THE LAPTOP INITIATIVE IN THE GRAPHIC COMMUNICATIONS MANAGEMENT PROGRAM AT THE UNIVERSITY OF WISCONSIN-STOUT: A COMPARISON OF INITIAL STUDENT EXPECTATIONS VERSUS ACTUAL USAGE FOR THE FALL 2002 SEMESTER

by

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ABSTRACT

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The Laptop Initiative in the Graphic Communications Management Program at the University of Wisconsin-Stout: A Comparison of Initial Student Expectations Versus Actual Usage for the Fall 2002 Semester
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The University of Wisconsin-Stout has followed a current trend among universities and is now requiring all incoming students to have laptop computers. Under the University of Wisconsin system, UW-Stout is the first university to institute such a requirement. The fall of 2002 was the inaugural semester the laptop initiative was implemented.

The Graphic Communications Management (GCM) program is a unique undergraduate degree offered by the University of Wisconsin-Stout. This program prepares graduates for the diverse field of the printing and publishing industry. The subjects of the study were first-year GCM students enrolled in the one-credit class entitled, “Introduction to Graphic Communications Management.”

The purpose of this study was to evaluate how first-year students within the GCM program expect to use their laptop computers and compare the expectations to the actual

usage of the laptops for the fall 2002 semester. Other items measured importance and excitement levels of how the students viewed the laptop computers. A pretest was administered at the beginning of the semester, which was followed by a posttest to determine how their expectations matched with how they used their laptop computer.

A component of the study was divided into how the subjects viewed they would utilize applications and functions on their laptop computer for school and non-school related activities. The study discovered that subjects' expectations of how often they would utilize specific functions and applications for non-school activities were all achieved. For school related activities, expectations for a majority of items were met in all but five of the fourteen items. Although not all expectations were met, the overall opinion of the subjects was that their laptop computer would be important in their pursuit of an education at UW-Stout. Two of the important findings of the study were that subjects were excited to have their laptop computers and viewed them as an important tool in attaining their education at UW-Stout. A significant finding of the study revealed all subjects had their educational and personal goals met with the laptop computer during the fall 2002 semester.

ACKNOWLEDGEMENTS

As I sit gazing out from the shores of Lake Menomin to write this, I realize that there are many individuals who have guided me through my educational journey. The journey began for me at a young age at Tullar Elementary, where I learned from Mr. Harvey and Mr. Haffeman that education and learning can be fun. Their enthusiasm and passion for teaching were contagious in the classroom. I have many fond memories of my experience in 6th grade. My journey continued through Shattuck Junior High and Neenah High School with Mr. Paske, a teacher who not only taught me lessons in the classroom but also lessons about life. It was also at NHS where Ms. Johnston touched my life in a very inspirational way. The journey eventually led me to the University of Wisconsin-Stout.

One of the best decisions I have made in my life was to attend UW-Stout. The focus on the students by faculty serves as a model to other educational institutions. Teachers not only concentrate on academic growth but growth from within each student.

There are too many teachers at UW-Stout to mention who have influenced my life but the following have become much more than teachers but friends. I would like to thank Ted Bensen for sharing his knowledge, guidance and leadership throughout the years I spent at UW-Stout and for advising me on my thesis. To Jim Tenorio (JT) who inspires me with his work ethic and dedication to the educational field. I would like to thank Mike Galloy and Steve Schlough for teaching me a common sense approach to education. To Len Bogner, thank you for teaching me to have confidence in myself.

Finally, I would like to thank my mom, dad and wife, Kaye, for their love, support and patience while I continue my educational journey.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

Introduction

The world we all occupy is constantly affected by technology. Dugger (1997, ¶1) explains, “Technology is a fundamental aspect of human activity. The acceleration of technological change is a constant in everyone’s life.” In today’s advanced world, education is strongly influenced by the emergence of new technology. The development of new technologies can influence how educational institutions function.

Computers have been leading this technological charge into the classroom by providing students with constant access to a vast array of information. The integration of computers and the classroom is a new reality with which educators are now confronted (Buckley, 1995). The use of the computer combined with the Internet provides students with tools to be successful in today’s classroom. As Ellis (2002, ¶3) states, “The Web is weaving its way into our classrooms and curricula.” As computers continue to evolve in the classroom, they become essential components of obtaining an education.

Schools are starting to realize the potential of portable computers (Hoffman, 1995). To provide students with the necessary tools to be successful, some universities and colleges have required laptop computers for every student. These “laptop campuses” can currently be found in at least fifty colleges across the nation (Overview and History, 2002, ¶1). Universities requiring laptops include the University of Minnesota-Crookston, Winona State University, Northern Michigan University, Wake Forest University, Seton Hall University, and Carnegie Mellon University (Overview and History, 2002, ¶1). These universities have experienced success in many educational areas from the

implementation of a laptop campus. The main goal of initiating a laptop program is to provide the student with easy access to information at any time.

The University of Wisconsin-Stout has followed a current trend of colleges and universities that now require students to have laptop computers ("Laptop learning," 2000). In fall of 2002, UW-Stout became the first public university in the state of Wisconsin to require laptop computers of all incoming students. According to UW-Stout's laptop website, "Stout has always been an innovator in applying technology to education" (Introduction to Laptop Learning, 2002, ¶1). The new laptop requirement will give the students the convenience of having a computer and being able to retrieve information immediately.

The University of Wisconsin-Stout is located in northwestern Wisconsin in the city of Menomonie. Founded in 1891, UW-Stout is one of eleven four-year public universities in the University of Wisconsin System (UW-Stout Office of University Relations, 2000). UW-Stout annually enrolls approximately 8,000 students, preparing them for careers in business, industry, technology, education, human development, and art and design (UW-Stout Office of University Relations, 2000). A component of UW-Stout's mission is to provide "a distinctive array of programs leading to professional careers focused on the needs of society" (UW-Stout Strategic Planning Committee, 2000, ¶2). By focusing on the specific needs of a career path, UW-Stout offers a wide variety of majors that tailor-fit to occupations. One such major offered by UW-Stout is a Bachelor of Science in Graphic Communications Management.

The Graphic Communications Management (GCM) Program at the University of Wisconsin-Stout is a major specifically designed to prepare students for working in the

diverse career field of printing and publishing (Overview of the GCM Program, n.d.). This degree program is housed in the College of Technology, Engineering and Management, with the graphic communications technology courses offered by the Communications, Education and Training department. The GCM program is the only program of its kind in the UW System and the largest in the Midwest (Prospective Students, n.d.). The GCM program served as one of the pilot programs for the new fall of 2002 implementation of the laptop requirement for UW-Stout. Information was collected from this pilot program and carefully applied to the entire campus.

Statement of Problem

No research has been conducted that indicates what expectations first-year students have regarding the laptop computer requirement and how they expect to actually use their laptops in the Graphic Communications Management program.

Purpose of Study

The purpose of this study is to evaluate how first-year students enrolled in the Graphic Communications Management (GCM) program at the University of Wisconsin-Stout expect to use their laptop computers and compare the expectations to the actual usage of the laptops for the fall 2002 semester. The research will attempt to discover if the students' expectations are being met in the usage of their laptop computers.

Objectives of Study

The research will address the following objectives:

1. Identify student expectations of how they will use the laptop computers.

2. Identify the actual usage of the laptop computers performed throughout the semester by the students.
3. Compare student expectations of laptop computer use with the actual usage.
4. Determine if student expectations of laptop utilization are being met.
5. Identify the students' level of excitement with having a laptop computer in the GCM program.
6. Compare students' level of excitement with having a laptop computer at the beginning of the semester with the excitement level at the end of the semester.
7. Identify the level of importance that students ascribe to having a laptop in attaining an education.
8. Compare the level of importance that students ascribe to having a laptop in attaining an education at the beginning of the semester with the same measure at the end of the semester.

Significance of Study

This study is significant for the following reasons:

1. This study may aid Graphic Communications Management (GCM) faculty in understanding how students expect to use their laptop computers.
2. This study may provide information to faculty in the GCM program regarding the actual usage of the laptop computers.
3. This research may add to knowledge obtained from the GCM laptop pilot program.

4. This study may aid GCM faculty and UW-Stout officials to discover if students' expectations are being met by the laptop computer requirement.

Limitations of the Study

The following are limitations of the study:

1. The results of the study are limited to the population of first-year students enrolled in the Graphic Communications Management (GCM) program, which as new first-year students are required to take the one credit class, "Introduction to Graphic Communications Management" at the University of Wisconsin-Stout, fall 2002.
2. The pretest, posttest descriptive research procedure utilized in this study may yield subject mortality throughout the semester.
3. The analysis is limited to the information provided by first-year students participating in the GCM laptop program.
4. This study application of results only applies to the GCM program at the University of Wisconsin-Stout.
5. There may be factors not related to this study that may influence participant responses to the survey.

Assumptions of the Study

The following are some assumptions of the study:

1. The students will understand the types of questions presented in both the pretest and posttest questionnaires.

2. This analysis assumes that first-year GCM students will provide accurate, truthful and unbiased answers to questions presented to them.
3. Each student participating in the study is a freshman student using a laptop computer.
4. If the information provided by the students is true, I will assume the results of the study to be accurate.

Definition of Terms

Computer: A programmable device that can store, retrieve, and process data (Merriam-Webster, 1997)

Internet: An electronic communications network that connects computer networks worldwide (Merriam-Webster, 1997)

Laptop computer: A portable computer that is characterized by being able to fit on your lap (Merriam-Webster, 1997)

Laptop campus: An educational institution that requires students to utilize laptop computers

Technology: A manner of accomplishing a task using technical methods or knowledge (Merriam-Webster, 1997)

Methodology

This is a quantitative study that surveyed first-year students in the Graphic Communications Management (GCM) program at UW-Stout. The questionnaire results will be analyzed to determine if outcomes satisfied students' expectations of laptop usage in the GCM program. The study will also determine if the students are satisfied in general with the laptop initiative.

CHAPTER II

Review of Literature

The use and application of technology can be observed among higher educational universities throughout the United States. The combination of technology and education are a perfect match as students today can benefit from learning and applying technology to accommodate the needs of society tomorrow. These higher educational universities across the nation have experienced a paradigm shift within their campuses (Sargeant, n.d. ¶3). There is a current trend among universities to adopt an initiative that equips students, who enroll into the college, with a laptop computer as a requirement for attending the school. As of today, there are over 50 schools that now have a requirement that all students have laptop computers (Overview and History, 2002, ¶1). These schools are commonly known as: “Laptop Universities” or “Digital Campuses.”

Schools who have embraced a laptop initiative within the upper Midwest include the University of Minnesota-Crookston (UMC), Winona State University (WSU) and the University of Wisconsin-Stout (UW-Stout). On the forefront of the trend to equip students with laptop computers was the UMC. As early as 1993, UMC was the first school in the nation to require laptop computers for all students who attend the college (The Original “Laptop U”, 2003, ¶1). WSU started requiring students to have laptops beginning in 2000 school year, while UW-Stout started the requirement beginning in 2002.

The research performed by the University of Minnesota-Crookston, Winona State University and the University of Wisconsin-Stout provide an excellent foundation for supporting the researcher’s topic. The current trend of universities requiring students to

utilize a laptop computer is still in its infancy and the research performed is still somewhat limited but progressing well. The research will be presented how each University reported their findings on how the entire sample responded as a whole.

University of Minnesota-Crookston

History

The University of Minnesota-Crookston (UMC) is one of four public university campuses contained within the University of Minnesota school system. Located in northwestern Minnesota, the city of Crookston has a population of approximately 8,000 residents. The UMC campus is spread across 237 acres and contains 29 buildings (UMC at a Glance, Campus section, 2003). The university can trace its origins back to 1905 as the Northwest School of Agriculture, as an agricultural high school. The university remained unchanged until 1966 when the Northwest School of Agriculture officially became an institute of higher learning and established the University of Minnesota Technical Institute. In the year of 1988, the University of Minnesota Regents officially changed the name of the school to the University of Minnesota-Crookston to reflect that it was a coordinate campus of the University of Minnesota (A Brief History of UMC, 2002).

In the early 1990s, UMC started a transition into becoming a more traditional four year university. UMC strongly believes in a polytechnic approach to education by combining theory and application (Sargeant, 2002). The fall semester of 1993, a student at UMC had the option to enroll in courses to completion of a baccalaureate degree. Degrees available now include: Bachelor of Science (BS), Bachelor in an Applied Field (B.AH., B.M.), Associate in Applied Science (A.A.S.) and an Associate in Science (AS.)

(UMC at a Glance, Degrees Available, 2003). The UMC is accredited through the North Central Association of Colleges and Schools.

Laptop Initiative

Beginning in 1993, simultaneously while UMC started offering baccalaureate degrees, a bold new initiative was implemented. The fall semester of 1993 was the inaugural semester UMC became the first school in the nation that required all students possess a laptop computer while attending the university (The Original "Laptop U," 2003). On the forefront of the new trend requiring laptop computers for every student, UMC obtained the title, the "Original Laptop U." Since its beginnings in 1993, many other universities have adopted similar laptop initiatives. Many of these universities have made a journey to the UMC campus in order to discover how they implemented a ubiquitous computing environment (Sanford, 2000).

UMC has identified many key benefits from implementing the laptop initiative. To create a fully ubiquitous computing environment, unlimited access by the students was considered a very important component (Technology Benefits and Applications, 2003). The campus created an infrastructure that includes network ports and wireless connections create that access from anywhere on campus with the laptop computers. Another identified benefit was the communication within the school. The laptops were found to increase the amount of communication that surrounds a student's life while at school. Benefits were achieved regarding the actual learning process. Through the use of the laptops student learning was more interactive. By using the computer often, the students improved their technology skills. With everyone on campus using similar computer hardware and software, technical support is obtained from the students helping

each other. Another important benefit from the laptop program was the opportunity to use and adapt to technology. Change and technology act as a catalyst with one another. By having continual access with the laptops, students were found to adapt to change more readily. Finally, the last key benefit UMC students experience is the competitive edge they gain once they enter into the job market. It was identified by UMC that employers look for individuals with solid computing experience. At UMC, students continuously use their laptop computer, which makes graduating seniors more attractive to potential employers.

To prepare the UMC campus for the transition to becoming a fully implemented laptop campus many steps had to be taken. UMC prepared for this by updating the technology throughout the entire campus in support of a ubiquitous computer environment ("Wired" Classrooms: the New Standard at UMC, 2002). All of the classrooms at UMC have access to Internet connectivity and 85% of all classrooms feature LAN/Internet ports at every seat. Just over 97% of all rooms on the UMC campus have at least one LAN/Internet port. In compliment to rooms across the campus, all residence halls include a LAN/Internet port for each person.

The students must also be prepared for a laptop-computing environment. New freshmen students must enroll in a course entitled, "Intro to Information Technology" or ITM 1010 (UMC is Wired, Not Tired, 2003). This course is required of all students seeking a degree at UMC. The course provides students with a background of the laptop applications and features focusing on how to access them while a student at UMC. Students may also receive additional help by utilizing the UMC Computer Help Desk. The Help Desk provides technical support to all the laptop students who may be

experiencing difficulties. Instructors at UMC can benefit by using the Instructional Technology Center (ITC). The ITC helps teachers by providing technical support as well as providing assistance to integrate the technology with the laptops into the courses they teach.

A Measurement of the Laptop Initiative

To gauge various student perspectives on how the laptop initiative was performing students were asked to participate in surveys conducted throughout the campus. The director of UMC's Instructional Technology Center, Dr. Dam Lim prepared and reported his findings in the paper he authored, "*Ubiquitous mobile computing: UMC's model and success.*" The results of his findings were recorded in the years 1995, (1996 was not included) 1997, 1998 and 1999.

1995 Results.

Implementing a laptop campus took on many phases. The first phase included convincing the faculty and student body the benefits of adopting a mobile computing environment (Lim, 1999). According to the surveys given at UMC and reported in Dr. Lim's paper: 90 percent of students responded that their were crucial benefits from using laptop computers, almost 90 percent of students perceived technology skills were helping prepare them for their career, another 90 percent felt that the technology exposure and skills would aid them for continuous learning upon graduation, 87 percent of students indicated more efficient learning process completing their assignments quicker and 75 percent of students felt an enhancement in the quality and amount of learning.

1997 Results.

Another survey was conducted at UMC to discover the, "Most Frequent Uses of Laptop Computers" (Lim, 1999). According to Dr. Lim's paper the following results were reached among the student body: 95 percent of students used their laptops for writing papers and completing assignments out of class, 88 percent of students used their laptops for email, 78 percent of students were using their laptop for exploration purposes and 90 percent of students were playing games on their laptops.

Another component of the survey asked the students about the benefits of using laptop computers (Lim, 1999). The following indicates the findings as reported in Dr. Lim's paper: 93 percent of students felt the laptops were helping build technology skills to be used in their careers, 85 percent of students felt they improved their researching skills and 75 percent of students reported group activities with other students.

1998 Results.

Surveys conducted in 1998 were administered by the World Wide Web and completed by 278 students (Lim, 1999). The results of the surveys were reported in Dr. Lim's research paper and indicated the following: 80 percent of students indicated that they were not very familiar (25 percent) to somewhat familiar (54 percent) with computers before attending school at UMC and 71 percent of students spent at least 11 hours a week using their computer (the breakdown is as follows: 11-20 hours, 38 percent; 21-30 hours, 20 percent; >30 hours, 13 percent).

A variety of questions on the survey also targeted the students' satisfaction with the computers. Research conducted by UMC concluded that 80 percent of surveyed students were satisfied (47 percent) or very satisfied (32 percent) with the computer

training they received. Table 1 addresses other results as indicated in Dr. Lim's research paper.

	Percent Responding *Strongly Agree*	**Percent Responding *Agree***
At ease using computers for things needed to be done	35%	55%
Anticipate using a computer on the job	35%	45%
Computers important to career	42%	38%
Computing is a part of all courses were appropriate	23%	57%
Have a lot of self-confidence in working with computers	27%	51%

Table 1-1998 Laptop Computer Survey Results from the University of Minnesota-Crookston (figure adapted from Dr. Lim's research paper)

1999 Results.

Results obtained by administering an online survey at UMC measured various items. There were 250 graduating students and 84 completed the surveys for a response rate of 33.6 percent (Lim, 1999). Table 2 illustrates the results of the survey as reported in Dr. Lim's research paper.

	Percent Responding *Good*	**Percent Responding *Very Good***	**Percent Responding *Excellent***
Incorporation of the use of notebook computer into courses	27%	29%	36%
Opportunity to learn about the research methods in your field	36%	26%	15%
Instructor's ability to communicate their knowledge to students	38%	32%	17%
Accessibility of instructors outside the class	28%	26%	34%
Feedback given on your performance	40%	33%	12%
Amount of discussion and team projects	26%	35%	20%
Major requirements formed a well-integrated program	42%	29%	16%
Courses appropriately challenge your abilities	39%	36%	14%
Overall quality of your instruction	30%	37%	20%

Table 2-1999 Laptop Computer Survey Results from the University of Minnesota-Crookston (figure adapted from Dr. Lim's research paper)

Additional results were taken to gauge how the students viewed their laptop computer (Lim, 1999). Table 3 shows additional results compiled from Dr Lim's research paper.

	Percent Responding *Strongly Agree*	**Percent Responding *Agree***
Having my own computer helps me assume personal responsibility for learning	60%	30%
Computer skills developed at UMC are essential to my future employment	73%	20%
It is important to me to have computer access at any time	78%	17%

Table 3-1999 How Students viewed their Computer at the University of Minnesota-Crookston

2001 Results.

Graduating students participated in a survey to gauge the importance of the laptop computer while at UMC. Over 90 percent of the students surveyed agreed or strongly agreed, "The computer technology skills I developed at UMC are essential to my future employment" (Technology Benefits and Applications, Student Satisfaction Runs High, 2003). This strongly enforces one of the key benefits identified that employers feel that computing skills are essential in the positions for which they will be hired to perform. Another 90.2 percent of the students surveyed agreed or strongly agreed "It was important to me to have computer access at any time, day or night." Another key benefit identified by UMC was the importance of creating a ubiquitous computing environment. By creating an environment in which all students can have complete access when they want was identified overwhelmingly by the students as an important feature/component. Finally, 83.3 percent of students agreed or strongly agreed "Having my own computer helped me assume personal responsibility for learning". All the data recorded for the year was overwhelmingly positive.

Winona State University

History

Winona State University (WSU) was originally founded in 1858 as the first "normal school" west of the Mississippi (Acknowledging Heritage, 2003, ¶1). The 14th school in the nation of its kind, normal schools were designed to train future teachers (Quick Facts about Winona State, 2003). WSU is located in southeast Minnesota and is based in two cities: Winona and Rochester. The city of Winona primary serves a traditional array of students while an extension of WSU in the city of Rochester services a more non-traditional school climate.

WSU is a mid-sized public university and together both campuses serve approximately 7,000 full time students. Degrees are offered through the five colleges contained within WSU: the college of Business, the College of Education, the College of Liberal Arts, the College of Nursing and Health Sciences and the College of Science and Engineering (Points of Pride, 2003, ¶1). WSU has a specific mission to, "educate and enlighten our citizenry at a distinctive institution: a community of learners dedicated to improving our world" (Welcome to Winona State University, 2003, ¶1).

Laptop Program

The fall semester of 1998 brought a change to the WSU campus. WSU started a pilot program with the goal of integrating laptop computers into their educational curriculum (Laptop Program History, n.d., ¶1). The program continued through the 1998-1999 school year when students, faculty and other selected staff were able to lease a laptop computer through the school. Information was gathered from the pilot programs to prepare the campus for a full implementation of a laptop program at WSU.

The fall semester of 2000 was the inaugural semester WSU launched their laptop program (Laptop Program History, n.d., ¶3). All incoming full time freshmen were required to lease a laptop computer through WSU or provide one by their own means. This requirement was changed for the 2002-2003 school year when all students were required to lease a laptop computer directly through the school, eliminating the option of providing their own. Full time students are issued either a Personal Computer (PC) or a Macintosh laptop computer with all of the software and technical support for the needs of the student to complete their education while they attended WSU. Upon obtaining their laptop, students are required to participate in a mandatory training session that informed them how to use their laptop computers.

A campus wide annual assessment was administered to measure how the laptop program is meeting the needs of the students. (Laptop Survey Results, n.d.). Survey results are monitored to ensure the continued improvement of the laptop program. Table 4 illustrates the findings of the survey completed during the 2001-2002 school year on how the sample responded as a whole.

Item	**Percent Responding**
Experience with Computers Prior to WSU Laptop Program	
Lots of Experience	36%
Moderate Experience	51%
Very Little Experience	10%
No Previous Experience	3%
Times the Student Contacted the Technical Support Center since the Beginning of the School Year	
0X	24%
1X	25%
2X	23%
3X	15%
4X	6%
>4X	7%

How Student Contacted the Technical Support Center	
Walk Ins	62%
Phone	32%
Email	6%
Forum	0%
Reason Student Contacted the Technical Support Center	
Network/Internet	19%
Login	19%
Hardware	18%
Email	11%
Software	10%
No Need For Support	9%
General	9%
Printer	5%
Did the Technical Support Center Respond to Your Support Issues in a Timely Manner	
Yes	90%
No	10%
How Long Did it Take the Technical Support Center to Initially Respond to Your Inquiry	
<2Hours	77%
2-4 Hours	9%
4-8 Hours	2%
1-2 Days	7%
>2 Days	5%
Overall Satisfaction with the Technical Support Center	
Great	11%
Good	49%
No Opinion	1%
Fair	33%
Poor	6%
Opinion of the Overall Usefulness of the Laptop	
Extremely Useful	44%
Somewhat Useful	40%
No Opinion	1%
Minimal	13%
Not Useful	2%
Issues of Importance in the Laptop Program	
Low Cost	30%
Connection Speed	29%
High Quality Laptop	22%
Dial In Access	11%
Use of Laptop In Class	3%
Quality and Fast Tech	3%
More Training	2%

Most Important Improvement that Could be Made to the Laptop Program	
Better Network Speed	35%
More Quality Laptops	19%
Use of Laptop In Class	12%
Modem Dial Up Access	9%
More External Devises to Connect	8%
More Printers On Campus	6%
More Places to Connect	4%
Better Training	4%
Better Tech Support	3%

Table 4-2000-2001 Winona State University Laptop Survey Results

University of Wisconsin-Stout

Laptop Initiative

Beginning in the fall semester of the 2000-2001 school year, a new pilot program was introduced to incorporate laptop computers into UW-Stout classrooms. First-year students entering the undergraduate programs of Graphic Communications Management and Technical Communications were required to utilize Apple laptop computers (Overview and History, Planning, 2002). The use of the Apple platform was attributed to the influence of the industries predominate use of an Apple computing systems. No specific research was gathered to gauge how the students viewed how they would utilize their laptop computers. The pilot program served as a prelude to a new resolution that was unanimously passed by the Faculty Senate in fall of 2002. The resolution states, "The Faculty Senate of the University of Wisconsin-Stout supports the initiative to transition the campus to a digital environment for every student, staff, and faculty member. Furthermore, the Senate encourages all members of the University to assist in ensuring that infrastructures for such a digital environment are in place prior to implementation."

With the launch of the pilot program, representatives from UW-Stout visited campuses in Michigan and Minnesota that already required laptop computers (Overview

and History, 2002). The goal of visiting other campuses was to examine and research how they implemented their individual programs. Committees within UW-Stout faculty were formed to examine all aspects of how a laptop program would impact the university. It was determined by UW-Stout that a wireless laptop environment multiplies opportunities for active learning, promotes more interaction and collaboration, enhances flexibility, increases access to university services, improves graduates' critical technology skills and extends credit earning possibilities (Introduction to Laptop Learning, 2002, ¶5).

The 2002-2003 school year marked the inaugural semester when all newly-enrolled first-year students at UW-Stout were required to lease a laptop computer. The move made UW-Stout the first public university in the state of Wisconsin to require laptop computers (Introduction to Laptop Learning, 2002, ¶1). Students entering most undergraduate programs received a Compaq laptop computer, while students enrolled in art, graphic communications management and technical communications received an Apple platform computing system (Frequently Asked Questions, n.d., ¶1). The laptop initiative became known as the "e-Scholar program."

The Office of Budget, Planning and Analysis is responsible for conducting research and presenting data to ensure the continuous improvement and monitoring of the e-Scholar program. The Office of Budget, Planning and Analysis conducts research using process monitoring instruments and outcome monitoring instruments in a variety of questionnaires conducted throughout the year (Wentz, 2003). The research for the e-Scholar program is gathered by using a variety of questionnaires as follows: student questionnaires (conducted twice annually), student focus group (administered after the

first student questionnaire), faculty questionnaires (conducted twice annually), faculty focus groups (administered after the second questionnaire), a student Training and expectation Survey, Microsoft Office assessments and a student survey on the effectiveness of the e-Scholar program from a students' perspective. After data is compiled, individuals within the Office of Budget, Planning and Analysis readily share data by posting the results to the laptop assessment web site. By sharing the information campus-wide, the strengths and weaknesses can be observed and built on or altered quickly to ensure the continued success of the laptop program. To achieve an overall consensus of how the e-Scholar program is progressing from a students' view, only data will be reported that was collected from the summer and fall of 2002.

An initial assessment was given to first-year students in the summer of 2002 when they attended orientation training on their laptop computer. Data was obtained from two open-ended questions and answered by all 1,310 enrolled first-year students (Griesbach, 2002). The survey was designed to measure students' expectations about the e-Scholar program and how they expected to use their laptop computer.

The two questions that were asked are as follows: "In your own words briefly explain what being an "e-Scholar" means to you" and "How do you expect to use your laptop in your daily life as a new student." (Griesbach, 2002). Results were analyzed and grouped into major themes by Brad Griesbach with assistance from three undergraduate students. Of all the comments made by the respondents an overwhelmingly 95 percent of the remarks were positive. The following figures 1 and 2 display the results compiled by Brad Griesbach.

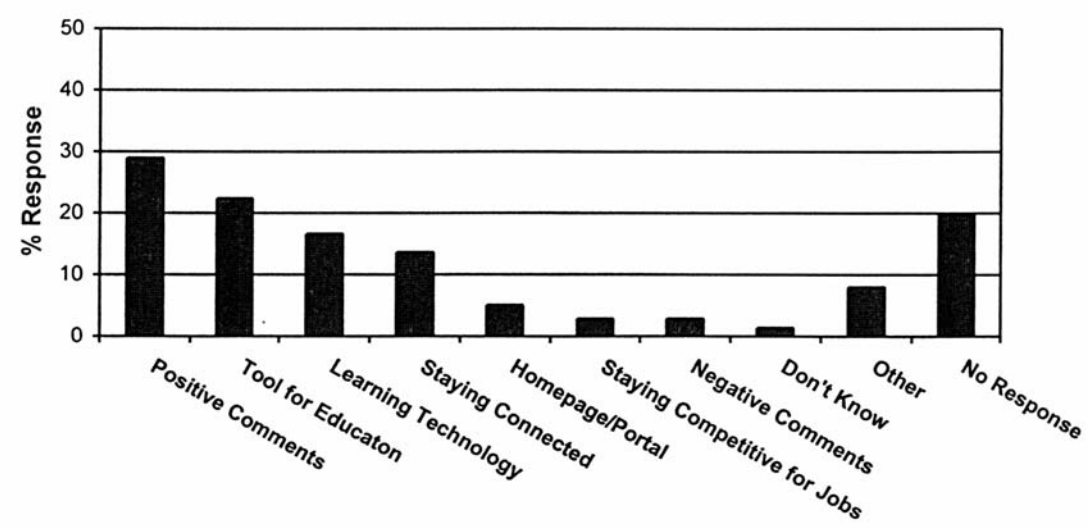

Figure 1-2002 Summer UW-Stout sample response to, "In your own words briefly explain what being an e-Scholar means to you" (figure obtained from Brad Griesbach's report)

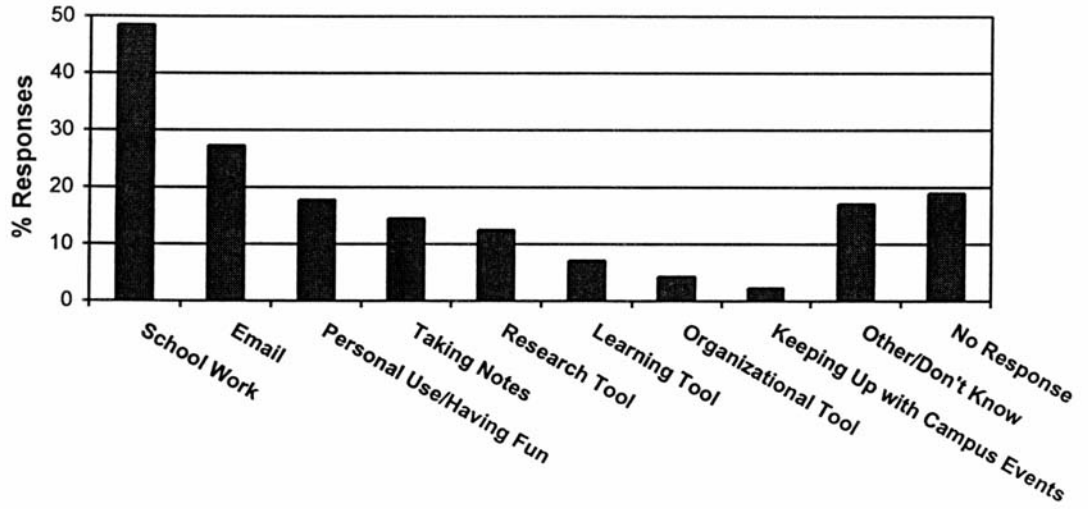

Figure 2-2002 Summer, UW-Stout sample response to, "How do you expect to use your laptop in your daily life as a new student" (figure obtained from Brad Griesbach's report)

The Office of Budgeting, Planning and Analysis conducted their first assessment of the e-Scholar program in October of 2002 (Griesbach, 2002). A survey (see Appendix 1) was distributed via email and yielded 318 respondents for a response rate of 24 percent. There was a total of nine items on the questionnaire, four items were open-ended

questions, four items were designed to allow students to use a scale to answer and the last item asks the student for participation within a focus group. The purpose of the survey was to determine any concerns the student had, report any problems or training issues and show how they use their laptops in and outside of the classroom.

The results from the October 2002 survey were analyzed by Dr. Lou Milanesi (2002) and open-ended responses were categorized into major themes by Brad Griesbach (2002) with assistance from three undergraduate students. The results of their findings are displayed in table 5.

Item	Percent of Respondents
1. Respondents who contacted ASK5000	
Yes	70%
No	30%
2. Experience any of the following with ASK5000	
A) Ability to provide a solution to the to the problem or question you had	
(0, no problems)	62%
(1)	18%
(2)	12%
(3, many problems)	8%
B) Timeliness of service	
(0, no problems)	56%
(1)	22%
(2)	12%
(3, many problems)	8%
C) Quality of service	
(0, no problems)	64%
(1)	16%
(2)	14%
(3, many problems)	6%
3.In the past two months, any problems with the following	
A) Accessing your email	
(0, no problems)	4%
(1)	0%
(2)	38%
(3, many problems)	44%

B) Printing on networked printers	
(0, no problems)	70%
(1)	16%
(2)	6%
(3, many problems)	8%
C) Speed of network	
(0, no problems)	10%
(1)	36%
(2)	34%
(3, many problems)	20%
D) Problems with wireless connectivity	
(0, no problems)	22%
(1)	38%
(2)	22%
(3, many problems)	18%
4. Problems students experienced	
(In order of Greatest to Least)	
Email issues	
Slow Connection	
Wireless Problems	
No Response	
Other	
Printing Problems	
Speed of Laptop	
Problems with ASK5000	
Don't Know	
5. Rate your knowledge in the following areas	
A) Care of the Laptop	
(0, not at all knowledgeable)	20%
(1)	4%
(2)	12%
(3, very knowledgeable)	42%
B) Laptop Features	
(0, not at all knowledgeable)	7%
(1)	22%
(2)	37%
(3, very knowledgeable)	34%
C) Virus Protection	
(0, not at all knowledgeable)	13%
(1)	28%
(2)	39%
(3, very knowledgeable)	20%

D) File Management/back-up process utilizing the "my documents" folder	
(0, not at all knowledgeable)	11%
(1)	18%
(2)	36%
(3, very knowledgeable)	35%
E) File management/back-up process utilizing server storage	
(0, not at all knowledgeable)	18%
(1)	31%
(2)	28%
(3, very knowledgeable)	23%
F) Security practices	
(0, not at all knowledgeable)	11%
(1)	20%
(2)	38%
(3, very knowledgeable)	31%
G) How to use your web email	
(0, not at all knowledgeable)	2%
(1)	1%
(2)	23%
(3, very knowledgeable)	74%
H) Using the Desktop Help Wizard	
(0, not at all knowledgeable)	11%
(1)	17%
(2)	35%
(3, very knowledgeable)	37%
I) Using the E-Scholar portal	
(0, not at all knowledgeable)	1%
(1)	4%
(2)	28%
(3, very knowledgeable)	67%
6. Student Training Needs	
(In order of Greatest to Least)	
No Response	
Saving/backup	
Other	
Negative comments about training	
Don't know	
Server storage	
Anti-virus system	
Laptop features	
Using the Mac	
Knowledge of cords	

7. Students' use of their laptop during class time (In order of Greatest to Least) Taking notes Research/access web Blackboard In-class assignments/labs/quizzes Email Writing papers No use in class No response PowerPoint Personal use/entertainment	
8. Students' use of their laptop outside of class (In order of Greatest to Least) Keeping up with campus events Personal use/entertainment Other Organizational tool No response School work Email Learning tool Research tool Don't know	
9.Participate in a focus group (students were asked if they would attend a focus group)	

Table 5-Results from the Laptop Questionnaire administered at UW-Stout in October of 2002

Data were compiled from the Office of Budgeting, Planning and Analysis to determine the main themes that students utilized their laptop computers. Table 6 reports how the subjects expected to use their laptops and compare them to how they used their laptops for both semesters.

Item	Percent Responding
Email	
Expectations	27.3%
First Semester Usage	35.8%
Personal use/entertainment	
Expectations	17.7%
First Semester Usage	19.0%
Taking Notes	
Expectations	14.5%
First Semester Usage	50.3%
Research Tool	
Expectations	12.4%
First Semester Usage	38.8%
Organizational Tool	
Expectations	4.2%
First Semester Usage	1.3%
Keeping up with campus events	
Expectations	2.2%
First Semester Usage	1.3%

Table 6-Students Entry Expectations from Summer of 2002 and use of their laptops Fall of 2002 (data obtained from the Office of Budgeting, Planning and Analysis)

CHAPTER III

Methodology

This study was designed to evaluate subject responses during the beginning and end of the fall 2002 semester. The focus of the research was to evaluate students' initial expectations of laptop computer usage compared to how the laptop computer was actually used throughout the semester. The study and general nature of additional questions were designed to gain perceptions that the subjects had regarding the new laptop requirement enacted at the University of Wisconsin-Stout. Other questions targeted how the subjects felt their laptop would support them while in pursuit of their undergraduate degree. The make-up of the research dictated the use of a pretest questionnaire at the beginning of the semester and a posttest questionnaire administered at the end of the semester.

Sample Section

The population for this research was first-year students at the UW-Stout, enrolled in the Graphic Communications Management (GCM) undergraduate degree program. The new first-year students were the first group of students participating under the new laptop computer initiative at UW-Stout requiring that all students lease a laptop computer. As a requirement of the GCM program, new students must participate in a one-credit course entitled, "Introduction to Graphic Communications Management" or GCM-101. This class is introductory in nature with a focus of providing first-year students with a basic understanding of what can be expected of them in the GCM program.

In the fall 2002 section of GCM-101, there were 26 students enrolled. Of the 26 students enrolled, 24 students actively participated through the duration of the semester.

Students were given a randomly assigned number to ensure anonymity and track subject results from pretest to posttest. During data analysis, eight subject questionnaires were eliminated from the study because the pretest and posttest did not correspond with the randomly assigned number. The research study yielded 18 usable pretest and posttest questionnaires.

Instrumentation

This study necessitated the use of two questionnaires administered at two different periods of time. The researcher developed a pretest (Appendix B) and a posttest (Appendix C). The pretest was given at the beginning of the semester and the posttest was administered at the end of the semester. The questionnaires were nearly identical in layout and question formats were very similar, with the main difference in how the verb indicates if the question was asked on the pretest or the posttest. To ensure the research satisfied the needs of the study, the researcher consulted with appropriate individuals in developing the format and questions presented in the questionnaires. The validity of the questionnaires was obtained through guidance from Dr. Ted Bensen, GCM Program Advisor, Associate Professor and research advisor for this study. The structure of the questions and format/layout of the questionnaires was acquired through assistance and guidance from Ms. Christine Ness, the Research and Statistical Consultant at UW-Stout.

The structure of the pretest/posttest research study required subjects to be tracked through the duration of the fall 2002 semester. For this reason, question #1 on each questionnaire asked that subjects indicate their randomly assigned student number that was generated by Dr. Ted Bensen. To ensure the anonymity of the subjects, the

researcher had no access to, or knowledge of, the participant names at any time during the study.

Pretest Questionnaire

The pretest questionnaire (Appendix B) was constructed with 12 total items. Most items on the pretest were designed to correlate with the posttest. Of the 12 items, four were designed to gather demographic data about the subjects. Items such as gender (question #2) and age (question #3) were asked give the study some background on the subjects. Question #4 was designed to ascertain whether the subjects owned a computer as well as to discover which type of computer they used in the last school the subject attended. Finally, question #6 was designed to identify the type of activities for which computers were used.

Posttest Questionnaire

The posttest questionnaire (Appendix C) was constructed with 10 total items. Most items correlated to pretest items. Of the 10 items, two were designed to gather additional useful information. Question #5 was designed to determine if the student was satisfied with their laptop in the fall 2002 semester. Finally, question #6 focused on future usage of the laptop and if the subjects feel it felt it would benefit them in attaining their GCM undergraduate degree.

Pretest and Posttest Correlated Items

Most items on the pretest and the posttest were designed in conjunction with each other to provide a direct comparison between the two questionnaires. The following figure 3 represents questions that were designed together from pretest to posttest.

Questions were also designed to gauge subjects' general perceptions about having a laptop and how it would assist them in the pursuit of their undergraduate degree.

Item	Pretest Questionnaire		Posttest Questionnaire
A	5	*correlates to*	2
B	7	*correlates to*	8
C	8	*correlates to*	9
D	9	*correlates to*	3
E	10	*correlates to*	4
F	11	*correlates to*	7
G	12	*correlates to*	10

Figure 3-Questions that correlate from pretest to posttest

Item A.

Pretest question #5 was identical to question #2 on the posttest, and asked the subject what type of computer they prefer working on. Most students enrolled at UW-Stout are provided a Compaq (IBM Compatible/PC/Windows Operating System) computer. Students who enroll in the GCM undergraduate program are provided an Apple laptop computer. This question was intended to account for any computer bias that a subject might have had before the study began and determine if the laptop provided altered the computer platform preference by the conclusion of the study.

Item B and C.

Items B (question #7 on the pretest, #8 posttest) and C (question #8 on the pretest, #9 posttest) were designed to separate functions performed on a computer for school related activities and non-school related activities. The subject had the opportunity to choose from a list of computer functions available on all laptops (Items A-G) issued to new first-year students at UW-Stout, as well as, computer applications that were specific to the GCM program (Items A-N). In both items (B and C) a subject had to indicate how

they were going to use their laptop computer and how often (in number of times a week) they would use it. The only difference is how the question was formatted by the verb. The pretest indicates how a subject "expect to use" while the posttest used "did you use." Item B question #7 on the pretest correlates to question #8 on the posttest. Item C question #8 on the pretest correlates to posttest question #9. Figure 4 is the scale the subjects used to rate how often they would use their computers for item B and C.

Word Translation	**Days per week subject was to indicate usage**
Never	0 days/week
Rarely	1 day/week
Seldom	2 days/week
Sometimes	3 days/week
Occasionally	4 days/week
Often	5 days/week
Usually	6 days/week
Always	7 days/week

Figure 4-Scale used to answer questions 7 & 8 on the pretest and 8 & 9 on the posttest

Item D.

This item is intended to measure how a subject felt personally about having a laptop computer at the beginning and end of the semester. Question #9 on the pretest asks the subjects how they feel about having a laptop computer in the GCM program. This question correlated to question #3 on the posttest, when it asked the student how they felt the past semester about having a laptop computer. Figure 5 was used by the subjects in how they answered item D.

Number Value	Excitement Level
0	Not Excited
1	
2	Somewhat Excited
3	
4	Very Excited

Figure 5-Likert Scale used to answer question 9 on the pretest and question 3 on the posttest

Item E.

Item E was designed to determine how a student felt having a laptop would aid them in pursuit of their GCM undergraduate degree. Question #10 on the pretest addressed how the subject initially felt how the laptop would aid them in attaining an education. On the posttest, question #4 the subject was asked what type of role their laptop played during the course of the semester. Figure 6 is the scale the subjects used to gauge the importance of having a laptop and how it would aid them in attaining an education.

Number Value	Importance Level
0	Not Important
1	
2	Somewhat Important
3	
4	Very Important

Figure 6-Likert Scale used to answer question 10 on the pretest and question 4 on the posttest

Item F.

Questions were identical on both questionnaires were to determine what classes the subject was enrolled in. This item was developed to measure if a subject dropped any classes during the duration of the semester. This item may also determine if a particular

class had any effect on any usage of the laptop computer for school related activities. Question # 11 on the pretest was linked with question #7 on the posttest.

Item G.

This item (question #12 on the pretest, question #10 on the posttest) was identical on both questionnaires were intended to let the subject share any comments they had about anything regarding the laptop program.

Procedures

This section on procedures will be divided into two parts. Part one will indicate the administration of the pretest while part two will indicate the administration of the posttest. In the following descriptions, the primary researcher was absent from conducting both components of the study so the term "researcher" refers to Dr. Ted Bensen, who administered both questionnaires.

Part One: Pretest

Part one of the study took place at the beginning of the semester on September 16th, 2002. The research was taken from GCM first-year students enrolled in the course, "Introduction to Graphic Communications Management." First, the researcher read a cover letter describing the importance and the general nature of the study. Then, the researcher asked the students to voluntarily participate in the study. Next, students who had chosen to participate in the study were asked to sign a consent form. Students who chose to participate in the study were given a randomly assigned student number in order to track the responses from pretest to posttest. Questionnaires were then distributed to the students. The researcher explained the directions and general format for completion of the questionnaire. Finally, after the students completed the questionnaires, they placed

them face down while the researcher gathered all of the completed surveys. The researcher answered any additional questions and thanked the participants.

Part Two: Posttest

Part two of the research study took place at the end of the semester on December 9, 2002. The same subjects were administered the posttest questionnaire. First, the researcher read a similar cover letter describing the general nature and importance of study. Then, the researcher asked the students who participated in the pretest questionnaire to volunteer to take the posttest questionnaire. Students who forgot their randomly assigned student number were given the opportunity to find out what number was assigned to them previously. Next, the questionnaire was administered to the subject volunteers while the researcher explained the directions for completion. After the subjects had completed the questionnaire they placed it face down while the researcher gathered the completed forms. The researcher answered any questions that the subjects had and thanked the participants.

Data Analysis

Ms. Christine Ness, compiled data from the pretest and posttest questionnaires. The focus of the study dictated the use of the following statistics: mean, standard deviation and t tests for the difference of means. A majority of the research used a mean and standard deviating to achieve an overall rating on how the sample responded. Many questions were designed to track a particular question from pretest to posttest so t tests for the difference of means were used to discover the strength of the relationship with a significance rating of 0.05 (2-tailed).

CHAPTER IV

Data Analysis

This chapter will present data analysis of the results of the pretest and the posttest individually going through both questionnaires item-by-item. An analysis of corresponding pre/post test items will follow. The statistics used for each question vary, but means, standard deviations, t tests and significance ratings are typical.

Rate of Response

Questionnaires were distributed to a population of 26 first-year students enrolled in the course "Introduction to Graphic Communications Management." Respondents who did not complete the pretest and posttest were eliminated from the study. The study produced 18 valid sets of responses for a response rate of 69% (n=18).

Pretest Questionnaire

The pretest questionnaire was developed with 12 total questions. Items will be presented individually by question. Item #1 was the assigned student number on both questionnaires.

Demographic Data

Item #2 – Gender.

Subjects were asked to indicate their gender. Table 7 presents how the class was divided according to gender. The class was almost equally divided by gender with a slight edge given to female subjects (n=10) over male subjects (n=8).

	Respondents (n)	Valid Percent (%)
Male	8	44.4
Female	10	55.6
Total	18	100.0

Table 7-Sample separated by gender

Item #3 – Age.

Data for the age of the subjects indicated that the mean and median age for subjects was 18 years of age. Table 8 indicates that one of the subjects did not indicate an age on the pretest questionnaire but the research produced 17 valid respondents.

Respondents (n)	Valid	17
	Missing	1
	Mean	18.0
	Median	18.0
	Standard Deviation	0.00

Table 8-Average age of the respondents

Item #4 - Computer Background.

Most subjects in the study had access to a computer prior to attending UW-Stout. Table 9 shows that 94.4 percent of the respondents either owned or their family owned a computer prior to attending college.

	Respondents (n)	Valid Percent (%)
Yes	17	94.4
No	1	5.6
Total	18	100.0

Table 9-Subjects who had access to a computer before attending UW-Stout

In the last school attended by the subjects, participants were asked what computer platform they used prior to attending UW-Stout. The population indicated that 61.1

percent of had the most experience on IBM Compatible/PC (n=11). Subjects that had experience on Apple/Macintosh computers had a respondent rate of 22.2 percent (n=4). Of the respondents, 3 subjects indicated that they had equal experiences on both operating platforms. Table 10 indicates the breakdown of the type of computer operating system that subjects had most experience on in the last school they attended.

	Respondents (n)	**Valid Percent (%)**
IBM Compatible/PC	11	61.1
Apple/Macintosh	4	22.2
Both	3	16.7
Total	18	100.0

Table 10-Type of computer platform subjects had the most experience with in the last school attended

Descriptive Data

Item #5 - What type of computer do you prefer working on?

A majority of subjects preferred working on IBM Compatible/PC computers to an Apple/Macintosh computer (see Table 11). A small percentage of respondents had no preference of the type of computer on which they preferred to work.

	Respondents (n)	**Valid Percent (%)**
IBM Compatible/PC	11	61.1
Apple/Macintosh	5	27.8
Both/No Preference	2	11.1
Total	18	100.0

Table 11-Pretest, computer platform subjects preferred working on

Item #6 – I have used computer applications for:

This question was intended to gain knowledge on overall computer experience that the subjects had upon entering UW-Stout as new first-year GCM students. The question did not ask which applications or computer programs that the subject has used but rather what activities they had performed on a computer. The subjects were asked to identify items they had used such as: internet, email, word processing, spreadsheets, presentations, schedule creating, burning CDs, laying out pages, photo editing, drawing, creating and viewing PDFs, font management, creating job tickets, tracking production work and any other experiences that the subject wished to express. Checked items were identified as functions for which respondents had used a computer while items left unchecked indicated that they had not used a computer for that particular function. Table 12 shows that all of the subjects in the study have used a computer to perform many applications.

Item	Yes/Checked	No/Unchecked	TOTAL
Internet (n)	18	0	18
Valid Percent (%)	100	0.0	100.00
Email (n)	18	0	18
Valid Percent (%)	100.0	0.0	100.0
Word Processing (n)	17	1	18
Valid Percent (%)	94.4	5.6	100
Spreadsheets (n)	13	5	18
Valid Percent (%)	72.2	27.8	100.0
Presentations (n)	16	2	18
Valid Percent (%)	88.9	11.1	100.0
Schedule Creating (n)	6	12	18
Valid Percent (%)	33.3	66.7	100.0
Burning CDs (n)	17	1	18
Valid Percent (%)	94.4	5.6	100.0
Laying Out Pages	11	7	18
Valid Percent (%)	61.1	38.9	100.0
Photo Editing (n)	12	6	18
Valid Percent (%)	66.7	33.3	100.0
Drawing (n)	13	5	18
Valid Percent (%)	72.2	27.8	100.0
Creating and Viewing PDFs (n)	8	10	18
Valid Percent (%)	44.4	55.6	100.0
Font Management (n)	8	10	18
Valid Percent (%)	44.4	55.6	100.0
Creating Job Tickets (n)	1	17	18
Valid Percent (%)	5.6	94.4	100.0
Tracking Production Work (n)	1	17	18
Valid Percent (%)	5.6	94.4	100.0
Other: [Subjects Indicated] Games (n)	2	14	18
Valid Percent (%)	11.1	94.4	100.0
Other: [Subjects Indicated] Making Websites, Animations (n)	1	17	18
Valid Percent (%)	5.6	94.4	100.0

Table 12-Computer applications subjects had experience with

Item #7 - How do you EXPECT TO USE your laptop computer this semester for SCHOOL RELATED ACTIVITIES in respect to the following functions and applications specific to the GCM Program?

This question was designed to determine how the subjects expected to use their laptop computer for school related activities. The question was divided into computer functions (item A-G) and computer applications that are specifically used in the GCM undergraduate program (items H-N). Respondents indicated their expectations of how they were going to use their laptop by using the scale indicated in figure 4, subjects had to circle the corresponding number that the scale translated to. The scale, was designed by utilizing day(s) of the week a subject felt they would use a particular computer function and/or application.

Table 13 displays valid respondents, mean and standard deviation of how the subjects responded as a sample for question #7 on the pretest questionnaire.

Item	Valid (n)	Missing (n)	Mean 0 –7 scale	Standard Deviation
A. Internet	18	0	5.44	1.46
B. Email	18	0	5.17	2.38
C. Word Processing	18	0	4.44	1.79
D. Spreadsheets	18	0	1.50	1.04
E. Presentations	18	0	1.94	1.39
F. Schedule Creating	18	0	2.17	2.57
G. Burning CDs	18	0	2.94	1.83
H. QuarkXPress	17	1	4.24	1.15
I. Adobe Photoshop	18	0	3.56	1.69
J. Adobe Illustrator	18	0	3.11	1.88
K. Adobe Acrobat	17	1	3.24	1.64
L. Extensis Suitcase	17	1	2.41	1.97
M. Virtual Ticket	17	1	1.35	1.32
N. Job Manager	17	1	1.47	1.46

Table 13-Pretest, sample expectations of laptop computer usage for school related activities for functions and applications specific to the GCM program (question 7)

To achieve an overall view of how the subjects responded individually, the following table was created. Table 14 illustrates how each subject answered individually for question #7, items A-N, on the pretest questionnaire.

Item	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**TOTAL**
A. Internet (n)	0	0	0	2	4	2	4	6	18
Valid Percent (%)	0.0	0.0	0.0	11.1	22.2	11.1	22.2	33.3	100.0
B. Email (n)	0	3	1	0	2	1	2	9	18
Valid Percent (%)	0.0	16.7	5.6	0.0	11.1	5.6	11.1	50.0	100.0
C. Word Processing (n)	0	1	3	1	2	6	3	2	18
Valid Percent (%)	0.0	5.6	16.7	5.6	11.1	33.3	16.7	11.1	100.0
D. Spreadsheets (n)	2	9	4	2	1	0	0	0	18
Valid Percent (%)	11.1	50.0	22.2	11.1	5.6	0.0	0.0	0.0	100.0
E. Presentations (n)	2	7	3	2	4	0	0	0	18
Valid Percent (%)	11.1	38.9	16.7	11.1	22.2	0.0	0.0	0.0	100.0
F. Schedule Creating (n)	6	4	3	1	0	1	0	3	18
Valid Percent (%)	33.3	22.2	16.7	5.6	0.0	5.6	0.0	16.7	100.0
G. Burning CDs (n)	0	5	4	3	2	1	3	0	18
Valid Percent (%)	0.0	27.8	22.2	16.7	11.1	5.6	16.7	0.0	100.0
H. QuarkXPress (n)	0	0	0	7	1	7	2	0	17
Valid Percent (%)	0.0	0.0	0.0	41.2	5.9	41.2	11.8	0.0	100.0
I. Adobe Photoshop (n)	1	1	1	7	3	3	1	1	18
Valid Percent (%)	5.6	5.6	5.6	38.9	16.7	16.7	5.6	5.6	100.0
J. Adobe Illustrator (n)	2	1	3	6	2	2	1	1	18
Valid Percent (%)	11.1	5.6	16.7	33.3	11.1	11.1	5.6	5.6	100.0
K. Adobe Acrobat (n)	1	2	2	4	4	3	1	0	17
Valid Percent (%)	5.9	11.8	11.8	23.5	23.5	17.6	5.9	0.0	100.0
L. Extensis Suitcase (n)	4	1	5	2	3	1	0	1	17
Valid Percent (%)	23.5	5.9	29.4	11.8	17.6	5.9	0.0	5.9	100.0
M. Virtual Ticket (n)	6	4	3	3	1	0	0	0	17
Valid Percent (%)	35.3	23.5	17.6	17.6	5.9	0.0	0.0	0.0	100.0
N. Job Manager (n)	6	4	2	3	2	0	0	0	17
Valid Percent (%)	35.3	23.5	11.8	17.6	11.8	0.0	0.0	0.0	100.0

Table 14-Individual responses to pretest question 7

Item #8 - How do you EXPECT TO USE your laptop computer this semester for NON-SCHOOL RELATED ACTIVITIES in respect to the following functions and applications specific to the GCM Program?

This question is similar to question #7 on the pretest but asked subjects to evaluate how they expect to use their laptop for non-school related activities. Table 15 displays valid respondents, means and standard deviations of how the subjects responded as a sample for question #8 on the pretest.

Item	Valid (n)	Missing (n)	Mean 0 –7 scale	Standard Deviation
A. Internet	18	0	6.39	0.92
B. Email	18	0	6.56	0.98
C. Word Processing	18	0	2.56	1.85
D. Spreadsheets	17	1	0.59	0.87
E. Presentations	18	0	0.72	1.13
F. Schedule Creating	18	0	1.83	2.66
G. Burning CDs	18	0	3.83	2.60
H. QuarkXPress	18	0	1.61	2.12
I. Adobe Photoshop	18	0	2.17	2.31
J. Adobe Illustrator	18	0	1.72	2.16
K. Adobe Acrobat	18	0	1.44	1.65
L. Extensis Suitcase	18	0	0.61	1.24
M. Virtual Ticket	18	0	0.39	0.85
N. Job Manager	18	0	0.61	1.20

Table 15-Pretest, sample expectations of laptop computer usage for non-school related activities for functions and applications specific to the GCM program (question 8)

Table 16 illustrates how each subject answered for question #8, items A-N, on the pretest questionnaire.

Item	0	1	2	3	4	5	6	7	TOTAL
A. Internet (n)	0	0	0	0	1	2	4	1	18
Valid Percent (%)	0.0	0.0	0.0	0.0	5.6	11.1	22.2	61.1	100.0
B. Email (n)	0	0	0	0	2	0	2	14	18
Valid Percent (%)	0.0	0.0	0.0	0.0	11.1	0.0	11.1	77.8	100.0
C. Word Processing (n)	3	2	4	4	3	1	0	1	18
Valid Percent (%)	16.7	11.1	22.2	22.2	16.7	5.6	0.0	5.6	100
D. Spreadsheets (n)	10	5	1	1	0	0	0	0	17
Valid Percent (%)	58.8	29.4	5.9	5.9	0.0	0.0	0.0	0.0	100.0
E. Presentations (n)	10	6	0	1	1	0	0	0	18
Valid Percent (%)	55.6	33.3	0.0	5.6	5.6	0.0	0.0	0.0	100.0
F. Schedule Creating (n)	10	1	2	1	1	0	0	3	18
Valid Percent (%)	55.6	5.6	11.1	5.6	5.6	0.0	0.0	16.7	100.0
G. Burning CDs (n)	1	3	4	2	0	1	2	5	18
Valid Percent (%)	5.6	16.7	22.2	11.1	0.0	5.6	11.1	27.8	100.0
H. QuarkXPress (n)	9	3	0	2	1	2	1	0	18
Valid Percent (%)	50.0	16.7	0.0	11.1	5.6	11.1	5.6	0.0	100.0
I. Adobe Photoshop (n)	7	1	3	3	0	2	1	1	18
Valid Percent (%)	38.9	5.6	16.7	16.7	0.0	11.1	5.6	5.6	100.0
J. Adobe Illustrator (n)	8	3	1	3	0	2	0	1	18
Valid Percent (%)	44.4	16.7	5.6	16.7	0.0	11.1	0.0	5.6	100.0
K. Adobe Acrobat (n)	8	3	1	4	1	1	0	0	18
Valid Percent (%)	44.4	16.7	5.6	22.2	5.6	5.6	0.0	0.0	100.0
L. Extensis Suitcase (n)	12	4	1	0	0	1	0	0	18
Valid Percent (%)	66.7	22.2	5.6	0.0	0.0	5.6	0.0	0.0	100.0
M. Virtual Ticket (n)	14	2	1	1	0	0	0	0	18
Valid Percent (%)	77.8	11.1	5.6	5.6	0.0	0.0	0.0	0.0	100.0
N. Job Manager (n)	13	2	1	1	1	0	0	0	18
Valid Percent (%)	72.2	11.1	5.6	5.6	5.6	0.0	0.0	0.0	100.0

Table 16-Individual responses to pretest question 8

Item #9 - How do you feel about having a laptop computer in the GCM Program?

This question was designed to gauge how the subjects felt in the beginning of the semester about having a laptop computer. Items were scored on a five-point Likert scales to measure subject excitement as a sample (Not Excited=0-Very Excited=4). Table 17 reports mean and standard deviations for those ratings of satisfaction.

Respondents (n)	Valid	18
	Missing	0
	Mean	3.28
	Standard Deviation	0.83

Table 17-Pretest, sample response to feelings (measured in excitement) of having a laptop computer in the GCM program (question 9)

Table 18 indicates how individual respondents answered the question. All of the subjects responded that they were at least somewhat excited about having a laptop in the GCM program. Many of the subjects, 50 percent of the sample (n=9) were very excited about their laptop computer.

Level of Excitement	Respondents (n)	Valid Percent (%)
0 = Not Excited	0	0.0
1	0	0.0
2 = Somewhat Excited	4	22.2
3	5	27.8
4 = Very Excited	9	50.0
Total	18	100.0

Table 18-Individual responses to pretest question 9

Item #10 - In this current semester, I feel my laptop will be ____ in attaining my education.

This question was created to discover how the subjects feel their laptops will aid them in receiving their education. These items were scored on a five-point Likert scale of importance (Not Important=0-Very Important=4). Table 19 illustrates means and standard deviations for how the subjects as a sample rated the importance.

Respondents (n)	Valid	18
	Missing	0
	Mean	3.28
	Std. Deviation	0.89

Table 19-Pretest, how the respondents feels (rated the importance) the laptop will be in attaining an education (question 10)

Table 20 describes how individual subjects responded to how important they feel their laptop will be in receiving their education. A majority of the subjects (n=10) felt that their laptop would be very important as their education progresses.

Level of Importance	Respondents (n)	Valid Percent (%)
0 = Not Important	0	0.0
1	0	0.0
2 = Somewhat Important	5	27.8
3	3	16.7
4 = Very Important	10	55.6
Total	18	100.0

Table 20-Individual responses to pretest question 10

Item #11 - Classes enrolled in this semester.

This question was designed to discover the classes in which the subjects were enrolled and if any of the subjects dropped courses during the duration the semester. The question was also designed to gauge what level and type of courses the subjects were enrolled in. The following figure 7 illustrates that subjects were mainly enrolled in freshmen level classes during the fall 2002 semester.

Subject #	Classes Taken
1	GCM-101, GCM-141, Chemistry, Speech, Packaging Fundamentals, TCS
2	GCM 141, Chemistry, Speech, Econ, GCM Intro, Exploring Tech
4	Speech-100, English-101, TCS-103, PE-185 Math-121, GCM-151, GCM-101
6	GCM-101, GCM-141, English-101, Chemistry, College Math I
7	[GCM-101], Honors English, GCM 141, Economics, Chemistry, Academic Study Skills
8	GCM-141, GCM, Eng Comp, Speech TRDIS, Orientation Into Intercollegiate Athletics
10	Intro MEBE, Intro GCM, English 101, Speech Biology, PE-Weight Lifting, TCS
11	English, Math, Chemistry, GCM 141, Intro GCM
12	GCM 101, GCM 151, Weight training, Math 120, English 101, Intro Sociology
14	Speech, English 101, Math II, Communication & Info. Tech., Graphic Comm. & Electric Pub, GCM-101
15	GCM 101, GC- & Electronic Publishing, Math, English, Horseback Riding, Badminton, Psychology
16	GCM-101, GCM-151, SPCOM-101, SOC-110, Engl-101, Music-266, PKG-150
17	English (freshmen), GCM 141, Intro to Sociology, Chemistry, GCM 101
18	English, General Chemistry, General Economics, Introduction to Graphic Communications Management, Graphic Communications + Publishing
19	English Comp. 101, American Gov't, GCM-356, General Chemistry, GCM-101
20	English 101, Math 120, Chemistry, GCM 141, GCM 101
23	GCM 356, GCM night, Frosh English, Chemistry 073, Math
26	GCM 141, Intro to GCM, Speech, English 101 Intro Collegiate Athletics, TRDIS-Strategies

Figure 7-Pretest, classes subject indicated they were enrolled in

Item #12 – Other additional comments I have about the laptop requirement?

The opportunity existed for subjects to express any comments they felt regarding the laptop requirement. Figure 8 lists the comments made by the research sample on the pretest questionnaire, the majority of comments made were positive.

Subject #	Comment
2	"Macs blow."
7	"The network isn't very good. I can't send files to people."
12	"I think it will be a great gateway to the future"
14	"They are fun & ask 5000 is very helpful!"
15	"I love my laptop" "I love my Macs" "PC's Suck!"
16	"I love to always have a computer at hand! I rely on the comp for everyday use! Very good tool!
19	"I think the laptops will prove to be very useful in my work studies"
20	"I still prefer a desktop"

Figure 8-Pretest, comments made by subjects

Posttest Questionnaire

The posttest questionnaire was developed with 10 total questions. Items will be presented individually by question.

Item #2 - What type of computer do you prefer working on?

This question is identical to question #5 on the pretest. Table 21 displays how the subjects responded.

	Respondents (n)	Valid Percent (%)
IBM Compatible/PC	7	38.9
Apple/Macintosh	9	50.0
Both/No Preference	2	11.1
Total	18	100.0

Table 21-Posttest, computer platform subjects preferred working on

Item#3 - How did you feel this past semester about having a laptop computer in the GCM Program?

This question was designed to gauge how the subjects felt at the end of the semester about having a laptop computer. Items were scored on a five-point Likert scales to measure subject excitement (Not Excited=0-Very Excited=4). Table 22 reports mean and standard deviations for those ratings of satisfaction.

Respondents (n)	Valid	18
	Missing	0
	Mean	3.39
	Standard Deviation	0.78

Table 22-Posttest, sample response to how they felt (measured in excitement) having a laptop computer in the GCM program (question 3)

Table 23 indicates how individual respondents answered the question.

Level of Excitement	**Respondents (n)**	**Valid Percent (%)**
0 = Not Excited	0	0.0
1	0	0.0
2 = Somewhat Excited	3	16.7
3	5	27.8
4 = Very Excited	10	55.6
Total	18	100.0

Table 23-Individual responses to posttest question 3

Item #4 – This past semester, I felt my laptop was ____ in attaining my education.

This question was created to discover how the subjects felt their laptops aided them, in the fall 2002 semester, in receiving their education. These items were scored on a five-point Likert scale of importance (Not Important=0—Very Important=4). Table 24 illustrates means and standard deviations for how subjects rated the importance.

Respondents (n)	Valid	18
	Missing	0
	Mean	3.03
	Standard Deviation	1.00

Table 24-Posttest, how the sample felt (rated in importance) the laptop was in attaining an education the past semester (question 4)

Table 25 describes how individual subjects responded to how important they felt their laptop was in receiving their education.

Level of Importance	Respondents (n)	Valid Percent (%)
0 = Not Important	0	0.0
1	2	11.1
2 = Somewhat Important	2	11.1
3	7	38.9
4 = Very Important	7	38.9
Total	18	100.0

Table 25-Posttest, individual responses to how subjects felt (rated in importance) the laptop was in attaining an education the past semester (question 4)

Item #5 – Overall, were your educational and personal goals met with your laptop the past semester?

This question asked the subjects to evaluate if their goals were met with the laptop computer for the fall 2002 semester. Table 26 illustrates how the sample responded.

	Respondents (n)	Valid Percent (%)
Yes	18	100.0
No	0	0.0
Total	18	100.0

Table 26-Subjects who felt their goals were met with the laptop the past semester

Item #6 – In the future, as I pursue my education at UW-Stout, my laptop will be ____ in achieving my GCM degree.

This question asked the subjects to project into the future how important they felt their laptop would be in pursuit of their degree. These items were scored on a five-point Likert scale of importance (Not Important=0-Very Important=4). Table 27 shows the mean and standard deviation of how the entire sample size responded.

Respondents (n)	Valid	18
	Missing	0
	Mean	3.33
	Standard Deviation	0.69

Table 27-Posttest, sample response on the feelings of importance the laptop will be in achieving their GCM degree (question 6)

Table 28 describes how individual subjects responded to how important they feel their laptop will be in receiving their education.

	Respondents (n)	**Valid Percent (%)**
0 = Not Important	0	0.0
1	0	0.0
2 = Somewhat Important	2	11.1
3	8	44.4
4 = Very Important	8	44.4
Total	18	100.0

Table 28-Posttest, individual responses on the feelings of importance the laptop will be in achieving their GCM degree (question 6)

Item #7 - Classes enrolled in the past semester.

This question was asked to determine what types of classes the subjects were enrolled in through the fall 2002 semester. It was also used to determine if the subject had dropped any of the classes throughout the semester. The following figure 9 displays that

classes the subject was enrolled in at the end of the semester were mainly still of freshmen level.

Subject #	Classes Taken
1	GCM-101, GCM-141, TCS, Gen. Chemistry, Fund. of Speech, Packaging Fundamentals
2	GCM 141, Gen. Chemistry, Speech 101, Econ, GCM 100, Exploring Tech
4	Intro to GCM, GCM 151, English, Speech, Math-102 Volleyball, Communication & Info Technology
6	GCM-101, GCM-141, English-101, Chemistry, College Math I
7	GCM-101, Honors English (Eng III), GCM 141, Econ 210, Chemistry 115, TRDIS-120
8	GCM-141, GCM-101, Eng-101, SPCOM-101, CHEM-115, TRDIS-120, PE-210
10	Intro Marketing, Intro to GCM, Speech, TCS English 101-(freshmen), Introduction to Biology, PE-Weight Lifting
11	English-101, Math-110, General Chemistry, GCM-141, Intro to GCM
12	GCM 101, GCM 151, Weight training, English 101, College Math I, Intro Sociology
14	Speech, English, Math II, Com.Tech., Graphic/Electric Pub, GCM
15	GCM 101, GCM-141, Math-110, Psychology English-101, Horseback Riding
16	GCM-101, GCM-151, SPCOM-150, SOC-110, ENGL-101, PKG-150
17	English 101, GCM 141, Intro Sociology, Chemistry 101, GCM 101
18	GCM-141, GCM-101, Eng-090, Economics, Chemistry-115
19	English-101, American Gov't-260, GCM-356, General Chemistry-115, GCM-101
20	English-101, Mathmatics-120, Chemistry, GCM-141, GCM-101
23	GCM 356, GCM 101, English 101, Chemistry 115, Math 120
26	GCM-141, GCM-101, Speech, Intro-Interscholastic Athletics, English 101, Strategies for Academic Success

Figure 9-Posttest, classes subjects indicated they were enrolled in

Item #8 - How DID YOU USE your laptop computer this semester for SCHOOL RELATED ACTIVITIES in respect to the following functions and applications specific to the GCM Program?

This question was designed to measure how subjects used their laptop computer in the fall 2002 semester for school related activities. Items were divided into computer functions available on all laptops issued (items A-G) and GCM specific applications (items H-N). Respondents had to indicate the item and usage, using the scale in figure 9, and circle the corresponding number that the scale translated to. Table 29 indicates how the sample responded as a group to question #8 by valid and missing respondents, means and standard deviations.

Item	Valid (n)	Missing (n)	Mean 0 –7 scale	Standard Deviation
A. Internet	18	0	4.94	1.76
B. Email	18	0	3.89	2.08
C. Word Processing	18	0	4.61	1.61
D. Spreadsheets	18	0	0.72	1.27
E. Presentations	18	0	2.06	2.07
F. Schedule Creating	18	0	1.83	2.50
G. Burning CDs	18	0	2.72	1.84
H. QuarkXPress	18	0	3.67	1.64
I. Adobe Photoshop	18	0	2.94	2.29
J. Adobe Illustrator	18	0	2.00	2.25
K. Adobe Acrobat	18	0	2.72	2.37
L. Extensis Suitcase	18	0	1.06	1.30
M. Virtual Ticket	18	0	0.39	0.85
N. Job Manager	18	0	0.33	0.84

Table 29-Posttest, sample expectations (valid responses, means and standard. deviations) of laptop computer usage for school related activities for functions and applications specific to the GCM program (question 8)

To achieve an overall view of how the subjects responded individually, the following table was created. Table 30 illustrates how each subject answered for question #8, items A-N, on the pretest questionnaire.

Item	0	1	2	3	4	5	6	7	Total
A. Internet (n)	0	0	1	4	3	3	1	6	18
Valid Percent (%)	0.0	0.0	5.6	22.2	16.7	16.7	5.6	33.3	100.0
B. Email (n)	0	3	1	5	3	2	0	4	18
Valid Percent (%)	0.0	16.7	5.6	27.8	16.7	11.1	0.0	22.2	100.0
C. Word Processing (n)	0	0	2	3	3	5	2	3	18
Valid Percent (%)	0.0	0.0	11.1	16.7	16.7	27.8	11.1	16.7	100.0
D. Spreadsheets (n)	11	5	0	0	2	0	0	0	18
Valid Percent (%)	61.1	27.8	0.0	0.0	11.1	0.0	0.0	0.0	100.0
E. Presentations (n)	6	2	4	1	3	1	0	1	18
Valid Percent (%)	33.3	11.1	22.2	5.6	16.7	5.6	0.0	5.6	100.0
F. Schedule Creating (n)	10	1	0	3	1	1	0	2	18
Valid Percent (%)	55.6	5.6	0.0	16.7	5.6	5.6	0.0	11.1	100.0
G. Burning CDs (n)	0	6	5	2	0	3	2	0	18
Valid Percent (%)	0.0	33.3	27.8	11.1	0.0	16.7	11.1	0.0	100
H. QuarkXPress (n)	0	0	5	6	2	1	3	1	18
Valid Percent (%)	0.0	0.0	27.8	33.3	11.1	5.6	16.7	5.6	100.0
I. Adobe Photoshop (n)	3	4	0	3	5	0	1	2	18
Valid Percent (%)	16.7	22.2	0.0	16.7	27.8	0.0	5.6	11.1	100.0
J. Adobe Illustrator (n)	8	1	2	2	2	2	0	1	18
Valid Percent (%)	44.4	5.6	11.1	11.1	11.1	11.1	0.0	5.6	100.0
K. Adobe Acrobat (n)	5	2	1	4	1	2	2	1	18
Valid Percent (%)	27.8	11.1	5.6	22.2	5.6	11.1	11.1	5.6	100.0
L. Extensis Suitcase (n)	9	3	3	2	1	0	0	0	18
Valid Percent (%)	50.0	16.7	16.7	11.1	5.6	0.0	0.0	0.0	100.0
M. Virtual Ticket (n)	14	2	1	1	0	0	0	0	18
Valid Percent (%)	77.8	11.1	5.6	5.6	0.0	0.0	0.0	0.0	100.0
N. Job Manager (n)	15	1	1	1	0	0	0	0	18
Valid Percent (%)	83.3	5.6	5.6	5.6	0.0	0.0	0.0	0.0	100.0

Table 30-Individual responses to posttest question 8

Item #9 - How DID YOU USE your laptop computer this semester for NON-SCHOOL RELATED ACTIVITIES in respect to the following functions and applications specific to the GCM Program?

This question is similar to the previous question #8 but asks subject to evaluate how they used their laptop for non-school related activities. Table 31 indicates how the sample responded as a group to question #9 by valid and missing respondents, means and standard deviations.

Item	Valid (n)	Missing (n)	Mean 0 –7 scale	Standard Deviation
A. Internet	17	1	6.76	0.56
B. Email	17	1	6.47	1.07
C. Word Processing	17	1	2.35	1.69
D. Spreadsheets	17	1	0.59	1.54
E. Presentations	17	1	0.76	1.75
F. Schedule Creating	17	1	1.35	2.40
G. Burning CDs	17	1	2.82	2.51
H. QuarkXPress	17	1	1.12	1.36
I. Adobe Photoshop	17	1	1.94	2.38
J. Adobe Illustrator	17	1	1.35	2.09
K. Adobe Acrobat	17	1	0.94	1.68
L. Extensis Suitcase	17	1	0.41	1.23
M. Virtual Ticket	17	1	0.24	0.97
N. Job Manager	17	1	0.18	0.73

Table 31-Posttest, sample expectations (valid responses, means and standard. deviations) of laptop computer usage for non-school related activities for functions and applications specific to the GCM program (question 9)

To achieve an overall view of how the subjects responded individually, the following table was created. Table 32 illustrates how each subject answered for question #9, items A-N, on the pretest questionnaire.

Item	0	1	2	3	4	5	6	7	Total
A. Internet (n)	0	0	0	0	0	1	2	14	17
Valid Percent (%)	0.0	0.0	0.0	0.0	0.0	5.9	11.8	77.8	100.0
B. Email (n)	0	0	0	0	2	1	1	13	17
Valid Percent (%)	0.0	0.0	0.0	0.0	11.8	5.9	5.9	72.2	100.0
C. Word Processing (n)	2	4	4	3	2	1	1	0	17
Valid Percent (%)	11.1	23.5	23.5	17.6	11.8	5.9	5.9	0.0	100.0
D. Spreadsheets (n)	14	0	2	0	0	0	1	0	17
Valid Percent (%)	82.4	0.0	11.8	0.0	0.0	0.0	5.9	0.0	100.0
E. Presentations (n)	12	2	2	0	0	0	0	1	17
Valid Percent (%)	70.6	11.8	11.8	0.0	0.0	0.0	0.0	5.9	100.0
F. Schedule Creating (n)	12	0	1	1	0	1	1	1	17
Valid Percent (%)	70.6	0.0	5.9	5.9	0.0	5.9	0.0	5.9	100.0
G. Burning CDs (n)	4	2	3	2	2	1	0	3	17
Valid Percent (%)	23.5	11.8	17.6	11.8	11.8	5.9	0.0	17.6	100.0
H. QuarkXPress (n)	9	2	1	5	0	0	0	0	17
Valid Percent (%)	52.9	11.8	5.9	29.4	0.0	0.0	0.0	0.0	100.0
I. Adobe Photoshop (n)	7	3	2	1	0	2	1	1	17
Valid Percent (%)	41.2	17.6	11.8	5.9	0.0	11.8	5.9	5.9	100.0
J. Adobe Illustrator (n)	10	2	1	1	0	2	1	0	17
Valid Percent (%)	58.8	11.8	5.9	5.9	0.0	11.8	5.9	0.0	100.0
K. Adobe Acrobat (n)	11	2	1	2	0	0	1	0	17
Valid Percent (%)	64.7	11.8	5.9	11.8	0.0	0.0	5.9	0.0	100.0
L. Extensis Suitcase (n)	14	2	0	0	0	1	0	0	17
Valid Percent (%)	82.4	11.8	0.0	0.0	0.0	5.9	0.0	0.0	100.0
M. Virtual Ticket (n)	16	0	0	0	1	0	0	0	17
Valid Percent (%)	94.1	0.0	0.0	0.0	5.9	0.0	0.0	0.0	100.0
N. Job Manager (n)	16	0	0	1	0	0	0	0	17
Valid Percent (%)	94.1	0.0	0.0	5.9	0.0	0.0	0.0	0.0	100.0

Table 32-Individual responses to posttest question 9

Item #10 – Other additional comments I have about the laptop requirement?

The final question on the posttest asked the subjects to share any information they wished. Figure 10 expresses how the subjects responded.

Subject #	Comment
1	"I love having a laptop but the $500.00 a semester is pretty expensive"
2	"As nice as the Mac is for running the school related programs, it lacks the ability to run various programs I would have liked for personal use."
4	"A zip drive should have been put into the laptops."
7	"I think the laptop requirement is a good idea, but the training at the beginning of the year could be a lot better. I think it would help to have the initial training groups separated into Macs and IBMs so they don't waste so much time switching between the two."
8	"I like the idea of the laptops but they should come in a metal case so they don't break!"
12	"I like the overall idea, waiting to see result in the long run"
14	"It was a Great help. I wish AOL instant messager (sic) was not as accessible [drawn smile face]"
15	"MACS RULE & PCS SUCK!"
17	"I have found that the laptops are more distracting in the classroom, but do help organizing notes during lectures."
18	"Once in awhile I will have difficulty with my laptop, probably once a month or so."
19	"I wish that we had better carring (sic) cases for our computers. The ones we have now are bulky and very uncomfortable."
23	"I like the idea of the laptops! Having all of the software is very nice; if we ever need to use it,..it's there"
26	"Is there anyway to make it cheeper. (sic)"

Figure 10-Posttest, comments made by subjects

Comparison of Pretest and Posttest Results

The following items have been designed in conjunction with one another to track subject responses throughout the duration of the fall 2002 semester (see figure 3) for items that were designed with one another. Each item from the following table will be presented individually to show what type of relationship the pretest had with the posttest.

Item A

Figure 11 displays which computer platform the subjects preferred working on at the beginning of the semester versus the computer platform they preferred once the semester was completed.

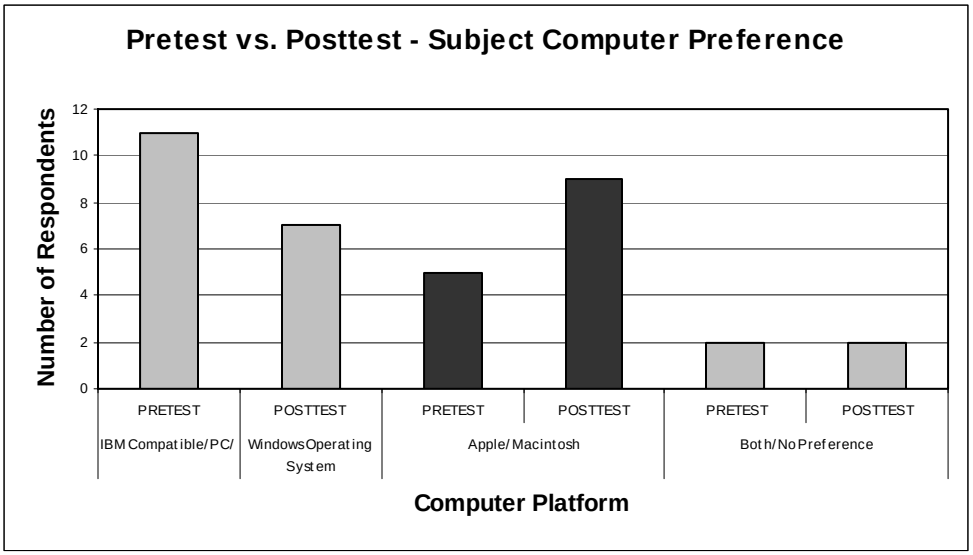

Figure 11-Pretest vs. Posttest-Computer Preference

Item B and C

For correlated questions (see figure 3) a scale (see figure 4) was used to correspond to the days of the week with how often the subject felt the specific computer functions were going to be used. The scale was used so subjects could identify the frequency of how they were going to use their laptop for the various computer functions and applications.

For item B and C means were used to determine the averages of the pretest and posttest results. To measure the comparison between pretest and posttest results, a t test for the difference between means for dependent groups was used with a significance value of 0.05 (2-tailed).

Item B

In item B, the subject was asked how the laptop computer was going to be used for school related activities. In the beginning of the semester, the pretest first measured how they expected to use their laptop computer. At the end of the semester, the subjects were asked on the posttest how they used their laptop for school related activities. Figure 12 illustrates the samples' pretest and posttest results (in mean scores). The figure shows how subjects expected to use their laptop computer and compares the results to how it was actually used during the fall 2002 semester.

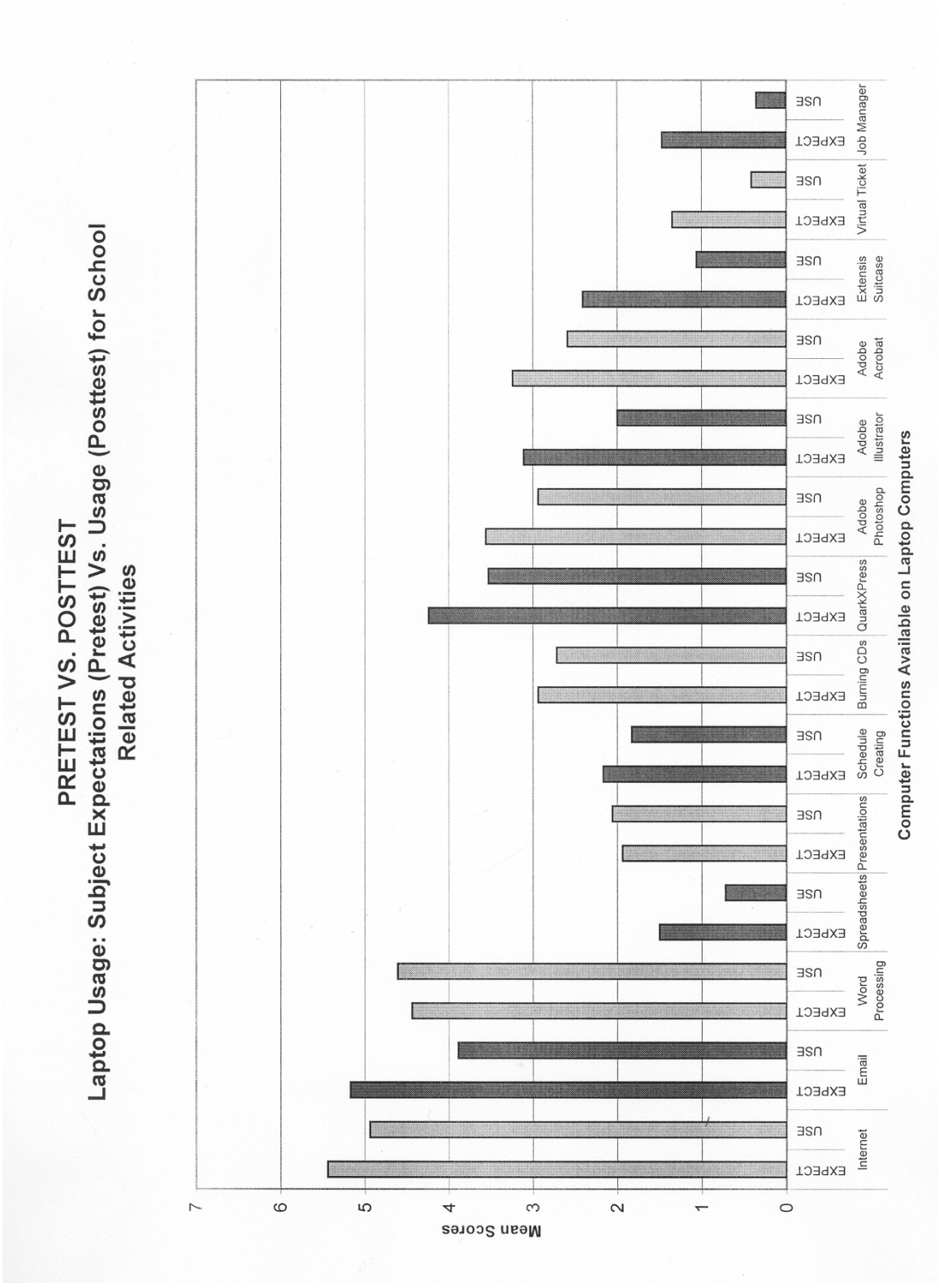

Figure 12-Pretest vs. Posttest-Laptop Usage: Subject Expectations (Pretest) vs. Usage (Posttest) in mean scores for School Related Activities for functions and applications specific to the GCM program

Table 33 displays the results of the t test comparing the pretest and posttest responses to how they expected to use, or actually did use, their laptop computers for school-related activities

Item	Valid (n)	T Score (t)	Degrees of Freedom	Significance (2-tailed)
A. Internet	18	1.207	17	0.244
B. Email	18	2.997	17	0.008*
C. Word Processing	18	-0.375	17	0.712
D. Spreadsheets	18	1.941	17	0.069
E. Presentations	18	-0.207	17	0.838
F. Schedule Creating	18	0.572	17	0.575
G. Burning CDs	18	0.387	17	0.704
H. QuarkXPress	17	1.689	16	0.111
I. Adobe Photoshop	18	1.451	17	0.165
J. Adobe Illustrator	18	2.602	17	0.019*
K. Adobe Acrobat	17	1.101	16	0.287
L. Extensis Suitcase	17	3.952	16	0.001*
M. Virtual Ticket	17	2.991	16	0.009*
N. Job Manager	17	2.852	16	0.012*

Table 33-T test of the difference between means of items from pretest question 7 and posttest question 8 (*significant at the .05 level)

Item C

This item is similar to item B but asked the subject how they expect to use and compare to how they actually used their laptop for non-school related activities. The following figure 13 displays the pretest and posttest mean scores on how the sample responded as a whole.

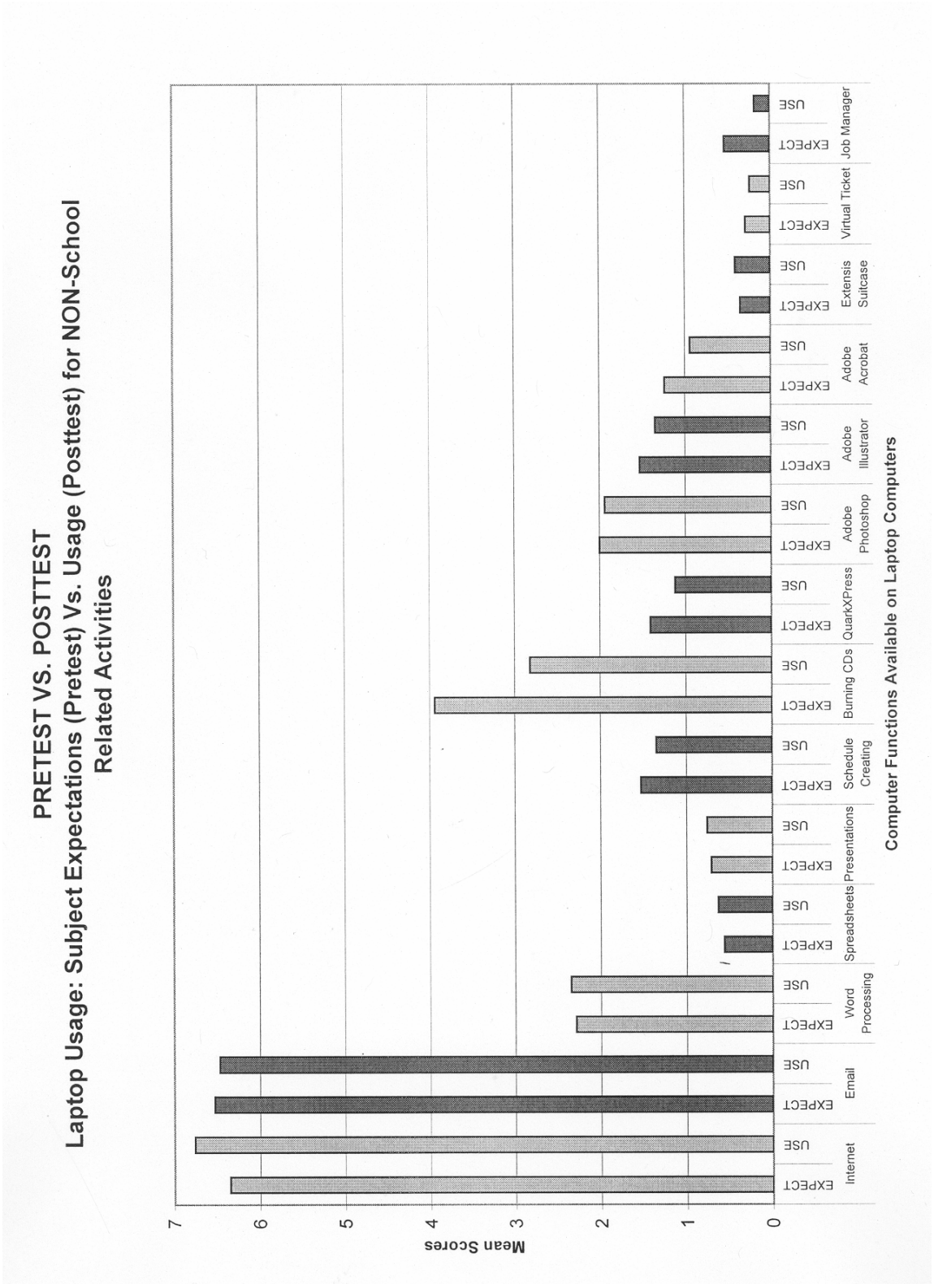

Figure 13-Pretest vs. Posttest-Laptop Usage: Subject Expectations (Pretest) vs. Usage (Posttest) in mean scores for Non-School Related Activities for functions and applications specific to the GCM program

A t test was performed on these items to determine if a significant difference existed. Table 34 displays the results of the t test comparing the pretest and posttest responses to how they expected to use, or actually did use, their laptop computers for non-school related activities.

Item	Valid (n)	T Score (t)	Degrees of Freedom	Significance (2 tailed)
A. Internet	17	-1.595	16	0.130
B. Email	17	0.160	16	0.875
C. Word Processing	17	-0.131	16	0.897
D. Spreadsheets	16	-0.144	15	0.887
E. Presentations	17	-0.174	16	0.864
F. Schedule Creating	17	0.290	16	0.775
G. Burning CDs	17	1.670	16	0.114
H. QuarkXPress	17	1.045	16	0.311
I. Adobe Photoshop	17	0.203	16	0.842
J. Adobe Illustrator	17	0.717	16	0.484
K. Adobe Acrobat	17	1.000	16	0.332
L. Extensis Suitcase	17	-0.194	16	0.848
M. Virtual Ticket	17	0.187	16	0.854
N. Job Manager	17	1.102	16	0.287

Table 34-T test of the difference of means of items from pretest question 8 and posttest question 9

Item D

Subjects were asked to correspond a value on a Likert scale to gauge the level of excitement of having a laptop computer in the GCM program. The question was asked at the beginning of the semester on the pretest and at the end of the semester on the posttest. Figure 5 shows the number that corresponds to the level of excitement. Figure 14 illustrates the level of excitement about having a laptop computer expressed by the subjects on the pretest as compared to the posttest.

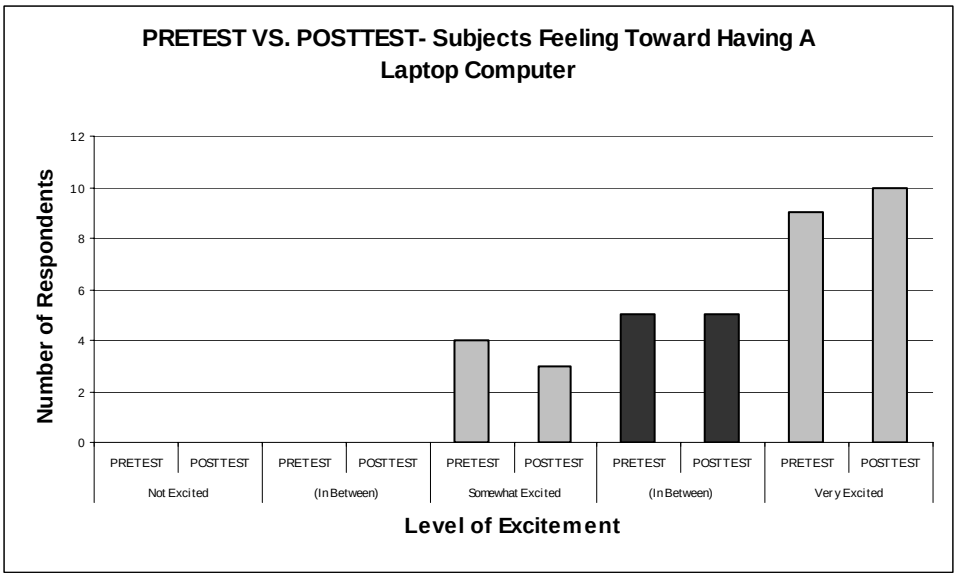

Figure 14-Pretest vs. Posttest-Subjects feelings (measured in excitement) of having a laptop computer

Table 35 shows the results of the t test for difference of means comparing the pretest and posttest responses of the student level of excitement at having a laptop computer.

Pretest & Posttest	Valid (n)	T Score (t)	Degrees of Freedom	Significance (2-tailed)
Feeling of Having a Laptop Computer	18	-0.697	17	0.495

Table 35-T test of how subjects felt (in levels of excitement) of having a laptop computer for pretest question #9 and posttest question #3

Item E

Item E tracked responses dealing with the level of importance of the laptop computer in attaining an education through the duration of the semester. Subjects were asked to identify and gauge the level of importance by using the Likert scale identified by figure 6. Figure 15 indicates how the sample responded as a whole on the pretest and posttest.

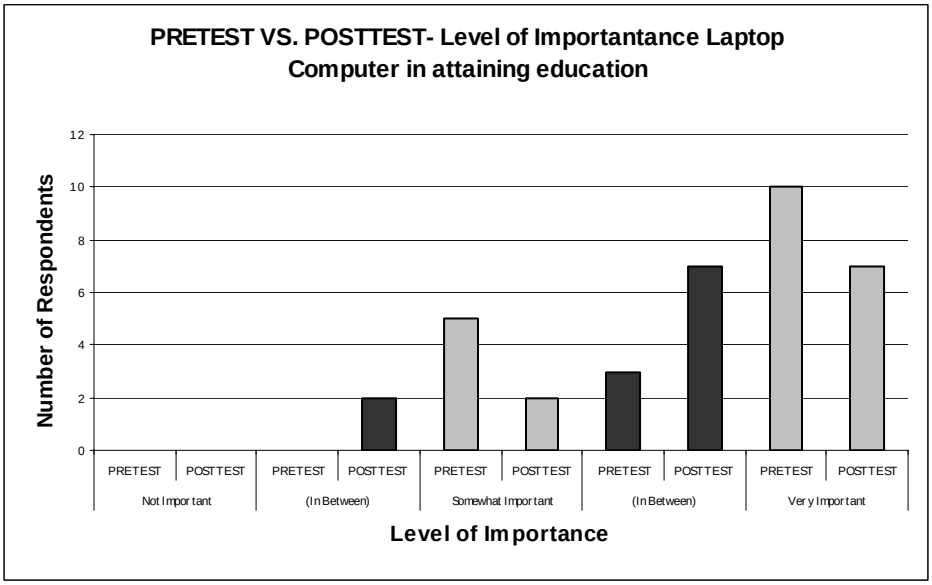

Figure 15-Pretest vs. Posttest-Level of Importance Laptop computer will serve in attaining education

Table 36 illustrates the results of the t test for difference of means comparing the pretest and posttest responses of how important the subjects felt their laptop computer was in attaining their education.

Pretest & Posttest	Valid (n)	T Score (t)	Degrees of Freedom	Significance (2-tailed)
Importance of Laptop Computer in Attaining Education	18	0.846	17	0.409

Table 36- T test of difference of means of how subjects felt (in levels of importance) of having a laptop computer for pretest question #10 and posttest question #4

Item F

Figure 16 displays the list of classes in which the subjects were enrolled at the beginning and end of the semester, subjects stayed enrolled through the duration of the semester in mainly freshmen level classes.

Subject #	Classes Taken
1	GCM-101, GCM-141, Chemistry, Speech, Packaging Fundamentals, TCS
	GCM-101, GCM-141, TCS, Gen. Chemistry, Fund. of Speech, Packaging Fundamentals
2	GCM 141, Chemistry, Speech, Econ, GCM Intro, Exploring Tech
	GCM 141, Gen. Chemistry, Speech 101, Econ, GCM 100, Exploring Tech
4	Speech-100, English-101, TCS-103, PE-185 Math-121, GCM-151, GCM-101
	Intro to GCM, GCM 151, English, Speech, Math-102 Volleyball, Communication & Info Technology
6	GCM-101, GCM-141, English-101, Chemistry, College Math I
	GCM-101, GCM-141, English-101, Chemistry, College Math I
7	[GCM-101], Honors English, GCM 141, Economics, Chemistry, Academic Study Skills
	GCM-101, Honors English (Eng III), GCM 141, Econ 210, Chemistry 115, TRDIS-120
8	GCM-141, GCM, Eng Comp, Speech TRDIS, Orientation Into Intercollegiate Athletics
	GCM-141, GCM-101, Eng-101, SPCOM-101, CHEM-115, TRDIS-120, PE-210
10	Intro MEBE, Intro GCM, English 101, Speech Biology, PE-Weight Lifting, TCS
	Intro Marketing, Intro to GCM, Speech, TCS English 101-(freshmen), Introduction to Biology, PE-Weight Lifting
11	English, Math, Chemistry, GCM 141, Intro GCM
	English-101, Math-110, General Chemistry, GCM-141, Intro to GCM
12	GCM 101, GCM 151, Weight training, Math 120, English 101, Intro Sociology
	GCM 101, GCM 151, Weight training, English 101, College Math I, Intro Sociology
14	Speech, English 101, Math II, Communication & Info. Tech., Graphic Comm. & Electric Pub, GCM-101
	Speech, English, Math II, Com.Tech., Graphic/Electric Pub, GCM

15	GCM 101, GC- & Electronic Publishing, Math, English, Horseback Riding, Badminton, Psychology
	GCM 101, GCM-141, Math-110, Psychology English-101, Horseback Riding
16	GCM-101, GCM-151, SPCOM-101, SOC-110, Engl-101, Music-266, PKG-150
	GCM-101, GCM-151, SPCOM-150, SOC-110, ENGL-101, PKG-150
17	English (freshmen), GCM 141, Intro to Sociology, Chemistry, GCM 101
	English 101, GCM 141, Intro Sociology, Chemistry 101, GCM 101
18	English, General Chemistry, General Economics, Introduction to Graphic Communications Management, Graphic Communications + Publishing
	GCM-141, GCM-101, Eng-090, Economics, Chemistry-115
19	English Comp. 101, American Gov't, GCM-356, General Chemistry, GCM-101
	English-101, American Gov't-260, GCM-356, General Chemistry-115, GCM-101
20	English 101, Math 120, Chemistry, GCM 141, GCM 101
	English-101, Mathmatics-120, Chemistry, GCM-141, GCM-101
23	GCM 356, GCM night, Frosh English, Chemistry 073, Math
	GCM 356, GCM 101, English 101, Chemistry 115, Math 120
26	GCM 141, Intro to GCM, Speech, English 101 Intro Collegiate Athletics, TRDIS-Strategies
	GCM-141, GCM-101, Speech, Intro-Interscholastic Athletics, English 101, Strategies for Academic Success

Figure 16-Pretest vs. Posttest-Classes subjects indicated they were enrolled in

CHAPTER V

Summary, Conclusions and Recommendations

The research in this study will be presented by a summary of the study, conclusions made from the research and recommendations for future studies. Each section will provide a brief overview of the study performed.

Summary

The 2002-2003 academic school year was the inaugural year the University of Wisconsin-Stout required all incoming first-year students to lease laptop computers. Apple and IBM/PC (Compaq) Laptops were issued to students and configured with the necessary programs and applications specific to each program. Students enrolled in the undergraduate program Graphic Communications Management (GCM) were issued an Apple laptop computer with programs and applications specific to the printing and publishing industry.

Students enrolled in GCM must take an introductory one-credit class entitled, “Introduction to Graphic Communications Management” or GCM-101. The class is introductory in nature and prepares first-year students for the demands and expectations they will undergo as students within the program. The research of this study will be taken from the first group of first-year students during the fall 2002 semester of the new laptop requirement.

Restatement of the Problem

No research has been conducted that indicates what expectations first-year students have regarding the laptop computer requirement and how they expect to actually use their laptops in the Graphic Communications Management program.

Methodology

The research in this study was conducted by utilizing a pretest and posttest questionnaire administered during the 2002 semester. The questionnaires were designed in conjunction with one another. The pretest, administered at the beginning of the semester, was designed to gather: demographic information, initial expectations that the subjects had about how they would use their laptop for school and non-school related activities and other items to measure overall perceptions the subject had regarding the use of the laptop. The posttest, administered at the end of the semester, was designed to gather information on how the subjects actually used their laptop computer during the semester for school and non-school related activities and the overall excitement and importance that the subjects had regarding the laptop computers.

Major Findings

The research yielded many significant findings through the duration of the study. The beginning of the semester more subjects preferred working on PC/IBM operating systems (n=11) compared to working on Apple operating systems (n=5). The conclusion of the semester a slight advantage preferred Apple computers (n=9) to PC/IBM operating systems (n=7). Another significant finding was how the subjects expected to use their laptop for school and non-school related activities. Overall, as mean scores, subjects' initial expectations for applications and functions on the laptops were greater than the usage performed (see figure 12) for school related activities. The only two activities that usage overshadowed expectations (in mean scores) were for word processing and presentations. By comparing the items from pretest to posttest using t tests for the difference of means (see table 33) the following items were found to be significantly

different at the .05 level (2-tailed). Student usage (as reported on the posttest) of e-mail, Adobe Illustrator, Extensis Suitcase, Virtual Ticket and Job Manager was significantly lower than their expectations (as reported on the pretest). , A t test of means found no significant difference between responses comparing how subjects expected and actually used their laptop computers (in functions and applications) for non-school related activities (see figure 34).

Another important finding from the pretest to posttest questionnaire was the level of excitement subjects had toward their laptop computers (see figure 14). The pretest indicated that respondents at least were, “somewhat excited” to have a laptop computer with 50 percent of the subjects indicating they were “very excited” to have a laptop computer. Although the t test indicated no statistically significant difference between pretest and posttest responses (see table 35) it is notable that the posttest values were slightly higher than the pretest values. This indicates that the level of excitement did not diminish over the course of the semester.

The level of importance that subjects felt their laptops served in attaining an education was scored very favorable. The pretest indicated all of the subjects indicated (figure 15) that the laptop was at least “somewhat important” in attaining an education with 56 percent indicating it was “very important” in attaining an education. The mean response indicating the importance of the laptop was high on both the pretest (mean = 3.28) and the posttest (mean = 3.03). The result of the t test comparing pretest and posttest levels of importance found no statistically significant difference (see table 36).

The subject responses about the importance of their laptop in achieving their GCM degree were also high. A mean score of 3.33 (see table 28) of 4 was indicated by the respondents on the importance value of the laptop computer in achieving their degree.

The most significant data obtained from the study was if the subjects' educational and personal goals were met with the laptop computer for the fall 2002 semester. All respondents (100 percent) indicated that their goals were met with the laptop computer.

Conclusions

Many significant findings can be concluded from the study. Conclusions ranged from students' initial expectations regarding the laptop program and the actual usage performed on the laptops and general satisfaction regarding the laptop computers. The following conclusions were drawn from the research in this study.

1. Most subjects (94 percent) had computer access before attending UW-Stout. Upon entering UW-Stout, subjects mainly preferred working on IBM/PC operating systems (61.1 percent) that can be attributed to why they preferred working on IBM/PC platforms to Apple operating systems at the beginning of the semester. Upon completion of the study more subjects preferred working on Apple platform computers. It can be concluded from the study that after having more experience on the Apple laptop, more subjects preferred working on Apple computers.
2. Overall, subjects had a good working knowledge of computers. It can be concluded from the study that subjects from the survey sample have used computers to perform a wide variety of activities and tasks upon entering the GCM program at UW-Stout.

3. Subjects' expectations in how often (in days a week) they would use their laptop computer for school related activities were met for a majority of the items listed except for the items noted in table 33. Responses to five of the items show that student usage was significantly lower than their expectations, indicating that their expectations were not met. There was no significant difference between pretest and posttest values for the remaining nine items. It can be concluded that student expectations of using the laptop computer for school related activities were largely met. One reason why subjects expectations may not have been met for school related items is that the classes in which subjects were enrolled were mainly freshmen level. These classes may not have utilized all of the applications and features available on the student laptops. Later coursework in higher-level classes could prove, in the end, that usage may meet, or even exceed, expectations. Another reason could simply be that the subjects entered the semester with unrealistic expectations of how they would use their laptop computers.
4. Non-school related activities, in mean scores, (see figure 13) are very similar and t tests prove that no items were statistically significantly different from one another. It can be concluded that for non-school related activities that subjects had their expectations met with the laptop computer.
5. Overall, the study found the overwhelming majority of subjects felt that their laptop computer was at least "somewhat important" in attaining an education (figure 15). The pretest shows most respondents (56 percent) indicated that it was "very important" in attaining an education. The posttest yielded 39

percent of subjects felt the laptop was “very important” in attaining an education. T tests indicate no significant difference between pretest and posttest subject responses (see table 36). It can be concluded from the study that the subjects viewed their laptop as an important tool in attaining their education.

6. The excitement level of subjects was very positive in regards to having a laptop computer (figure 14). The study showed that all subjects indicated that they were at least “somewhat excited” to have a laptop computer. At least half of the respondents indicated they were “very excited” to have a laptop computer. The t test revealed that there was no significant difference between pretest and posttest responses regarding the how the subjects felt in having a laptop computer. It can be concluded from the study that subjects were excited about having a laptop computer and the excitement level remained high throughout this study.
7. All subjects within the study felt that as they pursued their GCM degree at UW-Stout the laptop would be at least “somewhat important” in achieving their GCM degree (table 27). Many of the respondents (44.4 percent) indicate that it was “very important” to have a laptop in pursuit of their GCM degree. It can be concluded from the study that subjects felt the laptop was important in pursuit of their GCM degree.
8. All subjects (100 percent) indicated that their educational and personal goals were met with the laptop computer the past semester (table 26). It can be

concluded from the study that this sample had satisfied their goals with the laptop computer.

Recommendations

Many recommendations for future studies can be researched to determine student satisfaction with the laptop computers. The following presents some recommendations related to the study and for studies to be performed on a larger scale. The recommendations are based on the results of this study.

Recommendations Related to the Study

1. Survey the same group of students in the fall of 2006 (population should be of senior status). The purpose of a future survey would be to discover if all of the subjects' specific expectations of laptop usage were satisfied over the course of their entire college career. By that time, subjects should have been exposed to a majority of classes that utilized all of the features the laptop computer. Another purpose of the study would be to determine if students' overall expectations were met with the laptop requirement throughout their time at UW-Stout.
2. GCM faculty should explain to newly enrolled first-year students that they may not utilize all of the applications and features of the laptop computer during their first semester at UW-Stout.
3. GCM faculty should actively engage in using the laptop computers for classroom activities. By familiarizing the students with the laptop more frequently usage may increase satisfying subjects' expectations.

Recommendations for Further Study

1. Each individual program at UW-Stout should survey their enrolled first-year students to determine how they expect to use their laptop computers, followed up by a survey to determine if their expectations were satisfied.
2. Perform a campus wide survey on student satisfaction ratings with each computer platform (Apple vs. Compaq).
3. Track randomly selected subjects in each grade level and determine their expectations of how they will utilize their laptop computer.
4. Research the use of how faculty at UW-Stout utilizes the laptop computer in the classes they teach to determine if they incorporate and embrace the laptop initiative.

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APPENDIX A

Quarterly Student Survey

October 2002

Student ID: [ ]

Service And Support

1. Have you contacted ASK5000 with a question or problem at least once in the past two months?

○ Yes *(go on to next question)* ○ No *(skip to #3)*

2. Did you experience any problems with the following aspects of ASK5000?
(0) No problems….(3) Many problems

Ability to provide a solution to the problem or question you had
○ 0 ○ 1 ○ 2 ○ 3

Timeliness of service
○ 0 ○ 1 ○ 2 ○ 3

Quality of service
○ 0 ○ 1 ○ 2 ○ 3

Connectivity

3. In the past two months, have you experienced problems in any of the following areas?
(0) No problems….(3) Many problems

Accessing your e-mail
○ 0 ○ 1 ○ 2 ○ 3

Printing to networked printers (ex: in Library Learning Center)
○ 0 ○ 1 ○ 2 ○ 3

Speed of the network
○ 0 ○ 1 ○ 2 ○ 3

Wireless connectivity
○ 0 ○ 1 ○ 2 ○ 3

4. If you selected a 2 or 3 for any of the statements in the questions above, please briefly explain the
problems that you've experienced:

[ ]

Training

5. How would you rate your knowledge in the following

areas?
(0) Not at all knowledgeable….(3) Very knowledgeable

Care of your laptop*(ex: change battery, power tips, environmental damages)*
○ 0 ○ 1 ○ 2 ○ 3

Laptop features*(ex: power the system, accessories, computer ports)*
○ 0 ○ 1 ○ 2 ○ 3

Virus protection
○ 0 ○ 1 ○ 2 ○ 3

File management/back-up process *utilizing the "my documents" folder*
○ 0 ○ 1 ○ 2 ○ 3

File management/back-up process utilizing server storage
○ 0 ○ 1 ○ 2 ○ 3

Security practices *(ex: anti-theft, password security)*
○ 0 ○ 1 ○ 2 ○ 3

How to use your web e-mail
(ex: how to attach a file, how to send a message, how to open/delete/ save e-mails, how to open/save an attachment)
○ 0 ○ 1 ○ 2 ○ 3

Using the Desktop Help Wizard *(ex: using the "help" files)*
○ 0 ○ 1 ○ 2 ○ 3

Using E-Scholar portal*(ex: log on to E-Scholar, navigating within E-Scholar)*
○ 0 ○ 1 ○ 2 ○ 3

6. If you selected a 0 or 1 for any of the statements in question 5 above AND/OR you have additional training needs not addressed in question 5, please briefly explain your training needs:

7. Provide some examples of how you have used your laptop during class time.

8. Provide some examples of how you have used your laptop outside of class time.

more detailed information using peer-level focus groups. Would you be willing to participate in a focus group of about a dozen similar students if selected?

○ Yes ○ No

Submit Reset

APPENDIX B

1. **Advisor Assigned Student # (participants will be kept anonymous)**

   _____

2. **Gender**

   ☐ Male ☐ Female

3. **Age _____ years old**

4. **Computer Background**

   Did you (or your family) own a computer prior to you attending UW-Stout?

   ☐ Yes ☐ No

   In the last school you attended, what type of computer have you had the most experience on?

   ☐ IBM Compatible/PC/Windows Operating System

   ☐ Apple/Macintosh

   ☐ Other _____

5. **What type of computer do you prefer working on?**

   ☐ IBM Compatible/PC/Windows Operating System

   ☐ Apple/Macintosh

6. **I have use computer applications for: (please check all that apply)**

☐ Internet	☐ Burning CDs	☐ Creating Job Tickets
☐ Email	☐ Laying Out Pages	☐ Tracking Production Work
☐ Word Processing	☐ Photo Editing	
☐ Spreadsheets	☐ Drawing	☐ Other _____
☐ Presentations	☐ Creating and Viewing PDFs	☐ Other _____
☐ Schedule Creating	☐ Font Management	

7. How do you **EXPECT TO USE** your laptop computer this semester for **SCHOOL RELATED ACTIVITIES** in respect to the following functions and applications specific to the GCM Program?

Use the following scale and circle the number that corresponds with your answer.

Never	= 0 days/week
Rarely	= 1 day/week
Seldom	= 2 days/week
Sometimes	= 3 days/week
Occasionally	= 4 days/week
Often	= 5 days/week
Usually	= 6 days/week
Always	= 7 days/week

Computer functions available on all laptops

A. Internet (ex: using the web for research) 0 1 2 3 4 5 6 7

B. Email (ex: emailing teachers) 0 1 2 3 4 5 6 7

C. Word Processing (ex: typing up papers for class) 0 1 2 3 4 5 6 7

D. Spreadsheets (ex: calculating numbers) 0 1 2 3 4 5 6 7

E. Presentations (ex: creating slide shows) 0 1 2 3 4 5 6 7

F. Schedule Creating (ex: keeping a calendar) 0 1 2 3 4 5 6 7

G. Burning CDs (ex: making CDs for a class) 0 1 2 3 4 5 6 7

Computer applications specific to the GCM Program

H. QuarkXPress (Laying Out Pages) 0 1 2 3 4 5 6 7

I. Adobe Photoshop (Photo Editing) 0 1 2 3 4 5 6 7

J. Adobe Illustrator (Drawing) 0 1 2 3 4 5 6 7

K. Adobe Acrobat (Creating and viewing PDFs) 0 1 2 3 4 5 6 7

L. Extensis Suitcase (Font Management) 0 1 2 3 4 5 6 7

M. Virtual Ticket (Creating a Job Ticket) 0 1 2 3 4 5 6 7

N. Job Manager (Tracking Production Work) 0 1 2 3 4 5 6 7

8. How do you **EXPECT TO USE** your laptop computer this semester for **NON-SCHOOL RELATED ACTIVITIES** in respect to the following functions and applications specific to the GCM Program?

Use the following scale and circle the number that corresponds with your answer.

Never	= 0 days/week
Rarely	= 1 day/week
Seldom	= 2 days/week
Sometimes	= 3 days/week
Occasionally	= 4 days/week
Often	= 5 days/week
Usually	= 6 days/week
Always	= 7 days/week

Computer functions available on all laptops

A. Internet (ex: using the web for research) 0 1 2 3 4 5 6 7

B. Email (ex: emailing teachers) 0 1 2 3 4 5 6 7

C. Word Processing (ex: typing up papers for class) 0 1 2 3 4 5 6 7

D. Spreadsheets (ex: calculating numbers) 0 1 2 3 4 5 6 7

E. Presentations (ex: creating slide shows) 0 1 2 3 4 5 6 7

F. Schedule Creating (ex: keeping a calendar) 0 1 2 3 4 5 6 7

G. Burning CDs (ex: making CDs for a class) 0 1 2 3 4 5 6 7

Computer applications specific to the GCM Program

H. QuarkXPress (Laying Out Pages) 0 1 2 3 4 5 6 7

I. Adobe Photoshop (Photo Editing) 0 1 2 3 4 5 6 7

J. Adobe Illustrator (Drawing) 0 1 2 3 4 5 6 7

K. Adobe Acrobat (Creating and viewing PDFs) 0 1 2 3 4 5 6 7

L. Extensis Suitcase (Font Management) 0 1 2 3 4 5 6 7

M. Virtual Ticket (Creating a Job Ticket) 0 1 2 3 4 5 6 7

N. Job Manager (Tracking Production Work) 0 1 2 3 4 5 6 7

9. How do you feel about having a laptop computer in the GCM Program?

0	1	2	3	4
Not Excited		Somewhat Excited		Very Excited

10. In this current semester, I feel my laptop will be _____ in attaining my education.

0	1	2	3	4
Not Important		Somewhat Important		Very Important

11. Classes enrolled in this semester (please indicate which classes you are currently enrolled in):

_____ _____

_____ _____

_____ _____

_____ _____

12. Other additional comments I have about the laptop requirement?

_____

_____

_____

_____

THANK YOU for completing the questionnaire, it is greatly appreciated!!!

APPENDIX C

1. **Advisor Assigned Student # (participants will be kept anonymous)**

   _____

2. **What type of computer do you most prefer working on?**

   ☐ IBM Compatible/PC/Windows Operating System

   ☐ Apple/Macintosh

3. **How did you feel this past semester about having a laptop computer in the GCM Program?**

0	1	2	3	4
Not Excited		Somewhat Excited		Very Excited

4. **This past semester, I felt my laptop was _____ in attaining my education.**

0	1	2	3	4
Not Important		Somewhat Important		Very Important

5. **Overall, were your educational and personal goals met with your laptop the past semester?**

   ☐ Yes

   ☐ No

6. **In the future, as I pursue my education at UW-Stout, my laptop, will be _____ in achieving my GCM degree.**

0	1	2	3	4
Not Important		Somewhat Important		Very Important

7. **Classes enrolled in the past semester (please indicate which classes you were enrolled in):**

_____ _____

_____ _____

_____ _____

_____ _____

8. How do you **DID YOU USE** your laptop computer this semester for **SCHOOL RELATED ACTIVITIES** in respect to the following functions and applications specific to the GCM Program?

Use the following scale and circle the number that corresponds with your answer.

Never	= 0 days/week
Rarely	= 1 day/week
Seldom	= 2 days/week
Sometimes	= 3 days/week
Occasionally	= 4 days/week
Often	= 5 days/week
Usually	= 6 days/week
Always	= 7 days/week

Computer functions available on all laptops

A. Internet (ex: using the web for research)	0 1 2 3 4 5 6 7
B. Email (ex: emailing teachers)	0 1 2 3 4 5 6 7
C. Word Processing (ex: typing up papers for class)	0 1 2 3 4 5 6 7
D. Spreadsheets (ex: calculating numbers)	0 1 2 3 4 5 6 7
E. Presentations (ex: creating slide shows)	0 1 2 3 4 5 6 7
F. Schedule Creating (ex: keeping a calendar)	0 1 2 3 4 5 6 7
G. Burning CDs (ex: making CDs for a class)	0 1 2 3 4 5 6 7

Computer applications specific to the GCM Program

H. QuarkXPress (Laying Out Pages)	0 1 2 3 4 5 6 7
I. Adobe Photoshop (Photo Editing)	0 1 2 3 4 5 6 7
J. Adobe Illustrator (Drawing)	0 1 2 3 4 5 6 7
K. Adobe Acrobat (Creating and viewing PDFs)	0 1 2 3 4 5 6 7
L. Extensis Suitcase (Font Management)	0 1 2 3 4 5 6 7
M. Virtual Ticket (Creating a Job Ticket)	0 1 2 3 4 5 6 7
N. Job Manager (Tracking Production Work)	0 1 2 3 4 5 6 7

9. How do you **DID YOU USE** your laptop computer this semester for **NON-SCHOOL RELATED ACTIVITIES** in respect to the following functions and applications specific to the GCM Program?

Use the following scale and circle the number that corresponds with your answer.

Never	= 0 days/week
Rarely	= 1 day/week
Seldom	= 2 days/week
Sometimes	= 3 days/week
Occasionally	= 4 days/week
Often	= 5 days/week
Usually	= 6 days/week
Always	= 7 days/week

Computer functions available on all laptops

A. Internet (ex: using the web for research) 0 1 2 3 4 5 6 7

B. Email (ex: emailing teachers) 0 1 2 3 4 5 6 7

C. Word Processing (ex: typing up papers for class) 0 1 2 3 4 5 6 7

D. Spreadsheets (ex: calculating numbers) 0 1 2 3 4 5 6 7

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G. Burning CDs (ex: making CDs for a class) 0 1 2 3 4 5 6 7

Computer applications specific to the GCM Program

H. QuarkXPress (Laying Out Pages) 0 1 2 3 4 5 6 7

I. Adobe Photoshop (Photo Editing) 0 1 2 3 4 5 6 7

J. Adobe Illustrator (Drawing) 0 1 2 3 4 5 6 7

K. Adobe Acrobat (Creating and viewing PDFs) 0 1 2 3 4 5 6 7

L. Extensis Suitcase (Font Management) 0 1 2 3 4 5 6 7

M. Virtual Ticket (Creating a Job Ticket) 0 1 2 3 4 5 6 7

N. Job Manager (Tracking Production Work) 0 1 2 3 4 5 6 7

10. Other additional comments I have about the laptop requirement

_____

_____

_____

_____

THANK YOU for completing the questionnaire, it is greatly appreciated!!!