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This study reports the results of a content analysis conducted to determine how academic libraries use the Web to provide help or deliver instruction to users. The researcher used conceptual analysis to determine the number and percent of links provided and relational analysis to examine the categorization and placement of help or instruction links on the Web page and to compare them to descriptions and definitions of reference service, bibliographic instruction, online help and online instruction. The researcher concluded that librarians, overall, categorized the links observed as help and organized a majority of the links, 102 out of 156, on the library home page.

Headings:

Library instruction

Web-based instruction

Online help

Library Web sites

A CONTENT ANALYSIS OF HELP AND INSTRUCTION VIA THE ACADEMIC
LIBRARY HOME PAGE

by
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Introduction

This study reports the results of a content analysis conducted to determine how academic libraries use the Web to provide help or deliver instruction to users. Reference services and bibliographic instruction are both essential components of public service in academic libraries. Librarians offer their services in person through staffing the reference desk, making themselves available for personal consultations, providing classroom instruction, among many other avenues. Increasingly, reference and instructional services are offered online, again in a multitude of ways, including electronic mail, live online chat, instant messaging, online tutorials, research guides, and more. Many of these methods are described in the bibliographic instruction section in the *World Encyclopedia of Information and Library Services*: “librarians and information specialists are increasingly aware of the desirability of educating users and are devising a variety of procedures for doing so” (Biggs, 1993). Evans describes online library instruction in the *Encyclopedia of Information and Library Science*. She states that online instruction “varies in its content, levels of technical complexity and intended audiences” (2003). As the library Web page becomes an increasingly powerful gateway to many of the library’s resources, it is important to understand what role it plays in instructing users how to access and use those resources.

In designing this study, the researcher considered many aspects of library Web page design and content that would provide a context for how libraries use their Web pages as teaching tools. It was important to take into consideration the differences

between reference and instruction and help and instruction before determining the methods for evaluating how academic library Web sites are used to instruct patrons. The literature was consulted to establish definitions of and reduce, if possible, the gray area surrounding these concepts to provide a framework for the data collected during this study.

Despite the importance of its function, the literature lacks a clear or explicit definition of reference services. Rettig supports this as he discusses reference and information services: “Many definitions of reference service have been offered over the years, all of them illustrative, none definitive; part art, part science, it is better described than defined” (1993).

The *World Encyclopedia of Library and Information Services* provides a description of reference service. According to the reference and information services entry, “the purpose of reference service is to help a library’s clientele use its collections and external resources effectively to meet their information needs” (Rettig, 1993).

Before exploring online library instruction, it is necessary to define library instruction, in general. Smith offers one explanation: “This instruction is designed to teach library users how to use the library and its resources effectively” (2001).

Biggs provides an overview of bibliographic instruction. She asserts “ultimately the goal of all bibliographic instruction is to bring information seekers together with the information they need” (1993).

Further proof of the gray area between reference and instruction is provided in the literature. As quoted in McCutcheon and Lambert, Hinchliffe and Woodard pose the questions:

Are reference and instruction diametrically opposed? Must it be either reference or instruction? Does instruction detract from or enhance the quality of reference service? Is instruction merely an adjunct service to the reference desk? Or is reference an adjunct to instruction? (2001).

The authors also refer to Rettig's discussion of reference services, in which he "distinguishes between reference and instruction by asserting that they are different activities or developments, which are considered parts of public service" (Rettig, 1993). This discussion leads McCutcheon and Lambert to call for a better, more-detailed description of reference and instruction (2001).

Despite the lack of clear definition between reference and instruction, the experts tend to agree, at least, that all of these services fall under the rubric of public service and that both services focus on bringing together users with resources.

This study examines how academic libraries provide online instruction and online help via their home pages. For these terms, the literature offers more definition.

Online instruction, web-based instruction and computer-assisted instruction, specifically, are most often described as instruction provided via the Web, or the computer, respectively.

In the *Encyclopedia of Library and Information Science*, online library instruction is defined as "instruction in information skills delivered over the Internet" (Evans, 2003).

Duffy, Palmer and Mehlenbacher offer a complete definition of online help. They state:

Online help is the online delivery of performance-oriented information. It is information presented online that is designed to answer the question 'How Do I?' The difference between a learning-oriented aim and a performance-oriented aim is critical. We restrict our use of the term 'online help' to systems that support performance. The user of online help is trying to complete some task in an application. The information required may be fact, procedures, or even

explanation. However, because the individual is in the midst of the task, the information must be

- targeted to the tasks
- accessed efficiently
- written in a style that leads to efficient transfer from the help system to the task (Duffy, Palmer, & Mehlenbacher, 1992).

Goodall has published multiple papers dealing with the concept of online help.

Her concise definition is similar to Duffy's definition. "Online help is accessed from within the application, teaches the user how to use an application, and provides answers to the user's questions" (Goodall, 1991). The main similarities between these definitions are that online help: exists within an application, supports performance rather than learning, and answers questions.

These descriptions and definitions of reference service, bibliographic instruction, online help and online instruction illustrate the difficulty in establishing a clear conceptual line between what kinds of services are considered reference, instruction, or help. This very complexity provides important context for studying how academic library Web pages are used in teaching patrons. Therefore, this study also compares these established descriptions of reference services and bibliographic instruction and definitions of online help versus online instruction from the literature to the actual implementation of these services on the libraries' Web sites.

To address these questions, four of the most commonly used help and instructional tools or resources were identified. They are: tutorials, "how do I..." guides, research guides, and frequently asked questions (FAQs).

Using the definitions presented above, "how do I ..." guides and FAQs were defined as help tools, while tutorials and research guides were defined as instruction tools.

The researcher looked at the number and percent of academic library Web pages that contain links to these four types of tools or resources and how the links are categorized and organized on the Web site.

Literature Review

Online instruction

The literature provides a wealth of support for the idea that instruction via the Web is becoming increasingly important. Libraries “of all types are taking advantage of this new technology to mount home pages and use them for library instruction,” (Nipp, 1998).

In her book addressing Web-based instruction for libraries, Smith (2001) provides several reasons for using and providing instruction online. First, many students prefer using Web resources, in particular, because they can be consulted any time of day or night from any internet connection. Another advantage is that instruction offered via the Web makes it possible to reach a large audience. Finally, one of the “most appealing attractions is that instruction on the Web presents the same information to all students, removing the unavoidable variations in human delivery” (Smith, 2001).

Similarly, researchers address the reasons for the success of providing instruction tools, specifically tutorials, via the Internet. Online tutorials are often vital to the success of meeting the needs of distance learners who may not have the luxury of attending bibliographic instruction or approaching the reference desk for help (Germain & Bobish, 2002). Not only do tutorials benefit distance users, but they also benefit students “with learning styles suited to that method of instruction” (Coe & Hollister, 2003).

A few studies confirmed that students learn as effectively from online tutorials or computer-assisted instruction as they do from classroom instruction (Holman, 2000; Nichols, Shaffer, & Shockey, 2003).

Librarians have also conducted research about providing online library instruction via courseware. One researcher asserts that course management software, such as Blackboard and WebCT, can be used by librarians to introduce basic research skills and obtain information about students' skills, thus allowing for more focused coverage during classroom sessions (Beagle, Ladner, Steele, & Steele, 2004; Kraemer, 2003). According to Beagle et al., this switch to the online classroom benefits distance users, and blurs the line between on-campus and off-campus students (2004).

Holman offers a similar argument for the use of tutorials: "After students complete the tutorial on their own, librarians can use their class time with students to help them move beyond basic library skills in developing focused search strategies and evaluating sources (2000).

Online help

Online help is most often referred to in computer science or information science sources. The library literature mentions online help with regards to help screens within automated library systems or specific databases.

Many studies published in the computer or information science literature in the 1990s explore the development of online help as it happened. Online help systems were enhanced by technology as wizards and the Web became increasingly popular (Turk & Nichols, 1996). Other studies discussed the future of online help documentation, as replacement or compliment to software manuals (Goodall, 1991, 1992; Rintjema &

Warburton, 1998). Goodall stressed the importance of the usability of online help documentation in her 1992 study to ensure that the online system and the hard copy of the software manual meet the user's needs efficiently.

The most recent literature about online help includes articles addressing usability studies of help systems and human interaction with online help or documentation.

One study addresses usability of online help from a customer's standpoint by conducting empirical research. The authors attempted to assess usability of a system in response to the difficulties online help designers experience because of the gap between established practices and the theoretical advancements discussed in the literature (Purchase & Worrill, 2002).

In another usability test of an online help system, researchers found that users were unable to navigate help systems effectively for many reasons, including the large size of the application and technical terminology used in the help system (Krull, Friauf, Brown-Grant, & Eaton, 2001).

Usability testing for online instruction, as well as online help, indicates that navigation is a barrier between users and the information they need.

Computer science and information science researchers have studied humans' interaction with online help extensively. Dworman and Rosenbaum report "users fail to use the help systems available to them" (2004). They hypothesized that customers may not use help for many reasons, including failed past experiences using help systems, "cognitive blind spots" which occur when they do not notice that help exists within the application and "refusal to admit defeat" (Dworman & Rosenbaum, 2004). In addition, many users have trouble toggling back and forth between help screens and work screens

or referring to print help manuals while working on the computer screen, resulting in frustration (Kelleher & Pausch, 2005).

While help systems are different from most of the instruction and help tools analyzed in this study, these problems could apply to tutorials. Usability testing could help prevent patrons from experiencing these problems as they use tutorials or other tools or resources provided via the library home page.

Much of the library literature traditionally addresses online instruction; however, online help has been addressed as online library catalog technology advances. Help screens are used in integrated library systems. While this type of online help exists, it is not the subject of this study. The researcher could find no studies that address both online help and online instruction. Studies primarily address either one or the other. It should also be noted that online instruction is much more frequently addressed in the library literature, whereas online help is covered in the information science or computer sciences literature.

Library Web page design

Library Web page design is another topic related to this research study. Researchers have explored library home pages as a means to educate users in many contexts. This literature review will highlight library Web design in terms of instructional design, use of library jargon and usability testing.

It is important for librarians to understand instructional design in order to reach users most effectively. For example, Nipp argues that observing both library and non-library Web sites is best to gain a full understanding of instruction design, and therefore teach patrons successfully (1998).

Platoff (2001) discusses opportunities presented as her institution redesigned its Web site. She contends that instruction librarians can strengthen the instruction program via the Web. In fact, she asserts: “Direct participation in the redesign by those concerned with library instruction can ensure that the end product is not only usable, but perhaps actually reduces the necessity for instruction” (Platoff, 2001).

Many studies address the user’s inability to navigate the library home page as a barrier between users and resources. The arguments offered by Platoff (2001) and Nipp (1998) stress the importance of using logical links from the home page so users can take advantage of the instruction tools present.

Platoff (2001) defines the problems presented on her institution’s library home page that create barriers for users. These problems include, but are not limited to, the lack of logical groupings of information on the Web site, the lack of tools present to guide users through the library site, the lack of definitions to indicate what can be found different sections of the home page, and the lack of links from the home page to the most valuable instruction sites (Platoff, 2001). Digby considers the importance of the placement of specific links from the library Web page and expresses concern that many users miss very valuable resources and tools (2004).

All of these considerations are important in improving the ability of patrons to find and use library resources via the home page. The importance of using logical links from the home page mentioned in Platoff (2001) and Digby (2004) was one reason for examining categorization and placement of the instruction and help tools observed in this content analysis.

Using library jargon via the Web site has been explored in the literature as well. In a study about vocabulary on library home pages, the difficulties remote end-users experience when confronted with library jargon are discussed. The researcher proposes that libraries improve readability by using phrases such as “Information Assistance” rather than “Reference Service” to improve users’ navigation through the page (Spivey, 2000).

Similarly, many usability tests of library Web pages indicate that students experience problems when they try to understand library jargon (Augustine & Greene, 2002; Dickstein & Mills, 2000).

Reducing library terminology used on the Web page is important in improving navigation through the site, which allows users to access resources more effectively. This is an important consideration for Web designers creating online help or instruction tools for users. The tools, like the resources, should be organized and labeled so patrons can find them and use them.

Another important aspect of the literature about the library home page is usability testing. Much of the discussion is based on case studies of usability tests for specific library Web sites. At the University of Arizona, librarians recognized the need for their Web site to be user-centered. In doing so, they conducted usability testing to involve the users in the redesign process because they “noticed that many library users were confused with the organization and terminology we had created” (Dickstein & Mills, 2000). The researchers concluded that testing works. “It enriches the end product because input is received from diverse thinkers with a wide range of creative ideas. It ensures that the

product works for those who will be its harshest critics – the users” (Dickstein & Mills, 2000).

Augustine and Greene (2002) describe another usability study that explores how students search the library Web site. They conclude that students prefer to use the home page’s search engine, rather than navigating through links provided. The researchers also found that when students cannot find resources, they are more apt to seek out face-to-face help (Augustine & Greene, 2002).

Some usability tests report contradictory findings. For example, Augustine and Greene (2002) indicate that students use the library site’s internal search engine before they attempt to navigate the pages, while another study suggests that Internet-savvy students are able to navigate well through the online catalog (Chisman, Diller, & Walbridge, 1999).

Although there are some contradictions in the findings, each of the studies sites the importance of getting feedback from users to improve library home pages.

These articles give insight into how usability tests allow us to experience the library Web page through the patron’s eyes, and thus give librarians and Web designers the information they need to provide a more effective gateway to the library’s resources. A usable Web site can be supplemented well with the online methods of help and instruction observed in this study to allow users to better navigate the page.

In analyzing specific instruction and help tools present on academic library home pages, this study addresses the differences between online help and online instruction and attempts to fill the gap in the current literature.

Methodology

A content analysis was performed to determine how academic libraries instruct or help users via their library home page. According to Babbie (2004), content analysis “is the study of recorded human communications.” Communications now include Web pages, as well as books and magazines, among many other forms (Babbie, 2004) This method was chosen for several reasons. First, it is obviously the most immediate way to answer the research questions, which are based on the content of the Web sites. Also, the researcher has control over the sample size. Finally, it offers an objective and unobtrusive method of examining Web sites. Content analysis provides the most relevant results in terms of the specific research questions asked during this study.

Doctorate-granting institutions were chosen as the subjects for this study because the libraries that support these types of institutions typically have a wide range of resources available for many fields of study, thus, in theory, requiring more help and instruction for its users.

The entire population of the study was made up of 261 schools classified as Doctorate-granting Institutions based on *The Carnegie Classification of Institutions of Higher Education*. Carnegie further classifies Doctorate-granting institutions into two categories: Doctoral/Research Universities – Extensive and Doctoral/Research Universities – Intensive (Carnegie Foundation for the Advancement of Teaching., 2001). Both of these types of institutions offer a wide range of undergraduate degrees. The difference between the two is that those classified as extensive “awarded 50 or more doctoral degrees per year across at least 15 disciplines,” while those labeled intensive “awarded at least ten doctoral degrees per year across three or more disciplines, or at least

20 doctoral degrees per year overall” (Carnegie Foundation for the Advancement of Teaching., 2001).

To avoid bias, systematic sampling was used. The entire stratified list, including both extensive and intensive, public and private, was used as the population to ensure a representative sample. Every “kth” element of the entire list of Doctoral/Research Universities, including all stratifications, was selected for inclusion in the sample. Due to time limitations, twenty-five percent of the 261 listed schools was the decided sample size. In other words, every 4th school on the list was chosen, resulting in the sample of 65 Web sites.

Bias in the sample was low, in part, because the Carnegie classification list stratified schools by state and control (public or private, profit and non-profit) in addition to the extensive and intensive categories. Thus, the schools making up the sample were public and private institutions from a wide range of geographic areas, classified as both extensive and intensive.

An initial analysis of 10 Web sites from the Doctoral-granting Institutions list revealed trends in the types of links offered from the academic libraries’ home pages. Based on this initial analysis and previous knowledge, the researcher determined that four links were the most frequently observed: tutorials, "how do I..." guides, research guides, and frequently asked questions. Definitions, some established, some operational, of the links are provided here. A tutorial “presents information, poses questions, waits for student’s response, and then provides feedback to the response” (Steinberg, 1991). For the purposes of this study, tutorials are defined as instruction tools. “How do I...” guides are instruction tools devoted to answering questions such as “How do I find

scholarly sources?” or “How do I find articles about a specific topic?” Research guides are also instruction tools. They are Web pages devoted to specific topics, and they list useful resources, both print and electronic, for conducting research within that field of study. Frequently asked questions sections of Web sites answer questions most often devoted to policies or procedures, such as “What are the library’s hours?” or “How long can I check out a book?” For the purposes of this study, FAQs are defined as help tools.

“How do I...” guides and frequently asked questions were synonymous on some pages. This was one reason for including both links in the study, to compare how they were categorized on pages, especially where both links were present.

Clearly, each of the links observed in this study have the potential to teach users, and they are all provided via the Internet, in this case through the library Web page. All four could be considered to be instruction tools. However, the definitions for online help provided by Duffy (1992) and Goodall (1991) agree that online help exists within an application, supports performance and answers questions. Therefore, since frequently asked questions are present within the library Web site, support a procedure or performance such as circulation transactions and answer questions, they were defined as help tools. Although “how do I...” guides obviously answer questions and are present within the application, in this case, the library Web site, a case can be made that these guides support learning, as opposed to performance. For this reason, they are defined as instruction tools for the purposes of this study.

These four links were chosen so the researcher could analyze these four concepts in the context of the Web for a particular audience, in this case faculty, staff and students at Doctoral/Research Universities. Web pages are designed many different ways, each

taking into account the organization's audience and its needs. This became recognizable as a potential weakness of the study during the preliminary observation of Web sites. Therefore, these four links were observed in part because of their function in providing help and instruction to users.

The Web pages in the final sample were analyzed conceptually and relationally. Explicit conceptual analysis "locates what words or phrases are explicitly in the text, or the frequency with which they occur" (Carley, 1994). This type of analysis was performed as the number and percent of links present was tallied. Relational analysis "goes beyond conceptual analysis in that it focuses both on what concepts are present in the text and on the relations between those concepts" (Carley, 1994). Relational analysis was used as the researcher coded the categorization and placement of the links in order to gain a better understanding of how libraries define such links and to compare the libraries' definitions with those provided in the literature. A spreadsheet was maintained to code the results. In columns C, G, K and O, the names of the link describing tutorials, "how do I..." guides, research guides and frequently asked questions, respectively, were recorded. In columns D, H, L and P, the category under which the link was listed from home page was recorded. In columns E, I, M and Q, "Yes" or "No" was recorded to indicate the availability of the link from the home page. Finally, in columns F, J, N and R, if a link was not present from the home page, the links users have to click to get to the desired information was recorded in an attempt to determine the location of the link in terms of the number of levels below the home page.

The method of reporting results are much like those of Bao's 2003 study, during which a survey of library Web sites was conducted to examine users' access to interactive

reference (or chat) services. Results were reported in terms of percent of academic library Web pages with the link present, the link's placement on the page and the words used to describe the link (Bao, 2003). Placement, in this case, refers to the level on which the link exists in relation to the home page.

Results

First, the number of pages out of the sample of 65 sites containing each of the four links (tutorials, "how do I..." guides, research guides, FAQs) was recorded. The percent was then calculated. Data are reported in Table 1.

Table 1. Number and Percent of Pages Containing Links Observed

Link	No.	%
Tutorials	39	60.0
"How Do I..."	30	46.1
Research Guides	59	90.7
FAQ	28	43.0

The categorization of these links was also examined because the organization of the Web page certainly has implications for its ability to be used as an instruction tool. Revisiting Platoff's study supports this statement as she defines the problems presented on her institution's library home page that create barriers for users. These problems include, but are not limited to, the lack of logical groupings of information on the Web site, the lack of definitions to indicate what can be found different sections of the home page, and the lack of links from the home page to the most valuable instruction sites (Platoff, 2001).

The categorization of the links provides a type of definition; therefore, the researcher recorded these categories. In order to understand how the libraries “define” help and instruction, the number and percentage of links categorized under these labels were tabulated. Table 2 contains the number and percent of links classified as “help.”

Table 2. Number and Percent of Pages that Categorize Links as Help

Link	No.	%
Tutorials	15	37.5
“How Do I...”	10	33.3
Research Guides	11	18.3
FAQ	12	42.8

The number and percent of pages categorizing the links under “instruction” was calculated as well. See Table 3.

Table 3. Number and Percent of Pages that Categorize Links as Instruction

Link	No.	%
Tutorials	3	7.5
“How Do I...”	1	3.3
Research Guides	0	0
FAQ	0	0

Finally, the placement on the Web page was recorded. The placement could potentially be one indicator of how important or non-important librarians find these links.

However, other factors should be considered. For example, staff responsible for providing reference services and instruction may not have been involved in designing or developing content for the Web page. In this case, no importance can be assigned with confidence.

The most prominent link of the four was Research Guides. Fifty-nine out of 65 pages, or 90.7% of the sample, included Research Guides. Of those 59 pages, 42, or 71.1%, provided links to these guides from the home page. Sixteen libraries did not. Of those, 12 schools offered links to Research Guides from one level below the home page, while 4 libraries linked to Research Guides from two levels below the home page. Also noted was that 18 libraries listed multiple links from their home page for research guides.

Table 4. Number and Percent of Pages Offering Research Guides from Home Page

Link	No.	%
Research Guides	42	71.1

Second in popularity to Research Guides was the presence of tutorials. Out of 65 sites, 39, or 60%, provided links to online tutorials. As Table 5 indicates, 23 sites offered links to tutorials from the home page. It was also noted that 12 presented the link one level below the home page.

Table 5. Number and Percent of Pages Offering Tutorials from Home Page

Link	No.	%
Tutorials	23	58.9

“How do I...” guides have become a popular addition to library Web sites. 46.1% (30 of 65) sites contained “how do I...” links. A majority of these guides (23 of 30) were placed on the home page. Of the seven remaining sites, five contained “how do I...” guides from one level below the home page, while the rest were listed two levels below the home page.

Table 6. Number and Percent of Pages Offering “How Do I...” from Home Page

Link	No.	%
“How Do I...”	23	76.6

Finally, the presence of FAQs was observed. It was the least popular of the four links included in this study. Twenty-eight pages included this link. Fifty-percent of these linked to FAQs from the home page. Also noted was that on five pages “how do I...” guides served as the frequently asked questions section. These five sites were recorded in both tables.

Table 7. Number and Percent of Pages Offering FAQ from Home Page

Link	No.	%
FAQ	14	50.0

Discussion

The discussion will draw conclusions based on the data presented above, as well as compare the results and descriptions and definitions of online help and online instruction established in this study and in the literature. The conclusions will then lead

to discussion about many issues such as Web site usability, use of library jargon on the library Web page and assumptions librarians make about their patrons and their patrons' needs.

Numbers and Percentages

First, the data can be analyzed conceptually in terms of numbers and percentages of pages that contain each of the four links observed.

Based on the data collected in this study, the argument can be made that Doctoral/Research Universities libraries find links to research guides very important since 90.7% of the sample included links to this resource and 71.1% of those offer immediate links from the home page.

It can also be concluded that tutorials are considered to provide valuable instruction to users as they were present on 60% of the sites visited. Of 65 sites, 39 contained tutorials.

Another link that provides instruction for users is the "how do I..." guide. The data collected indicate that 46.1% of the sites, or 30 of 65, provided "how do I..." links. While this percentage is lower than that of tutorials and research guides and below 50% of the pages visited, it does denote that this link is somewhat popular.

Finally, FAQs tend to be present on many types of organization's Web pages. Based on this study's results, 43% (28 of 65) of the library Web sites viewed had FAQs available on the page. It has the lowest incidence out of the four links observed. However, these numbers can be slightly deceiving because many pages treat "how do I..." guides and frequently asked questions as one in the same. It was not always easy to recognize, and thus code, that some pages treat these two types of links the same.

One factor to consider, however, is that instruction librarians may not have been involved in determining the Web page's design. The number and percent of links in the results may not be an indicator of the importance attached to these links.

Categorization

As was mentioned in the results section, categorization was analyzed relationally for each of the links because the categories under which links are placed are often the closest thing to a definition offered by those responsible for the Web site.

Nearly 22 different labels were used to categorize research guides on the library home page. The following list, beginning with tutorials, includes the most popular category descriptions for all four links observed in this study. The numbers in parenthesis indicate how many pages used the particular description.

Library Services (7)

Get started! (2)

Resources (2)

About the library (2)

Eleven libraries listed "how do I..." guides as its own separate category, making it the most popular categorization. "How do I..." guides were also characterized as:

Research tools (3)

Find (or find info) (3)

Other categories for research guides were:

Research Tools (10)

Research Resources (4)

Resources by Subject (4)

Databases by Subject (4)

Find (7)

Categorizations for FAQs included:

About the libraries (5)

“How do I...” (3)

FAQ (3)

The inconsistency represented by these categorizations may indicate a need for usability studies for the Web pages. Patrons may think differently than Web designers, making it difficult for them to find helpful links on the library Web page. Users may not be able to find links where they are placed. Usability testing of library Web pages can help libraries meet patrons’ needs more efficiently.

Help and Instruction Categories

Since this study is concerned with online help and instruction, the links categorized as help and instruction were also coded.

Duffy (1992) includes in his definition of online help that it answers the question “how do I?” In analyzing how libraries categorize “how do I...” guides on their Web pages, it was discovered that 10 out of 30 pages, or 33.3%, listed them under help, and one library listed these guides under the instruction label. These observations contradict the definition of “how do I...” guides as instruction tools.

The literature clearly defines online tutorials as a form of bibliographic instruction and online instruction. Steinberg offers the following definition: “a tutorial presents information, poses questions, waits for student’s response, and then provides feedback to

the response” (1991). In addition, online help is differentiated from online tutorials because “there is less urgency to the learning situation” (Duffy et al., 1992).

However, the 39 library sites observed that contained a link to tutorials, interestingly, categorized tutorials most often as help. The instruction label was used to categorize tutorials on three library Web pages. While the literature places emphasis on the instructional nature of tutorials, the library Web pages seem to place emphasis on their ability to help users.

As was reported in the results section, research guides and FAQs were not categorized as instruction on any of the pages. Eleven sites listed research guides under help and 12 pages categorized FAQs as help.

FAQs were included in this study because of their prominence in most any computer application as a help tool. Five libraries used “how do I...” guides and FAQs synonymously. FAQs seemingly fit well with the definition of online help, which has been discussed in the methodology.

Comparing the results and the definitions of these links for this study with the definitions provided in the literature has established proof of the gray area between help and instruction. The differences between the definitions established for the purposes of this study and the categorizations on the Web pages observed do not necessarily indicate disparity. Librarians may consider research guides, tutorials and “how do I...” guides to be instructional in nature as they have been defined in this study. However, library instruction, or instruction, is part of the profession’s jargon. It is important to consider that librarians may feel compelled to use help as a category on the Web page to meet users’ at their level of understanding.

However, even the category “help” has been criticized by some researchers. During a usability study, Dickstein and Mills decided to use tips as the category label rather than help based on a suggestion from the User Interface Engineering Web site, which stated the word help somehow implies failure (2000). Dworman and Rosenbaum also suggest that “users may access hints, tips, and quick-reference guides, but refuse to click on something called ‘help’” (2004).

These arguments imply that those responsible for Web design are attempting to meet their user’s needs more efficiently. The literature review provided proof that libraries are conducting usability studies in order to avoid making assumptions about what is best for their users.

Placement

Another consideration is the link’s placement on the Web page. Overall, the links observed in this study were available on the home page, possibly indicating the importance librarians attach to them. Sixty-five percent, or 102 out of 156 total links observed were present on the library’s home page. Table 8 represents the number and percent of all links observed for this study in terms of placement on the Web sites.

Table 8. Number and Percent of Pages Offering All Links Observed from Home Page

Placement	No.	%
Home Page	102	65.3
One Level Below Home Page	43	27.5
Two Levels Below Home Page	10	6.4

Again, one factor to consider is that placement may not have been coordinated purposely, particularly if instruction or reference librarians were not involved in making decisions about link placement. It should also be considered that librarians might be making assumptions about patrons' needs or thought processes. This study brings to light the need for more purposeful design and Web page usability testing to meet users' needs via the library Web site.

In this discussion, the number and percent of library Web sites containing each of the four links observed, categorization of these links and their placement on the page were all considered to convey their presence and importance. Also taken into consideration are the contexts of the differences between instruction and help, library jargon used via the library Web page, library Web page usability and assumptions librarians make about patrons' needs or abilities.

Further Research

Many questions were generated by the results of this study. The analysis highlights the gray areas that exist between online help and online instruction. It suggests the need for librarians to understand how online help is defined on the Web and the distinctions needed between what librarians label help and what they define as instruction.

Some additional questions future research may address include: Is there a need for defining help and instruction in terms of instructional design for librarians? How would the results of a similar study conducted with master's level or undergraduate institutions compare to this study of doctoral/research level libraries? What other types of help or instruction links should be observed?

“Library Instruction” or “Instruction Services” links appear on academic library Web sites, although these terms are specific to the profession. This type of study may help information professionals more clearly define online help and online instruction. However, librarians should approach using instruction as a categorization on the Web page carefully. Using such terms can decrease usability of the page.

Also, academic library Web sites should be analyzed in terms of usability. If patrons cannot use the page successfully, they cannot benefit from the full potential of library resources.

Conclusion

This study addresses help and instruct via the academic library home page. It has also set out to compare these methods to descriptions and definitions, where available, of reference, instruction, online help and online instruction.

The data collected indicate the popularity of tutorials, “how do I...” guides, research guides and FAQs. The data also reflect the categorizations, or definitions, libraries have assigned to these particular links, providing an avenue to compare these methods of help and instruction to descriptions in the literature.

The trends in the data collected for this study indicate the increasing importance of using the library Web page to teach and help patrons. Further studies can provide a basis for establishing a more clear definition between helping and instructing users. As a result, Doctoral/Research University library Web pages will experience increased usability, supplementing instruction efforts so that users can learn or reinforce what they have learned via the site.

References

- Augustine, S., & Greene, C. (2002). Discovering how students search a library Web site: a usability case study. *College and Research Libraries*, 63(4), 354-365. Retrieved March 28, 2005, from Education Full Text database.
- Babbie, E. R. (2004). *The practice of social research* (10th ed.). Belmont, CA: Wadsworth Thomson Learning.
- Bao, X.-m. (2003). A study of Web-based interactive reference services via academic library home pages. *Reference and User Services Quarterly*, 42(3), 250-256. Retrieved November 1, 2004, from Library Literature and Information Science database.
- Beagle, D., Ladner, B., Steele, J. R., & Steele, L. (2004). Rethinking online instruction: from content transmission to cognitive immersion. *Reference and User Services Quarterly*, 43(4), 329-337. Retrieved November 1, 2004, from Library Literature and Information Science database.
- Biggs, M. (1993). Bibliographic Instruction. In R. Wedgworth (Ed.), *World Encyclopedia of Library and Information Services* (3 ed.). Chicago: American Library Association.
- Carley, K. (1994). Content Analysis. In R. E. Asher (Ed.), *The Encyclopedia of Language and Linguistics* (Vol. 2). New York: Pergamon Press.

- Carnegie Foundation for the Advancement of Teaching. (2001). *The Carnegie classification of institutions of higher education* (2000 ed.). Menlo Park, Calif.: Carnegie Foundation for the Advancement of Teaching.
- Chisman, J., Diller, K., & Walbridge, S. (1999). Usability testing: a case study. *College and Research Libraries*, 60(6), 552-569. Retrieved March 29, 2005, from Education Full Text database.
- Coe, J., & Hollister, C. V. (2003). Current trends vs. traditional models: librarians' views on the methods of library instruction. *College and Undergraduate Libraries*, 10(2), 49-63. Retrieved March 29, 2005, from Haworth Press Journals.
- Dickstein, R., & Mills, V. (2000). Usability testing at the University of Arizona Library: how to let the users in on the design. *Information Technology and Libraries*, 19(3), 144-151. Retrieved March 28, 2005, from Library Literature and Information Science database.
- Digby, T. R. (2004). Where does that electronic resource fit on the library Web page? *Computers in Libraries*, 24(1), 6-7, 55-56. Retrieved March 28, 2005, from Library Literature and Information Science database.
- Duffy, T. M., Palmer, J. E., & Mehlenbacher, B. (1992). *Online help : design and evaluation*. Norwood, N.J.: Ablex Publishing Corp.
- Dworman, G., & Rosenbaum, S. (2004). Helping users to use help: improving interaction with help systems. In *CHI '04: CHI '04 extended abstracts on Human factors in computing systems* (pp. 1717--1718): ACM Press. Retrieved April 1, 2005, from ACM Digital Library database.

- Evans, B. (2003). Online Library Instruction. In M. A. Drake (Ed.), *Encyclopedia of Library and Information Science* (2nd ed., pp. 4 v.). New York: Marcel Dekker.
- Germain, C. A., & Bobish, G. (2002). Virtual teaching: library instruction via the Web. *Reference Librarian*(77), 71-88. Retrieved November 1, 2004, from Haworth Press Journals.
- Goodall, S. D. (1991). Online help in the real world. In *SIGDOC '91: Proceedings of the 9th annual international conference on Systems documentation* (pp. 21-29): ACM Press. Retrieved March 11, 2005, from ACM Digital Library database.
- Goodall, S. D. (1992). Online help: a part of documentation. In *SIGDOC '92: Proceedings of the 10th annual international conference on Systems documentation* (pp. 169-174): ACM Press. Retrieved March 11, 2005, from ACM Digital Library database.
- Holman, L. (2000). A Comparison of Computer-Assisted Instruction and Classroom Bibliographic Instruction. *Reference and User Services Quarterly*, 40(1), 53-60. Retrieved November 1, 2004, from Library Literature and Information Science database.
- Kelleher, C., & Pausch, R. (2005). Stencils-based tutorials: design and evaluation. In *CHI '05: Proceeding of the SIGCHI conference on Human factors in computing systems* (pp. 541--550): ACM Press. Retrieved April 3, 2005, from ACM Digital Library database.
- Kraemer, E. W. (2003). Developing the online learning environment: the pros and cons of using WebCT for library instruction. *Information Technology and Libraries*,

22(2), 87-92. Retrieved April 3, 2005, from Library Literature and Information Science database.

Krull, R., Friauf, J., Brown-Grant, J., & Eaton, A. (2001). *Usability trends in an online help system: user testing on three releases of help for a visual programming language*. Paper presented at the Professional Communication Conference, 2001. IPCC 2001. Proceedings. IEEE International. Retrieved April 3, 2005, from IEEE Xplore database.

McCutcheon, C., & Lambert, N. M. (2001). Tales untold: The connection between instruction and reference services. *Research Strategies, 18*(3), 203-214. Retrieved February 14, 2004, from Library and Information Science abstracts database.

Nichols, J., Shaffer, B., & Shockey, K. (2003). Changing the face of instruction: is online or in-class more effective? *College and Research Libraries, 64*(5), 378-388.

Nipp, D. (1998). Innovative use of the home page for library instruction. *Research Strategies, 16*(2), 93-102.

Platoff, A. M. (2001). Redesigning the Library Web Site: Implications for Instruction. In J. K. Nims, Andrew, Ann. (Ed.), *Library user education in the new millennium: blending tradition, trends and innovation: papers presented at the twenty-seventh national LOEX Library Instruction Conference, held in Houston Texas, 11 to 13 March 1999* (pp. 115-119): Pierian Press.

Purchase, H. C., & Worrill, J. (2002). An empirical study of on-line help design: features and principles. *International Journal of Human-Computer Studies, 56*(5), 539-567. Retrieved March 11, 2005, from ACM Digital Library database.

- Rettig, J. R. (1993). Reference and Information Services. In R. Wedgeworth (Ed.), *World Encyclopedia of Library and Information Services* (3 ed.). Chicago: American Library Association.
- Rintjema, L., & Warburton, K. (1998). Creating an HTML help system for web-based products. In *SIGDOC '98: Proceedings of the 16th annual international conference on Computer documentation* (pp. 227--233): ACM Press. Retrieved March 11, 2005, from ACM Digital Library database.
- Smith, S. S. (2001). *Web-based instruction : a guide for libraries*. Chicago: American Library Association.
- Spivey, M. A. (2000). The vocabulary of library home pages: an influence on diverse and remote end-users. *Information Technology and Libraries*, 19(3), 151-156. Retrieved March 11, 2005, from Library Literature and Information Science database.
- Steinberg, E. R. (1991). *Computer-assisted Instruction : a synthesis of theory, practice, and technology*. Hillsdale, N.J.: L. Erlbaum Associates.
- Turk, K. L., & Nichols, M. C. (1996). Online help systems: technological evolution or revolution? In *SIGDOC '96: Proceedings of the 14th annual international conference on Systems documentation* (pp. 239-242): ACM Press. Retrieved March 11, 2005, from ACM Digital Library database.