

Dine in or Take Out:

User Instruction in Transition from Local Delivery to Remote Access

User Instruction in an Academic Library - A Time of Transition

Background

Recent efforts to provide information services to the students and faculty of Texas Tech by the University Library could be characterized as either "transitional" or "experimental." [1] As the Internet grew in popularity and usefulness in the early 1990's, user instruction programs were designed to equip patrons to efficiently utilize this dynamic suite of resources to supplement standard print and electronic sources such as Biological Abstracts. Initial courses focused on helping users understand and utilize the medium in practical ways, such as how to search gopher space and how to download files using FTP (File Transfer Protocol). Few subject specific courses were offered during this period.

Informal collaboration often occurred between the Library and Academic Computing, which happens to be located in the same building at Texas Tech. Frequently, librarians offering instruction relied upon a computer specialist to be present during the session to solve technical problems with the local area network, printers, etc. Growing duplication in course offerings between the Library and Academic Computing created the potential for conflict, prompting librarians to shift their focus from instruction related to the medium to courses which matched their subject expertise, such as science or government resources on the Web. The advent of a new department within Academic Computing, geared toward helping faculty teach with technology, reinforced the decision of librarians to concentrate on what they do best, facilitate subject access to print and electronic resources. This allowed instructors in the TLTC, Teaching Learning and Technology Center, to do what they do best, facilitate the utilization of technology within the existing curriculum. Developing a unique instructional niche reduced the potential for competition and conflict and allowed for more effective delivery of specialized information services to more people, both on and off campus.

Texas Tech is located in West Texas, [\[Figure 1\]](#) an area which prides itself on the "personal touch." Therefore, the impersonal interface between people and services, created by computers, has fostered a number of reservations when it comes to embracing new technological delivery mechanisms for user instruction such as the World Wide Web.

Figure 1: Location of the city of Lubbock and Texas Tech University in West Texas



Yet, the lure of larger audiences for user instruction sessions, encouraged two librarians to meet the challenge of delivering a course to local as well as remote users simultaneously. The University Library had a proven track record of opening its user instruction sessions to members of the community along with students and faculty in certain cases such as with a seminar on "Family Internet Resources." Academic Computing, on the other hand, practiced a strict policy of only allowing currently enrolled students, faculty, or staff to attend their workshops.

Some Things Never Change

Distance learning is not new to libraries. It sounds strange to hear library conference speakers announce a new initiative: "Library Services to Remote Patrons." Virtually every library patron now accesses the library from a remote location sooner or later. Even on-campus users may search an academic library's holdings and retrieve books and articles without ever stepping foot inside the library.

Libraries have enjoyed a long and colorful history in their efforts to deliver information services to patrons outside the library. These services have ranged from bookmobiles to remote air drops. [2] The advent of electronic networks and interlibrary cooperation, now permit vast amounts of information to be delivered to patrons without their having to ever come to the library providing the service. [3] Faxes, phone lines, computers, and satellites constitute an awesome telecommunications infrastructure that stretches around the globe to link individuals effectively and efficiently.

Libraries are new to distance learning. Unfortunately, many administrators and educators involved in distance learning fail to consider the role of the library in the overall scheme of providing a quality education to distance students. The technology associated with library services and education delivery are changing but the people oriented focus of libraries has not change.

Death of Distance

Early in the summer of 1997 a decision was made to undertake a new initiative at the Texas Tech University Library. That initiative involved offering an online course to distance students on Web site development. In order to make this course as user friendly as possible, we sought to minimize technical barriers whenever feasible. Participants signed up for the class to learn more about technology not to experience frustration due to technical barriers, some of which could be beyond their control. Therefore, we offered the course in person for those affiliated with Texas Tech or citizens of Lubbock. We offered the course electronically via email and on the Web for remote as well as local participants. An email distribution list was set up in Eudora as participants registered. Each registrant was asked to specify a delivery option. Some chose all three options, however, most chose only the Web. For those who elected to receive the sessions via email, a slightly modified version of the Web page for that session was sent as the body of the message.

Each participant was encouraged to create a Web page and to modify it with each successive session. These pages were sent to the instructor via email and placed on an Internet accessible computer for other class participants to critique and comment on. Students were encouraged to communicate directly with others in the class asking questions about their work and offering suggestions when they thought it might be helpful.

Unexpected Opposition

Anyone teaching with technology must prepare for unexpected technological problems. Faulty connections, unusual screen displays, printer jams, and a host of other problems often appear out of nowhere. Human opposition to innovative information solutions that showcase one's institution are even more unlikely to occur, but occur they did in this case. A leading member of the Library's WebTeam questioned the use of Library resources when hosting student Web pages on the Library's server when those students were not enrolled in academic programs at Texas Tech. This individual represented the Technical Services Department and had all the power, not authority, to pull the plug on the entire project. Space on the server was not a problem since the total space needed amounted to less than one megabyte. Every other party involved approved the temporary placement of student Web pages on the Library's server including the department heads of Information Services and Technical Services as well as the Associate Dean. It appeared that the individual opposed to this project was primarily interested in a power struggle rather than any substantive issue of appropriate use of Library Resources. With administrative backing, the project moved forward, but the server used was not that of the Library.

Unknown Audience Potential

While the Library's User Instruction Program services over 10,000 students annually in tours and course related user instruction sessions, classes related to the Internet typically have enrollments of five or fewer individuals. Some courses have been cancelled due to low enrollment. The first distance education course offered on Web Site Development was closed not for lack of interest but due to heavy enrollment both times it was offered. The first session was closed at 150 participants and the second time it was offered, it was closed after 50 participants registered. Both sessions were offered electronically to individuals as far away as Hawaii and Pennsylvania though each course was only advertised in Texas via a handful of local listserv groups. Each course was offered to the local campus population of Texas Tech and the community of Lubbock. The second course was held in cooperation with the Lubbock City County Library in their facilities. Success with any distance education project is much more likely when diverse partners collaborate over content, delivery, and technical issues.

Students in these courses came equipped with a variety of technical skills and equipment at their disposal. The first course attracted a number of distance learning professionals who already knew much about HTML. They only signed up to see how the course would be delivered to distance students. Many of these individuals failed to participate in any of the sessions, merely looking on at the process of teaching over the Web. We stressed participation the second time the course was offered and this resulted in a smaller class and a higher proportion of students genuinely interested in the subject matter.

Web-based forms were used to register students and to provide them the opportunity to evaluate the course. A feature of the course students appreciated was having the HTML tags placed along side the resulting Web browser display. An aspect of the class they expressed concern about was the amount of time the practical tasks took to complete for each session, much longer than expected.

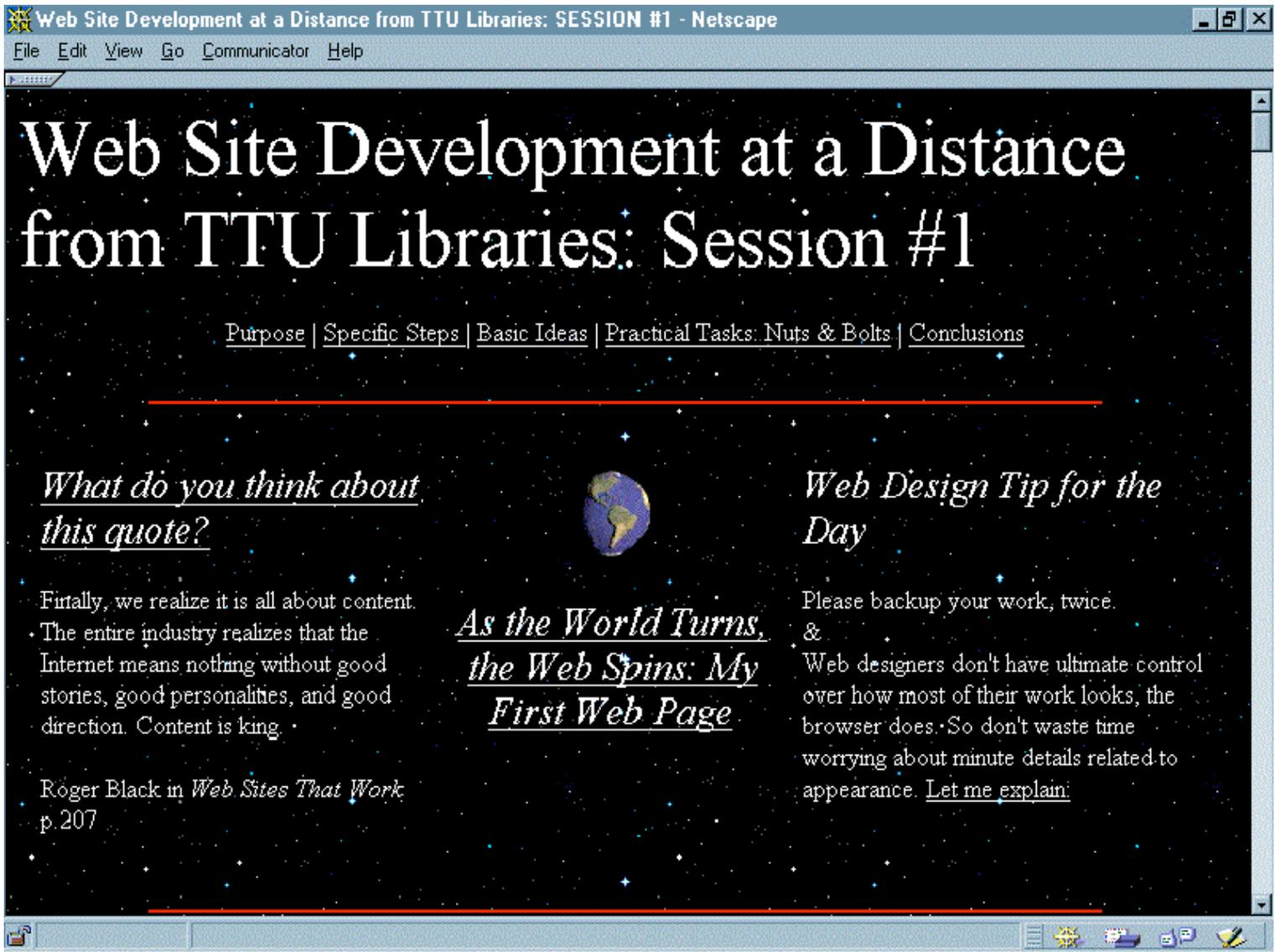
Teaching Methods

Image Balance

Images constitute an area of fascination and mystery for HTML novices. The tendency is often to load the page with irrelevant and "heavy" images that frustrate many Web surfers due to the slow loading time for these graphic "master pieces." A balanced and practical approach to the visual quality of each student's Web page was presented. Therefore, by way of example, images were used only when they enhanced the content of the Web page used in instructional delivery of the material. Some discussion was also devoted to different types of images and sources of images for downloading and use on one's personal site.

Navigational Features

In an effort to minimize scrolling, liberal use of internal links (anchors) were utilized so participants could immediately go to the section of the Web page they were interested in. [\[Figure 2\]](#) This ability to jump around within the body of the session was not available to those working with the email version of the course. A navigational menu was placed at the end of each session as well to facilitate returning to the course's front page, related links page, etc. Figure 2: Navigational Shortcuts



Illustrations

The Web is a medium that allows for stimulation of a variety of senses, therefore, it is critical to take advantage of this capability to facilitate as much learning as possible. Failure to do so would be like watching a movie with your eyes closed. HTML tags were placed alongside the resulting Web browser display to demonstrate how the student's work would appear on the Web as changes were made. [\[Figure 3\]](#)

Figure 3: HTML Illustrations

The screenshot shows a Netscape browser window titled "Web Site Development at a Distance from TTU Libraries: SESSION #3 - Netscape". The browser's menu bar includes "File", "Edit", "View", "Go", "Communicator", and "Help". The address bar is empty. The main content area is split into two columns. The left column, titled "Behind the Scenes", shows the raw HTML code for a form: `Name: <INPUT SIZE=35 NAME="Name">
` and `Email Address: <INPUT SIZE=30 NAME="Email">`. The right column, titled "View from the Web", shows the rendered form with two text input fields labeled "Name:" and "Email Address:". Below the code, the text reads: "Finally, once I have included all the fields, I provide buttons to SUBMIT or CLEAR the form and complete the task with the closing element of the FORM tag." Below the rendered form, the text reads: "As you can see, forms simply consist of your text marked up with a few tags, like every other hypertext document. Yet, they offer the author a powerful means whereby one may gather important information to accomplish a specific task. As with other types of Web pages, it is critical to pay attention to detail. Not all HTML editors can create forms so you may have to tag these documents yourself. A missing quotation mark or misspelled tag could cause the entire thing to fail. Be sure to test the form before you place it on the Web for your patrons or customers." The bottom of the browser window shows a status bar with "Document: Done" and a "Mailbox" icon.

Future Outlook

Rapid advances in Web authoring technologies warrant a substantial review of the content and delivery of this course in the future. While software solutions have been numerous, the need for having a basic understanding of HTML is now more important than ever. Yet, tagging is not for everyone. For the person with an eye for detail, writing some hypertext tags would give greater control of the author's Web creations. Using an up to date authoring program, would save time for routine operations such as tables and lists.

This course taught us some valuable lessons when it comes to distance learning education.

Lessons Learned

1. Keep the class size small.
2. Success is greater when participation is required rather than voluntary.
3. Interaction among students and between students and teachers is critical. Features such as threaded discussions should be utilized over simple email programs.
4. Librarians should contribute more to developing subject-related research skills for patrons rather than simply listing supplementary materials or related Internet sites for a particular course.
5. Distance educators should take advantage of the features of the medium without excluding the greatest number of potential participants. For example, images are basic to any Web course but sound and video may or may not be deliverable to many participants at this time.
6. The time to offer a distance course is NOW.
7. Partnerships are essential.

8. The display must appeal to students.

EVEN - Environmental Education oNline

Building upon the lessons learned from teaching distance students to create a well-designed Web presence, the development of an online guide to environmental resources is now underway. A grant was recently awarded by the Plum Foundation to create an electronic scholarly environmental resource.

The educational concept proposed is a Web-based tutorial to equip students of higher education to pursue the answer(s) to environmental health questions by studying the literature of specialized environmental fields in a virtual classroom. The goal is to equip users of this resource to:

1. Master the literature of a specialized environmental field,
2. Understand scholarly communication,
3. Develop life-long learning skills,
4. Understand the diversity of information formats available today and in the future,
5. Develop critical thinking and evaluation skills.

The purpose of this project is to provide convenient access to an online source of research assistance as students and professional educators learn to master the scholarly literature of their specialized fields of environmental research. Participants are expected to build life-long, independent research skills and to efficiently tackle any environmental health issue using the literature available from a research library. In an information rich society, it is also expected that participants will learn to evaluate information resources for relevance and timeliness. The most reputable scientific publications today include a literature review section. Thus, students who choose to pursue scientific or academic careers need to master the scholarly literature of their field as they document their own research activity.

This project's educational priority is human health with a focus on water quality, toxicology, and pollution. These issues are well exemplified in the wetland sites commonly found in the semiarid regions of the world, especially in the playa lakes of West Texas. These environmentally sensitive sites are widespread but not well understood. Toxic contamination and aquifer recharge are intimately related issues in West Texas where the Ogallala Aquifer, the world's largest, is in some part replenished through playa lakes.

The principal audience consists of college students and academic professionals. Undergraduates and secondary school teachers form one subgroup while graduate students and university faculty constitute the second subgroup. Each population exhibits distinct research practices when it comes to scholarly information dissemination and retrieval. The virtual nature of this resource broadens its exposure to people of all races, cultures, ages, and economic classes. The technology also exists for handicapped individuals to utilize this resource.

A number of environmental education curricula and programs are presently available and well documented in the literature. Yet, almost none of these programs offer college students the convenience of Web access, nor do they focus on library or bibliographic skills. Though faculty struggle with how to equip students to master the literature of their fields, most offer no significant degree of help. As a result, most students lack scholarly information literacy. This situation is professionally precarious in our very competitive high tech environment. Current technology facilitates interactive and multimedia components that have been proven aids to individual comprehension and skill development.

The potential for worldwide dissemination and international application via the World Wide Web are significant. Wetlands occupy a special place in the maintenance of a healthy human environment. Toxic pollution and contamination threaten these environments daily. Many concerned citizens lack the resource gathering skills to efficiently assimilate relevant information to equip them to act competently at all political levels.

Conclusions

Librarians are in a unique position to offer subject-related instruction to distance students. Science librarians know the rapidly changing research materials associated with specific scientific disciplines and the skills necessary to successfully navigate and evaluate those materials. Academic libraries are also equipped with user instruction facilities to adequately reach patrons and deliver the information products and services needed in a timely manner.

What is often lacking among librarians is an appreciation of the potential audience of remote patrons and the basic steps needed to initiate a distance learning course to reach them. Additionally, librarians need to think more like users and less like librarians. Distance learning materials offered online in support of remote users usually follow a format oriented pattern such as Dictionaries, Encyclopedias, etc. Students need facts, data, statistics, and standards. They are unconcerned and unsure about what they will find in some of the materials typically listed. They need to develop life-long, independent research skills instead of how to pick items off a list. This type of instruction is most successful when offered in partnership with faculty.

The experimental distance course described here taught students how to design a Web presence by writing the hypertext tags needed to display their content on with a standard Internet browser. Basic through advanced tags, lists through frames, were presented in this free course offered in person, via email, and on the Web.

Student evaluations were very positive and suggest that there is a great need for this type of instruction. Rapid changes in hypertext and the software used to automatically tag Web documents suggest a number of changes would need to be made before offering the course again. The lessons learned here will be used to develop an online guide to environmental research skills among college students and other adult learners at a distance from an academic library supporting their undergraduate studies and graduate research.

References

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