

Revelry, Revelation, or Research: What Are College Students Really Doing on the Internet

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Introduction

What are college students really doing on the Internet? To what extent, if any, are they seeking information for course-related assignments? To provide a context for this paper, think back a few years to 1994 and 1995. Lynx and other gophers were on the way out; the Mosaic browser was still in use; and Netscape had recently made its debut on the Internet scene. You may recall that 1995 was touted as “the Year of the Internet”. Nationwide, costly networks were being implemented on college campuses, many with Internet connectivity from computer labs, libraries, and even residence halls. Little could be known about how these networks would be used once students were connected to the vast, limitless, indiscriminate, and unedited ocean of data known as the Internet.

Brief summary of the research study

What impact would such access have on students, libraries and the research process? Would students flock to the keyboard, surf the Web, and crank out papers based on data plucked from amorphous, unauthenticated web sites? Would they fritter away valuable time in aim-

less wandering? These questions and others prompted the study. This paper is based on research conducted in 1996 which investigated whether and how students were using the Internet to access information for course-related research, and what accounted for such use or non-use. For purposes of this paper, *course-related research* refers to research undertaken by students to fulfill specific class assignments, including term papers, for credit courses. Although Internet technology is evolving at the speed of light and some of the terms may already appear dated, data is presented here as reported by students. Partial responses to three of the research questions are discussed:

- 1) purposes for which students are using the Internet;
- 2) factors that influence use or non-use of the Internet for research;
- 3) how Internet research compares to traditional library research.

The qualitative study was conducted at five small, independent, residential, undergraduate colleges in central Pennsylvania. The campuses had varying degrees of connectivity, but all had some access to the Internet.

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Although the sample population was small, students were randomly selected from all four academic levels from the aggregate college population. Ultimately, seventy-three students participated and were divided into two groups: those who had used the Internet for course-related research (users), and those who had not (non-users). Methodology used was that of small, scheduled, focus-group sessions, in which students as users (36, or 49%) were asked a series of eleven questions about Internet use; non-users (37, or 51%) were asked a series of four questions regarding non-use.

Purposes of Internet use

- Email use
- Course-related research
- Recreational purposes
- Academic purposes
- Practical purposes

When asked the question, "For what purposes do you use the Internet?" the answer came as no surprise. The reason cited most often for using the Internet, reported by 46 students (63%) in the study, was for e-mail purposes. Students reported e-mailing to friends, peers at other colleges, and to family members, largely as a social function and a way to stay in touch. Intensity of use varied, with some students checking e-mail a few times per week and others logging on twenty times a day. Of interest was the fact that twice as many students in the non-users groups used the Internet for email than in the users groups.

The second most often cited reason for Internet use was for course-related research. This was somewhat surprising because, in 1996 when the Internet was not widely promoted and was still incredibly difficult to navigate, almost half of all participants in the study (36, or 49%) were already using it on their own to find course-related information simply because it was there.

Three additional reasons for accessing the Internet, cited less frequently by students in both groups, were for recreational purposes, for academic purposes and for practical purposes. Recreational use varied widely and included chat lines, news groups, music-related activities, sports, games and humor, dating, and sending postcards. Academic use could include seeking information about other colleges, scholarships and online applications, and creating web pages and JAVA script. On a practical level, students accessed course-related software

on the campus LAN, used FTP to locate archived files, sought background information on companies for job interviews, and investigated other career-oriented applications.

On average, all students used the Internet for all purposes 2.6 hours per week. Students (as users) spent an average of 3.7 hours a week on the Internet, while non-users averaged 1.6 hours a week.

Factors affecting Internet use for course research *Students as Users*

What factors encouraged or hindered Internet use for course research among college students? Why did some students choose to search the Internet, while others did not? When asked these questions, the three primary reasons (in rank order) most often cited by users for using the Internet for course-related research were:

- convenience—faster, easier than searching books and periodicals for information;
- information type and content—breadth, variety and currency of data;
- as a library alternative—ability to access from residence halls, computer labs, etc.

In their own words:

I think it's faster; instead of walking to the library and looking it up in the catalog, then going to find the book or magazine . . . just type in the subject you're looking for and it's right there.—*freshman, female*

For the kind of information I can't find in the library—up-to-date, up-to-the-minute statistics, or a subject that's not very common and you can't find books or magazine articles on it.—*junior, male*

Less often, students also reported using the Internet:

- upon recommendation of a faculty member;
- for the advantages of hypertext links.

Among users then, while several factors influenced Internet use for research purposes, it is noteworthy that peer influence was rarely cited as a reason. When users were asked to describe *what* they were seeking when they searched the Internet for course-related research, they most often said they wanted to:

- find various kinds/types of information;
- find information about a specific topic;

- find information for a specific course.

Examples of information types included: articles or entries on a topic (web-based, not journal articles); government documents; teacher pages/lesson plans; pictures and home pages of people, especially politicians; current news and events (same day news—too recent for books); journal articles; recent scientific data; research studies; primary documents; statistical data; papers written by faculty; and term papers written by students at other colleges which they could download and use.

Examples of specific topics included: company information; wetlands/everglades; animal testing; campaigns, elections, and presidents; Star Wars movie; Women's Conference in China; euthanasia; DNA fingerprinting; genetics; and forensics. To quote one student when asked why he had used the Internet:

... For U.S. campaigns and elections. We had to do a candidate profile on the Republican candidates for president. I went on the WWW and to each candidate's home page ... then I would go to the Democratic National Committee page to look for information against the candidate.—*junior, male*

Information sought for specific courses ran the gamut from political science and urban economics to business policy and biology. Not all students were equally clear about their objectives when searching the Internet, but they had few preconceived ideas regarding what they would find. About 10 students in this group (28%) were "unsure of what they were seeking" but reported that they would know it when they found it.

Students as Non-Users

Among non-users surveyed (51% of the sample population), students provided several responses when asked why they chose not to use the Internet for course-related research. In rank order, non-users reported that they:

- had no reason or need to use it; had never used it; had never been told to use it;
- were unable to access the Internet or to conduct a search and locate useful information;
- preferred other more traditional methods of research with which they were more familiar.

Many students in this group regarded the Internet as a tool for social or recreational purposes, and had not

considered its use for academic or research purposes. Often, these students reported being able to satisfy all their research needs in the library.

I never thought about using it. I think ... a lot of professors ask you if they want to you try and get something up-to-date, but none ... have asked me, so it never occurred to me to use it; but I don't think I even know how to get on it without help.—freshman, female

Teachers ... didn't really stress the Internet or show us how to use the Internet; they stressed looking up catalogs and ... the Humanities Index, e.g., or Psychological Abstracts and ... I was able to find all the information I needed through those sources.—sophomore, female

Other reasons for non-use, ranked but cited less often, included:

- the need for instruction or documentation;
- a general dislike of computers;
- difficulty with locating computers and gaining access to the Internet;
- lack of knowledge about what the Internet was;
- confusion as to what kind of information could be found.

Recall that in 1996, search engines were far less efficient than they are today. Yahoo and WebCrawler were most familiar to the student sample at that time, and a search would result in tens of thousands of hits, many completely irrelevant to the query. Most students were still using modems which in their view took forever! The Internet experience was often frustrating and overwhelming to a number of students.

Internet research vs traditional library research

How did the experience of students who used the Internet for research compare to those who did not, when using more traditional Library resources? Did Internet users rely heavily on the Internet for their research—to the exclusion of other sources? Surprisingly, they did not. In fact, students who used the Internet for course research made greater overall use of all types, sources, and formats of library materials. To quote one senior:

For me, I use besides the Internet, encyclopedias, books, periodicals - periodicals are prob-

ably the biggest thing I use, because it's the thing that I can get here at the school and it's up-to-date and it's pretty recent and that seems to be my most-used source for research.—senior, male

When asked which resources they used, however, the responses of both groups were more comparable, with users citing by name 33 specific resources and 69 uses, and non-users citing 21 resources with 71 uses. The following sources were cited by both groups:

<i>InfoTrac</i>	<i>FirstSearch</i>
<i>Psychological Abstracts</i>	<i>ERIC</i>
<i>Social Science & Humanities Index</i>	<i>New York Times</i>
<i>Humanities Index</i>	<i>CD-CAT</i>
<i>Reference Books</i>	<i>PsycLit</i>
<i>Social Sciences Index</i>	<i>Readers' Guide to Periodical Literature</i>

In addition, users could recall by name:

<i>Chemical Abstracts</i>	<i>Biology Abstracts</i>
<i>Am. Occupational Therapy Database</i>	<i>Moody's Manuals</i>
<i>Oxford Compendium of English Literature</i>	<i>NewsBank</i>
<i>Wall Street Journal</i>	<i>MLA Database</i>
<i>Historical Abstracts</i>	<i>GeoBase</i>
<i>Biography Index</i>	<i>Times Literary Supplement</i>
<i>Value Line</i>	<i>WilsonDisk</i>
<i>Encyclopedia Britannica Online</i>	<i>America: History & Life</i>
<i>Congressional Quarterly</i>	<i>Art Index</i>
	<i>Washington Post</i>
	<i>Book Review Digest</i>
	<i>Business Periodicals Index</i>

Non-users mentioned as well:

<i>Cinabl</i>	<i>Sport Discus</i>
<i>Social Sciences Citation Index</i>	<i>LA Times</i>
<i>LIAS (PSU Online Catalog)</i>	<i>Purdon's Law</i>
<i>Contemporary Literary Criticism</i>	<i>Religion Index: One SocioFile</i>

One non-user, a senior, described her research process:

I have used Psychological Abstracts, Readers' Guide, Social Sciences Index, Humanities Index and the New York Times... The InfoTrac I've used more often because most of the time I need more current information. The books here in the library are not up-to-date really... and there's no point even looking for a book itself. Interlibrary loan, I use heavily, heavily, especially in psychology we're lacking a lot of journals in the psychology area so these have to be interlibrary loaned.—senior, female

Neither group was averse to using electronic databases, either online or in CD-ROM format. Among users, 27 of the 36 students (75%) had used electronic databases, and 28 out of 37 Non-Users had (76%). This would imply that for research purposes, both groups made comparable use of online databases but clearly, non-users made a distinction between online resources and use of the Internet. Taken as a whole, the data indicates that users overall conducted more active research than non-users, and simply regarded the Internet as one more tool in the research process. Concerns that the Internet would become a substitute for scholarly library resources were not substantiated by the study.

Some distinctions can be made among campuses. An interesting observation was that students from the campus with the highest number of non-users were able to recall by name the greatest number of different reference sources; and conversely, students from the campus with the highest number of users recalled the fewest number of sources by name. Another finding of the study, which came as no surprise, was that physical access to the Internet also affected students' willingness and ability to use or not use this tool. The study revealed that the numbers of students using the Internet for course research correlated positively with the degree of network connectivity on each of the five campuses. In other words, the "most-wired" campuses had the highest number of users. This suggests that Internet use for research could increase as more students gain easier access to networked computers, and as incoming students find a fully-networked campus at the outset.

Differences were also noted among academic levels. Freshmen and sophomores preferred electronic and/or Internet access for conducting research, having received early exposure to the technology. Juniors and seniors in both groups (users and non-users) preferred to

conduct research using traditional library resources and were less apt to embrace unfamiliar, computer-based methods. Seniors were most able to articulate a logical and comprehensive library-based research strategy, often revealing a number of higher level cognitive skills utilizing printed sources.

No distinctions were noted between male and female students regarding their comfort levels with, willingness, or reluctance to use computers. They also exhibited similar search patterns on the Internet, using comparable techniques to conduct a search strategy, and using topic or menu searching in the default search engine. Gender did not appear to be a factor in the study.

In summary, then, we know that students are using the Internet for a variety of purposes which includes

email, course-related research, recreational, academic and practical purposes. Convenience, speed of access, and breadth of data are factors that encourage their use for research. Students as non-users cited lack of need, lack of knowledge, and inability to conduct successful searches as reasons for non-use. Both groups made comparable use of traditional library resources; the Internet was simply one more tool for students as users to consult.

No recent studies could be found to update this data and it is entirely possible that students' research patterns regarding the Internet have changed in the last two years. Until further research is available, I will conclude the paper with this question: Do you know what *your* students are doing on the Internet?

APPENDIX

The study was based on the following set of research questions, posed to two groups.

A. Questions for students who HAD used the Internet for course-related research:

1. In what ways do you use the Internet for course-related research?
2. WHY do you use the Internet for research?
3. How did you learn to use the Internet for course-related research?
4. In conducting course research, what other sources, if any, do you use?
5. What is the search process you typically use in accessing the Internet for course research?
6. What kinds of information are you seeking?
7. How do you evaluate the information you retrieve?
8. How successful are you when using Internet searches for course research?
9. What do you like best about using the Internet for course research?
10. How could your use of the Internet for research be made more effective?
11. What else do you do on the Internet?

B. Questions for students who had NOT used the Internet for research:

1. Since you have NOT used the Internet to do research for a course, explain why not?
2. Describe which resources you use for research instead? Which resources and where?
3. For what purposes have you used the Internet?
4. What would encourage you to use it for research?

Wilson, Rebecca A. *Students' Use of the Internet for Course-Related Research: Factors Which Account for Use or Non-Use*. University Park, Penn.: Pennsylvania State University, 1997.