

AN ACTION EVALUATION OF UW-STOUT'S LAPTOP IMPLEMENTATION:

Global Student Expectations and Microsoft

Office Competencies the First Year

By:

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A Research Paper

Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
With a Major in

Applied Psychology

Approved: 4 Semester Credits

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May, 2003

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Abstract

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| Microsoft Office Competencies the First Year | | | |
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| (Title) | | | |
| M.S. Applied Psychology | Dr. Lou Milanese | (05/2003) | 65 |
| (Graduate Major) | (Research Advisor) | (Month/Year) | (No. of Pages) |
| <hr/> | | | |
| American Psychological Association Publication Manual 5 th Ed. | | | |
| (Name of Style Manual Used in this Study) | | | |

This research provides an evaluation and documentation of several aspects of the University of Wisconsin-Stout's laptop implementation. The research project adopted an action evaluation approach and focused on specific elements of the first wave of laptop implementation cohorts. Three online surveys were developed and used in this paper. The *Student Expectation Assessment* consists of three separate sections, which assesses the students' computer skills in three Microsoft Office programs: Word, PowerPoint and Excel. The *Student Questionnaire Survey I* was designed to better understand how students are using their laptops and to address any problems they may be experiencing. The *e-Scholar Training and Expectation Survey* was designed to gather the students' expectations of the e-Scholar concept and how they planned on using their laptops in their daily life as a student. The sample sizes of the three surveys ranged from 318 students to 1350 students. In Phase 1, the results of the *Student Expectation Assessment* were used to reorganize Microsoft training modules to more efficiently address student needs. In Phase 2, the relationship between student computer proficiency (*Student Expectation*

Assessment) and students' self-assessment dealing with computer functionality (*Student Questionnaire Survey I*) was examined. A Spearman correlation did reveal a significant ($p < .01$) but moderate relationship between students' Microsoft software competencies and their computer functionality scores ($r = .44$). In Phase 3, a descriptive analysis of the *e-Scholar Training and Expectation Survey* and the *Student Questionnaire Survey I* was conducted. The results revealed how students expected to use their laptop before the semester started and how students actually were using their laptop two months into the semester. The majority of students both expected and reported using their laptops for educational purposes. Inconsistencies between expectations and actual computer use existed between email use, taking notes and using the laptop as a research tool. Students used their laptop for email, for taking notes and as a research tool much more than they originally expected. Implications of the studies major findings are also discussed.

Acknowledgment

I would like to take this opportunity to thank the people who helped make this research possible. First, I would like to thank Dr. Lou Milanesi for the opportunity to be a part of UW-Stout's Laptop Evaluation. I would also like to thank Dr. Milanesi for his support and guidance on this paper and all of the work I've done throughout my education in the MSAP program. Thank you for always pushing me to do my best work. Second, I would like to thank Jane Henderson for allowing me to be a part of this research. Thank you for all of your support. Next, I would like to thank Bob Streff for gaining copyright approval from Microsoft and doing the original programming of the *Student Expectation Assessment*. A great deal of my research stemmed from this instrument. I would also like to thank Rick Koopmann for all of his technical support throughout this process. The nicely formatted tables, figures and table of contents would not have been possible without Rick's help. Thanks Rick! Last, but certainly not least, I would like to thank my wife, Cristen Griesbach. I would not have made it through graduate school, let alone write this paper, without your support. Thank you for always listening to my complaints. Thank you for being so patient with me. Thank you for always making me smile after a long day of school. Thank you so much for all of those warm dinners waiting for me when I got home. You have been with me through everything and have always supported my choices. I feel so lucky to have had you through all of this. I love you with all of my heart.

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Chapter 1

Introduction

Purpose

The purpose of this research was to provide an evaluation and documentation of several aspects of the University of Wisconsin-Stout's laptop implementation. The laptop implementation is part of a larger overarching digital transition that has been titled, "e-Scholar." The e-Scholar concept has been broadly defined to include the laptop campus initiative, the campus portal system and the digitally based learning processes they support. The current research project adopted an action evaluation approach and focused on specific elements of the first wave of laptop implementation cohorts. The research consisted of a three-phase plan, that deals with evaluation aspects before freshmen orientation, after orientation, and two months into the Fall semester.

Action Evaluation

To help clarify this research project, the concept of action evaluation should be further explained. Rothman (1999) describes action evaluation as:

A new method of evaluation, one that focuses on defining, monitoring, and assessing success. Rather than waiting until a project concludes, action evaluation supports project leaders, funders, and participants as they collaboratively define and redefine success until it is achieved.

Action Evaluation differs from traditional evaluation because it:

- Focuses on promoting successful outcomes
- Integrates program development and implementation from the beginning

- Uses the development of internal goals and standards to define and assess success
- Integrates a new thinking process into an organization's culture, thus helping the organization to become more of a learning organization.
- Identifies views that may be in conflict and creates a safe place for their engagement

Action Evaluation has two key requirements: Participation and Reflexivity.

Participation: All stakeholders engage in the process from the beginning, articulating and negotiating their goals, their values, and their proposed action plans.

Reflexivity. All participants function as "reflective practitioners" together, reflecting and examining the interaction of goals, values and activities. These reflections are done systematically and continuously during the project. A web-based database and discussion forum, which is designed to sustain the reflective process, assists the process. However, regular ongoing and face-to-face dialogue and reflection is essential.

Background

On September 24, 2001 UW-Stout signed a \$25 million, seven-year mobility initiative with Compaq Computer Corporation. Beginning in the fall of 2002, all freshmen were required to purchase the designated Compaq enterprise-class notebook computer. As part of this initiative students gained wireless access to the Internet and the UW-Stout computer network throughout the campus including classrooms, hallways, and even outdoors (University of Wisconsin-Stout, 2001b). The laptop initiative originated in the Fall of 2000 when the University conducted a pilot study. Freshmen students entering the technical communication and graphic communications management programs were required to purchase either an iBook or a PowerBook. These two

programs were selected for the pilot study because most of the related courses require heavy computer use. The programs selected these computers because most professionals in these fields use Apple computers (University of Wisconsin-Stout, 2001a). This pilot provided valuable information to guide many general aspects of the full-scale implementation to follow.

Unfortunately, the use of Macintosh computers in the pilot assessment provided less information regarding software and hardware support needs among students using the dominant class of computers that would be used on campus. Therefore, a comprehensive "roll-out" training program was developed both by the university and its subcontractor.

Given the magnitude of this initiative, the University was interested in conducting evaluations across several aspects of the e-Scholar movement. Some of the specific process evaluations that had either been completed or planned included: baseline student expectations of laptop use, and assessments of the "launch/rollout" and all associated training. Some of the specific outcome evaluations that had either been completed or planned included: assessments of the "value-added" aspect of the laptop program that includes information on the effectiveness of the program, assessment of the impact the laptop has on the learning experience, and finally a longitudinal study which follows the students from freshmen year through graduation. Some other outcome evaluations that will be conducted include the laptops impact on student performance and changes in instructional practices. The targeted audiences thus far have been the first cohort of e-Scholars, faculty/staff teaching laptop courses, student laptop trainers (STAR and Mentors), and the laptop trainers/help resources. The sources of data thus far have been on-line surveys, already existing surveys, focus groups, observations, and data available in existing databases.

This research describes the process experienced by the first cohort of e-Scholars. *Phase One* of the evaluation examines the instrument used to measure students' Microsoft Office software competencies before freshmen orientation. *Phase Two* of the evaluation tests the linkages between the students' proficiency using Microsoft Office software and problems students have experienced two months into the laptop project. *Phase Three* of the evaluation examines information from two different databases. The first database consists of data pertaining to the students' expectations about the use of the laptop and personal definition of the e-Scholar concept. The second database consists of data that deals mainly with the students' knowledge of fundamental operations with their laptop, problems they had experienced and how they used their computer both within and outside of the classroom.

Laptop Goals

The University of Wisconsin-Stout's current laptop intervention has adopted four central goals, which help organize all evaluations that are conducted:

- Improve quality of teaching and learning at undergraduate and graduate levels
- Form egalitarian communities of excellence in teaching and learning across the university
- Utilize technology to create a student-centered environment, where active learning is the core approach to acquiring concepts, processes and attitudes
- Create life-long habits in students in methods of acquisition of concepts, processes and attitudes

Source. Teaching and Learning Center and College Associates Teaching and Learning Assessment Project (Project Team: Donna Albrecht, Jim Buergermeister, Jane Henderson, Clark Leeson, Lou Milanesi, Ross Olson and Meridith Wentz).

Literature Review

Many, if not most universities across the United States have adopted some form of digital enhancement to the learning experience of their students. Instructors have utilized a variety of approaches to bring technology into the classroom. Some classes use computers only for word processing, while other classes use computers to supplement lectures, for note taking and for in-class assignments, projects and quizzes. Other classes have adopted a completely online format where students read class lectures, research, complete projects, write papers and take exams on the computer. These classes not only offer a self-paced style, but also make distance education possible for many nontraditional and working students across the country. Regardless of the approach, universal access to computers for students is an increasingly important necessity for institutions of higher education. Mandating that students possess a computer is a means of achieving this goal that is becoming more popular across the nation.

The impact that technology has had on the learning experience has been very well documented. Goldberg, Russell, and Cook (2003) performed a meta-analysis of 26 studies conducted between 1992-2002, which focused on the effect of computers on student writing. The studies all focused on the comparison between K-12 students writing with computers versus paper-and-pencil. The results suggested that students who use computers when learning to write are more engaged and motivated in their writing. The students also produce work that is of greater length and higher quality. The authors also reported results from the studies collected for the meta-analysis which did not meet the statistical criteria. These articles indicated that the writing process is more collaborative, iterative, and social in computer classrooms as compared with paper-and-pencil classrooms (Goldberg, Russell and Cook, 2003). SRI International, a research institute in California, reported results from a three-year study dealing with the effects

of computers in the classroom. They reported that students using computers showed increased motivation, pride, and an improved ability to work independently. The results also indicated that using technology in the classroom resulted in more student-led learning, greater collaboration with classmates, and more challenging projects for students (Dwight, 1999).

Universities are not the only educational institutes implementing digitally enhanced learning techniques. Many K-12 schools around the country are utilizing technology in their curriculum with reported success. Pascopella (2001) mentions many of these K-12 schools in a past article titled, *Laptop or Textbook*. The Discovery Charter School in the Tracy Unified School District Learning Center in California opened in August of 2001 for 125 fifth and sixth graders. The school was one of the first in the nation to implement an “eEducation” as its primary tool for education. The school will reach an enrollment of 2,400 pre-school through 12th grade students by 2004. At the Walled Lake School District in Michigan, 400 of their fifth and sixth grade students will have access to Compaq laptops and wireless labs for the next five years. The district became Michigan’s first K-12 public school district to be part of Microsoft’s Anytime, Anywhere Learning program. William Hamilton, assistant superintendent for K-12 curriculum in the district stated, “we saw some good things happening with regards to relationships between students and students and teachers, and because of that environment, students seemed to be working at a higher level of thinking.” At Stephen Hayt Elementary School in the Chicago community of Edgewater, administrators received a series of state technology grants, each worth \$90,000, over the past three years to assist in their technology program. The children at Stephen Hayt started using computers in kindergarten; they use Macs through fourth grade and then use PCs in the technology lab from fifth to eighth grade (Pascopella, 2001).

Historically, access to digital technology has been limited to labs or to a limited number of administrative personnel. Not only has access been limited at schools, but also limited to certain students. Some families provide their children with computers, while other families are not able to do so for financial reasons. There has also been a gap between the very skilled computer users and the not so skilled computer users. In the past, technology has only benefited those with strong computer skills. This dilemma has been coined the “digital divide.” The digital divide can be defined here as the gap between those able to benefit by digital technologies and those who are not (DigitalDivide.org, 2003). Kinnaman (2002) reports that many educational institutions are going about the digital divide in the wrong way by constraining those who have access rather than provide opportunity to those who don’t. She reported that one teacher in her old school district had a policy prohibiting students from using their own computers for schoolwork. Kinnaman argues that restricting use is no way to address the digital divide; she recommends a few ideas for schools to bridge the gap:

- Make arrangements with computer and Internet providers on creative financing to increase access in school, especially during this time of low-cost capital.
- Push vendors to extend special financing to parents when your school district makes a major purchase.
- Expect teachers to use the Internet. Support them with technology and professional development resources.
- Greatly increase access to school computers, especially after school hours, for students, parents and siblings.

- Collaborate with local libraries, community centers, churches and other organizations to ensure broad access to computer and Internet resources (Kinnaman, 2002).

As a way of narrowing this digital divide and overcoming limited access of computers, many universities across the United States are requiring their students to own a laptop computer. In the Midwest, the University of Minnesota-Crookston became the first laptop university in 1993. Northern Michigan University and Winona State University have also adopted a laptop campus. Universities outside of the Midwest that are well known for their pioneer work in the laptop revolution include, Wake Forest University, Carnegie Mellon University, and Seton Hall University. Some positive impacts that the laptop requirement has had on these universities include: increased freshmen to sophomore retention of 89-94 percent (Wake Forest University); increased applications for admission (e.g., University of Minnesota-Crookston, Winona State University, and Northern Michigan University); favorable parent satisfaction levels (Northern Michigan University); and increased instructional effectiveness and fostered a responsive learning environment (Valley City State University) (University of Wisconsin-Stout, 2001c).

The University of Wisconsin-Stout has been progressing towards technology based learning for over a decade. And in the fall of 2002, UW-Stout became the first public university in the state of Wisconsin to require all incoming freshmen to have laptops. University-wide discussions regarding adopting laptops as the university standard began in 1998, and led to the pilot study in 2000 (University of Wisconsin-Stout, 2001c). The implementation of the “laptop campus” has been a pivotal step toward digitally enhanced learning. The meetings, discussions, site visits, and pilot study have all played a key role into the university implementation plan.

Much work went into initial planning, however, the design also integrated a system of interactive/reflective process monitoring and feedback.

Phase One

The first phase of the evaluation examines the instrument that was used before freshmen orientation. In the summer of 2002, all incoming freshmen came to UW-Stout for pre-orientation. As part of the orientation, students had to complete an assessment of their Microsoft Office software competencies. The on-line instrument used was the *Student Expectation Assessment*. The instrument consisted of three separate sections, which assessed the students' computer skills in three Microsoft Office programs: Word, PowerPoint and Excel. Bob Streff originally gained copyright approval from Microsoft and did the programming of the instrument for his Master's thesis. The instrument is based on Microsoft training objectives and was later used to help reorganize Microsoft training modules to more efficiently address student needs. The primary goal of this phase was to reorganize Microsoft training from the descriptive analyses of the *Student Expectation Assessment*. This reorganization of Microsoft training is an attempt to narrow the gap that exists between the skilled computer users and the novice users by providing the appropriate training to each student.

Initially, the data from this instrument was going to be compared to the faculty's expectations of student abilities. The instrument designed to assess the faculty's expectations of students' software skills was the *Microsoft Office Expectations Survey*. The instrument is a mirror image of the *Student Expectation Assessment*, however, the faculty responded to the questions by indicating: "Not Used," "Infrequent Use," "Some Use" and "Much Use." The students responded to the questions of the *Student Expectation Assessment* by indicating: "Can Do," "Can't Do" and "No Clue." The faculty survey (*Microsoft Office Expectations Survey*) was

designed to measure instructor expectations regarding Microsoft Office software in their freshman-level courses. The results were originally going to be used to profile expectations regarding software skills on a objective-by-course level to help define, organize and prioritize MS Office training courses. However, the initial faculty analyses did not discriminate well across objectives. The faculty tended to rate at the same level across all objectives, but discriminated across courses. For example, within a particular course instructors would give relatively the same rating (eg. “Much Use”) across all of the objectives. The variance was identified course-by-course and not objective-by-course. The analysis did reveal that the predominant skill requirement for freshmen was Microsoft Word, with additional needs for Excel skills in a few classes. The faculty survey was then used for training personnel to prioritize their training offerings so the emphasis was on Microsoft Word.

The secondary goal, which came after the main reorganization of Microsoft training, consisted of descriptive analyses of the questions across all three Microsoft programs. A content analysis of the most proficient skill based questions across the three programs was also conducted. This assessment process hoped to provide a secondary refinement of Microsoft training by extracting common skill-based questions that could be combined. It was believed that the clusters would provide insight into transfer of skills. In other words, which skills are common across the three programs? This information would further help reorganize the Microsoft training curriculum, and in turn make it more efficient and effective.

Phase Two

The second phase of the evaluation examines the relationship between student Microsoft Office software competencies and problems students experienced two months into the semester. All laptop freshmen received an online instrument two months into the semester, the *Student*

Questionnaire Survey 1. This survey was a collaborative effort by Lou Milanesi, Jane Henderson, Meridith Wentz, Ross Olson, Robert Sedlak and the author. Part of the survey dealt with the problems students faced with their computers. The question of interest in this phase specifically asked the students to rate their knowledge regarding the general functionality of their laptop (eg. Care of laptop, laptop features, virus protection, file management/back-up process utilizing the “my documents” folder, file management/back-up process utilizing server storage, security practices, how to use web e-mail, using the Desktop Help Wizard and using the e-Scholar portal). The students were further given the opportunity to explain their training needs as they related to that question. This phase attempted to answer the question of whether Microsoft Office software abilities are predictive of general computer proficiency. The relationship between student computer proficiency and students’ self-assessment dealing with functionality could provide useful insight that could help reorganize orientation training. Providing students with the proper training will allow them to use their laptop more effectively and more positively impacting their learning experience.

Phase Three

The third phase of the evaluation examines information from two different databases. The first database consisted of data pertaining to the students’ expectations about the e-Scholar concept. At the laptop orientation training, which took place in August of 2002, students completed an expectation survey. This survey was titled, *e-Scholar Training and Expectation Survey*. This survey was also a collaborative effort by Lou Milanesi, Jane Henderson, Meridith Wentz, Ross Olson, Robert Sedlak and the author. The first question in the survey asked students to briefly explain what being an e-Scholar meant to them. The second question asked students how they expected to use their laptops in their daily life as a new student. The second question of

the survey will be examined in this phase of the evaluation. The second database consisted of data that deals mainly with the students' knowledge of their laptop, problems they have experienced and how they have used their laptop. As mentioned previously, the *Student Questionnaire Survey 1* measures these areas. Questions six and seven of the survey, which asks students how they have used their laptop inside and outside of class was examined here.

This phase consists of a descriptive analysis of the *e-Scholar Training and Expectation Survey* and the *Student Questionnaire Survey 1*. This is a report of the students' expectations and self-reported laptop use. The results also present how students expected to use their laptop (*e-Scholar Training and Expectation Survey*) and how students actually used their laptop (*Student Questionnaire Survey 1*). The congruence and incongruence of expectations and actual computer use has been examined. This information could provide several useful recommendations as to how to reorganize the orientation training and how to reorganize class structure to allow for more effective use of the laptop.

Chapter 2

Phase One

Methods

Participants

The sample consisted of all incoming “laptop freshmen” of the University of Wisconsin-Stout for the academic year of 2002-2003. The students involved consisted of PC and Mac users. The sample consisted of 100 percent of the freshmen that could be identified as “laptop students” at the time of orientation. Between 1250 and 1350 students completed each of the three subtests of the assessment.

Materials

The on-line instrument used in this phase of the study was the *Student Expectation Assessment* (See Appendix A). The instrument consists of three separate sections, which assesses the students’ computer skills in three Microsoft Office programs: Word, PowerPoint and Excel. Students were required to enter their seven-digit student ID number before submitting each of the three surveys. Their id numbers were used to aggregate the data and link it to other archival resources. Students read through each question and described their ability to perform each task by selecting one of three response options: “Can Do,” “Can’t Do,” and “No Clue.” The students were also given an opportunity at the end of the survey to make any additional comments.

Procedure

All of the incoming “laptop students” completed the survey described above during pre-orientation in the summer of 2002. Students completed the assessment in groups of 10 to 30. All

students received the same instructions and were given approximately 15 minutes to complete the three assessments. Results were automatically stored in a data file that was later imported into SPSS for a statistical analysis. For the purposes of this research, the data was also transferred into Excel so the questions would be rank ordered according to proficiency percentage. In other words, the questions were ranked from least proficient (less than 10 percent “Can Do”) to most proficient (90 percent or higher “Can Do”). In order to run the above statistical analysis and rank ordering, the variables were recoded into a dichotomous nominal scale of measurement. The original response options, “Can Do,” “Can’t Do,” and “No Clue” were recoded as, “Can Do” and “Can’t Do.”

Results

Frequency values for the Excel, PowerPoint and Word assessment are listed in Tables 1, 2 and 3 respectively below. The data from the assessment was entered into SPSS and descriptive analyses were performed. The frequency and percentage of students that can perform each of the questions was reported. After this information was reported, the questions were sorted from least proficient to most proficient. As is evident from the tables below, students are generally most proficient in Microsoft Word. As a result, Word was used as a reference for further comparisons.

The primary purpose of the frequency data was to help reorganize Microsoft training modules to more efficiently address student needs. After this research, the attempt to extract a “core” set of overlapping items was a secondary attempt to further refine training. It was hypothesized that overlapping items would provide insight into transfer of skills. In other words, which skills are common across the three programs? A factor analysis, Spearman correlation, and a content comparison were performed across the three assessments to reach this goal.

Contrary to initial expectations, the results did not yield any extensive overlap across the three programs and only minimal overlap across any two.

Table 1

Student Proficiency Levels by Question in Sorted Order (Excel)

| Microsoft® Excel 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------|--|---------------|------------|
| q47 | Use financial functions (FV and PMT) | 191 | 15.2 |
| q38 | Link worksheets & consolidate data using 3D References | 220 | 17.5 |
| q48 | Use logical functions (IF) | 229 | 18.2 |
| q42 | Use references (absolute and relative) | 363 | 28.9 |
| q11 | Create hyperlinks | 381 | 30.4 |
| q43 | Use AutoSum | 445 | 35.5 |
| q13 | Save a worksheet/workbook as a Web Page | 437 | 34.8 |
| q8 | Use the Office Clipboard | 467 | 37.2 |
| q41 | Revise formulas | 470 | 37.5 |
| q46 | Use date functions (NOW and DATE) | 505 | 40.2 |
| q12 | Use templates to create a new workbook | 525 | 41.8 |
| q40 | Enter formulas in a cell and use the formula bar | 553 | 44.1 |
| q20 | Merging cells | 557 | 44.4 |
| q39 | Enter a range within a formula by dragging | 573 | 45.7 |
| q45 | Use basic functions (AVERAGE, SUM, COUNT, MIN, and MAX) | 585 | 46.6 |
| q9 | Use Find and Replace | 656 | 52.3 |
| q33 | Move between worksheets in a workbook | 702 | 55.9 |
| q21 | Rotate text and change indents | 707 | 56.3 |

Table 1 (Cont'd)

| Microsoft® Excel 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------|--|---------------|------------|
| q22 | Define, apply, and remove a style | 700 | 55.8 |
| q10 | Clear cell formats | 712 | 56.7 |
| q51 | Modify charts | 718 | 57.2 |
| q50 | Use the Chart Wizard to create a chart | 730 | 58.2 |
| q44 | Use Paste Function to insert a function | 729 | 58.1 |
| q53 | Create and modify lines and objects | 745 | 59.4 |
| q19 | Apply cell borders and shading | 769 | 61.3 |
| q27 | Insert and remove a page break | 814 | 64.9 |
| q25 | Change page orientation and scaling | 815 | 64.9 |
| q37 | Move and copy worksheets | 816 | 65 |
| q36 | Insert and Delete worksheets | 825 | 65.7 |
| q30 | Set print titles and options (gridlines, print quality, row & column headings) | 830 | 66.1 |
| q28 | Set print, and clear a print area | 857 | 68.3 |
| q18 | Adjust the decimal place | 893 | 71.2 |
| q17 | Modify alignment of cell content | 908 | 72.4 |
| q32 | Change the zoom setting | 925 | 73.7 |
| q6 | Insert and delete selected cells | 964 | 76.8 |
| q29 | Set up headers and footers | 966 | 77 |
| q2 | Clear cell content | 981 | 78.2 |

Table 1 (Cont'd)

| Microsoft® Excel 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------|---|---------------|------------|
| q5 | Go to a specific cell | 976 | 77.8 |
| q52 | Insert, move, and delete an object (picture) | 976 | 77.8 |
| q4 | Edit cell content | 982 | 78.2 |
| q31 | Insert and delete rows and columns | 998 | 79.5 |
| q35 | Rename a worksheet | 1009 | 80.4 |
| q49 | Preview and print charts | 1006 | 80.2 |
| q7 | Cut, copy, paste, paste special and move selected cells | 1040 | 82.9 |
| q16 | Modify size of rows and columns | 1064 | 84.8 |
| q15 | Apply number formats (currency, percent, dates, and commas) | 1070 | 85.3 |
| q26 | Set page margins and centering | 1086 | 86.5 |
| q23 | Preview and print worksheets and workbooks | 1095 | 87.3 |
| q1 | Use Undo and Redo | 1093 | 87.1 |
| q3 | Enter text, dates, and numbers | 1134 | 90.4 |
| q14 | Apply font styles (typeface, size, color, and styles) | 1168 | 93.1 |
| q24 | Print a selection | 1180 | 94 |
| q34 | Check spelling | 1184 | 94.3 |

Table 2

Student Proficiency Levels by Question in Sorted Order (PowerPoint)

| Microsoft® PowerPoint® 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------------|--|---------------|------------|
| q17 | Enter text in tri-pane view | 350 | 28.3 |
| q23 | Promote and Demote text in slide and outline panes | 397 | 32.1 |
| q43 | Use the pen during a presentation | 447 | 36.1 |
| q47 | Insert hyperlink | 435 | 35.2 |
| q39 | Print speaker notes in a specified format | 472 | 38.2 |
| q46 | Use Office Assistant | 492 | 39.8 |
| q22 | Use the Office Clipboard | 496 | 40.1 |
| q9 | Create a presentation using the AutoContent Wizard | 528 | 42.7 |
| q42 | Print a slide as an overhead transparency | 530 | 42.8 |
| q36 | Preview presentation in black and white | 559 | 45.2 |
| q32 | Add speaker notes | 565 | 45.7 |
| q38 | Print audience handouts | 606 | 49 |
| q21 | Use the Wrap text in TextBox feature | 644 | 52.1 |
| q37 | Print slides in a variety of formats | 647 | 52.3 |
| q29 | Create tables within PowerPoint | 695 | 56.2 |
| q13 | Modify slide sequence in the outline pane | 697 | 56.3 |
| q6 | Copy a slide from one presentation into another | 710 | 57.4 |
| q41 | Use on screen navigation tools | 719 | 58.1 |
| q14 | Apply a design template | 727 | 58.8 |
| q35 | Animate text and objects | 725 | 58.6 |

Table 2 (Cont'd)

| Microsoft® PowerPoint® 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------------|---|---------------|------------|
| q33 | Add graphical bullets | 731 | 59.1 |
| q5 | Create a new presentation from existing slides | 736 | 59.5 |
| q26 | Apply formatting | 741 | 59.9 |
| q40 | Start a slide show on any slide | 746 | 60.3 |
| q4 | Navigate among different views (slide, outline, sorter, tri-pane) | 750 | 60.6 |
| q34 | Add slide transitions | 769 | 62.2 |
| q10 | Change the order of slides using Slide Sorter view | 779 | 63 |
| q30 | Rotate and fill an object | 810 | 65.5 |
| q31 | Add AutoNumber bullets | 810 | 65.5 |
| q18 | Import text from Microsoft® Word | 812 | 65.6 |
| q3 | Create a presentation from a template and/or a wizard | 831 | 67.2 |
| q2 | Create a specified type of slide | 837 | 67.7 |
| q12 | Change the layout for one or more slides | 834 | 67.4 |
| q7 | Insert headers and footers | 848 | 68.6 |
| q8 | Create a Blank presentation | 884 | 71.5 |
| q11 | Find and replace text | 907 | 73.3 |
| q27 | Add text to a graphic object using a text box | 908 | 73.4 |
| q19 | Change the text alignment | 926 | 74.9 |
| q1 | Delete slides | 929 | 75.1 |
| q25 | Add and group shapes using WordArt or the Drawing Toolbar | 941 | 76.1 |

Table 2 (Cont'd)

| Microsoft® PowerPoint® 2000 | | Can Do (freq) | Can Do (%) |
|-----------------------------|--|---------------|------------|
| q20 | Create a text box for entering text | 968 | 78.3 |
| q28 | Scale and size an object including ClipArt | 982 | 79.4 |
| q45 | Save as a new presentation | 1027 | 83 |
| q44 | Save changes to a presentation | 1039 | 84 |
| q16 | Change and replace text fonts (individual slide and entire presentation) | 1054 | 85.2 |
| q24 | Add a picture from the ClipArt Gallery | 1074 | 86.8 |
| q15 | Check spelling | 1123 | 90.8 |

Table 3

Student Proficiency Levels by Question in Sorted Order (Word)

| Microsoft® Word 2000 | | Can Do (freq) | Can Do (%) |
|----------------------|---|---------------|------------|
| q43 | Create Hyperlinks | 510 | 41.3 |
| q41 | Save as Web Page | 573 | 46.4 |
| q44 | Use the Office Assistant | 657 | 53.2 |
| q45 | Send a Word document via e-mail | 790 | 64 |
| q34 | Create sections with formatting that differs from other sections | 802 | 64.9 |
| q49 | Modify table structure (merge cells, change height and width) | 808 | 65.4 |
| q21 | Print a document | 827 | 67 |
| q35 | Use Click & Type | 832 | 67.4 |
| q42 | Use templates to create a new document | 854 | 69.1 |
| q32 | Revise column structure | 858 | 69.5 |
| q26 | Set margins | 876 | 70.9 |
| q40 | Create a new document using a Wizard | 878 | 71.1 |
| q48 | Revise tables (insert and delete rows and columns, change cell formats) | 878 | 71.1 |
| q47 | Add borders and shading to tables | 889 | 72 |
| q46 | Create and format tables | 899 | 72.8 |
| q31 | Create and use newspaper columns | 921 | 74.6 |
| q30 | Align text vertically | 954 | 77.2 |
| q20 | Set tabs with leaders | 969 | 78.5 |
| q33 | Apply styles | 975 | 78.9 |

Table 3 (Cont'd)

| Microsoft® Word 2000 | | Can Do (freq) | Can Do (%) |
|----------------------|---|---------------|------------|
| q50 | Use the drawing toolbar | 979 | 79.3 |
| q28 | Create and modify page numbers | 1008 | 81.6 |
| q5 | Insert page breaks | 1009 | 81.7 |
| q29 | Create and modify headers and footers | 1027 | 83.2 |
| q11 | Apply character effects (Superscript, Subscript, Strikethrough, Small Caps and Outline) | 1033 | 83.6 |
| q13 | Insert symbols | 1037 | 84 |
| q12 | Insert date and time | 1080 | 87.4 |
| q51 | Insert graphics into a document (WordArt, ClipArt, Images) | 1072 | 86.8 |
| q24 | Insert page numbers | 1096 | 88.7 |
| q17 | Use indentation options (Left, Right, First Line and Hanging Indent) | 1101 | 89.1 |
| q18 | Use Tabs command (Center, Decimal, Left and Right) | 1109 | 89.8 |
| q25 | Set page orientation | 1115 | 90.3 |
| q16 | Set character, line, and paragraph spacing options | 1113 | 90.1 |
| q10 | Find and replace text | 1113 | 90.1 |
| q4 | Use the Thesaurus feature | 1130 | 91.5 |
| q39 | Create a folder | 1133 | 91.7 |
| q8 | Cut, Copy, Paste, and Paste Special using the Office Clipboard | 1133 | 91.7 |
| q15 | Add bullets and numbering | 1147 | 92.9 |

Table 3 (Cont'd)

| Microsoft® Word 2000 | | Can Do (freq) | Can Do (%) |
|----------------------|--|---------------|------------|
| q27 | Use GoTo to locate specific elements in a document | 1147 | 92.9 |
| q1 | Use the Undo, Redo, and Repeat command | 1165 | 94.3 |
| q6 | Highlight text in document | 1190 | 96.4 |
| q7 | Insert and move text | 1191 | 96.4 |
| q14 | Align text in paragraphs (Center, Left, Right and Justified) | 1207 | 97.7 |
| q38 | Use Save As (different name, location or format) | 1206 | 97.7 |
| q37 | Locate and open an existing document | 1211 | 98.1 |
| q36 | Use save | 1218 | 98.6 |
| q23 | Navigate through a document | 1218 | 98.6 |
| q3 | Use the Spelling feature | 1218 | 98.6 |
| q22 | Use print preview | 1219 | 98.7 |
| q2 | Apply font formats (Bold, Italic and Underline) | 1220 | 98.8 |
| q9 | Select and change font and font size | 1221 | 98.9 |

Discussion

The primary purpose of this Phase was to use the data from the *Student Expectation Assessment* to help reorganize Microsoft training modules. The secondary purpose of this Phase was an attempt to further refine Microsoft training by extracting a “core” set of overlapping

items. It was believed that the overlap in questions would provide insight into the transfer of skills.

The descriptive analyses accomplished its primary goal by reorganizing Microsoft training modules to more efficiently address student needs. One of the most common criticisms of previous training efforts was that students had to sit through discussions of much of what they already knew to access the specific training they desired. This was primarily due to logical assumptions of the training staff, mainly that learning objectives fell into, “basic,” “intermediate” and “advanced” categories and should be similarly organized within the training curriculum. Instead, these descriptive analyses provided *empirical evidence* of the *current training needs* of the incoming freshmen cohort. Therefore, the reorganized courses could increase the *overall utility* of the courses offered across a greater number of students. Weighing the course’s “service utility” against reported “service need,” in this case Microsoft Word and to a lesser degree Excel, allowed courses to be prioritized and then synchronized within the freshmen sequence of academic instruction. After the assessment, students were electronically provided with the schedules of training opportunities, locations and times. The data was further used to identify at-risk students who reported very low levels of software proficiency. These students were contacted by phone by a mentor who informed them about training opportunities, encouraged them and helped them enroll.

In order to accomplish the secondary goal of further refining training, a factor analysis, Spearman correlation, and a content comparison were performed across the three assessments. First, a factor analysis was conducted, but the results did not reveal any significant overlap in questions. Second, a Spearman correlation was conducted with Microsoft Word as the reference for comparison. Word was used as a reference because people were most proficient with this

program, and they most likely learned it before they learned Excel and PowerPoint.

Unfortunately, this analysis also did not reveal any significant overlap. It was first believed that the null results were due to the dichotomous nature of the variables. Therefore, it was believed that a simple content analysis of then most proficient questions (80 percent or higher) would reveal significant findings. Even still surprising, little overlap across the three programs was found by conducting the content analysis. There was some overlap when comparing Word with one other program. However, these relationships were not believed to be worth reporting in this section.

The results from this Phase do provide useful insight regarding the current Microsoft training curriculum. This Phase was an attempt to reorganize the Microsoft Office training curriculum in order to make it more efficient. The descriptive analysis did accomplish this goal. The goal of further refining training through extracting a “core” set of overlapping items was not successful. It seems evident at this point that the original frequency analysis first performed was the best guide to structuring training; it was the primary intent and the foundation of change. Therefore, no further interventions are warranted at this time.

Chapter 3

Phase Two

Methods

Participants

The population sampled consisted of all “laptop freshmen” of the University of Wisconsin-Stout for the academic year of 2002-2003. Of the 1310 enrolled students in the Fall of 2002, 318 of them completed the survey, giving us a total response rate of 24 percent.

Materials

This phase of the study examines data from two separate on-line instruments. The first instrument is the *Student Expectation Assessment*, which measures the students’ computer skills in three Microsoft Office programs: Word, PowerPoint and Excel.

The second instrument used in this phase of the study was the *Student Questionnaire Survey I* (See Appendix C). Students were required to enter their seven-digit student ID number before submitting the survey. The first two questions of the survey asked students to report any problems they have experienced with the ASK5000 Help Desk. The ASK5000 Help Desk serves the UW-Stout community as a source for information related to computer-based technology. Questions three and four of the survey dealt with connectivity-related issues. Question five and six of the survey dealt with training issues. Question seven and eight of the survey dealt with how the students have been using their laptop computer both inside and outside of class. Question nine, which was the last question of the survey, was used to recruit students for focus groups to further discuss e-Scholar needs. Refer to Appendix C to view the specific questions of the survey.

Procedure

Two months into the Fall semester of 2002, the first cohort of e-Scholars received an email message with a link to this online questionnaire. The students were encouraged but not required to complete this questionnaire. The students were told that the survey was designed to better understand and address any problems they may be experiencing with their laptop. Also, by completing the survey, the laptop staff would be able to provide responsive and timely solutions to current e-Scholar needs. The data was imported into SPSS for descriptive analyses of the quantitative questions. For the purposes of this research, the relationship between student Microsoft Office software competencies (*Student Expectation Assessment*) and students' self-assessment dealing with computer functionality (*Student Questionnaire Survey 1*) was examined. Of the 318 students who completed the *Student Questionnaire Survey 1*, 282 of them fully completed the *Student Expectation Assessment*. The data from these 282 students was examined in this phase of the paper.

Results

A Spearman correlation was performed to assess the relationship between students' Microsoft Office software competencies and students' perceived level of computer functionality. The students' scores on each program (Word, PowerPoint, Excel) and their average score across all three programs was correlated with their knowledge rating score on questions 5a through 5i and their total knowledge score of 5a through 5i. These correlations are reported in Table 4 below.

Table 4

Reported Correlations Between Microsoft Office Competencies and Computer Functionality

| Questions | Word | PowerPoint | Excel | Average of All Three |
|-----------------------------------|-------|------------|-------|----------------------|
| 5a Care of laptop | .38** | .25** | .23** | .29** |
| 5b Laptop features | .51** | .39** | .38** | .44** |
| 5c Virus protection | .44** | .30** | .31** | .35** |
| 5d "My Documents" mgmt & back-up | .34** | .29** | .29** | .32** |
| 5e Server storage mgmt & back-up | .38** | .31** | .30** | .34** |
| 5f Security practices | .44** | .29** | .37** | .39** |
| 5g How to use web e-mail | .19** | .07 | .06 | .09 |
| 5h How to use Desktop Help Wizard | .39** | .26** | .29** | .32** |
| 5i How to use e-Scholar | .26** | .16** | .14** | .18** |
| Sum of knowledge items (5a-5i) | .53** | .38** | .39** | .44** |

*Note.*** Correlation is significant at the .01 level (2-tailed).

With an alpha level of .01, there were significant correlations between all of the items except for “How to use web e-mail” and the PowerPoint assessment, the Excel assessment and the Average across all three programs scores. The rest of the items were significantly positively related, with correlation coefficients ranging from .14 and .53. The correlation with the highest coefficient (.53) existed between sum of knowledge items score and the Word score. There was also a significant correlation between the sum of knowledge items score and the average across all three programs score (.44). The analysis revealed that the students’ average software competencies across all three programs and their level of computer functionality score of all items shared 19 percent of the variance.

Discussion

The purpose of this phase was to reveal whether a relationship existed between students' Microsoft Office software competencies (*Student Expectation Assessment*) and students' self-assessment dealing with computer functionality (*Student Questionnaire Survey 1*). In other words, are Microsoft Office software abilities predictive of general computer proficiency? The Spearman correlation did reveal a significant ($p < .01$) but moderate relationship between students' Microsoft software competencies and their computer functionality scores. The strongest relationship existed between the students' total knowledge scores and the Word assessment scores, with a correlation coefficient of .53. To summarize this relationship one should examine the relationship between the students' total knowledge scores and their competencies across all three Microsoft Office programs. These pairs of scores have 19 percent of their variance in common. This interpretation suggests that there is indeed a moderate relationship between students' software knowledge and their overall knowledge of computer functionality. However, there were items with very low and/or insignificant correlations. The analysis revealed that knowledge of web email and the e-Scholar portal are not related to pre-existing skills. It appears that the knowledge areas that are more specific to UW-Stout are not predictive of Microsoft Office software abilities. Therefore, staff should spend more time training in these specific areas.

The results from this Phase provide useful insights which should be kept in mind when organizing future orientation training sessions. The results also reconfirm the practice of measuring students' competencies of Microsoft Office software before Freshmen orientation. Having a general idea of each students software proficiency level will give the training team an idea of their level of computer functionality. In turn, this information would give the trainers an

opportunity to tailor orientation training around student needs. It might be possible to organize orientation training in such a way that students would receive different schedules of instruction depending on their software knowledge level. If reorganizing the training in this manner is not possible, the simple fact of knowing students' software competencies prior to orientation training is still beneficial. The ultimate goal is to provide the students with the proper training, which will allow them to use their laptop in the most effective way.

Chapter 4

Phase Three

Methods

Participants

The sample consisted of all incoming “laptop freshmen” of the University of Wisconsin-Stout for the academic year of 2002-2003. The sample consisted of 100 percent of the freshmen that could be identified as “laptop students” at the time of orientation. Of the 1310 enrolled students, 1269 of them completed this survey. Of the 1269 students that completed the survey, 1092 of them submitted a complete survey.

Materials

This phase of the study examines data from two separate on-line instruments. The first instrument is the *e-Scholar Training and Expectation Survey* (See Appendix B). The demographic questions included in this survey were: student name, student ID number, orientation group number, declared major and “Did you attend the library/blackboard training session?” The first question asked the students to briefly explain what being an e-Scholar means to them. The second question asked students how they expect to use their laptops in their daily life as a new student. The second on-line instrument, which is also used in phase two, is the *Student Questionnaire Survey I*. As mentioned previously, the survey consists of questions that deal mainly with the students’ knowledge of their laptop, problems they have experienced and how they have used their laptops inside and outside of class.

Procedure

All of the incoming “laptop students” completed this on-line survey (*e-Scholar Training and Expectation Survey*) when they came in for the laptop training part of orientation in August of 2002. All of the students received the same instructions and were given the same amount of time to complete the three assessments. The Laptop Training Team explained that the survey was designed for them to gain a better understanding of how the students planned on using their laptop in their daily life as a new student. The data was imported into Excel, where a content analysis of the major themes was performed. For the purposes of this research, this data was compared to the *Student Questionnaire Survey I*. Again, the relationship between how students expect to use their laptop and how students are actually using their laptop was examined.

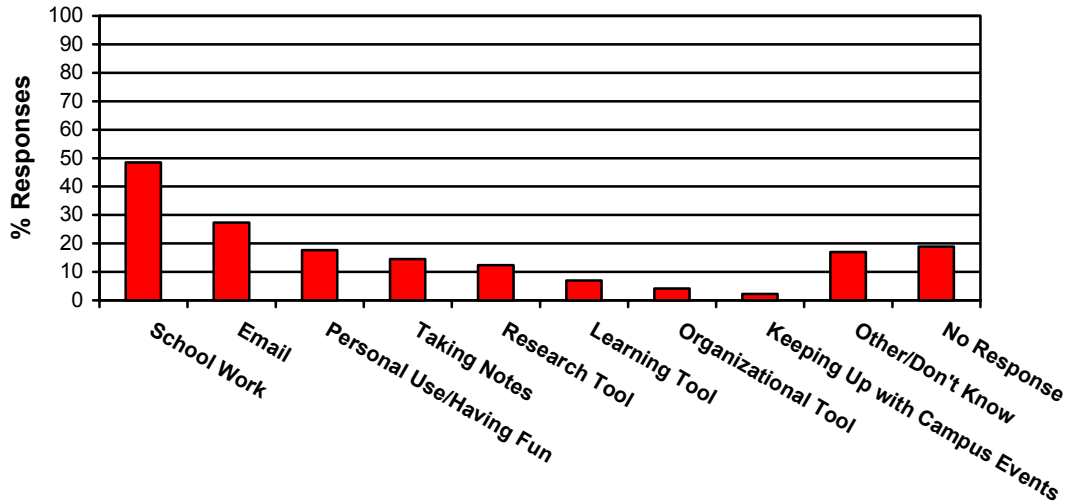
Results

Data from the *e-Scholar Training and Expectation Survey* and the *Student Questionnaire Survey I* was imported into Excel where a content analysis of specific responses was conducted. The author and three undergraduate students coded the data dealing with the students’ expectations and self-reported laptop use. Percentages of student responses of these questions are reported in Figures 1, 2, 3 and 4 respectively below.

How do you expect to use your laptop in your daily life as a new student?

Figure 1

Students' Expectations Regarding the Use of Their laptop (N = 1092)



The last question of the *e-Scholar Training and Expectation Survey* read: “How do you expect to use your laptop in your daily life as a new student?” This question was coded using predefined categories listed in Figure 1 above.

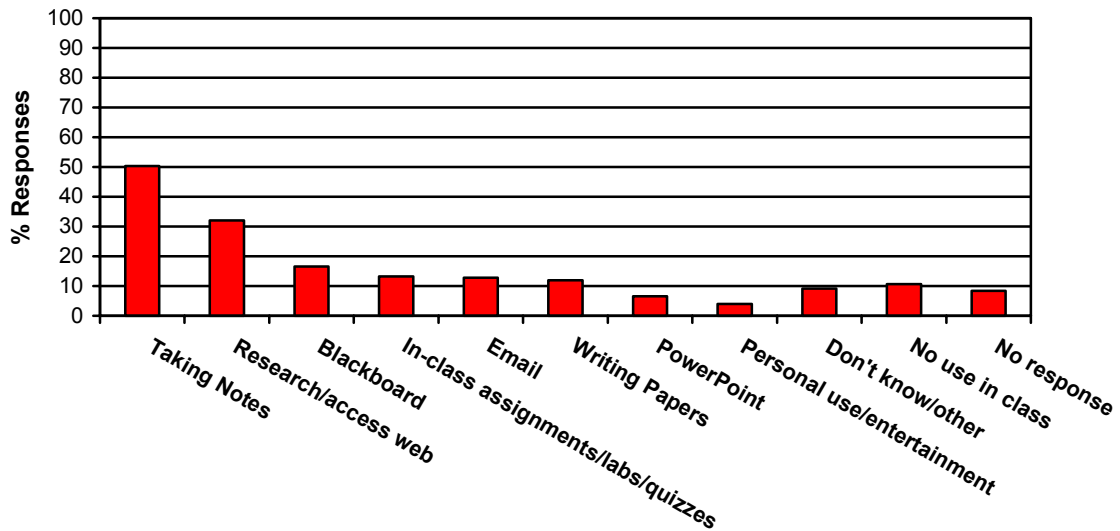
The responses of this question, given in percentages, are also reported in Figure 1 above. Forty-eight percent of the students indicated they expected to use their laptop for schoolwork. Twenty-seven percent of the students indicated they expected to use their laptop for email. Seventeen percent of the students indicated they expected to use their laptop for personal use. Eighteen percent of the students indicated they expected to use their laptop for taking notes. Twelve percent of the students indicated they expected to use their laptop as a research tool. Seven percent of the students indicated they expected to use their laptop as a learning tool. Four percent of the students indicated they expected to use their laptop as an organizational tool. Two percent of the students indicated they expected to use their laptop for keeping up with campus events. Seventeen percent of the students indicated that they don't know how they will use their

laptop or they listed some other expectation. Nineteen percent of the students did not respond to this question

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

Figure 2

Students' Use of Their Laptop During Class Time (N = 318)



Question seven of the *Student Questionnaire Survey 1* read: “Provide some examples of how you have used your laptop during class time.” This question was coded using predefined categories listed in Figure 2 above.

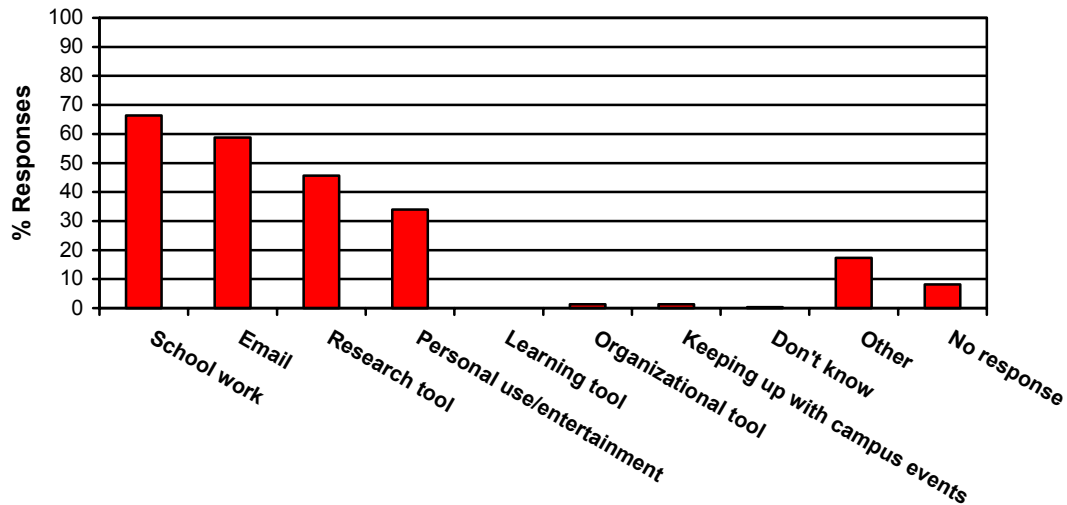
The responses of this question, given in percentages, are also reported in Figure 2 above. Fifty percent of the students indicated they used their laptop for taking notes during class time. Thirty-two percent of the students indicated they used their laptop for research during class time. Seventeen percent of the students indicated they used their laptop for Blackboard during class time. Thirteen percent of the students indicated they used their laptop for in-class assignments, labs, quizzes, and etc. during class time. Thirteen percent of the students indicated they used their laptop for email during class time. Twelve percent of the students indicated they used their laptop for writing papers during class time. Seven percent of the students indicated they used their laptop for PowerPoint during class time. Four percent of the students indicated they used

their laptop for personal use during class time. Nine percent of the students indicated that they didn't know or provided some other use of their laptop during class time. Eleven percent of the students indicated they didn't use their laptops during class time. Eight percent of the students did not respond to this question.

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

Figure 3

Students' Use of Their Laptop Outside Class Time (N = 318)



Question eight of the *Student Questionnaire Survey 1* read: “Provide some examples of how you have used your laptop during class time.” This question was coded using predefined categories listed in Figure 3 above.

The responses of this question, given in percentages, are also reported in Figure 3 above. Sixty-six percent of the students indicated they used their laptop for schoolwork outside of class time. Sixty percent of the students indicated they used their laptop for email outside of class time. Forty-six percent of the students indicated they used their laptop as a research tool outside of class time. Thirty-four percent of the students indicated they used their laptop for personal use or entertainment outside of class time. Nobody indicated they used their laptop as a learning tool outside of class time, but this can be implied considering 66 percent of the students use their laptop for schoolwork. One percent of the students indicated they used their laptop as an organizational tool outside of class time. One percent of the students indicated they used their laptop to keep up with campus events outside of class time. Less than one percent of the students

indicated they didn't know how they used their laptop outside of class time. Seventeen percent of the students indicated some other use of their laptop outside of class time. Eight percent of the students did not respond to this question.

Figure 4

Students' Entry Expectations Versus Reported Use of Their Laptops

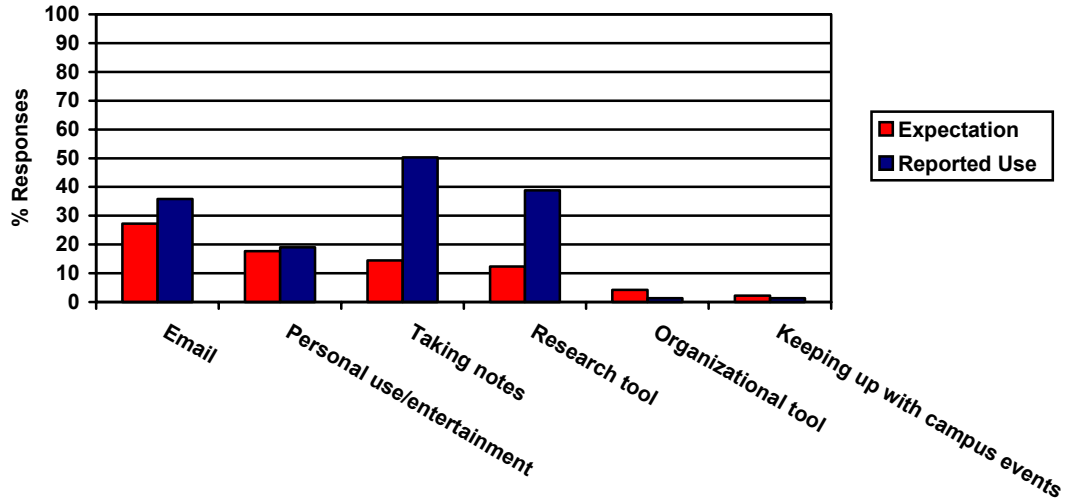


Figure 4 above displays a comparison of students' expectations versus self-reported laptop use both inside and outside of class time. Twenty-seven percent of the students expected to use their laptop for email, while 36 percent of the students actually reported using their laptop for email. Eighteen percent of the students expected to use their laptop for personal use and entertainment, while 19 percent of the students actually reported using their laptop for personal use and entertainment. Fifteen percent of the students expected to use their laptop for taking notes, while 50 percent of the students actually reported using their laptop for taking notes. Twelve percent of the students expected to use their laptop as a research tool, while 39 percent of students actually reported using their laptop as a research tool. Four percent of the students expected to use their laptop as an organizational tool, while only one percent of the students actually reported using their laptop as an organizational tool. Two percent of the students expected to use their laptop to keep up with campus events, while only one percent of the students actually reported using their laptop to keep up with campus events.

Discussion

The purpose of this Phase was to conduct a descriptive analysis of the *e-Scholar Training and Expectation Survey* and the *Student Questionnaire Survey I*, and to report the students' expectations and self-reported laptop use. The results from the two assessments are presented both individually and together to graphically show how students expected to use their laptop and how students actually used their laptop.

The descriptive analysis of the *e-Scholar Training and Expectation Survey* provided useful insight into how the students' expected to use their laptop before the beginning of the school year. The four most common expectations included: school work, email, personal use and taking notes. The students were rather vague with their responses but for the most part indicated that they planned on using their laptop for educational purposes.

The descriptive analysis of the *Student Questionnaire Survey I* also provided some useful insight into how the students' were actually using their laptop two months into the school year. During class time, the most common reported uses of the laptops included: taking notes, research, Blackboard and in-class assignments, labs and quizzes. Outside of class time, the most common reported uses of the laptops included: school work, email, research and personal use. It appears that students are using their laptops as an aid in the learning experience.

Some interesting findings were also found when comparing the results of the two assessments. The biggest inconsistency between expectations and actual computer use existed between email use, taking notes and using the laptop as a research tool. The biggest discrepancy was for note taking; students are using their laptop for taking notes much more than they expected. The second biggest discrepancy was for the research tool; students are using their laptop as a research tool much more than they expected. The third biggest discrepancy was for

email; students are using their laptop for email more than they expected. One explanation of the large discrepancies between expectations and actual use is that students had only vague ideas of how they would use their laptop before the start of the semester. Two months into the semester, students were still mostly using their laptop as an educational tool, but reported more specific uses.

This phase successfully reported how students expected to use their laptop and how students were actually using their laptop two months into the school year. The congruence and incongruence of expectations and actual computer use was reported, and these results provide some encouraging news regarding the current laptop implementation. The results suggest that the majority of students are using their laptops to supplement their education at UW-Stout. The results can further be used as an aid in reorganizing future orientation training sessions and reorganizing class structure to allow for more effective use of the laptop. In the future, orientation training should be organized and tailored in a way that places emphasis on how current students are using their laptops inside and outside of class. Finally, the results should be used by instructors teaching laptop courses. Instructors should take these results and organize their class in such a way that allows students to use their laptops in the most effective way. Instructors who are not currently implementing the laptop into their class curriculum may do so by modeling the successful methods used in current laptop courses.

Chapter 5

General Discussion

The University of Wisconsin-Stout took its biggest step toward digitally enhanced learning with the implementation of the “laptop campus.” Given the magnitude of this initiative, the University has been very interested in conducting evaluations across several aspects of the e-Scholar movement. This research project was an attempt to do just that; to provide the University of Wisconsin-Stout with an action evaluation and documentation of several aspects of the current laptop implementation. The research focused directly on the first wave of laptop implementation cohorts. The results of the study revealed many positive and interesting findings. The *Student Expectation Assessment* provided a successful means of reorganizing the current Microsoft Office training curriculum. A correlation analysis revealed a significantly positive relationship between students’ Microsoft Office software competencies (*Student Expectation Assessment*) and students’ self-assessment dealing with computer functionality (*Student Questionnaire Survey I*). A descriptive analysis of the *e-Scholar Training and Expectation Survey* and the *Student Questionnaire Survey I* revealed how students expected to use their laptop before the semester started and how students actually were using their laptop two months into the semester.

As mentioned previously, this evaluation was organized around the following four goals which were adopted by the University’s current laptop intervention:

- Improve quality of teaching and learning at undergraduate and graduate levels
- Form egalitarian communities of excellence in teaching and learning across the university
- Utilize technology to create a student-centered environment, where active learning is the core approach to acquiring concepts, processes and attitudes

- Create life-long habits in students in methods of acquisition of concepts, processes and attitudes

The laptop intervention formed egalitarian communities of learning across the university by narrowing the digital divide between students. This goal was achieved by providing each and every freshmen student with a laptop computer. This goal was further achieved by providing the students with appropriate skills training. One of the main reasons for implementing a “laptop campus” was the hope of improving the quality of teaching and learning at undergraduate and graduate levels. This is one of the most basic and fundamental goals of the laptop intervention. By introducing the laptop to the classroom, it was also believed that a student-centered environment would naturally evolve. This in turn would create an environment where active learning is the core approach to acquiring concepts, process and attitudes. The goal of creating student-centered environments of learning is one of the most important goals. And last, but certainly not least, it was also the belief that the laptop would create life-long habits in students in methods of acquisition of concepts, processes and attitudes.

The evaluation plan used in Phase 1 will be a good model to repeat in four years when the students and faculty are well practiced and the laptops are fully integrated. It is a futuristic plan that will be best realized at the point of full implementation, and after various levels of stakeholder groups have passed into the transition of a laptop campus. Faculty will also be able to provide more detail in regards to the specific needs in each of their courses. However, the scaled down plan that was used did work very well for the first generations’ needs. The evaluation plan used in Phase 2 validated the utility of pre-testing students. The plan helped to recognize the need of addressing computer competencies as an important criterion of the digital divide, and to establish structures to narrow the gap between the knowledge aspects of the

divide. The evaluation plan of Phase 3 should help us appreciate the nature of the transition to the laptop campus. Many questions are yet to be answered for many stakeholder groups. Students came to orientation with many vague expectations of how the laptop would be used, but with a rather resilient belief that the laptop would provide some type of advantage to their education. Within the student group, some confusion still exists in regard to how their laptops should be used. Both the training staff and faculty have communicated that it is their decision how they will incorporate the laptop into their education. Students will not be told how to use their laptop. At the beginning, the freshmen were not comfortable with how to personally integrate the laptop into their in class and out of class activities. Furthermore, this pioneer cohort did not have the advantage of having role models; this will change over time. All efforts to narrow the digital divide of technology and skills will not address any gaps of the motivations of students. These issues will likely have to be dealt with over time through selective recruitment.

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Appendices

Appendix A

Student Expectation Assessment

Dear Student,

Congratulations on your acceptance and welcome to the University of Wisconsin-Stout. As you may already know, UW-Stout will become the first public university in the state to require all incoming freshmen to have laptops beginning in the fall of 2002. Your class is the first group of students that will be going through this transformation. As a result, we have designed this assessment to better understand your skills regarding Microsoft Office software. The results of the survey will give us a better understanding of your computer abilities. Training personnel will then be able to schedule the most needed training for you early in the semester and at times that least conflict with your class schedule. We understand that filling out this survey will be an investment of your time, and we hope you understand the potential benefits. The completion of this survey is in your best interest. Therefore, we hope that you fill out this survey both completely and honestly.

Thank you for your help,

Lou Milanesi, Ph.D.
Professor of Psychology

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Survey Instructions:

Sample Survey Question:

Working with Text

Use the Undo, Redo, and Repeat command Can Do__ Can't Do__ No Clue__

Each time you click a radio button in the table below, you will be taken to a page that will ask you questions about your skills and abilities related to that Microsoft® product. You will be requested at that time to supply your student ID number. After completing the assessment and clicking on the submit button, you will be presented with a window that verifies your submission was successful. Please close that window and return to this main menu.

There is a separate survey for each Microsoft® Product application

Please be sure to complete each of the following application assessments.

Excel __Go to Excel

PowerPoint __Go to PowerPoint

Word __Go to Word

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<http://www.microsoft.com/traincert/mcp/mous/objectives/excel2000.asp>
<http://www.microsoft.com/traincert/mcp/mous/objectives/PowerPoint2000.asp>
<http://www.microsoft.com/traincert/mcp/mous/objectives/word2000.asp>

Student Expectation Assessment

Microsoft ® Excel

Please click on the Radio Button that best describes your skill or ability to perform the following tasks:

Can Do__ Can't Do__ No Clue__

Working with Cells

| |
|--|
| 1. Use Undo and Redo |
| 2. Clear cell content |
| 3. Enter text, dates, and numbers |
| 4. Edit cell content |
| 5. Go to a specific cell |
| 6. Insert and delete selected cells |
| 7. Cut, copy, paste, paste special and move selected cells |
| 8. Use the Office Clipboard |
| 9. Use Find and Replace |
| 10. Clear cell formats |
| 11. Create hyperlinks |

Working with Files

| |
|---|
| 12. Use templates to create a new workbook |
| 13. Save a worksheet/workbook as a Web Page |

Formatting Worksheets

| |
|---|
| 14. Apply font styles (typeface, size, color, and styles) |
| 15. Apply number formats (currency, percent, dates, and commas) |
| 16. Modify size of rows and columns |
| 17. Modify alignment of cell content |
| 18. Adjust the decimal place |
| 19. Apply cell borders and shading |
| 20. Merging cells |
| 21. Rotate text and change indents |
| 22. Define, apply, and remove a style |

Page Setup and Printing

| |
|--|
| 23. Preview and print worksheets and workbooks |
| 24. Print a selection |
| 25. Change page orientation and scaling |
| 26. Set page margins and centering |
| 27. Insert and remove a page break |
| 28. Set print, and clear a print area |
| 29. Set up headers and footers |
| 30. Set print titles and options (gridlines, print quality, row & column headings) |

Working with Worksheets and Workbooks

| |
|---|
| 31.Insert and delete rows and columns |
| 32.Change the zoom setting |
| 33.Move between worksheets in a workbook |
| 34.Check spelling |
| 35.Rename a worksheet |
| 36.Insert and Delete worksheets |
| 37.Move and copy worksheets |
| 38.Link worksheets & consolidate data using 3D References |

Working with Formulas and Functions

| |
|--|
| 39.Enter a range within a formula by dragging |
| 40.Enter formulas in a cell and use the formula bar |
| 41.Revise formulas |
| 42.Use references (absolute and relative) |
| 43.Use AutoSum |
| 44.Use Paste Function to insert a function |
| 45.Use basic functions (AVERAGE, SUM, COUNT, MIN, and MAX) |
| 46.Use date functions (NOW and DATE) |
| 47.Use financial functions (FV and PMT) |
| 48.Use logical functions (IF) |

Using Charts and Objects

| |
|---|
| 49.Preview and print charts |
| 50.Use the Chart Wizard to create a chart |
| 51.Modify charts |
| 52.Insert, move, and delete an object (picture) |
| 53.Create and modify lines and objects |

Additional Comments: Please enter any additional comments in the box below:

| |
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| |
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Student Expectation Assessment Microsoft® PowerPoint

Please click on the Radio Button that best describes your skill or ability to perform the following tasks:

Can Do__ Can't Do__ No Clue__

Creating a Presentation

| |
|---|
| 1.Delete slides |
| 2.Create a specified type of slide |
| 3.Create a presentation from a template and/or a wizard |
| 4.Navigate among different views (slide, outline, sorter, tri-pane) |
| 5.Create a new presentation from existing slides |
| 6.Copy a slide from one presentation into another |
| 7.Insert headers and footers |
| 8.Create a Blank presentation |
| 9.Create a presentation using the AutoContent Wizard |

Modifying a Presentation

| |
|---|
| 10.Change the order of slides using Slide Sorter view |
| 11.Find and replace text |
| 12.Change the layout for one or more slides |
| 13.Modify slide sequence in the outline pane |
| 14.Apply a design template |

Working with Text

| |
|---|
| 15.Check spelling |
| 16.Change and replace text fonts (individual slide and entire presentation) |
| 17.Enter text in tri-pane view |
| 18.Import text from Microsoft® Word |
| 19.Change the text alignment |
| 20.Create a text box for entering text |
| 21.Use the Wrap text in TextBox feature |
| 22.Use the Office Clipboard |
| 23.Promote and Demote text in slide and outline panes |

Working with Visual Elements

| |
|--|
| 24.Add a picture from the ClipArt Gallery |
| 25.Add and group shapes using WordArt or the Drawing Toolbar |
| 26.Apply formatting |
| 27.Add text to a graphic object using a text box |
| 28.Scale and size an object including ClipArt |
| 29.Create tables within PowerPoint |

| |
|-------------------------------|
| 30. Rotate and fill an object |
|-------------------------------|

Customizing a Presentation

| |
|----------------------------|
| 31. Add AutoNumber bullets |
|----------------------------|

| |
|-----------------------|
| 32. Add speaker notes |
|-----------------------|

| |
|---------------------------|
| 33. Add graphical bullets |
|---------------------------|

| |
|---------------------------|
| 34. Add slide transitions |
|---------------------------|

| |
|------------------------------|
| 35. Animate text and objects |
|------------------------------|

Creating Output

| |
|---|
| 36. Preview presentation in black and white |
|---|

| |
|--|
| 37. Print slides in a variety of formats |
|--|

| |
|-----------------------------|
| 38. Print audience handouts |
|-----------------------------|

| |
|---|
| 39. Print speaker notes in a specified format |
|---|

Delivering a Presentation

| |
|-------------------------------------|
| 40. Start a slide show on any slide |
|-------------------------------------|

| |
|------------------------------------|
| 41. Use on screen navigation tools |
|------------------------------------|

| |
|---|
| 42. Print a slide as an overhead transparency |
|---|

| |
|---------------------------------------|
| 43. Use the pen during a presentation |
|---------------------------------------|

Managing Files

| |
|------------------------------------|
| 44. Save changes to a presentation |
|------------------------------------|

| |
|--------------------------------|
| 45. Save as a new presentation |
|--------------------------------|

| |
|--------------------------|
| 46. Use Office Assistant |
|--------------------------|

| |
|----------------------|
| 47. Insert hyperlink |
|----------------------|

Additional Comments: Please enter any additional comments in the box below:

| |
|--------------|
| |
|--------------|

Student Expectation Assessment Microsoft® Word

Please click on the Radio Button that best describes your skill or ability to perform the following tasks:

Can Do __ **Can't Do** __ **No Clue** __

Working with Text

| |
|---|
| 1. Use the Undo, Redo, and Repeat command |
| 2. Apply font formats (Bold, Italic and Underline) |
| 3. Use the Spelling feature |
| 4. Use the Thesaurus feature |
| 5. Insert page breaks |
| 6. Highlight text in document |
| 7. Insert and move text |
| 8. Cut, Copy, Paste, and Paste Special using the Office Clipboard |
| 9. Select and change font and font size |
| 10. Find and replace text |
| 11. Apply character effects (Superscript, Subscript, Strikethrough, Small Caps and Outline) |
| 12. Insert date and time |
| 13. Insert symbols |

Working with Paragraphs

| |
|--|
| 14. Align text in paragraphs (Center, Left, Right and Justified) |
| 15. Add bullets and numbering |
| 16. Set character, line, and paragraph spacing options |
| 17. Use indentation options (Left, Right, First Line and Hanging Indent) |
| 18. Use Tabs command (Center, Decimal, Left and Right) |
| 19. Create an outline style numbered list |
| 20. Set tabs with leaders |

Working with Documents

| |
|--|
| 21. Print a document |
| 22. Use print preview |
| 23. Navigate through a document |
| 24. Insert page numbers |
| 25. Set page orientation |
| 26. Set margins |
| 27. Use GoTo to locate specific elements in a document |
| 28. Create and modify page numbers |
| 29. Create and modify headers and footers |
| 30. Align text vertically |
| 31. Create and use newspaper columns |
| 32. Revise column structure |

| |
|--|
| 33. Apply styles |
| 34. Create sections with formatting that differs from other sections |
| 35. Use Click & Type |

Managing Files

| |
|--|
| 36. Use save |
| 37. Locate and open an existing document |
| 38. Use Save As (different name, location or format) |
| 39. Create a folder |
| 40. Create a new document using a Wizard |
| 41. Save as Web Page |
| 42. Use templates to create a new document |
| 43. Create Hyperlinks |
| 50. Use the Office Assistant |
| 45. Send a Word document via e-mail |

Using Tables

| |
|---|
| 46. Create and format tables |
| 47. Add borders and shading to tables |
| 48. Revise tables (insert and delete rows and columns, change cell formats) |
| 49. Modify table structure (merge cells, change height and width) |

Working with Pictures and Charts

| |
|--|
| 50. Use the drawing toolbar |
| 51. Insert graphics into a document (WordArt, ClipArt, Images) |

Additional Comments: Please enter any additional comments in the box below:

| |
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Appendix B

e-Scholar Training and Expectation Survey

Student Name: *First _____ Last _____

Student Number: * _____ (seven-digit)

Orientation Group Number: * _____

Declared Major: _____

Did you attend the Library/Blackboard Training session: * ____ Yes ____ No * = required fields

In your own words, briefly explain what being an “e-scholar” means to you. (Limit of 20 words)

How do you expect to use your laptop in your daily life as a new student? (Limit of 20 words)

Submit

Reset

Thank you! Have a great year!

Appendix C

Student Questionnaire Survey 1

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

Timeliness of service

Quality of service

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

Printing to networked printers (ex: in Library Learning Center)

Speed of the network

Wireless connectivity

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)*

Laptop features *(ex: power the system, accessories, computer ports)*

Virus protection

File management/back-up process *utilizing the "my documents" folder*

File management/back-up process utilizing server storage

Security practices *(ex: anti-theft, password security)*

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)

Using the Desktop Help Wizard *(ex: using the "help" files)*

Using E-Scholar portal *(ex: log on to E-Scholar, navigating within E-Scholar)*

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.

9. To provide responsive and timely solutions to current e-Scholar needs, we will be collecting 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