many students could get on at any one time. It was hard to follow the conversation when you were typing a response.
- Improve the server so that there are fewer technical problems. Server was often down.
- Provide more instruction on how to use WebCT.
- Make WebCT accessible from the Rowan homepage.
- Make WebCT more prevalent in all graduate courses so that students become expert users.
- Make it faster, it is very slow.
- Give students their password when they register.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

Understanding the attitudes of a student population towards online instruction permits an instructor, or institution to optimize effectiveness in the delivery of course content using technology. The purpose of this study was to identify the attitudes of a sample of College of Education graduate students at Rowan University in order to understand their acceptance of or resistance to Web-enhanced courses and the use of WebCT as an instructional delivery tool. There were several important factors considered when assessing Rowan graduate students' attitudes toward Web-enhanced courses and their use of WebCT. Attitudes toward technology, availability of technology, prior experience with WebCT, and overall satisfaction with WebCT's instructional delivery methodology, all played important functions in attitude determination. In addition, this study attempted to investigate if attitudes differed between graduate students in the School and Public Library Program and other College of Education graduate programs towards online course experiences.

Conclusions

The conclusions drawn by the researcher were a result of data collected and presented in Chapter IV. The researcher expected to find both positive and negative attitudes to Web-enhanced courses and the use of WebCT by students.

In looking at the positive results, graduate students enjoyed the Web-enhanced course

for the convenience of doing some of the coursework at home, on their own time, and at their own pace. Seventy-four percent of the graduate students had taken at least one other course in the past that used WebCT instruction. Sixty-eight percent of the graduate students accessed their online coursework from home, while 21% accessed their coursework from their workplace. Both of these places of access seemed to provide convenience and fit very well into their busy schedules. As one student stated, "It's less driving and parking!" When online for coursework, graduate students felt that they had more time to think about their responses than in a regular classroom setting. One student stated that they didn't always think before they talked. This format provided them the luxury to do that. Students also stated that they could spend more time on difficult concepts and less time on the easier ones. Even though there were deadlines, as long as you made them, you could approach the work at a pace that suited your schedule. Seventy percent of the graduate students indicated that they thought that the course content and procedures were presented in a clear and well organized manner. They liked having all of the information organized in one place and easily accessible. It helped when they missed a class, and cut back on the manual note taking. Seventy percent of the graduate students felt that the WebCT format also provided sufficient interaction between the instructor and themselves, while 59% felt that there was sufficient interaction between themselves and their classmates. Two of the most important positive results in the survey were that 89% of the students found WebCT easy to use, and that 67% of the graduate students indicated that the WebCT format was an enjoyable way to learn.

At the same time, some students felt that their online course experience had drawbacks. Though the percentages were low, these negative factors were still of importance to the

study. Students felt frustrated with technical difficulties with WebCT. Forty-six percent of the students stated that Rowan's server was occasionally down, limiting their time to complete their coursework. Four percent of the students stated that they frequently had technical difficulties with WebCT. One student mentioned that they were "frozen" in WebCT many times. Students also mentioned a lack of feedback or immediate assistance by the instructor. As one student stated, "Often, the instructor took several days to provide feedback via WebCT, whereas feedback would have been immediate in a classroom." Another student said, "This type of interaction with the professor made me feel uncertain about my progress." In addition, 35% of the students felt that this format created extra work. They felt that being online was time consuming, because they felt that they had to check WebCT everyday to see if anything new had been posted. Finally, many students mentioned the fact that they enjoyed the face-to-face interaction of a traditional classroom course.

Looking at the data of the 25 graduate students in the School and Public Library Program at Rowan (Figure 16-Figure 30), in comparison to the data of the other graduate students in the College of Education at Rowan, the results were very similar. It was interesting to see that a large percentage of the School and Public Library graduate students had taken previous WebCT enhanced courses. Figure 16 shows that 24% had taken two WebCT enhanced courses, 32% had taken three WebCT enhanced courses, and 28% had taken more than three WebCT enhanced courses. However, two very important survey statements brought surprising results from the School and Public Library students. In Statement #14, students were asked to respond to the statement, "The WebCT format was an enjoyable way for me to learn", using a response range from "Strongly

Agree”, to “Strongly Disagree”. Twenty-four percent of the “Disagree” responses were from students in the School and Public Library Program (see Figure 29). Also, in Statement #15, students were asked to respond to the statement, “I would rather take a course that uses WebCT than a course that does not.”, using the same response range as the prior statement. Out of the 25 School and Public Library graduate students, 28% strongly agreed, 20% agreed, 20% were neutral, 20% disagreed, and 12% strongly disagreed (see Figure 30). Some factors that may have contributed to this wide range of answers were found in responses to Question #17. When asked in Question #17 what they liked least about taking WebCT enhanced courses, the following responses were given by graduate students in the School and Public Library Program; “I like the personal interaction in a traditional format.”, “America has moved away from human interaction and it’s scary!”, “Asking questions was more difficult because you could not get an immediate answer.”, “When assignments are ‘discussion’ in nature, it creates an ungodly amount of reading on WebCT.” and “Often, the instructor took several days to respond to a question on WebCT, slowing me down from completing my work.”

In summary, WebCT has been well received by the College of Education graduate students on the Rowan campus. The positives seemed to outweigh the negatives. When asked if they would rather take a course that used WebCT than a course that did not, 59% of the College of Education graduate students said that they would rather take a course that used WebCT. These were very positive results for WebCT and the use of the Web to supplement course materials and to enhance more traditional classes.

Recommendations for Uses of the Results

The Rowan graduate students participating in Web-enhanced courses should expect to

receive the same high quality educational experience as they would in an on-campus course. It is important to assess students' attitudes towards this course delivery method, whether they be positive or negative. That way, Rowan University and the instructors can develop new remedies for the problems and different approaches to managing their use of WebCT. The following recommendations are based on the data presented in this study.

- Continue to provide both Web-enhanced and traditional courses.
- Encourage more professors to use WebCT.
- Improve Rowan's server so that there are fewer technical problems.
- Provide more effective training on how to use WebCT for the students.
- Provide more effective training on how to use WebCT for professors.
- Make WebCT accessible from the Rowan homepage.
- Continue to survey Rowan students using WebCT, to identify current attitudes and compare them to the results of this study to determine future recommendations.

Recommendations for Further Study

Distance education is here and students and educators have to be able to deal with it effectively. There are many components of distance education that need continued research. Research into students' personalities needs to be ongoing when determining course delivery format. More research needs to be done to determine if online instruction is as effective as traditional education. Further research is recommended to determine the best ways to facilitate a sense of interaction between students taking online courses and their instructors and classmates, to assure that they are not at a disadvantage. Finally, it is important to continue to research factors that lead to the greatest level of satisfaction for

students and develop strategies to implement positive factors.

If distance education is going to reach its potential, continuing research will be needed to identify specific factors necessary to meet the educational needs of students, faculty, educational institutions, and society, in a rapidly changing environment.

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APPENDIX A

APPENDIX A

Cover Letter/Professor

Dear Professor,

As a graduate student here at Rowan in the School and Public Librarianship Program, I am conducting a research project as part of my Master's thesis under the supervision of Dr. Marilyn Shontz. The purpose of the research is to examine the attitudes of Rowan graduate students towards Web-enhanced courses and the use of WebCT.

Surveys are being sent to all Rowan professors now using WebCT in their graduate courses to give to their students to fill out at the end of the course. Participation in this survey is strictly voluntary, and all responses will be kept anonymous and confidential. Students need not respond to all questions in the survey, however their responses will help my research to reflect current attitudes towards the use of WebCT here at Rowan.

Please have your students complete the enclosed surveys and return them in the envelope provided to; Georgette Sahm at the Instructional Technology Department in Memorial Hall. If you have any questions or concerns regarding this survey, please contact me at (856) 627-2188 or by e-mail at cyliax@yahoo.com. You can contact Dr. Marilyn Shontz at (856) 256-4500 Ext. 3858 or by e-mail at shontz@rowan.edu.

Thank you for taking the time to assist me with this research.

Sincerely,

Kathy J. Cyliax

APPENDIX B

APPENDIX B

Cover Letter/Graduate Student

Dear Graduate Student,

As a graduate student here at Rowan in the School and Public Librarianship Program, I am conducting a research project as part of my Master's thesis under the supervision of Dr. Marilyn Shontz. The purpose of the research is to examine the attitudes of Rowan graduate students towards Web-enhanced courses and the use of WebCT.

Surveys are being given to all Rowan graduate students now enrolled in a course that is using WebCT. Participation in this survey is strictly voluntary, and your responses will be kept anonymous and confidential. You need not respond to all questions in the survey, however your responses will help my research to reflect current attitudes towards the use of WebCT here at Rowan.

Please complete this survey and return it to your professor. If you have any questions or concerns regarding this survey, please contact me by e-mail at cyliax@yahoo.com. You can contact Dr. Marilyn Shontz at (856) 256-4500 Ext. 3858, or by e-mail at shontz@rowan.edu.

Thank you for taking the time to assist me with this research.

Sincerely,

Kathy J. Cyliax

APPENDIX C

APPENDIX C

Graduate Student Survey Web-enhanced Courses and the Use of WebCT

This survey is designed to investigate graduate students' attitudes towards Web-enhanced courses and the use of WebCT here at Rowan University. Thank you for your time and feedback.

Please answer the following questions by placing an "X" in the box beside the appropriate answer.

Background/Web-Enhanced Course Experience:

1. Not including this course, how many courses have you taken in the past that have used WebCT instruction?
 - None
 - One
 - Two
 - Three
 - More than three
2. Compared to a course that you have taken that did not have any WebCT instruction, do you think you did more, less, or about the same amount of work to complete the course?
 - More
 - Same
 - Less
3. When online for your coursework, about how many hours per week did you spend completing your work?
 - Under 2
 - 2-3
 - 4-5
 - Over 5

Evaluation of Technology Experience:

4. Where do you primarily access your online coursework?
 - Home
 - Work
 - On campus
 - Public library
 - Other: _____
5. Did you know how to use the Internet before you began this course?
 - Very Well
 - Somewhat
 - Not at All
6. How often have you experienced technical difficulties with WebCT?
 - Frequently
 - Often
 - Occasionally
 - Rarely
 - Never

Evaluation of the Course Delivery Methodology:

Please check the box of the most appropriate response to the following statements using the code:

5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree

7. The course objectives, contents, and procedures were made clear online. 5 4 3 2 1
8. The online material was presented in a clear and well organized manner. 5 4 3 2 1
9. The online activities stimulated my learning. 5 4 3 2 1
10. The online format provided sufficient interactive communications between the instructor and myself. 5 4 3 2 1
11. The online format provided sufficient interactive communications between myself and my classmates. 5 4 3 2 1

Attitudes Towards WebCT as an Instructional Tool:

12. I found WebCT easy to use. 5 4 3 2 1
13. I found my training in how to use WebCT adequate. 5 4 3 2 1
14. The WebCT format was an enjoyable way for me to learn. 5 4 3 2 1
15. I would rather take a course that uses WebCT than a course that does not. 5 4 3 2 1

The following open-ended questions are also important to the survey. Please take a few minutes to reflect on your experiences, then respond to the following questions:

16. What did you like most, or what was most beneficial, about using WebCT for this graduate course?

17. What did you like least about taking this graduate course using WebCT? (Another way of thinking about this would be, "What did you miss most that you would have had if this course were taught in a "traditional" format?")

18. What suggestions do you have for Rowan to improve the use of WebCT in its graduate programs?

Please return this survey to your professor. Thank you for taking the time to complete the survey! It is greatly appreciated!

☺ **Kathy Cyliax**
cyliax@yahoo.com