

Colorado Librarian Internet Use: Results of a Survey

Rochelle Logan, Research Analyst, Library & Information Services Department, University College, University of Denver

Use of the Internet is growing rapidly among the U.S. population. The Internet increasingly is the only immediate source of the most current information for librarians and library media specialists. In 1995, a group of systems librarians in Colorado understood this potential and decided to offer training and a free Internet account for one year to library media specialists, public librarians, and staff. The three goals of the Internet grant project were:

1. To provide librarians and staff who had no previous Internet experience with a Colorado SuperNet account;
2. To assess librarians' Internet use, and the overall impact on librarians' professional relationships with patrons; and
3. To measure effectiveness of librarians' initial and ongoing training.

Two years passed between the time librarians took initial training and started using the Internet and the time the survey was administered. During that interval, a direct relationship between the grant project and current use may have been impacted by a wide variety of factors.

Research on how libraries use the Internet is widespread. It is more difficult to find information on how library professionals and staff use the Internet. However, a great deal is written about how disorganized the Web is and that librarians should use their cataloging skills to organize the Internet (St. Lifer 1996; Janes 1996). Librarians put a face on the Internet for patrons. Therefore, understanding how library staff use the Internet, what training they find most valuable, and how often they find it a useful tool are important insights to continued support and training for the profession.

In 1995, the High Plains Regional Library Service System (RLSS) administered an Internet Training and Use Grant for Colorado librarians and paraprofessionals. The goal of the project was to provide librarians and staff who had no previous Internet experience with a cost-free, short-term account on Colorado SuperNet. Two years later, the Library Research Service (LRS) at the Colorado Department of Education conducted a survey of the grant participants to assess those librarians' present Internet use, effectiveness of their initial and ongoing training, and the overall impact on their professional relationships with patrons. Results from the survey could also influence the future training of library staff and consequently could affect the services provided to patrons all over Colorado.

Literature Review

In the National Commission on Libraries and Information Science (NCLIS)¹ final report, *1996 National Survey of Public Libraries and the Internet*, findings indicate that 44 percent of public libraries in the United States are connected to the Internet, up from 21 percent in 1994. Connectivity is projected to be 76 percent in 1997, an increase of 32 percent in one year (Bertot 1996). Library Journal's² latest technology survey reports eight out of ten libraries having access to the Internet (Leung 1997). With this rapid expansion of Internet use, where do library staff fit into the evolution? Available data about library staff Internet use are limited. The NCLIS survey covered librarians' use of specific Internet tools. They reported on weekly use of e-mail, listservs, bibliographic utilities (e.g., online catalogs), and the Web. The majority of librarians, in 1996, used e-mail, bibliographic utilities, and the World Wide Web fewer than 25 times per week. Use of listservs and discussion groups was even less; 43 percent never used them (Bertot 1996).

Searching the Internet for user survey results, one may find numerous market researchers with optimistic figures on American adult Internet use. One such firm, FIND/SVP, Inc., estimates the total adult Internet user population to be 31 million users, including 28 million people who currently use at least one application besides e-mail weekly. Among these current users, daily figures show that Web use grew from 36 percent in 1995 to 49 percent in 1997. Daily use of e-mail grew from 47 percent to 59 percent during that same period. The latest Census Bureau estimates show the total adult population at 192 million. Therefore, 16 percent of the total adult population of the United States uses the Internet.

Florida's Internet Access Project investigated the effectiveness of Internet use by librarians. Six public libraries were linked to the Internet from October 1993 to September 1994 and at least fifty public library staff members were trained to use the Internet. Findings from this study included:

- Participants who were "computer literate"³ before learning to use the Internet had a higher learning curve than computer novices.
- "Internet access provided the library with increased visibility, status, public awareness, and new clientele."
- Supervisor and staff attitudes had a direct impact on how much the Internet was used.
- An average of fifty hours of training was needed to become proficient on the Internet.
- Library staff felt much less isolated in rural areas if they used e-mail, listservs, and discussion groups to communicate with colleagues in the profession (Stites 1995).

Teachers, like librarians, rely more and more on the Internet as an information source. A survey conducted in Texas of teachers using an Internet-based telecomputing network, found respondents logged onto the network an average of four to six times per week for fifteen to thirty minutes per session. "The best predictor of time online and the next variable to enter the equation was the number of interpersonal contacts users could reach via the network. The more contacts that participants could reach via the network, the more they used it. Social integration, initial training, and perceived utility also contributed to the prediction of amount of use (Anderson 1997)."

Fifty-one percent of respondents in the Texas study learned to use the network by trial and error. Twenty-three percent received help from a friend or colleague and 24 percent learned to use the network in a classroom setting (Anderson 1997).

Method

Survey Instrument

LRS staff met in person and by telephone with Nancy Knepel, Director of the High Plains Regional Library Service System, to discuss the research questions and the development of the survey. The survey was divided into three main categories (in addition to a general background category): training, Internet use, and technical information.

Procedure

To increase the likelihood of prompt responses to the survey, the LRS team sent a message to Colorado librarian listservs (Libnet and K-12), telling grant recipients to expect a survey in the mail within one week. A majority of grant recipients were school library media specialists approaching the end of their school year; therefore, time was critical. Subsequently, surveys were sent to 184 grant recipients in early May 1997. Follow-up telephone calls were made to nonrespondents two weeks later, and additional copies of the survey instrument were faxed when needed.

Results

Of the 184 surveys mailed out, 70 percent were completed and returned. Deducting the number of respondents who reported moving on to new employment (14), 116 completed surveys were returned. Eighty-six percent of the respondents continue to use the Internet and most have five or more years experience with computers (83 percent). Of the 14 percent who no longer subscribe to the Internet, the main reasons given for not continuing the accounts were high Internet costs and not having enough time or help to become proficient in its use after initial training. Of the 116 who returned the survey, 29 work in public libraries, 83 in school media centers, and 4 in special libraries. A breakdown of the size of school enrollments in 1995 for the respondent library media specialists are presented in Table 1. Population size for respondent public library legal service area are provided in Table 2.

Table 1
Respondent School Enrollment, 1995

| 1995 School Enrollment | No. of Respondents | % of Total Respondents |
|------------------------|--------------------|------------------------|
| < 300 | 27 | 32 |
| 300–599 | 32 | 39 |
| 600–899 | 13 | 15 |
| 900–1,199 | 3 | 4 |
| 1,200–1,499 | 4 | 5 |
| > 1,500 | 4 | 5 |
| Total | 83 | 100 |

Table 2
Respondent Public Library Legal Service Area Population, 1995

| 1995 Legal Service Area Population | No. of Respondents | % of Total Respondents |
|------------------------------------|--------------------|------------------------|
| < 1,000 | 4 | 14 |
| 1,000–2,499 | 3 | 10 |
| 2,500–4,999 | 7 | 24 |
| 5,000–9,999 | 5 | 17 |
| 10,000–24,999 | 4 | 14 |
| 25,000–99,999 | 5 | 17 |
| > 100,000 | 1 | 4 |
| Total | 29 | 100 |

When asked *where* they received their initial training, 40 percent trained at an RLSS office, 25 percent at a library, and 19 percent in an informal setting. The type of initial Internet training that was most helpful to grant recipients was one-to-one tutoring (53 percent). Forty-three percent liked classroom training. For primary sources of continued training, the majority of librarians rely on informal help from other users, surfing/trial and error, and books and magazines.

Anyone who accesses the Internet realizes that reliable equipment and other types of support are essential to efficient use of the information superhighway. Respondents ranked what types of support they most valued:

- 72 percent of respondents placed high value on availability of adequate hardware and software.
- 62 percent appreciated having the staff time to work on the Internet and become proficient.
- 52 percent said supervisor support of their Internet use is very important.
- 49 percent found in-house computer technical expertise essential.

People may say they currently use the Internet when the actual time spent online is minimal. When asked how often they accessed the Internet, grant recipients responded as follows:

- 39 percent use it two or three times a week;
- 33 percent use it for one or two hours per day; and
- 12 percent spend more than two hours per day online.

Respondents spend 33 percent of their Internet time on the World Wide Web, 26 percent on e-mail, and 18 percent on ACLIN (Access Colorado Library and Information Network). Some of the respondents' main concerns about the Internet include accuracy of information, access to objectionable material, and online traffic (slow response). The latter concern about slow response and having to wait for material to come up on screen is directly related to respondents' connection speed. A 28.8K baud rate is used by most of the respondents (45 percent) with 22 percent using a 14.4K modem and 19 percent connected to a T-1 line. Half the respondents are connected to a local area network (LAN) and a quarter to a wide area network (WAN).

The issue of concern about access to objectionable material on the Internet has received enormous attention in the library community recently. An interesting set of results from the LRS survey indicates different levels of concern among public librarians versus library media specialists about objectionable material.

Of library media specialists:

- 51 percent are very concerned
- 26 percent are concerned
- 21 percent are somewhat concerned

Of public library staff:

- 36 percent are very concerned
- 41 percent are concerned
- 14 percent are somewhat concerned

The most telling statistics retrieved from this survey are the responses to questions about the impact of librarian Internet use for service to clients (students). On average, librarians use the Internet to answer three out of ten reference questions.⁴ A majority of the respondents work in library media centers where resources are limited. One respondent noted, "Working in a small library, the Internet has really helped me help my students and staff. I used to say, 'you'll just have to go to a bigger library.' Rarely do I ever say that now." When asked how the Internet has impacted service to clients, respondents indicated the following:

- 81 percent feel they now have access to information sources that were not otherwise available.
- 72 percent say access to more current information has a positive impact on clients.
- 62 percent appreciate being able to communicate with colleagues (e-mail, listservs).
- 58 percent like obtaining information free or at reduced cost.
- 54 percent value quicker access to information.

Consequently, librarians feel that perception of their professional role by clients has improved since they began to use the Internet as a public service tool.

Respondents were asked to provide one Internet success story. Out of the many wonderful stories received, three examples follow:

Our first grade students were very excited about a newly discovered frog⁵ that was thought to be the world's smallest. They had read about it in their weekly science magazine. We searched on the Internet and found additional information as well as color pictures (which they could enlarge for details) of the frog. They noticed that the basic information online was identical to their original information. This was an ideal introductory experience for them—they went on to learn more about frogs and have been back many times to utilize the Internet.

The World Flight 1997⁶ with Linda Finch has been a great success in the lower grades 2–6. Because of the daily updates, they kept up with this world flight and they got to see how the Internet works. There is a large bulletin board in the front of our main entryway where her flight was recorded on the parts of the world she was flying. A great help with geography.

A teacher's daughter was expecting twins and found out that one of the twins was having heart trouble and would either need open heart surgery or a heart transplant.⁷ This teacher was able to tap into all sorts of different sources—doctors, parents who'd gone through it—and help her daughter determine which method to go with. The baby was put on the transplant list while still in the womb.

Data Analysis

As stated in the introduction, two years passed between the time grant recipients took initial training and started using the Internet and the time the survey was administered. During that interval, a direct relationship between the grant project and current use may have been impacted by a wide variety of factors. The three goals of the Internet grant project were:

1. To provide librarians and staff who had no previous Internet experience with a Colorado SuperNet account;
2. To assess librarians' Internet use, and the overall impact on their professional relationships with patrons; and
3. To measure effectiveness of their initial and ongoing training.

Forty percent of respondents received their initial training at an RLSS office. The relationship between that statistic and the fact that 75 percent of grant recipients have used the Internet less than three years shows that these librarians needed the RLSS training and have continued their use of it to great advantage. This reinforces the RLSS role as a system trainer.

The most significant relationship found from the data is the relationship between the type of Internet connection and speed and satisfaction with information access. Respondents with lower baud rates (14.4K) reported higher concern for online traffic (slow response), and wanted quicker access to information (chi-square = 7.88, $p < .05$). Evidently, people faulted their

Internet service providers for slow connections, while actually their own system's connection speed accounted for the slow response. This conclusion supports the need to spend grant funds for faster connections for local libraries.

A direct relationship exists between collaboration with colleagues in the workplace and the number of hours per day the Internet is accessed. Collaboration can take the form of helping each other answer patrons' reference questions, sharing information about helpful Web sites, or sharing downloaded software. Librarians who are alone in their Internet use access the network less each week than those who collaborate with other coworkers who work on the Internet (chi-square = 111.66, $p < .001$). Busy librarians who are new Internet users may find their colleagues do not understand their fascination with it and consider it "wasting time" to learn how to use it. Such new Internet users may be less inclined to log onto the network as often as someone who shares in using it.

Conclusion

These initial survey results indicate that library media specialists recognize the Internet's potential. They use it to teach students, answer patron questions, and open their small libraries' inventories to a world of possibilities. Not only can librarians help organize and classify the information superhighway, they can lead the way and be the gate keepers of the information "out there" for any child or adult to use. It is evident that library staff want to learn how to use the Internet effectively. They already answer three out of ten reference questions using Web tools. However, more information is needed about the most effective way to train librarians in the network's use, taking into consideration the time they spend in their workplaces. Meanwhile, the profession is headed in an exciting direction with this tool. Understanding the needs for faster local equipment and connections, more time and training, and more support from supervisors and colleagues are important first steps in this process.

Acknowledgment

Many thanks to Keith Curry Lance, Director of the Library Research Service, for his support, comments, and constructive criticism. His guidance was essential from creation of the survey instrument through revision of this article.

Works Cited

- Anderson, S. and J. B. Harris. 1997. "Factors Associated with Amount of Use and Benefits Obtained by Users of a Statewide Educational Telecomputing Network." *ETR&D* 45:1.
- Bertot, J., C. McClure, and D. Zweizig. 1996. "The 1996 National Survey of Public Libraries and the Internet: Progress and Issues." National Commission on Libraries and Information Science.
- FIND/SVP, Inc. Emerging Technologies Research Group. 1997. "An Indispensable Medium." Online posting. <http://etrg.findsvp.com/internet/methodology.html>. Internet. 14 Jul 1997.

Janes, J. W. and L. B. Rosenfeld. 1996. "Networked Information Retrieval and Organization: Issues and Questions." *Journal of the American Society for Information Science* 47: 711–15.

Leung, W. 1997. "Most *LJ* Readers Linked to the Net." *Library Journal* 122: 12–13.

St. Lifer, E. 1996. "Net. Work. New Roles, Same Mission." *Library Journal* 121: 26–30.

Stites, B. J. and S. K. Hastings. 1995. "Internet Access for Florida's Public Libraries." Tampa Bay Library Consortium, Inc.

United States Census Bureau, 1997. Online posting. www.census.gov/population/estimates. Internet. 16 Jul 1997.

Web Links

1. The National Commission on Libraries and Information Science (NCLIS) (www.nclis.gov) has the 1997 National Survey of public Libraries and the Internet: Summary Results available for viewing as well as a wealth of other information about the state of information services in the United States.
2. *Library Journal* has much of their content online as does *School Library Journal*. Add them to your professional reading list to help stay current on trends in media and service.
3. Computer literacy involves knowing more than just the jargon, but knowing the jargon is a place to start. Try the Sandy Bay Software's [PC Webopaedia](#) to start learning more about caches, digital watermarks, and applets.
4. For those reference questions that leave you puzzled and bewildered, check out Stumpers-L (www.cius.edu/~stumpers/intro.html), an electronic discussion list and associated archive for sometimes arcane reference questions. If you're interested in finding other electronic discussion lists and Internet mailing lists to join, check out Liszt (www.liszt.com), a searchable directory of more than 70,000 Internet mailing lists.
5. You can learn more about the world's smallest frog, *Eleutherodactylus iberia*, from a online article at Popular Mechanics (<http://popularmechanics.com/popmech/sci/tech/9703TUANKM.html>).
6. Linda Finch set out to recreate Amelia Earhart's 1937 flight around the world. Learn more about her journey at World Flight 1997 (<http://worldflight.org>).
7. TransWeb (www.transweb.org/) is a complete WWW-source on issues related to organ donation and transplantation.

Survey of Librarian Internet Use

Part I: General Background Information

As a recipient of an Internet grant, your participation is very important to the results of this survey. Your prompt response will be appreciated. Please supply your name, agency and title.

Name _____

Agency _____

Title _____

1. Do you presently have a personal Internet account? (___) a. Yes, please skip to question #3.
(___) b. No

2. If you answered “no” to question #1, why did you discontinue Internet use? Check all that apply. (___) a. It was not a useful resource (___) b. Not enough time or help to become proficient in its use after initial training. (___) c. Difficulty with hardware or other technology (___) d. Cost (___) e. Other _____

If you answered “no” to question #1, skip to #5.

3. Who pays for your Internet account? Mark one (___) a. Self (___) b. Paid by library (___) c. Paid by another organization (___) d. Paid by school district (___) e. Other

4. How long have you had an Internet account? Mark one (___) a. Less than three years (___) b. Three to five years (___) c. Five or more years

5. How long have you been using computers in general? Mark one (___) a. Less than three years (___) b. Three to five years (___) c. Five or more years

Part II: Training

1. What type of initial Internet training was most helpful to you? Check up to two (___) a. one to one tutoring (___) b. classroom (___) c. books (___) d. videos (___) e. informal help from other users (___) f. help screens (___) g. self taught (e.g., surfing/trial & error)

2. Where did you receive your training? Mark one (___) a. informal setting (home or work) (___) b. library (___) c. RLSS workshop (___) d. college or university (___) e. other workplace (___) f. other setting (commercial training)

Those who no longer have Internet accounts may stop here. Please return the entire survey. Thank you for your participation.

3. What is your primary source of continued training? Mark up to three (___) a. books, magazines, newsletters (___) b. videos (___) c. informal help from other users/students (___) d. help screens (___) e. surfing/trial & error (___) f. online tutorials (___) g. calling an RLSS consultant (___) h. other refresher/advanced class (___) i. one on one training (___) j. other

4. Which statement best describes your current situation at your workplace? Mark one (___) a. I am the only person using the Internet. (___) b. Several people use the Internet, but our activities are unrelated. (___) c. I collaborate with other co-workers who work on the Internet.

5. Please assess the importance of the following factors regarding your current level of Internet use: (1-very important, 4-not important)

a. Availability of in-house computer technical expertise 1 2 3 4

b. Availability of staff time to develop expertise on the Internet 1 2 3 4

c. Support of supervisors 1 2 3 4

d. Availability of adequate hardware and software. 1 2 3 4

Part III: Internet Use

1. How much time each week do you spend on the Internet at home and at work? Mark one (___) a. More than two hours per day (___) b. One or two hours per day (___) c. Two or three times per week (___) d. Once per week (___) e. Less often

2. On average, for every ten reference questions, how many are answered using the Internet?

3.. How much of your Internet time is spent on each of the following? _____% a. email _____% b. World Wide Web (text-based) _____% c. World Wide Web (graphic-based) _____% d. listservs (e.g., K-12, libnet) _____% e. chat rooms _____% f. newsgroups _____% g. ACLIN-Public Access Catalogs _____% h. ACLIN-Other databases _____% i. Fee based services (e.g., DIALOG, UnCover fax delivery) 100 % Total

4. If you have a graphic-based interface, how many bookmarks (WWW hotlinks) do you currently store? Mark one (___) a. fewer than 10 (___) b. 10-24 (___) c. 25 or more

5. How do you feel your use of the Internet has impacted your service to clients? Check all that apply

(___) a. Access to information sources that were not otherwise available. (___) b. Quicker access to information (___) c. Information obtained at no or reduced cost (___) d. Increased demand for service (___) e. Information delivered to clients electronically (without a personal visit to the library) (___) f. Access to more current information (___) g. Ability to communicate with colleagues (email, listservs) (___) h. Other _____

6. How concerned are you about the following Internet problems? (1-very concerned, 2-concerned, 3-somewhat concerned, 4-unconcerned) a. Computer viruses 1 2 3 4

b. Online traffic (slow response) 1 2 3 4

c. Accuracy of information 1 2 3 4

d. Privacy and confidentiality 1 2 3 4

e. Access to objectionable material 1 2 3 4

f. Digital copyright fees 1 2 3 4

7. How has your clientele's perception of your role as librarian changed since you began using the Internet as a public service tool? (1-greatly improved, 2-somewhat improved, 3-no change, 4-declined) 1 2 3 4

Part IV: Technical

1. What type of connection to the Internet do you have? Mark one (___) a. Text-only, terminal access (___) b. Commercial online provider (e.g., AmericaOnline, CompuServe) (___) c. Graphic interface (SLIP/PPP) (___) d. Other (please specify)

2. What is your dial-up speed (baud rate)? Mark one (___) a. 14.4K or less (___) b. 28.8K (___) c. 56K (___) d. 64K (___) e. T-1 line (___) f. Other _____

3. If your workplace has a network, mark which type you have? (___) Wide Area Network (WAN) (___) Local Area Network (LAN)

On the back of this page, please share at least one Internet success story (e.g., helping a student find information about photosynthesis for a science fair or helping a patron find a job in Tennessee).

School Library Media Research (ISSN: 1523-4320) is the successor to *School Library Media Quarterly Online* and the predecessor to *School Library Research*, an official journal of the American Association of School Librarians. The purpose of *School Library Media Research* is to promote and publish high quality original research concerning the management, implementation, and evaluation of school library programs. The journal also emphasizes research on instructional theory, teaching methods, and critical issues relevant to the school library profession. Visit the [website](#) for more information.



AMERICAN ASSOCIATION
OF SCHOOL LIBRARIANS
a division of the American Library Association

The mission of the American Association of School Librarians is to advocate excellence, facilitate change, and develop leaders in the school library field. Visit the [AASL website](#) for more information.