Highway Guide: 
Teaching Internet Skills

by 
Laura Zick 
Library Associate & Internet Specialist 
Clarian Health Partners Medical Library, Indianapolis, Indiana

No doubt about it, library users are feeling the weight and stress of information overload. In addition to the sheer enormity of the amount of information “out there,” the tools used to archive, categorize, and access information are becoming increasingly complex. No group understands this overload better than those of us who work in libraries. Like our users, we struggle daily to keep up with our reading, wade through all our e-mail, and identify and learn to use new sources of information, and new access tools. Unlike our users, however, we are obligated by definition, to provide what I call “information guidance”—the best access to quality information. Library staff members must proactively rise to the challenge and must provide guidance through the information glut. I watch the users in our library. What do they state that they need? What do they need that they do not know they need? How can we use new technologies to improve their access to information? How can we best point them toward the most accurate, timely, and useful information? As the complexity of the tools increases, the need for training in the use of the tools increases. If we are to guide, we must educate. In the case of the library where I work, the Clarian Health Partners Medical Library, we are part of the Educational Services Department, and so, specifically charged with educating users.

The most wondrous, dynamic, and chaotic information source and access tool presently before us is the Internet. As the Internet becomes the communication tool, the publishing medium, the most omnipresent connection to information, we in libraries must attempt to find our way through and in it; and as we navigate, we must educate our users. These thoughts, this sense of obligation together with inquiries from users (and, I’m told, my unending and often irritating exuberance — the gee-whiz-this-is-cool! factor) led me to begin Internet training sessions. I worked my way around the Internet, became more and more familiar with its idiosyncrasies — I gained context — until I felt comfortable enough to explain what I knew. Once I felt I had a grip on the tool, I decided to go to work on training others. In this article, I will describe my Internet training sessions, the environment and
experiences, and provide pointers to some of the most helpful resources I know of in the field. I’m sure you know that your Information Superhighway mileage may differ, but here are some points of reference.

**The Setting**

Since my classes take place in a medical setting, my class participant base includes physicians, nurses, patient educators, medical students, residents, business staff, and “special” audiences (for instance, people from the legal department, and students from the physician assistants program). In our library, we are very fortunate to have a state-of-the-art computer classroom (well, okay, one year past state-of-the-art). The Lee Hanson Computer Classroom is intended to seat a maximum of twelve students with each participant sitting at a workstation. One additional PC is for the instructor. The room is arranged classroom-style, with three long tables holding four workstations each, and the instructor’s station at the front of the room. A ceiling-mounted video projector is connected to the instructor’s monitor, so participants can follow along closely with every keystroke performed by the instructor. The instructor’s screen is projected behind the instructor onto a switched screen. The thirteen PCs in the classroom are all Compaq Prolines: 486/66 upgraded to 16MG of RAM. All are connected to the Internet via Clarian’s leased lines, a wonderful T1 connection. All stations are networked to a Hewlett Packard laser printer. For my Internet classes, I use the following software (much of it dictated by company standards): Windows 3.1, Microsoft PowerPoint 4.0, Microsoft Mail 3.2, and Netscape Navigator 3.0. I am in the midst of switching to Windows95, Office95, Netscape Navigator 3.01, and Microsoft Exchange for e-mail; but these changes will not fundamentally effect the structure or flow of my classes. The classroom also has one telephone, and two more are available at the Circulation Desk in the library. Having a phone in the classroom is absolutely necessary for a healthcare environment; staff must be able to easily respond to pages. A large bookcase and a lockable cabinet store instructor materials. Refreshments are served at each class. Coffee, sodas, cookies, and brownies, etc., are happily received by class members. Participants are allowed to carry refreshments to their workstations, and I haven’t yet had anyone dump a Pepsi on a CPU. Restrooms and a water fountain are located in the library.

**Preparation**

My classes consist of a mixture of lectures, slide presentations, question and answer periods, and hands-on practice. I strongly recommend that, if at all possible, you provide your students with some hands-on time so they may immediately employ their new-found skills. This capitalizes on their
enthusiasm in class and gives them real-world experience in a familiar environment where help is available. Note well that no Internet trainer should go on without a backup plan. Internet connections can fail just when you need them most. The NETTRAIN mailing list (details below) is full of horror stories of dropped connections, hardware, software, and equipment failures. The NETTRAIN list also provides occasional discussions of backup plans and other presentation tips. My backup plan for a lost Internet connection is to use a PowerPoint presentation made entirely of Web screen captures. I copied screen prints to the Windows Clipboard (when you are looking at the desired Web page, depress the Print Scrn key). I then pasted each Clipboard image into a PowerPoint slide. I have not had to use my backup presentation, but keep it updated for that time when our connection drops out from under me five minutes before class starts.

One hour before each class, I make sure that all the classroom PCs are booted correctly, and that the chairs, mice, etc. are arranged suitably. I turn on the video projector, make sure it is correctly aligned, launch a PowerPoint slide that welcomes participants to class, launch Netscape Navigator at the instructor’s station (to cache pages), and distribute a handbook at each station. Each participant is given a course handbook containing the notes from all the PowerPoint slides I present in class, printouts of some of the library’s intranet pages, resource lists I’ve developed (e.g., the best Websites for nurses), copies of some pages from Arlene Rinaldi’s excellent “The Net: User Guidelines and Netiquette” (http://www.fau.edu/rinaldi/net/index.htm), Esther Grassian’s guide to evaluating Internet resources, “Thinking Critically About World Wide Web Resources” (http://www.library.ucla.edu/libraries/college/instruct/critical.htm), a list of the books and journals the library owns regarding the Internet, a bibliography I created of articles about medicine and the Internet, a detailed step-by-step guide to sending Internet e-mail using Microsoft Mail, a list of the names, phone numbers, and Web addresses of some local Internet service providers, a handout on the procedure for gaining Internet access at their work desktop, and the Internet Literacy Consultants’ great Internet glossary: “ILC Glossary of Internet Terms” (http://www.matisse.net/files/glossary.html). I created an eye-catching cover for the handbook using Microsoft Publisher, and I print the covers in color and collate the handouts in a binder with a clear plastic cover. I separately provide each participant with a list of the URLs of humorous Websites, a set of optional exercises to test skills taught in the class, and an evaluation form to fill out and give to me at the end of class. I only make enough handbooks for each class, as the information contained in the handbooks needs to be updated before each class. This forces me to
constantly re-evaluate the information I pass on to participants, as the classes are taught once or twice a month.

**Content**

My Internet classes focus on e-mail and the World Wide Web, with mention made and brief descriptions of other applications (Telnet, Usenet, File Transfer Protocol, Internet Relay Chat, and Gopher). Each class is four hours long: three hours are spent on my presentation; the final hour is spent allowing the participants to surf and e-mail hands-on at their own pace, with me circulating and providing help. At the beginning of each class, I introduce myself and describe how the class will go. I do not ask the participants to introduce themselves, but I do ask for a show of hands on a couple questions that help me gauge the group’s knowledge level. Internet training is complicated by the fact that students come to class with widely varying levels of knowledge and experience. I require that participants in my classes are familiar with Windows and know how to use a mouse. I do not require any Internet experience. This seems, currently, to be the best starting place. You’ll have to work hard to speak to those with experience without alienating those who have none. My best advice on this is to carefully gauge each class individually — assume nothing about them, and query them as to their experience. I had heard that in training, each group of class members is different. After teaching these classes for over a year, I am still amazed at how true this is. Each group responds differently to my presentation of slides, lecture, and demonstrative stories. Groups laugh in different places; some groups ask two hours worth of questions, and some are content to listen relatively quietly. I have had groups that wanted to spend an hour asking questions, many regarding their personal Internet accounts and difficulties, and I have had groups that ask only questions that are relevant to the immediate material.

I begin with a PowerPoint slide show, discussing what the Internet is and is not, a bit of the history of the Internet, and the Internet governing bodies. I discuss Internet applications in overview, including one slide each on File Transfer Protocol and Usenet. This section takes about thirty minutes, including questions.

I then proceed to a lecture and slides on Internet e-mail, explaining the structure of e-mail addresses, the advantages and disadvantages of using e-mail, and a short listing of emoticons and commonly used acronyms. After the lecture and slides, I turn up the lights and have participants launch Microsoft Mail. I walk them through the steps of sending an Internet e-mail.
message (They send them to my personal e-mail account). After they have
sent their messages, I talk for about five minutes on what happened to the e-
mail message they just composed and sent — from the click on the send key
to my receipt of the message in my personal account. After answering ques-
tions, I show a few slides about Internet mailing lists. I explain what they are,
how to find relevant ones, how to subscribe, and discuss mailing list
"netiquette." The e-mail and mailing list section takes about forty-five min-
utes.

After a fifteen minute break, I go on to the next section: a discussion
of the World Wide Web. I define common terms ("browser", "hypertext",
etc.) and break down a URL (Uniform Resource Locator) into its parts,
explaining each. Using the library's home page, I demonstrate the concept of
hypertext and explain and demonstrate all Netscape Navigator buttons and
locational and navigational fields. I discuss searching for information on the
Web, provide a list of search engine URLs, and discuss the concept of search
engines and indexes. We spend a good ten minutes discussing the need for
critically evaluating Web information. The accuracy of information is critical
in our medical setting, and I take care to show suspicious or sloppy pages
versus well-done, peer-reviewed ones. I provide participants with a copy of
Esther Grassian's excellent guide to evaluating Internet resources, "Thinking
Critically About World Wide Web Resources" (http://
www.library.ucla.edu/libraries/college/instruct/critical.htm), and discuss
her recommendations. I then instruct participants to launch the Netscape
Navigator. I have them bounce around in the library pages, learning to use
the links and the software features. I then direct them to Infoseek (http://
www.infoseek.com), have them search for their names and addresses in the
Infoseek directories, and then have them find maps to their homes. I do this
flashy exercise early in order to hold their attention. You will find that as
soon as they are asked (or before!) to launch a browser, participants who
have just a bit of experience may take off, happily and obliviously surfing as
you speak. I do not take this behavior personally, I have decided to look at it
as a different learning style, they are eager, independent learners. My job is to
facilitate their learning, not rein it in, so I let the few who want to take
off.....if they need help, they will let me know. They will also usually offer to
help the person next to them if that person is having trouble. After a few
more similar, fun exercises, I show the participants around the library pages,
encouraging them to use them as a starting point to their Web travels when
they are back in their offices. I introduce Yahoo! and work my way down its
levels, searching on a topic suggested by a class member. I then look for the
same topic by entering the appropriate keywords in Yahoo!'s search field. I
then demonstrate some of the best Web collections of medical information. I discuss and demonstrate using search engines, noting that all engines will deliver different results, and noting that search engines search databases of Websites, not Websites themselves. I stress that all in all, searching the Web is a pretty sloppy endeavor, but one that is improving every day. The discussion on the World Wide Web takes about one and a half hours.

The final hour of class is used for participants to surf the Web and send Internet e-mail at their own pace. I circulate during this period, answering questions, but not directing. I encourage people to print anything they like, and send e-mail to anyone whose address they may know. Not surprisingly, someone always get a browser error message (e.g., “File not found” or “DNS error) during this time. I don’t worry when a participant hits a Web site that results in an error message or problem; these irritants are a reality and users need to know how to interpret and handle them when they occur. In this final hour, some of the more reticent people will ask their questions. Be sure to be available to them in this less intimidating forum.

I always mention, at least twice in every class, that the library has eleven public stations with Web access. I tell participants that they need only double-click on an icon that says “Net Access” and the Netscape Navigator is launched — no logging in, no passwords. “Home” is set to the library’s home page, which they are familiar with by the end of class. The library pages were written by me to promote the library and its services, and deliberately to support my Internet training classes. Most of my class handouts are posted on our intranet site, as is additional Internet help. Any participant who does not have Internet access at their office or at home can feel connected — they may use the library’s PCs to connect. These stations are available on a first-come, first-serve basis and are very popular.

As the class winds down, I also point out the fact that no pornography jumped out at them in these hours and liken pornography on the Internet to adult bookstores — if you want it, you can find its location and go there — the information is not pushed to you. Many, many participants have expressed at this point that they had been afraid of what they might see, so I continue to make this point in each class. Finally, I ask them all to fill out an evaluation form, and I indicate why I ask for this. I am constantly revising the course and need and appreciate their input. The comments from participants have been overall extremely favorable. They are grateful for clarification of many Internet-related issues, especially those that are frustrating while using their personal accounts.
Publicity & Registration

I advertise my classes by writing articles, including class schedules, for the Clarian paper, *The Clarian*. I post and regularly update the class schedule on the library’s intranet pages and I place signs in conspicuous places in the library (the Circulation Desk, the Reference area, etc.). Word of your classes will also spread significantly by word of mouth.

I require that participants register beforehand. I place registration forms (created in Microsoft Publisher) in conspicuous locations in the library. Inquiries about the classes are directed to me, and I then fax a registration form to those who inquire (and a map to the library). Registration forms are faxed or interoffice-mailed back to me. I also receive registrations via e-mail. I require that participants be familiar with Windows, but no Internet experience is required. The classes are now free. We initially charged $100 to physicians (for their Continuing Medical Education credit) and $50 to others. When the library moved under the auspices of the Educational Services Department, we lowered the fee to $10 per person. The $10 fee was an attempt to recover costs and to reduce the no-show rate. We recently decided to stop charging for the classes, because tracking the payments proved more trouble than it was worth. It did not reduce the no-show rate significantly and added to the burden on our Accounts Payable Department.

Internet classes are a great PR tool for libraries, nothing packs users in like offering training in and access to the Internet.

Conclusion

I have been teaching Internet classes for over a year now, and I have seen a very clear shift during that time. When I first began the classes, I was asked every imaginable how-to question about Internet access; I was asked to define the Internet (as opposed to America Online, for instance), and I was asked to clarify the difference between the Web and the Internet. I still answer many specific questions about access, but see that the participants now have a clearer sense of what the Internet is. The emphasis for these users is “okay, I’m on — now where do I go? How do I find the information I need?” Accordingly, I’ve shifted my game plan for the classes by including more tips, advice, and caveats on searching. In the next year, I plan to take my Internet classes in a new direction. I’ve decided to offer classes adjusted to specific areas; I will offer to do sessions specifically geared toward specialties such as an Internet class for pathologists, pediatrics staff, etc.

Internet training has taught me to think more confidently on my feet. No one can possibly know everything about the Internet, but we as trainers
should know where to begin to look for the answer to every question (this is a skill where library staff shine). The one constant regarding the Internet is change, so Internet training is not for the faint of heart. It requires people skills, technical skills, a love of the dynamic Internet beast, and a commitment to knowledge sharing. My aim in offering these classes has been to give participants a general sense of context for the Internet, then a set of beginning skills to use e-mail and the Web. I guide them toward the best sites, explain why they are the best sites, and counsel them to keep using a critical eye when judging Internet information. No communication source and tool packs the immediacy, the fun, the potential, (and the sheer confusion) of the Internet. When I watch participants surf the Web on their own at the end of class and hear their unselfconscious, enthusiastic remarks such as ("wow!" "I didn't know this was here!" "I didn't know you could do that!" "Hey, look at this!") I feel I've helped them with a skills jump-start, guided them toward the best sites the source has to offer, and supported their access needs. I've set them on their way to using a most powerful information tool and source. And that's my job, after all.

**Recommended Steps in Implementing Internet Training Sessions**

1. Consider the need for training. Does the demand exist?
2. Establish the training goals. Are you teaching participants to use software (browser, e-mail, etc.)? Are you directing participants to specific Internet sites? Are you recommending certain sites? Are you trying to educate users about the Internet as a whole or just give them a jump-start that allows them to pursue their interests on their own?
3. Identify the audience and their needs. How will they use the Internet? What are their current skills? What are their time restrictions — can they make a half-day class, or will a couple hours taken on the run be the best they can manage?
4. Identify an instructor and consider any additional training that person may need. Look carefully at the impact of undertaking Internet training on his/her current duties.
5. Identify and reserve adequate classroom space. Install necessary software, bookmarks, etc.
6. Create the class structure. What subjects will you cover and how much time do you want to devote to each? What combination of lecture, handouts, slide presentations, hands-on time will you use?
7. Identify materials and Internet sites you will use. Print and collate the handbooks, handouts, and other materials.
8. Teach the class to a test audience — library staff, a parallel department, or your library committee. Solicit their honest and detailed feedback.

9. Refine the course. Consider how the test class went, incorporate the feedback of the test class participants.

10. Decide upon a registration procedure. How will participants register? Will you charge a fee? If a fee is charged, what will it be? Will the proceeds be used for cost-recovery or for profit for your library?

11. Publicize your class. Write an article to be published in your library’s and/or your company’s newsletter, place signs about the class conspicuously in your library, consider broadcast e-mail and voice-mail, approach department heads and train department by department.

12. Give your first class and solicit feedback.

13. Refine again.

Ongoing Tasks

1. Surf the Web to stay abreast of new sites that fall within the scope of your classes. Keep URLs used in class development and actual training current.

2. Network with other Internet trainers. Subscribe to relevant Internet mailing lists (see the following set of recommended lists). Attend conferences such as Internet World (see http://events.internet.com/) and Internet Librarian (see http://www.infotoday.com/internet/internet.htm). Sit in on the classes of other Internet trainers to obtain ideas and identify gaps in your courses. Join professional groups such as The Internet Society (see http://www.isoc.org/).

3. Read the literature to stay on top of software, hardware, and Internet developments (see the following list of recommended journals).

4. Stay informed on the status of Internet/intranet technology and plans at your institution. Keep your ears open, make contacts in your Information Services Department, ask questions.

5. Continue aggressively publicizing your classes. Put your class schedule in your company’s newsletter, send broadcast e-mails to potential participants. Put your class schedule on your Website.

6. Refine, refine, refine your class. Realize it is a dynamic critter that needs care and attention. Consider the changing composition and needs of your audience. Ask participants in your classes to fill out evaluation forms and implement any suggestions that are repeated. Consider the rapidly evolving capabilities of the Internet and any Internet-related controversies of the day.
Recommended Internet Mailing Lists for Internet Training and Internet Current Awareness
(Information in quotations is taken from Websites with information on respective lists)

NETTRAIN

“NETTRAIN is intended to serve two purposes: (1) to be a forum or clearinghouse for the exchange of information, advice, and resources for the purpose of training others in the use of the Internet; and (2) to provide a medium for wide-ranging discussion of practical, theoretical, and philosophical issues regarding training in the use of the worldwide Internet.”

Subscribe address: listserv@listserv.acsu.buffalo.edu. In the body of your e-mail, type “subscribe nettrain <your first name> <your last name>” (do not use the quotations).

More information and archives at http://www.fau.edu/rinaldi/nettrain/nettrain.html. NETTRAIN is also a Usenet group: bit.listserv.nettrain

NET-HAPPENINGS

“Net-happenings is a service of InterNIC Information and Education Services, the Net Scout project, and the list moderator, Gleason Sackman. The purpose of the list is to distribute to the Internet community announcements of interest to network staffers and end users.”

Subscribe address: listserv@lists.internic.net. In the body of your e-mail, type “subscribe net-happenings <your first name> <your last name>“ (do not use the quotations).

More information and archives at http://www.gi.net/NET/. Net-happenings is also a Usenet group: comp.internet.net-happenings

The Scout Report (a weekly electronic newsletter)

“The Scout Report is a weekly publication of the Internet Scout Project at the University of Wisconsin - Madison. It is provided as a fast, convenient way to stay informed of valuable resources on the Internet. Its purpose is to combine in one place new and newly discovered Internet resources and network tools, especially those of interest to our primary audience, researchers and educators. The service is designed for “Internauts” who want their Internet announcements selectively filtered and summarized once each week.”
ILA-L

The mission of the Internet Library Association is “to educate, inform, support, and unite librarians and information specialists world-wide on the Internet. The ILA will give these “netizens” a place to discuss and develop guidelines, rules, and regulations of librarianship and Internet-use for the present and the future with no physical boundaries.”

Subscribe address: majordomo@usm.edu. In the body of your e-mail, type “subscribe ila-l” (do not use the quotations). More information at http://www-org.usm.edu/~ila/

NETLIBS

Discusses issues regarding the use and the provision of access to the Internet in libraries.

Subscribe address: mailserv@qut.edu.au. In the body of your e-mail, type “subscribe netlilbs” (do not use the quotations).

DIGLIB

“This the Digital Libraries Research mailing list running on the LISTSERV of the National Library of Canada.”

Subscribe address: listserv@infoserv.nlc-bnc.ca. In the body of your e-mail, type “subscribe diglib <your first name> <your last name>“ (do not use the quotations). More information and archives at http://www.nlm-bnc.ca/cgi-bin/ifla-listgate/DIGLIB/

NET-ANNOUNCE

“The purpose of Net Announce is to provide a forum for promoting awareness of events, resources and information relating to the Internet. Appropriate postings include announcements of upcoming events, new web sites and other Internet resources, and updates about new content at existing resources.”

Subscribe address: nalist@erspros.com. In the body of your e-mail, type “subscribe” (do not use the quotations). More information and archived at http://www.erspros.com/net-announce/.
Recommended Journals

On the Internet (published by the Internet Society)
Internet World
NetGuide
Yahoo! Internet Life
Info to Go: Navigating the Internet
Cyberskeptic's Guide to Internet Research
Inside the Internet
Smart Computing (formerly PC Novice)

See Hope Tillman's "Periodicals Devoted to the Internet" at http://www.tiac.net/users/hope/intbib2.html#periodicals

Bibliography


Makulowich, John S. "Internet Training Courseware: Opportunities Galore!" *On the Internet* 2, no. 5 (September/October 1996): 11, 19.

Makulowich, John S. "Meeting the Demands of Internet Training." *Online* 19, no. 4 (July/August 1995): 54-55.


**Websites With Information for Internet Trainers**

Internet Training and Tutorials

http://lcweb.loc.gov/global/internet/training.html

Internet Engineering Task Force Training Materials Catalogue

http://www.trainmat.ietf.org/catalogue.html

NETTRAIN Frequently Asked Questions (FAQ) List

http://www.fau.edu/rinaldi/nettrain/nettrain.html
Periodicals Devoted to the Internet
http://www.tiac.net/users/hope/intbib2.html#periodicals

Internet Books
http://www.tiac.net/users/hope/intbib2.html#books

Unofficial Internet Book List
http://www.northcoast.com/savetz/booklist/

B. Tudin Information Technologies
http://www.btudin-infotech.com/

Walt Howe’s Internet Training Center
http://world.std.com/~walthowe/

“Training the Internet Trainer: Toward a Systematic Approach”
http://www.cais.com/makulow/t3.html

Internet Society Papers and Presentations Index
http://info.isoc.org/papers/index.html

BCK2SKOL Lessons
http://web.csd.sc.edu/bck2skol/fall/fall.html

Internet Literacy Consultants: Glossary of Internet Terms
http://matisse.net/files/glossary.html

InterNIC 15 Minute Series: Tools for the Internet Trainer
http://rs.internic.net/nic-support/15min

ACRL/CNI Internet Education Project Home
http://www.cwru.edu/orgs/cni/base/acrlcni.html

The Internet Library Association
http://www-org/usm.edu/~ila/

American Society for Training and Development
http://www.astd.org/