

The Young and the Paperless: Electronic Information Technologies and English Graduate Students at the University of Minnesota, Twin Cities Campus

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Abstract

The scope of library literature reporting upon the usage of electronic information technologies by humanities scholars is scarce; furthermore studies regarding the information-seeking behavior of humanities graduate students within a specific domain are rare. The purpose of this pilot study is to examine patterns of graduate students' technology applications to render a current description of the use of electronic information technologies among a specific user community—English graduate students at the University of Minnesota, Twin Cities campus. In addition this research will provide insight into contemporary trends of information-seeking behavior among the younger generation of humanities scholars.

Introduction

The use of electronic information technologies, such as word processing programs and e-mail are ubiquitous in the academic environment. It would be difficult for a student or scholar to work in the academic environment without coming in contact with some form of electronic

information technology, especially in the library where the paper card catalog has migrated to an online public access catalog (OPAC), which requires human-computer interaction for retrieval. Beyond e-mail and the OPAC are software programs, Internet applications, and other electronic accoutrements that are becoming commonplace in the academic community. The increasing frequency of use and the increasing diversity of technologies used require awareness and general knowledge of these applications. Not only is it important to know what technologies are available, but it is important to have an idea about how many people are actually using these technologies and for what purposes. Learning these trends will help the academic librarian become better acquainted with their user communities and better prepared to answer general questions about electronic information technologies.

Statement of the Problem

Previous research describing usage of electronic information technologies was conducted on a small group of humanities scholars at the University of Chicago;

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however, this longitudinal study examined integration and use by faculty members who received their post-graduate degrees in the 1970s.¹ Their adoption of technology is very different from today's graduate humanities students who have come of age with the "established" host electronic information technologies (word-processing, e-mail, and OPACs), and who have been surrounded with the advent of new programs and applications. Another relevant study, conducted in 1995, examined graduate students' use of a single type of electronic information technology, the online bibliographic database.² While this study contributed to our understanding of how students made use of Boolean searches and their decision making process with regards to relevancy judgments, it did little to enhance our understanding of other electronic tools academics used to find information.

In 1996 Charlotte Droll, then a University of Michigan library graduate student, conducted an independent study entitled, "The Place of Electronic Resources and Tools in the Lives of Graduate Students in Humanities."³ From interviews with nine graduate students, Droll's investigation revealed that electronic tools and resources were already becoming part of the scholarly culture in the humanities. Droll observed that, "Resources or tools that make scholars aware of other sources that may be available and useful to them were identified most frequently."⁴ Key technologies identified in the study included library catalogs, archival finding aids, national databases like Research Libraries Information Network (RLIN), listservs, and homepages for professional organizations.⁵ Droll's work provided valuable insight into the growing relationship between of humanities scholars and technology. These revelations overturn librarians' previous understandings about the limited association between humanists and technology.

To date no one has published a study examining the use of electronic information technologies by graduate students on a wider scope. This study

investigates the use of 45 electronic information technologies, and interprets the relationships among the types of technologies and their applications in English graduate students' scholarship and teaching. I believe this pilot study increases understanding of how technology affects the information-seeking behavior of young scholars. Finally, it is hoped that this pilot study will be replicated in other university environments, so that more conclusive statements may be made about the prevalence and significance of electronic information technologies among graduate students in the humanities.

Scope

This research project is a small scale pilot study, focusing on a specific user group, English graduate students at the University of Minnesota, Twin Cities campus. The focus for this study is graduate students' use of electronic information technologies in relation to scholarship and teaching. Although there may be a correlation, students' age, gender, ethnicity, race, nationality, and sexual orientation are not taken into consideration.

For the academic school year 2003-04, there were 150 graduate students in the English department at the University of Minnesota, Twin Cities campus; 141 of those 150 were in residence, meaning they actively attended courses and/or taught on campus. From the total group, 93 students were in the Ph.D. program, 44 were in the MFA program, and 13 were in the MA program.⁶ From the sample of 150 graduate students, 18 students in residence responded to the questionnaire, garnering a participation rate of 12%. *See Chart 1. Participant Categories.*

Research Design

Goals and Objectives

The goal of this study is to provide a current description of technology usage among English graduate student scholars; furthermore, this study provides evidence that the application of electronic information technologies

Chart 1. Participant Categories

	Ph.D.	MFA	MA	Total
Sample Size	93 (84 in residence)	44	13	150 (141 in residence)
Survey Participants	12	4	2	18
Percentage	13%	9%	15%	12%

is more prevalent and more diverse than previous research about humanities scholars has been implied or reported. It has been said that humanities scholars typically do not make use of electronic information technologies because the nature of their work does not lend itself to the application of these technologies beyond the ubiquitous word-processing software, e-mail, and use of OPACs.⁷ This pilot study provides evidence that technology usage is more prevalent and diversified than previously reported, especially among the younger generation of contemporary scholars who are learning and teaching in the “E-Age of Academia.”

Hypotheses

1. The scope of electronic information technology usage among humanities scholars is more numerous and varied than previously reported.
2. There is a direct relationship between technology applications and an English graduate student's program of study. Electronic information technologies will play a significant role in the scholarship of English graduate students in the Ph.D. and MA programs as compared to students in the MFA program.
3. A graduate student with a teaching assistantship is likely to use a greater number of technologies than those who do not teach.

Assumptions

I assumed that all English graduate students at the University of Minnesota, Twin Cities campus have access to a personal computer either on campus, at home, or both. Furthermore, I assumed that English graduate students are familiar with and are regular users of commonplace electronic information technologies: word-processing software, e-mail, and the university library OPAC. The survey results verified my assumptions.

Definitions

An English graduate student's program of study is a variable in this inquiry. In the English Department at the University of Minnesota, Twin Cities campus, there are three paths of study: Doctor of Philosophy in English Language and Literature, Master of Arts in English Language and Literature, and Master of Fine Arts (Creative Writing). Typically it takes three years to complete the MA or the MFA programs and six to seven years to complete the Ph.D. program.

Doctor of Philosophy in English Language and Literature
According to the *Graduate Studies: English at Minnesota* web guide, the Doctor of Philosophy program involves “a long-term commitment to becoming a scholar and teacher in a specific field of English studies.”⁸ The Ph.D. program is broken into three segments: course work, preliminary examinations, and dissertation work. At the outset of the program, the graduate student must take 42 credits worth of coursework, approximately 14 classes. The dispersion of the courses are as follows: 10 courses must be taken within the English department and four courses must be taken from other departments. Of the ten English courses, the student must take two foundational courses for English studies. To provide the student with a broad base in English studies, the student must take one course from four out of a possible six areas of focus: Medieval studies, Early Modern literature, 19th Century literature, 20th Century literature, Literary and Critical Theory, and Language, Rhetoric, and Literacy studies. The final four courses taken from the English department are designed to function as a focused program of study that will prepare the student for writing his/her dissertation.

Usually after the student has completed all of his/her course work, he/she begins the preliminary examination stage. This stage is the point at which the graduate student prepares to take the written and oral preliminary examinations required before he/she begins writing the dissertation. This preliminary stage is very stressful as it involves the assembly of a committee, the compilation of a booklist that contains 50-70 works in the student's area of interest, and preparation for a written and an oral examination over the booklist. The written exam consists of two or three questions developed by the student's committee members, one of which the student must answer. The student has one week to “write a substantial essay of about twenty pages in response to the question chosen.”⁹ After the written exam, the student will meet with his/her committee and undergo a two hour oral exam involving questions relating to the booklist, the written exam, and ideas for the student's dissertation project. The rationale behind the preliminary examinations is to mark a turning point in the graduate student's career where one makes the transition from student to scholar. The exams provide students with an opportunity to display the culmination of their knowledge and expertise that they have developed through their coursework. Furthermore, it

provides students an opportunity to establish their intentions for future research as they proposes ideas for a dissertation project.¹⁰

After passing the prelims, scholars may begin work on the dissertation, a book length research project that provides a significant contribution to the scholar's specific area of study. During this time, the student is identified as "ABD," *all but dissertation*.¹¹ At this point in the program, the scholars devote themselves to writing the dissertation; this may take two to three years to complete before the scholar defends the work in an oral examination. While writing the dissertation, scholars may continue to work as graduate teaching assistants, or they may apply for fellowships so that they may receive funding while writing.

Master of Arts in English Language and Literature

The MA is described as an "individually designed degree."¹² MA students must take 30 course credits, approximately 10 courses—out of these 10 courses, two are foundational courses and eight are electives, two of which must come from course offerings outside the English Department. The student must choose courses that reflect three interrelated areas of interest. From this coursework, MA students write three major papers which "demonstrate familiarity with the tools of research or scholarship in English studies"¹³ over their areas of interest. After submitting the papers to his/her committee members, the MA student takes an oral examination over the topics covered in the three major papers. Once that process is complete, the MA student may graduate.

Master of Fine Arts

The MFA program is designed "for students committed to pursuing the writing life."¹⁴ The student must take 34 credit hours, which is approximately nine courses. One of these courses is an introduction to creative writing, two of the courses are Literature and Language courses, and four of these courses consist of writing workshops. They must also take two courses outside of the department.¹⁵ In addition to the coursework, MFA students will develop "a book-length manuscript suitable for publication"¹⁶ prior to graduation. Likewise, the MFA student must compile a booklist of 20 literary works that includes at least one book from each of the following genres: poetry, fiction, non-fiction. An MFA student must also write a major essay addressing

literary issues raised in his/her project as well as his/her booklist. Additionally, the MFA student must take an oral examination over his/her project, in which he/she must defend the work as a piece of art, answer any questions pertaining to the essay, and present a public reading of the work. After passing the examination, the MFA student may graduate.¹⁷

Graduate Student Teaching Appointments

An English graduate student in any of these programs and at any given stage of a program may also be working as a graduate teaching assistant.

Methodology

Before conducting research involving human subjects, I contacted the head of the English Department, Dr. Michael Hancher, for permission to distribute my questionnaire.¹⁸ In my letter I explained the nature of my pilot study and provided a copy of the questionnaire. Dr. Hancher granted me permission, but he asked me to also consult Josephine Lee, then Director of English Graduate Studies. After reviewing my request and the questionnaire, Ms. Lee granted me permission to distribute my questionnaire through the English graduate student list-serv.¹⁹

In order to create the questionnaire I used the table application in Microsoft Word. After creating the questionnaire, I submitted the first draft to a small sample group of three graduate humanities students in disciplines outside the English Department to get feedback about the questionnaire design. In addition, I consulted Marcia Pankake, professor and Arts/Humanities Collections librarian at the University of Minnesota Libraries, to discuss my research proposal and to receive suggestions about the questionnaire design before I distributed the final draft.²⁰

After making some adjustments to the questionnaire based on feedback from the beta test and Dr. Pankake, I distributed the questionnaire in an e-mail attachment to a message sent to the English graduate student list-serv on Friday, April 9, 2004. I also provided extra hard copies of the questionnaire near the graduate students' mail boxes. I allowed participants eight days to complete and return the questionnaire. Participation was encouraged by a raffle drawing for two twenty dollar gift certificates to any Twin Cities bookstore the winners wished to patronize.

Questionnaire Design

The questionnaire identified 45 technologies that are relevant to finding information and to creating new information for personal scholarship and teaching. I arranged the list of 45 technologies into six categories: Production Technologies, Communication Technologies, Finding Tools, Electronic Reference Sources, Personal Assistance Technologies, and Miscellaneous E-information Technologies. The participants were asked to respond to the list of technologies twice—once with consideration to personal scholarship and again with consideration to teaching activities. For brevity, the list is replicated only once in the appendix. *See Appendix 1. Questionnaire.*

As the participants read the name of each technology on the list, they were asked to consider frequency of use, clarifying their answers by choosing from a list of scaled response options:

- no—I do not use this technology.
- semesterly—I use this at least once during the course of a semester.
- monthly—I use this at least once a month.
- weekly—I use this at least once a week.
- daily use—I use this at least once a day.

Participants' Feedback

Between the technology listings for personal scholarship and teaching, participants were given the opportunity to provide comments about their use of electronic information technologies.

Demographics

The final section of the questionnaire consisted of six structured questions pertaining to the student's program of study, year in school, status as a teaching assistant, and primary area of scholarship. *See Appendix 2. Participants' Profiles.*

Incentive

I encouraged participation in the study by making the questionnaire a raffle, offering two survey participants a twenty dollar gift certificate to any Twin Cities bookstore of their choice. Questionnaire participants were to provide their e-mail addresses if they wanted to be included in the raffle drawing. Participants were assured that confidentiality concerning their survey responses would be maintained, and that providing

their e-mail addresses would be used for the purposes of the raffle drawing only.

Data Analysis and Results

After the questionnaires were gathered, participant responses were entered into Excel spreadsheets. Six sheets were created for data entry and analysis: Ph.D. Personal, Ph.D. Teaching, MFA Personal, MFA Teaching, MA Personal, and MA Teaching. The scaled responses "no use – daily use" were coded numerically from 0–4 respectively; however it was deemed that given the small sample of respondents, and the arbitrary nature of assigning numerical values to such subjective categories as "I use this at least once a month," that conducting numerical calculations of these responses does not provide meaningful, statistical information. For that reason, I concluded that examining patterns of affirmative responses, evidence of any degree of usage, presents a more realistic interpretation of use profiles. I believe visual analysis of use patterns is a suitable method for the purpose of this pilot study. A larger respondent pool and a less complex questionnaire would have made statistical analysis more viable. *See Appendix 3. Tables 1a-3b.*

An additional Excel spreadsheet was constructed to display the percentage of affirmative responses to technology usage for each program of study. Percentages for any affirmative response to each type of technology listed were calculated twice for each program of study—once for usage in personal scholarship, and again for teaching activities. To clarify, if a respondent answered, "semesterly, monthly, weekly, or daily," the response was tabulated as an affirmative response. Affirmative responses were added up and divided by the total number of respondents surveyed to figure percentages. *See Appendix 4. Comparative Results.*

Hypothesis 1

After calculating percentages on the *Comparative Results* spreadsheet, I went through the lists and circled all affirmative response figures that equaled 50% or higher. From this analytical activity, I deemed that these technologies receive "significant" usage. Once this task was accomplished, I added up the number of significant technologies for each program of study and for each situational context—personal scholarship and teaching. Recall, that in the year 2000, Wiberley and Jones reported that "other than word processing,

e-mail, and online catalogs, there are no universally (or almost universally) used information technologies,”²¹ and my aim was to prove that more technologies are being used (almost universally) by humanities scholars than the aforementioned three. New additions to the list of universals (near universals) include a host of Internet applications, primarily the list-servs, online news sources, and online dictionaries. The results of this pilot study support my first hypothesis that the scope of technology usage is more numerous and varied than previously reported. See *Chart 2. Technologies Experiencing Significant Usage*. Please refer to *See Appendix 4. Comparative Results* to examine the specific listings of technologies that qualified at 50 percent and higher.

Most of the technologies experiencing significant usage are drawn from the “Finding Tools” category. It could be argued that several of the itemized technologies in this category, such as using an online index, may be lumped together under general use of the university library OPAC application; however previous studies have not differentiated between the various types of information-seeking activities that may occur when one uses a library OPAC. For the purpose of helping librarians and library systems administrators and library webmasters, I think it is very important to survey the gamut of information-seeking activities users may engage in via the library OPAC.

Hypothesis 2

As for comparisons between electronic information technology usage and program of study, the Ph.D. students reported the heaviest use of technology as compared to MA and MFA students; nevertheless the difference in usage was not large, especially regarding usage between the Ph.D. and MFA students. However, the difference between the Ph.D. and MA students is much more notable. This finding completely disproves the second hypothesis, that MFAs would report the smallest scope of technology usage. Calculating any level of positive response to the itemized list of 45 technologies for the six categories, it was found that the Ph.D. pool reported using 39 technologies for per-

sonal scholarship, and 34 for teaching; the MFA pool reported using 33 technologies for personal scholarship, and 21 for teaching; the MA pool reported using 22 technologies for personal scholarship and 13 for teaching. While the MFA and MA students reported using fewer technologies than those students in the Ph.D. program, a just comparison with the MA students is difficult since the MA respondent pool consisted of two students, which included one student not currently teaching. Given the nature of the Ph.D. students’ program of study, it is not surprising to see that they are using more technologies than the MA and MFA students; however, as stated previously, the differences are not that extreme. Initially, I thought that the MFA students would not use as many technologies considering that the bulk of their curriculum consists of writing workshops, but it appears that MFA students are more engaged with current technologies than I supposed. Unfortunately, I did not receive much written feedback from the MFA group on the comment section of the questionnaire to determine the circumstances driving MFA students to apply more technologies to their academic work. The one MFA student who did respond, reported that “I often feel like I ought to be using more forms of technology. However, to learn new forms is a challenge, so I often find myself making do with what I already know how to do.” To better understand the motivations and circumstances of current technology applications, a future study would greatly benefit from conducting personal follow-up interviews.

Hypothesis 3

The total pool of 18 respondents replied affirmatively to holding a teaching appointment; however, respondent B in the MA program reported that he held a teaching appointment “15 years ago,” and currently is not teaching. Furthermore, MA respondent B did not fill out the questionnaire section regarding usage of electronic information technologies in relation to his teaching experience. While MA respondent B’s omission is perfectly acceptable since he does not currently hold a teaching appointment, the lack of MA respondents

Chart 2. Technologies Experiencing Significant Usage

PHD Personal	PHD Teaching	MFA Personal	MFA Teaching	MA Personal	MA Teaching	All Personal	All Teaching
18	15	19	10	22	13	18	14

with teaching appointments does affect the scope of the study. Basing analysis from two MA respondents, with only one who is teaching, would provide an incomplete representation of MA technology usage in teaching. Likewise, since there were not enough scholars without teaching appointments to compare with those who have teaching appointments, it is impossible to test the third hypothesis.

General Findings

Adding up the results for all English graduate students, reveals that this pool of 18 scholars are applying 43 of the 45 listed technologies at some level of usage in their personal scholarship, and the two technologies that reported zero usage are the application of a computer programming language (e.g. C++ or PERL) and use of a screen reader, which is a personal assistance device for the visually impaired. As for use of electronic information technologies for teaching, the pool of 18 scholars reported using 35 technologies from the list of 45. *See Appendix 4. Comparative Results.*

Furthermore, it appears that English graduate students are more likely to employ technology for their personal scholarship than for their teaching activities. At this point in their academic careers, I would predict that these students-scholars are under a lot of pressure to grow and prove themselves as the new and upcoming experts in their fields of study, and are pressed for time and energy when it comes to diversifying the curriculum of their teaching appointments. As one Ph.D. respondent commented, "With the always changing teaching appointments, and the stress of being a student, I find it difficult to apply new technology in my teaching. For the first few semesters at the U, I taught a different class each semester, so I had to start over with developing the content each semester and didn't have time to figure out how technology would fit in." In fact, when it comes down to prioritizing, I imagine that most English graduate students would acknowledge that their personal scholarship comes before their teaching.

Major Types of Electronic Information Technologies

Examining *Table 4. Comparative Results*, I read through each technology listed line by line across all programs of study and discerned a pattern of usage across the six possible categories of application—Ph.D. Personal,

Ph.D. Teaching, MFA Personal, MFA Teaching, MA Personal, and MA Teaching. From this activity, I was able to identify seventeen "major" technologies used by English graduate students in all programs of study. These major technologies were determined by analyzing—line by line—the percentages each item scored within each program of study. If the item scored 50 percent or higher in four of the six possible categories, it was deemed satisfactory for inclusion as a major electronic information technology.

Obviously, some items received higher percentage ratings across the board, as compared to the spreadsheet example, such as word processing software and Internet web browser usage. An accurate scientific methodology for developing criteria for differentiating between the various degrees of major technologies is difficult to construct, especially considering the small sample of respondents in this pilot study, and the complexity of questionnaire design (45 itemized technologies with scaled response ranges, among three different programs of study). Given the circumstances of this study, affirmative indications of technology usage at any level was deemed more significant than the measurement of usage frequency in identifying what is considered a major technology. Thus said, the major electronic information technologies used by all English graduate students surveyed are—word processing software, e-mail, list-servs, Internet web browsers, Internet search engines, online library catalogs, electronic interlibrary loan requests, online indexes, full-text online indexes, using the university library web site as a gateway to other resources, online dictionaries, online news sources, and audio-visual media. Other technologies receiving considerable usage among the English graduate students are spreadsheets, PDF software, online encyclopedias, and digital texts (online or CD-ROM).

While word processing software, e-mail, and the library OPAC are still identified as major humanities technologies, list-servs, and a host of other Internet activities are now experiencing more widespread usage. This is evidenced by the reported usage of Internet web browsers, Internet search engines, usage of online reference sources, online news sources, and the variety of online OPAC activities that move beyond searching the catalog for the library's holdings. The Internet does have an impact on how young scholars find information. Most surprising to me was the reported participation in list-servs and with receiving current

events information via online news sources. From this data, it appears that English graduate students feel it is important to stay abreast of current information in their fields (list-serv) and in current affairs (online news sources). As previous research has pointed out, keeping current is crucial to a humanities scholar's professional identity.²² With today's speed, convenience, and variety of professional outlets online, contemporary scholars may tap into any number of sources to help them stay current. In addition electronic information technologies make it easier and cheaper to stay in touch with colleagues as compared to the traditional means of attending conferences and workshops.

Insight from the English Graduate Students

Thirty-three percent of the questionnaire respondents, made written comments, providing feedback about their academic relationships with electronic information technologies. Since the quantity of written feedback was not excessive, all of the respondents' comments are transcribed in Appendix 5. Questionnaire Respondents' Comments. Overall, I felt that most of the respondents who made comments felt that the integration of technology is important, and that they should be doing more, and are making efforts towards making use of the technologies that are now available. As Wiberley and Jones have reported, time is a major issue for academics when it comes to integrating technology into personal scholarship and teaching.²³ When considering the integration of any new technology, many levels of time are involved. There is the perceived startup time and attitudes surrounding time expenditure on taking time to learn something new; actual start up time (the time it takes to research the product, purchase, install, and learn the new technology), use time (will the technology save time, become a time-suck, or will time expended on the technology application be worth the time it takes to learn it?), and time of life (various positions in one's academic career) may entail different types and degrees of technology application.²⁴

Ph.D. respondent H articulated his frustrations with technology integration in respect to the incompatibility of two technologies for transferring files, an obstacle that now costs him more time to execute a viable solution; furthermore he lamented his frustrations with a slow dial-up Internet connection at home. Time saving solutions to his technology problems are

possible for a price, but this "leads to the other immediate problem, being able to afford to purchase the software and hardware." Most graduate students would probably agree with Ph.D. respondent H.

I was also impressed by Ph.D. respondent J's insight about embracing a balance. She realized that while the Internet is seemingly easier and faster than the information she really needs for personal scholarship "isn't generally convenient or accurate online" and then she said, "I end up getting frustrated because the technology doesn't meet my expectations or needs." This respondent draws from her experience in conveying the nature of the Internet to her students. She writes, "I try to stress the importance of electronic technologies in the classroom, but at the same time I want my students to know that they cannot completely rely on technology." I imagine that most academics have come to terms with the *trompe l'oeil* that is often the result of an Internet search.

Conclusions and Ideas for Future Research

This study would be greatly improved by creating an online questionnaire that respondents could more easily interact with—allowing participants to point and click on responses vs. highlighting a word processed document and resending it through e-mail, or printing off the word processed document and hand delivering it to a mailbox. I had planned on writing an online questionnaire, but given my time management constraints as a MLIS graduate student caused me to abandon that approach. Consequently, my "time of life" affected my decision to not expend time applying a technology that I believe would have made my study more successful.

In addition, I would also like to integrate personal interviews or create a better feedback form with structured questions about context and motivation for academic technology integration. More personalized information would benefit the researcher's interpretations of the respondents' data.

While I am not satisfied by the imbalance in my respondent pool, as I would have liked to have had more MA and MFA respondents and more respondents overall, I am satisfied with the preliminary findings of this pilot study. Electronic information technologies are more widely used among this group of young humanities scholars, and the scope of application is much broader than the results of previous research would

suspect. Forty-three technologies from the 45 listed are being applied to some degree by a small sampling of 18 scholars. I feel that this figure supplies promising information, which warrants a deeper investigation into this issue.

Notes

1. Stephen E. Wiberley and William G. Jones, "Patterns of Information Seeking in the Humanities," *College and Research Libraries* 49 (1989): 638–45. "Habits of Humanists: Scholarly Behavior and New Information Technologies," *Library Hi Tech* 9.1 (1991): 17–21. "Humanists Revisited: A Longitudinal look at the adoption of information technology," *College and Research Libraries* 55 (1994): 499–509. "Time and technology: A Decade-long Look at Humanists' Use of Electronic Information Technology," *College and Research Libraries* 61 (2000): 421–31.

2. Deborah Shaw, "Bibliographic Database Searching by Graduate Students in Language and Literature: Search Strategies, System Interfaces, and Relevance Judgments," *Library and Information Science Research* 17 (1995): 327–45.

3. Charlotte Droll, "The Place of Electronic Resources and Tools in the Lives of Graduate Students in Humanities," (Independent Study, University of Michigan, 1996), 1–10.

4. Ibid., 9.

5. Ibid., 10.

6. Karen Frederickson, e-mail message to author, March 15, 2004.

7. Stephen E. Wiberley and William G. Jones, "Humanists Revisited: A Longitudinal Look at the Adoption of Information Technology," *College and Research Libraries* 55 (1994): 499–509

8. *Graduate Studies: English at Minnesota*, 2002, <[http://](http://www.english.cla.umn.edu/graduateprogram/intro.html)

www.english.cla.umn.edu/graduateprogram/intro.html> (18 March 2003).

9. Ibid., *Graduate Studies: English at Minnesota*.

10. Ibid., *Graduate Studies: English at Minnesota*.

11. Aaron Bruenger, interview by the author, February 14, 2004.

12. Ibid., *Graduate Studies: English at Minnesota*.

13. Ibid., *Graduate Studies: English at Minnesota*.

14. Ibid., *Graduate Studies: English at Minnesota*.

15. *Creative Writing Program*, 2004, <<http://english.cla.umn.edu/creativewriting/programinfo/programinfo.html>> (18 March 2004).

16. Ibid., *Graduate Studies: English at Minnesota*.

17. Ibid., *Graduate Studies: English at Minnesota*.

18. Michael Hancher, e-mail message to the author, April 5, 2004.

19. Josephine Lee, e-mail message to the author, April 6, 2004.

20. Marcia Pankake, interview by the author, April 12, 2004.

21. Stephen E. Wiberley and William G. Jones, "Time and Technology," 427.

22. Sue Stone, "CRUS Humanities Research Programme," in *Humanities Information Research: Proceedings of a Seminar*; CRUS Occasional Paper no. 4, British Library Research and Development, report no. 5588 (Sheffield, 1980), 15–26.

23. Stephen E. Wiberley, and William G. Jones, "Time and Technology: A Decade-long Look at Humanists' Use of Electronic Information Technology," *College and Research Libraries* 61(2000): 421–31.

24. Ibid., Wiberley, Stephen E, and William G. Jones, "Time and Technology," 424.

Appendix 1. Questionnaire

Cover Letter

WHO & WHAT

My name is Jenny Bruenger, and I am a library science graduate student at the College of St. Catherine. I am conducting a study about the use of electronic information technologies by English graduate students. I want to know about the prevalence and scope of use of these technologies, specifically in relationship to English graduate students' personal scholarship and teaching duties.

I have created a questionnaire identifying 45 technologies that are relevant to finding information and creating new information for personal scholarship and for teaching. I want to know how often you use these technologies as a scholar? As a teacher?

The questionnaire takes 15–20 minutes to fill out.

PURPOSE

The purpose of this study is to provide a current description of information-seeking behavior of English graduate students. Learning the information-seeking traits of graduate students will help the library community become better acquainted with the scholars they serve.

INCENTIVE

Participation with this survey is voluntary. To encourage your participation, I am making this questionnaire raffle. I am awarding two participants a \$20 gift certificate to any Twin Cities bookstore. The two winners will be selected from the pool of participants by a raffle drawing.

CONFIDENTIALITY

While you will need to supply your e-mail address for the raffle drawing, your confidentiality will be maintained. I will not connect your name with the information you provide in the questionnaire. Your e-mail will be used for the purposes of the drawing only. Furthermore, you may opt out of the raffle.

Please return your completed survey to Aaron Bruenger's mailbox, 3rd floor, Lind Hall by Friday, April 16th, 2004.

Thank you for helping out a fellow grad student!

Part I. Personal Scholarship and the Use of Electronic Information Technologies

Please read through the following list of electronic information technologies. Do you use these technologies in your personal scholarship?

- N No, I do not use this technology.
 S Semesterly—I use this technology at least once during a semester.
 M Monthly—I use this technology at least once a month.
 W Weekly—I use this technology at least once a week.
 D Daily—I use this technology at least once a day

Electronic Information Technologies	Use/Application in my Personal Scholarship
Production Technologies	
electric typewriter	N S M W D
word processing software	N S M W D
voice recognition software	N S M W D
database (e.g. Access)	N S M W D
spreadsheet (e.g. Excel)	N S M W D
use of a web page editor for creating web pages(e.g. DreamWeaver or FrontPage)	N S M W D
use of a WWW markup language for creating web pages (e.g. HTML, XML, XHTML, etc.)	N S M W D
use of computer programming language (e.g. C++, PERL, PHP, etc.)	N S M W D
scanner	N S M W D
image editing software (e.g. PhotoShop)	N S M W D
text editing software (I e. TextPad, EditPlus).	N S M W D
desktop publishing software (e.g. PageMaker)	N S M W D
PDF software (e.g. Adobe, Jaws PDF creator)	N S M W D
presentation software (e.g. Presentware Multimedia Presentation Software, SLIM SHOW multimedia authoring and presentation software, PowerPoint)	N S M W D
citation management software (e.g. EndNote or RefWorks)	N S M W D
Communication Technologies	
e-mail	N S M W D
list-serv	N S M W D
chat rooms	N S M W D
instant messaging	N S M W D
blogs	N S M W D
WebCT (online classroom/blackboard: provides an online access to course syllabus and other course related information)	N S M W D
newsgroups	N S M W D

Note: In the original questionnaire, the list of technologies in Part I. was repeated in Part II. Teaching and the Use of Electronic Information Technologies. For brevity, the list is printed only once in this appendix.

Electronic Information Technologies	Use/Application in my Personal Scholarship
Finding Tools	
Internet web browser (e.g. Internet Explorer, Netscape)	N S M W D
Telnet	N S M W D
Internet search engine (e.g. Google, Yahoo!, etc.)	N S M W D
metasearch engine (e.g. www.dogpile.com or www.mamma.com)	N S M W D
online library catalogs (e.g. MNCAT)	N S M W D
interlibrary loan requests—filling out an ILL request form online	N S M W D
online indexes (e.g. MLA Bibliography)	N S M W D
full-text online indexes(e.g. JSTOR or Expanded Academic Index)	N S M W D
live chat library reference (e.g. University of Minnesota Libraries' AskUs! service)	N S M W D
e-mail a librarian a reference question	N S M W D
using the U ofM library web site as a gateway to other sources (e.g. searching other online catalogs such as Big Ten Libraries, MNLINK, or WORLDCAT)	N S M W D
Electronic Reference Sources	
online dictionary	N S M W D
online encyclopedia	N S M W D
online style guide	N S M W D
translation software	N S M W D
Personal Assistance Technologies	
screen reader	N S M W D
voice recognition software	N S M W D
date book/calendar software (e.g. MeetingMaker)	N S M W D
personal digital assistant (e.g. Palm Pilot)	N S M W D
Miscellaneous E-Info Technologies	
digital texts—online or on CD-ROM(e.g. the electronic Beowulf)	N S M W D
online news sources (e.g. Star Tribune, NYT)	N S M W D
audio-visual media (e.g. DVD, VHS, CDs, cassette tapes, LPs, etc.)	N S M W D
submitting an electronic reservation for a library workshop	N S M W D

At this time, I would like to provide you an opportunity to make comments and share your ideas about your use of electronic information technologies for your personal scholarship. Please feel free to attach additional sheets of paper if you need use more space to write (comment sheet was removed from the appendix to save space). Please feel free to skip this section if you don't have anything to say. When you are finished, please continue on to Part II.

Part III. English Graduate Student Status

1. What degree program are you in?

- Ph.D.
- MA
- MFA

2. How far along are you in your program?

- 1st year
- 2nd year
- 3rd year
- 4th year
- 5th year
- 6th year
- 7th year

3. Have you ever held a teaching appointment?

- Yes
- No – If you answer “no,” please skip to question 6.

4. How would you describe the type of teaching appointment ?

- Independent section (comp or lit course)
- Discussion section
- Grader/Reader

5. How many semesters have you held a teaching appointment?

- 1-2 semesters
- 3-4 semesters
- 5-6 semesters
- 7+ semesters

6. What is your primary area of scholarship?

- Medieval Studies
- Early Modern
- Creative Writing
- 19th Century British Literature
- 19th century American Literature
- 20th century British Literature
- 20th century American Literature
- Critical Theory
- Rhetoric, Language, and Literacy
- Other, _____(please specify)

Raffle: Please provide your e-mail address if you would like to be in the drawing.

Thank you for your participation!

Appendix 2. Participants' Profiles

Ph.D. Respondents					
Respondent	Year in Program	Teaching App.	Type of TA	Semesters with TA	Primary Area of Scholarship
B	7	Y	I	7+	20 c. American Lit.
C	5	Y	I	7+	19 c. American Lit.
D	5	Y	I	7+	Critical Theory
E	3	Y	I, DS, GR	3-4	19th and 20th c. American Lit.
F	4	Y	I, DS	7+	Rhetoric, Lang., & Lit.
G	3	Y	I, DS	7+	Critical Theory
H	3	Y	I, DS	5-6	19th and 20th c. American Lit.
I	2	Y	I	7+	20th c. American & Asian Lit.
J	7	Y	I, DS, GR	7+	19th and 20th c. American Lit.
K	7	Y	I	7+	20th c. American Lit.
L	1	Y	DS	1-2	19 c. British Lit.
M	3	Y	I, DS	7+	20th c. American Lit.

MFA Respondents					
Respondent	Year in Program	Teaching App.	Type of TA	Semesters with TA	Primary Area of Scholarship
B	2	Y	I, DS	7+	Creative Writing
C	2	Y	I	3-4	Rhetoric, Language and Literacy
D	3	Y	I	5-6	Creative Writing; Rhetoric, Language and Literacy
E	1	Y	I, DS	1-2	Creative Writing

MA Respondents					
Respondent	Year in Program	Teaching App.	Type of TA	Semesters with TA	Primary Area of Scholarship
B	2	Y*“15 years ago”	I	3-4	20th c. American Lit.
C	2	Y	I, DS	3-4	20th c. American Lit.

Key

I = independent instructor

DS = discussion section

GR = grader/reader

Appendix 3. Tables 1a – 3b

Table 1a. Ph.D. Personal												
	B	C	D	E	F	G	H	I	J	K	L	M
Production Technologies												
electric typewriter	0	0	0	0	0	0	0	0	0	1	0	0
word processing software	4	4	4	4	4	4	4	4	4	4	4	4
voice recognition software	0	0	0	0	0	0	0	0	0	0	0	0
database	2	0	0	0	0	0	0	0	3	0	0	1
spreadsheet	0	0	0	2	0	1	3	2	3	1	0	1
web page editor	0	0	0	3	0	0	1	0	0	2	0	0
use of a WWW markup language		0	0	1	0	0	0	0	0	1	0	0
use of computer programming language	0	0	0	0	0	0	0	0	0	0	0	0
scanner	2	0	0	1	0	2	0	1	1	1	1	0
image editing software	0	0	0	2	0	1	0	0	0	2	0	0
text editing software	0	0	0	0	0	0	2	0	0	0	0	0
desktop publishing software	0	0	0	1	0	1	0	0	0	0	0	0
PDF software	0	0	1	3	0	0	3	4	1	0	3	2
presentation software	0	0	0	1	0	1	1	0	0	0	1	0
citation management software	0	0	0	0	2	0	0	0	0	0	0	0
Communication Technologies												
e-mail	4	4	4	4	4	4	4	4	4	4	4	4
list-serv	2	2	2	3	2	4	1	4	4	3	4	3
chat rooms	0	0	0	0	0	0	0	0	0	0	0	0
instant messaging	0	0	0	0	0	0	0	0	0	0	0	0
blogs	0	0	0	0	0	3	1	3	0	0	0	0
online class management	0	0	0	1	2	3	0	1	0	0	3	0
newsgroups	0	0	0	0	0	0	1	0	0	0	0	0
Finding Tools												
Internet web browser	4	3	4	4	4	4	4	4	4	4	4	4
Telnet	0	0	0	1	0	0	4	0	0	0	0	0
Internet search engine	4	3	4	4	4	4	4	4	4	4	3	4
metasearch engine	0	0	0	0	2	0	0	1	1	0	0	1
online library catalogs	3	3	3	3	3	3	3	4	3	3	3	2
online interlibrary loan requests	1	1	2	2	2	2	2	1	2	2	2	2
online indexes	3	2	3	3	3	2	3	3	3	2	3	2
full-text online indexes	1	2	3	3	3	2	2	4	0	2	3	1
live chat library reference	0	0	0	0	0	1	0	0	0	2	0	0
e-mail a librarian a reference question	0	0	0	1	0	0	1	1	1	1	0	0

Table 1a. Ph.D. Personal												
	B	C	D	E	F	G	H	I	J	K	L	M
using library web site as gateway	1	1	2	1	3	0	1	4	1	3	3	2
Electronic Reference Sources												
online dictionary	2	2	2	4	3	3	4	4	3	3	3	1
online encyclopedia	2	0	0	3	2	1	2	2	1	1	2	0
online style guide	0	0	0	1	0	1	0	1	0	3	0	0
translation software	0	0	0	0	0	1	1	0	0	0	0	0
Personal Assistance Technologies												
screen reader	0	0	0	0	0	0	0	0	0	0	0	0
voice recognition software	0	0	0	0	0	0	0	0	0	0	0	0
datebook/calendar software	0	0	0	0	0	0	0	1	0	0	2	0
personal digital assistant	0	0	0	0	0	0	4	1	4	0	0	0
Miscellaneous E-Info Technologies												
digital texts-online or on CD-ROM	0	0	1	3	3	2	2	2	0	0	3	1
online news sources	4	2	3	3	4	4	3	4	1	4	4	3
audio-visual media	4	0	2	4	0	2	1	3	1	2	2	2
submitting an e-reservation	0	0	0	1	1	0	0	1	0	0	1	0

Table 1b. Ph.D. Teaching												
	B	C	D	E	F	G	H	I	J	K	L	M
Production Technologies												
electric typewriter	0	0	0	0	0	0	0	0	1	0	0	0
word processing software	4	3	3	4	3	4	4	4	4	4	3	3
voice recognition software	0	0	0	0	0	0	0	0	0	0	0	0
database	0	0	0	0	0	0	0	0	1	0	0	0
spreadsheet	0	0	2	2	2	1	4	3	3	1	3	2
web page editor	0	0	0	0	0	0	0	1	0	3	0	0
use of a WWW markup language	0	0	0	0	0	0	0	0	0	0	0	0
use of computer programming language	0	0	0	0	0	0	0	0	0	0	0	0
scanner	1	0	2	0	1	1	0	0	1	0	0	0
image editing software	0	0	0	0	0	0	0	0	0	0	0	0
text editing software	0	0	0	0	0	0	0	3	0	0	0	0
desktop publishing software	0	0	0	0	0	0	0	1	0	0	0	0
PDF software	0	0	0	3	0	0	2	0	2	0	2	2
presentation software	0	0	0	0	1	0	1	0	0	1	0	0
citation management software	0	0	0	0	0	0	0	0	0	0	0	0

Table 1b. Ph.D. Teaching												
	B	C	D	E	F	G	H	I	J	K	L	M
Communication Technologies												
e-mail	4	3	3	4	3	4	4	4	4	4	4	4
list-serv	3	2	0	0	0	0	0	3	4	3	0	4
chat rooms	0	0	0	0	0	0	0	0	0	0	0	0
instant messaging	0	0	0	0	0	0	0	0	0	0	0	0
blogs	0	0	0	0	0	4	0	1	0	0	0	0
online class management	0	0	0	0	0	3	0	4	0	0	0	0
newsgroups	0	0	0	0	0	0	0	0	0	0	0	0
Finding Tools												
Internet web browser	4	3	2	3	3	4	3	4	4	4	3	4
Telnet	0	0	0	0	0	0	4	0	0	0	0	0
Internet search engine	4	3	2	3	3	4	3	4	4	4	3	4
metasearch engine	0	0	0	0	1	0	0	1	3	0	0	0
online library catalogs	3	2	2	1	2	2	2	3	2	4	2	0
online interlibrary loan requests	1	0	1	0	1	1	1	1	1	2	1	0
online indexes	3	2	1	1	1	2	2	1	2	2	2	2
full-text online indexes	0	2	2	1	0	2	1	0	0	2	2	1
live chat library reference	0	0	0	0	0	0	0	0	0	1	0	0
e-mail a librarian a reference question	0	0	0	0	0	1	0	0	0	1	0	0
using library web site as gateway	2	0	0	0	0	0	0	1	0	3	2	0
Electronic Reference Sources												
online dictionary	2	2	2	4	3	2	3	1	3	3	2	0
online encyclopedia	2	0	0	4	3	1	3	0	1	2	2	0
online style guide	0	0	0	1	0	2	0	1	1	3	0	0
translation software	0	0	0	0	1	0	1	0	0	0	0	0
Personal Assistance Technologies												
screen reader	0	0	0	0	0	0	0	0	0	0	0	0
voice recognition software	0	0	0	0	0	0	0	0	0	0	0	0
datebook/calendar software	0	0	0	0	0	0	0	0	0	0	0	0
personal digital assistant	0	0	0	0	0	0	4	0	4	0	0	0
Miscellaneous E-Info Technologies												
digital texts-online or on CD-ROM	2	1	0	3	2	1	0	0	1	0	3	0
online news sources	4	1	0	3	3	1	3	1	2	2	0	1
audio-visual media	3	1	2	1	1	3	2	1	1	2	2	2
submitting an e-reservation	0	0	0	1	0	0	0	1	0	1	0	0

	B	C		B	C
Production Technologies					
electric typewriter	0	0	Telnet	0	0
word processing software	4	3	Internet search engine	4	3
voice recognition software	0	0	metasearch engine	0	0
database	0	1	online library catalogs	2	2
spreadsheet	0	1	online interlibrary loan requests	1	1
web page editor	0	0	online indexes	1	1
use of a WWW markup language	0	0	full-text online indexes	1	1
use of computer programming language	0	0	live chat library reference	0	0
scanner	0	0	e-mail a librarian a reference question	0	0
image editing software	0	0	using library web site as gateway	1	1
text editing software	0	0	Electronic Reference Sources		
desktop publishing software	0	0	online dictionary	0	2
PDF software	4	2	online encyclopedia	0	2
presentation software	0	0	online style guide	0	0
citation management software	0	0	translation software	0	0
Communication Technologies			Personal Assistance Technologies		
e-mail	4	3	screen reader	0	0
list-serv	2	3	voice recognition software	0	0
chat rooms	0	1	datebook/calendar software	0	0
instant messaging	0	3	personal digital assistant	0	0
blogs	0	0	Miscellaneous E-Info Technologies		
online class management	0	2	digital texts-online or on CD-ROM	1	2
newsgroups	0	0	online news sources	4	3
Finding Tools			audio-visual media	1	4
Internet web browser	4	3	submitting an e-reservation	0	1

Table 2b. MA Teaching					
	B	C		B	C
Production Technologies			Telnet		0
electric typewriter		0	Internet search engine		3
word processing software		3	metasearch engine		0
voice recognition software		0	online library catalogs		2
database		0	online interlibrary loan requests		0
spreadsheet		0	online indexes		0
web page editor		0	full-text online indexes		0
use of a WWW markup language		0	live chat library reference		0
use of computer programming language		0	e-mail a librarian a reference question		0
scanner		0	using library web site as gateway		2
image editing software		0	Electronic Reference Sources		
text editing software		0	online dictionary		1
desktop publishing software		0	online encyclopedia		1
PDF software		0	online style guide		3
presentation software		0	translation software		0
citation management software		0	Personal Assistance Technologies		
Communication Technologies			screen reader		0
e-mail		3	voice recognition software		0
list-serv		0	datebook/calendar software		0
chat rooms		0	personal digital assistant		0
instant messaging		2	Miscellaneous E-Info Technologies		
blogs		0	digital texts-online or on CD-ROM		3
online class management		0	online news sources		3
newsgroups		0	audio-visual media		0
Finding Tools			submitting an e-reservation		1
Internet web browser		3			

	B	C	D	E		B	C	D	E	
Production Technologies						Production Technologies				
electric typewriter	0	0	0	0		Telnet	0	0	0	0
word processing software	4	4	4	4		Internet search engine	3	4		4
voice recognition software	0	0	0	1		metasearch engine	0	0	3	0
database	0	3	3	0		online library catalogs	2	4	2	3
spreadsheet	0	3	0	1		online interlibrary loan requests	1	1	1	2
web page editor	0	0	0	1		online indexes	2	3	1	0
use of a WWW markup language	0	0	0	3		full-text online indexes	2	3	1	1
use of computer programming language	0	0	0	0		live chat library reference	0	0	0	0
scanner	0	1	0	3		e-mail a librarian a reference question	0	1	0	0
image editing software	0	0	0	1		using library web site as gateway	1	1	1	1
text editing software	0	0	0	3		Electronic Reference Sources				
desktop publishing software	0	0	0	0		online dictionary	1	1	0	3
PDF software	1	2	0			online encyclopedia	0	1	0	0
presentation software	0	1	0	0		online style guide	0	1	0	0
citation management software	0		0	0		translation software	0	0	1	1
Communication Technologies						Personal Assistance Technologies				
e-mail	4	4	4	4		screen reader	0	0	0	0
list-serv	2	3	0	3		voice recognition software	0	0	0	1
chat rooms	0	0	0	0		datebook/calendar software	0	0	0	0
instant messaging	1	0	0	2		personal digital assistant	0	0	0	0
blogs	0	0	0	3		Miscellaneous E-Info Technologies				
online class management	1	0	0	0		digital texts-online or on CD-ROM	0	0	0	1
newsgroups	0	0	0	0		online news sources	2	2	1	2
Finding Tools						audio-visual media	2	0	1	3
Internet web browser	4	4	4	4		submitting an e-reservation	0	0	0	0

	B	C	D	E		B	C	D	E
Production Technologies									
electric typewriter	0	0	0	0	Telnet	0	0	0	0
word processing software	4	3	4	3	Internet search engine	3	2	2	3
voice recognition software	0	0	0	0	metasearch engine	0	0	0	0
database	0	3	0	0	online library catalogs	2	1	0	0
spreadsheet	0	3	0	0	online interlibrary loan requests	0	1	0	0
web page editor	0	0	0	0	online indexes	2	1	0	0
use of a WWW markup language	0	0	0	0	full-text online indexes	2	1	0	0
use of computer programming language	0	0	0	0	live chat library reference	0	0	0	0
scanner	0	0	0	0	e-mail a librarian a reference question	0	1	0	0
image editing software	0	0	0	0	using library web site as gateway	2	1	0	0
text editing software	0	0	0	0	Electronic Reference Sources				
desktop publishing software	0	0	0	0	online dictionary	2	1	0	3
PDF software	0	0	0	0	online encyclopedia	0	1	0	0
presentation software	0	0	0	0	online style guide	0	1	0	0
citation management software	0	0	0	0	translation software	0	0	0	0
Communication Technologies					Personal Assistance Technologies				
e-mail	4	3	4	3	screen reader	0	0	0	0
list-serv	4	3	0	0	voice recognition software	0	0	0	0
chat rooms	0	0	0	0	datebook/calendar software	0	0	0	0
instant messaging	0	0	0	0	personal digital assistant	0	0	0	0
blogs	0	0	0	0	Miscellaneous E-Info Technologies				
online class management	1	0	0	0	digital texts-online or on CD-ROM	0	0	0	3
newsgroups	0	0	0	0	online news sources	0	1	0	0
Finding Tools					audio-visual media	1	0	0	0
Internet web browser	4	2	2	3	submitting an e-reservation	0	1	0	0

Appendix 4. Comparative Results								
	% PHD P	% PHD T	% MA P	% MA T	% MFA P	% MFA P	% TOT P	% TOT T
Production Technologies								
electric typewriter	8.3	8.3	0	0	0	0	5.5	5.9
word processing software	100	100	100	100	100	100	100	100
voice recognition software	0	0	25	0	0	0	5.5	0
database	25	8.3	50	25	50	0	33.3	11.8
spreadsheet	58.3	100	50	25	50	0	55.5	64.7
web page editor	25	16.6	25	0	0	0	22.2	11.8
use of a WWW markup language	16.6	0	25	0	0	0	16.6	0
use of computer programming language	0	0	0	0	0	0	0	0
scanner	58.3	41.6	50	0	0	0	50	29.4
image editing software	25	0	25	0	0	0	22.2	0
text editing software	8.3	8.3	25	0	0	0	11.1	5.9
desktop publishing software	16.6	8.3	0	0	0	0	11.1	5.9
PDF software	58.3	41.6	50	0	100	0	61.1	29.4
presentation software	33.3	25	25	0	0	0	27.7	17.6
citation management software	8.3	0	0	0	0	0	5.5	0
Communication Technologies								
e-mail	100	100	100	100	100	100	100	100
list-serv	100	50	75	50	100	0	94.4	47
chat rooms	0	0	0	0	50	0	5.5	0
instant messaging	0	0	50	0	50	100	16.6	5.9
blogs	25	16.6	25	0	0	0	22.2	11.8
online class management	41.6	16.6	25	25	50	0	38.8	17.6
newsgroups	8.3	0	0	0	0	0	5.5	0
Finding Tools								
Internet web browser	100	100	100	100	100	100	100	100
Telnet	16.6	8.3	0	0	0	0	11.1	5.9
Internet search engine	100	100	75	100	100	100	94.4	100
metasearch engine	33.3	25	25	0	0	0	27.7	17.6
online library catalogs	100	91.6	100	50	100	100	100	82.3
online interlibrary loan requests	100	75	100	25	100	0	100	58.8
online indexes	100	100	75	50	100	0	94.4	82.3
full-text online indexes	91.6	66.6	100	50	100	0	94.4	58.8
live chat library reference	16.6	8.3	0	0	0	0	11.1	5.9
e-mail a librarian a reference question	41.6	16.6	25	25	0	0	33.3	17.6

Appendix 4. Comparative Results								
	% PHD P	% PHD T	% MA P	% MA T	% MFA P	% MFA P	% TOT P	% TOT T
using library web site as gateway	91.6	33.3	100	50	100	100	94.4	41.2
Electronic Reference Sources								
online dictionary	100	91.6	75	75	50	100	88.8	88.2
online encyclopedia	75	66.6	25	25	50	100	61.1	58.8
online style guide	33.3	41.6	25	25	0	100	27.7	41.2
translation software	16.6	16.6	50	0	0	0	22.2	11.8
Personal Assistance Technologies								
screen reader	0	0	0	0	0	0	0	0
voice recognition software	0	0	25	0	0	0	5.5	0
datebook/calendar software	16.6	0	0	0	0	0	11.1	0
personal digital assistant	25	16.6	0	0	0	0	16.6	11.8
Miscellaneous E-Info Technologies								
digital texts-online or on CD-ROM	66.6	58.3	25	25	100	100	61.1	52.9
online news sources	100	83.3	100	25	100	100	100	70.6
audio-visual media	75	100	75	25	100	0	77.7	76.5
submitting an e-reservation	33.3	25	0	25	50	100	27.7	29.4

Appendix 5. Questionnaire Respondents' Comments

MFA D Personal Scholarship

I don't have a lot to say here except that I often feel like I ought to be using more forms of technology. However, to learn new forms is a challenge, so I often find myself making do with what I already know how to do.

MFA D Teaching Activities

I have heard many conversations about using WebCT and blog formats for learning, but I haven't ever had the means to try it.

PHD C Personal Scholarship

Going through the previous page, there are many more electronic information technologies than I had known about!

PHD F Teaching Scholarship

With the always changing teaching appointments, and the stress of being a student, I find it difficult to apply new technology in my teaching. For the first few semesters at the U, I taught a different class each semester, so I had to start over with developing the content each semester and didn't have time to figure out how technology would fit in. The last couple of semesters I have taught the same course, so I've tried using more technology. Even when I try to integrate new technology in the classroom, it doesn't always feel like it works well for an English class.

PHD E Personal Scholarship

Access is important. Yet we rely on certain filters b/c there's so much info ex) library, Google and this makes us blind to some important things

PHD E Teaching Activities

Next to the listing for citation management software (e.g. EndNote or RefWorks), this respondent wrote, "but I'm going to start using it!" Also next to WebCT, the respondent wrote, "but I don't want to use it"; next to spreadsheet, "at work"; next to presentation software, "but I might when lecturing."

PHD H Personal Scholarship

I feel greatly benefited by the electronic technology, but I often feel frustration as well. My frustration is located in two areas 1) integration of technology 2) dial-up internet access at home.

An example of the first frustration will be useful. When I search for books on MNCAT, I have the option to email the citations and bibliographic information to myself, which I often do (especially when I am in the library where it is too expensive to print). Then, although I would like to be able to conveniently store that information electronically (on my PDA, for example), it is very cumbersome. If I am at the library, although I can access my email, I cannot make a file to transfer to my PDA, so I have to jot down information manually. If I am working at home I have to first paste the text from the email message into a Word file. Then I have to manually clean it up (it won't import easily into a spreadsheet or database) and then I can either create a Memo file for my PDA or a MS Word or MS Excel file that I can sync between my PDA and my home computer. On one hand, it is so useful to have the MNCAT information in digital form, but in some ways, it is easier to print it on paper and just work with the list. Having it available digitally introduces the false expectation that I'll be able to move the data easily and efficiently. Not true. It is still pretty clunky to move back and forth, and I still have to manually key in my bibliographic information when writing papers. I dream of some application that would seamlessly merge data from the web with files you can work on conveniently at home and on a PDA. And probably there are

applications out there that do it, but therein lies another problem of the digital world—locating the applications and software that do what you want. And that leads to the another immediate problem, being able to afford to purchase software and hardware.

And the second frustration is pretty easy to understand. At home being online is slow. And if I'm online I cannot place or receive phone calls. I am glad, however, that the library has made all of its tools available from home by logging into the library site. That is very convenient.

PHD H Teaching Activities

This semester I used audible.com to purchase a public radio program that I then burned on a CD to listen to in class. Last semester I streamed it into class on a laptop online, but I wasn't able to quickly access the parts I wanted to. I also used a DVD (*Fellowship of the Ring*) and a video (VHS) that a local non-profit created. The use of multiple medias in a literature classroom make a big difference (I believe) in the attention and interest of media-savvy students.

PHD J Personal Scholarship

I find myself frequently falling into the trap of relying too heavily on the internet. It's so easy sometimes, much easier than going to the library to do actual research. But since the research I am usually looking for isn't generally convenient or accurate online, I end up getting frustrated because the technology doesn't meet my expectations or needs.

PHD J Teaching Activities

I try to stress the importance of electronic technologies in the classroom, but at the same time I want my students to now that they cannot completely rely on technology.

PHD L Personal Scholarship

Seeing this list makes me think that I could be utilizing many more technologies in my studies here.