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Usability Testing and Instruction Librarians: A Perfect Pair.

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ABSTRACT: This study examines how librarians are experiencing usability testing and how their observations are influencing library instruction. A survey of instruction librarians illustrates how usability testing and library instruction are connected. Survey results prove instruction librarians are involved in usability testing. Furthermore, their participation in usability studies has led instruction librarians to alter their instructional methods. An overwhelming majority changed one or more instructional tools as a result of usability testing, and many reported creating new instructional resources. The authors add their own insights as both instruction librarians and participants in usability testing.

KEYWORDS: Usability tests, library instruction, usability, bibliographic instruction, online catalogs

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Usability Testing and Instruction Librarians: A Perfect Pair

"...We didn't do the usability study with a web redesign in mind, but we figured it could help. It really made us aware of what we needed to stress in instruction and changed how many of us did instruction...." Anonymous Quote from Usability Testing and Instruction Survey

Usability tests are a common occurrence in marketing and product development in the computer industry. Most often used to test computer software and online interfaces, usability testing provides valuable insight into how end users view and interact with the system in question. Many libraries employ usability testing for studies of library websites and online catalogs. Librarians, however, are not professional testers or system designers. Most librarians are busy assisting library users in reference departments, through library instruction, and at the circulation desk. It is a rare occurrence that libraries can afford to hire professional usability test administrators to test library interfaces. Instead, they must take on the task themselves. How are these librarians negotiating the balance between usability test administrator and librarian? And, more importantly, are their experiences with usability testing affecting the way they approach their daily library functions? This study explores the relationship between usability testing and one key component of public service librarianship, library instruction.

Usability testing is inherently user-centered. The *Encyclopedia of Library and Information Science* states, "Usability testing is the process of actually observing users

working on a system or product, taking the information gained in that process, and making changes in the system under test, then testing again to see if the changes improved the system for users" (Drake 3022). This definition ends at the point of system redesign. While usability testing can be performed numerous times, thus leading to further and further system redesign, usability study descriptions rarely assess the effect of usability testing on the test administrators. Perhaps the assumption is that test administrators should be objective, third parties.

Yet, librarians are not objective test administrators but practitioners and advocates in the field. They are not software or interface designers and may not have the ability or authority to redesign the system in question, especially in the case of consortia catalogs or commercial products. Their observations during usability testing can, however, inform other areas of their work. It is the user-centered nature of usability testing, the ability to view library systems from the user's perspective, that can lead librarians to make changes in other aspects of librarianship. The present study surveyed instruction librarians to discover how observations during usability testing informed their instructional techniques.

BACKGROUND

The Consortium of Academic and Research Libraries in Illinois (CARLI) instituted the WebVoyage Usability Study Task Force (WVUSTF) in 2003, in order to plan and execute a usability study of the Endeavor WebVoyage catalog interface as

implemented in the 65 CARLI libraries. The usability study, involving 46 participants at five CARLI institutions across the state, consisted of a series of tasks such as looking up titles and authors, checking holdings and availability, keyword searching, requesting a title from another CARLI library, and limiting searches. The CARLI libraries involved in the test were Columbia College Chicago, Illinois State University, Illinois Wesleyan University, Lincoln Land Community College, and Southern Illinois University Carbondale.

At the Southern Illinois University Carbondale (SIUC) usability test sessions, one of the participants happened to be a student who had recently attended a bibliographic instruction session taught by the usability test administrator. During the test, the administrator noticed that this participant was using some of the search strategies taught in the library instruction session; however, the test participant was not using the strategies in the right places or at appropriate times. At the conclusion of the test, the test administrator and observer (authors of this article) discussed how they could alter their teaching techniques in future instruction sessions to address the test participant's mistakes. It was then that they realized usability testing could inform library instruction practices.

Watching users make the same mistakes repeatedly, the authors decided changes to various instructional methods were necessary. Instruction sessions, handouts, and tutorials were altered. The authors observed the following common end-user behaviors

during the ten SIUC usability test sessions and made instructional changes to address these issues. The SIUC test participants often:

- Included initial articles in title searches
- Misused search strategies such as Boolean, phrase searching, and (+) signs
- Misunderstood the difference between the local catalog and the state-wide catalog
- Misspelled words
- Suffered from information overload, at both the results list level and the bibliographic record level
- Used the subject search as a keyword search

For instruction librarians, the experience of seeing through the eyes of the user can be especially profound. Such was the case not only for the authors but also for other members of the task force. The initial intent of the usability study was to measure the effectiveness of the state-wide catalog. Results helped inform recent changes in the catalog's design and also resulted in a recommendation to "investigate ways to maximize the impact of end-user instruction based on known behaviors" (WebVoyage 29). The task force's recognition that usability testing can be used to inform instructional methods convinced the authors that a wider study of the phenomena was necessary. Convinced that they could not be the only librarians to have made the connection between usability studies and library instruction, the authors embarked on the present study to uncover the intersection where library instruction and usability studies meet.

LITERATURE REVIEW

The literature on usability studies of online library catalogs addresses end-user search behaviors and problems. These have been well documented. Common end user problems include, but are not limited to:

- Bringing incomplete information to the search process
- Inability to repair failed searches by substituting related concepts (e.g., synonyms)
- Struggles with managing very large or very small results sets
- Searches that retrieve nothing
- Misunderstanding the function of a library catalog with no desire to gain the needed knowledge
- Lack of knowledge of Library of Congress Subject Headings (LCSH)
- Misspelling and typographical errors
- Word order inconsistencies (e.g. Maya Angelou, not Angelou, Maya)
- Incorrect search types (e.g. a keyword search in the title search)
- Incorrect syntax and search commands (e.g. discrimination in sports)

Many of these errors can be rectified by care and critical thinking. Eric Novotny's article aptly titled, "I Don't Think I Click," describes typical hasty decision-making behavior by a typical user; "he did not pause to consider all his options but, instead, selected the first link he noticed that appeared relevant" (Novotny 530). These hurried users often click away indiscriminately and quickly. Conversely, Cooper (2001) suggests

lengthier sessions could be a "reflection of more sophisticated searching behavior, such as gaining experience with the system, exploring more system features, and using more databases" (141).

Even if users take time to consider the various search options, they may not have enough information to conduct a successful search. A study by Halcoussis, et al. (2002) reveals specific reasons why searches succeed or fail, and how users view success. Users had more success with known-item searches, such as title searches, than with subject searches. This study also validates the widely held notion that users are overwhelmed with large sets of results. Halcoussis, et al, note that a "user's perception of success appears to be largely subjective, driven primarily by the expectations that the user brings to his or her session in the catalog," (154) and not strictly related to the specific features of the online catalog.

In an attempt to address known end-user search behaviors, usability testers commonly arrive at two solutions: (1) re-design the online library catalog and (2) strengthen bibliographic instruction and information literacy efforts. Some of the literature offers general comments about applying the results of usability studies to instruction efforts. These comments tend to come from personal experiences or anecdotal evidence. Others offer specific teaching tips and classroom activities to address issues raised during usability testing.

Turner (2002) recommends several design solutions such as help screens, more relevant error messages, color, layout, labels, and instruction provided at many levels, including "bibliographic instruction, one-on-one at point of need and simple handouts" (78). She also states that successful searching requires one of the skills most commonly exhibited by advanced searchers: "patience in evaluating results and a willingness on the part of users to re-do searches" (72).

Bonnie Gratch discovered that "teaching a search strategy is still very important, since libraries continue to be complicated information systems" (6). Novotny (2004), for instance, remarks on users' inability to think of synonyms when a search fails. Results of his usability study caused him to place greater emphasis in his instruction sessions on "how to incorporate synonyms into a search and, just as important, why one would want to do such a thing" (534).

In addition to offering various teaching tips, many authors lament their users' lack of knowledge regarding information organization. The majority of users lack a basic understanding of what a library catalog is and what function it serves. Novotny (2004) states the discovery that impacted his reference and instruction practices most was "learning that even experienced users lack a full understanding of what they are doing when they search a library catalog" (534). In response, he began incorporating into his instruction sessions what a catalog is and, specifically, what it is not.

Yu and Young (2004) state that training and online documentation can help people use online catalogs until systems change in order to "accept an untrained user's input" (178). The two authors admit, however, that users are not usually willing to take the time to learn online catalogs: "They just want to get their search results quickly and expect the catalog to be easy to use with little or no time invested in learning the system" (178).

Instruction librarians, past and present, may succeed at improving their teaching strategies, but Novotny (2004) seems skeptical about applying usability study results to instruction. He states, "although education will always play a role, it seems clear that a significant portion of library users does not know – or care about – the intricacies of library catalogs" (530). Based on many years of observation, Borgman (1996) also comes to the conclusion that good instruction in the use of online catalogs should be minimal and focused on conceptual frameworks, not on procedures for stating queries. While she feels training is not a substitute for good catalog design, she notes that in the short-term, "we can help make online catalogs easier to use through improved training and documentation that is based on information-seeking behavior" (501). In the long-term, however, she believes time is better spent at redesigning the catalog interface. Like Novotny, Borgman observes that users are unwilling to devote time to learning how to use information retrieval systems.

Despite users' lack of curiosity and desire to learn, instruction librarians agree that information literacy is still an essential skill in today's world and should be

addressed through education. Because interface design will continue to evolve and change, understanding the principles of information organization and retrieval will be vital to retrieving relevant results. Such understanding will serve users well, leading to more effective searching both in library catalogs and in other systems users will encounter.

METHODOLOGY

In order to gather data about usability testing and its impact on library instruction from librarians nationwide, the authors designed a survey to be distributed via national listservs. Listservs were selected that had a substantial representation of instruction librarians, such as ILI-L (Information Literacy Instruction Discussion List), LIBREF-L (Discussion of Library Reference Issues), and EBSS-L (Education and Behavioral Sciences Section Listserv). The survey was accessible from July – early October 2005. The survey attempted to answer several questions:

1) To what extent are librarians who are responsible for instruction becoming involved in usability testing?
2) Is usability testing informing instructional methods and materials?
3) What changes or additions are being made in instructional practices as a result of usability testing?
4) What software is being used to interpret or capture the results of usability testing?

The survey aimed to collect both quantitative and qualitative data on how librarians, particularly instruction librarians, are experiencing usability testing. Data was collected via multiple choice questions, including some questions in which participants could select multiple answers relative to their experience, and an open comment question. Statistical data was generated via the web-survey software. Open comments were coded, counted, and analyzed for reoccurring themes. The survey was sent only to listservs representing library instruction interests. By no means do the following data regarding usability testing characterize the general use of usability testing practices in the library field. Rather, this survey focused on the intersection where usability testing and library instruction meet. To do so, it was vital to target instruction librarians.

RESULTS

A total of 114 surveys were completed. A response rate cannot be calculated since the survey was not sent to a predetermined set of individuals. However, the survey was sent to the major library instruction listservs, so responses could indicate the extent to which instruction librarians may be involved in usability testing. Sixty-three respondents (55%) have administered or participated in a usability study, and 98% of those also participate in library instruction. The 45% that have not participated in usability studies can offer little to our understanding of usability testing's relationship to library instruction and have therefore been subtracted from the results. The following statistics are based on the 63 surveys from those who have participated in usability

studies and can provide insights into how usability testing informs their library instruction.

Because the survey was sent to instruction-related listservs, it is not surprising that 62 of the 63 respondents (98%) were involved in library instruction. Therefore the majority of the respondents have insight in both library instruction and usability studies. Using data from this particular set of librarians, a study of relationships between instruction and usability tests is possible. Following is an analysis of how these librarians are involved in library instruction at their institutions and how usability testing has affected their instructional practices.

Library instruction takes numerous forms and librarians can participate in a variety of ways. Some are extremely active in library instruction at their institutions, while others participate marginally. Participation in instruction was measured by asking the respondents to select categories that applied to their involvement. The following chart illustrates the number of respondents who indicated participation in each of the categories in descending order.

"Insert table 1 here"

Library instruction sessions predominate with 92% participation. The creation of handouts, research guides, and/or subject bibliographies follows closely with an 86% participation rate. Orientations to the physical building account for 71%, and the creation

of online tutorials represent 56%. Twenty four respondents (38%) are Instruction Coordinators for their institution. Only 13% of respondents participate in for-credit library courses. Three surveyed also filled out the "other" category. Responses include website content creation, creation of content for topic specific courses, and special instruction projects related to the MLS degree. Only one respondent indicated that he/she does not participate in library instruction.

Respondents could check all of the above categories that applied to their instruction involvement. Results show the majority of respondents are heavily involved, with the largest group (21) indicating involvement in four of the above categories. The next largest group, 17 respondents, participates in three instructional categories and another 14 participate in at least five areas. Finally, two respondents report involvement in six of the instructional categories. The remaining nine respondents are involved in two categories or less.

The survey included questions to gauge whether and how usability testing is changing instructional practices. In answer to the question, "Did your participation in a usability study change the way you do library instruction?", 12 responded "definitely" and 38 responded "somewhat." Together, these responses comprise 80% of the total. Only 11 respondents indicated that usability testing did not change their instructional practices (17%). Two respondents chose not to answer the question (3%). These negative responses account for only 20% of the total. Thus, a clear majority of the respondents who have been involved in usability testing have changed their instructional

practices in response to their experience. The overwhelming number of affirmative responses to this question confirms that further study on usability testing and its impact on instruction is needed.

If librarians are changing library instruction practices in response to usability testing, what exactly are they changing? Survey respondents were asked to describe which instructional practices they altered as a response to usability testing. Choices were similar to the descriptions for library instruction participation. Respondents could select as many or as few categories as applied to their situation.

Library instruction sessions lead the group with 42 instances. Changing handouts, research guides, and subject bibliographies follow with 29 instances. Thirteen librarians report making changes to online tutorials. Surprisingly, eight respondents indicate they made changes in their approach to orientations to the physical building. Most often, usability testing is aimed at the virtual environment so finding that usability studies affected change in orientations to the physical library was quite unexpected. Only one individual reports making a change to a for-credit library course after participating in usability testing, perhaps not surprisingly given the small number of respondents engaged in for-credit library courses. Several respondents also completed the "other" category for this particular question, with two reports of changes to OPACs, one reference to changes in wording on websites, and four instances of non-specified website changes. Survey instructions prompted respondents to skip this question if they did not make any changes to library instruction as a result of usability testing. Thirteen respondents (21%) did not

answer the question. In summary, over 79% of survey respondents have changed instructional practices as a result of usability testing. In addition, 68% of those that did make changes, instituted changes to at least two or more of the instructional categories.

The survey also asked if respondents had created any new instructional materials or instituted new classes in response to usability testing. Of the categories listed, online tutorials top the group with 16 new tutorials created. Handouts, research guides, and subject bibliographies follow with 13 instances. Six librarians report creating new library instruction sessions. Orientations to the physical building are mentioned twice, and creation of a for-credit library course is mentioned once.

The largest group (17), however, came from the "other" category in which respondents were able to describe in their own words new programs which were created. The majority (90%) of those who chose "other" referred to changes and additions to their library's website or web pages. Others indicate that while change and/or creation of new material had not yet occurred, it is imminent. One respondent went so far as to say, "We just finished our usability tests 2 weeks ago, but will DEFINITELY be creating and changing EVERYTHING based on what we found" (emphasis in original). In contrast, only 16 (25%) respondents report nothing new has been created as a result of usability testing, and 9 (14%) gave no response to this survey question. Even so, the data shows that 61% of respondents have created new instructional material as a result of their experience with usability testing.

The following table summarizes the number of instructional methods both changed and created, displayed by percentage. Respondents could select multiple categories; therefore each number represents the percent of that category relative to the total (n=63).

"Insert table 2 here"

Finally, the survey asked respondents to share specific examples of how they may have changed library instruction after participating in or administering a usability study. Just under half of those surveyed chose to share examples. After analyzing and coding the responses, six distinct categories emerged.

- **Student skills:** Eight respondents commented on their assessment of student skills, or lack thereof. Many seemed surprised by the low level of skills observed during their usability study. The observance of such low skill levels convinced these respondents that changes in library instruction were necessary. As one respondent states, "… we must go back to basics even more than we ever thought, because incoming and current students are much more under prepared to do research than previously assumed."

- **Use of library jargon:** Another eight librarians stated that they began using less library jargon and less "techno babble" as a result of their experience with usability testing. "I have changed the terminology I use when conducting my

instruction sessions to be more student-like, and less librarian-like," said a respondent. Some reported using less jargon in BI sessions while others removed technical terminology from handouts and websites.

- **Creation of help features:** Again, eight librarians reported creating additional help features in their system to alleviate user confusion. One particular respondent was very specific, detailing the software his/her library is using to create online tutorials: "We also are right now in the process of creating online tutorials (using Camtasia) for our online citation management tool (NoodleTools) because students are confused with how to best use it." Others spoke of online tutorials or FAQs but did not elaborate on the technology used to develop the tools.

- **Understanding information organization:** Seven surveyed mentioned a need to teach methods of information organization. Related to comments regarding a lack of student skill, these seven librarians believe a basic understanding of information organization is necessary for effective searching and library instruction is the remedy for the problem. As an example of these comments, one librarian remarked, "Also, we need to teach more about how information is organized (e.g., articles are found in journals, but you search for articles in databases, and then have to go up one level to the journal to find the article 'in real life')." Two of these seven respondents spoke of using print materials in their teaching to demonstrate how indexes, catalogs, and journals are constructed. The

majority of comments spoke of users' inability to differentiate article indexes from journal finder products.

- **Through the user's eyes:** Another five respondents mentioned user perspective as a benefit of usability testing. Aptly put by one respondent, "The most valuable result is that one realizes that their own way of using the resource is not necessarily the way patrons will use them (and then, patrons will have different strategies of navigation). And even if you expect patrons to use a source in certain ways, there's no way to know until you actually see them do it." The primary purpose of usability testing is to obtain a user-centered view of the system and make necessary adjustments. These same respondents who mentioned the user perspective also reported making changes to library instruction or creating new instructional opportunities.

- **Website redesign:** Finally, five librarians spoke of website redesign as an example of instructional change: "After observing the manner in which students use the library website, we changed the location of some links to make them more prominent (less clicks to get there)." Website or system changes are commonly the goal of usability testing, so such comments are expected.

The above categories give a broad understanding of issues raised by multiple survey respondents. Additional comments are equally insightful but are limited to a single response. One librarian advocates creating hands-on instruction techniques similar

to the usability test he/she had employed. Another encourages more interaction between students, to foster peer-learning. Yet another states that changing the tool or system cannot and should not replace good information retrieval practice, learned through library instruction.

The last category of questions related to the method in which usability testing is being administered in libraries. Only sixteen respondents (25%) had actually used a particular software or technology to administer their usability test. The remaining 75% did not indicate which method they may have used to administer their usability test. Of those using technology for testing, the majority (41%) used screen capture software with Camtasia and My Screen Recorder each mentioned twice and Morae listed three times. All three products are commonly used in usability testing for their ability to record screen movement, mouse clicks, and voice. Online surveys follow as the next most-used technology with 5 responses (29%). Two respondents (12%) report recording usability tests with a video camera. This method is still commonly employed for usability testing and was particularly prevalent before the advent of screen capture software. The remaining technologies are only each mentioned once (6% each): email survey; online test answers deposited into an SQL database; and a website tester called Watchfire.

CONCLUSION

Usability testing is affecting change in library areas it was never intended to address. In the hands of instruction librarians, usability testing has become more than

just a tool to redesign websites and online catalog interfaces. An overwhelming majority of survey respondents (79%) changed instructional methods as a result of usability testing. Another (61%) created new instructional methods. The data suggests that observing users interacting with library systems is a powerful and enlightening tool for instruction librarians. Librarians already involved in usability studies should consider how their observations can be used to better library instruction at their institutions.

It is also clear from survey results that instruction librarians are claiming a stake in usability testing. Over half (55%) of those surveyed had participated in usability testing. While this is only a slim majority, the high number of positive changes reported by the majority group suggests that more instruction librarians should be involved. Library usability testers should take note and solicit the participation of their instruction librarians. Conversely, instruction librarians need to seize opportunities to become involved in and even initiate usability testing at their libraries. The lessons learned and perspectives gained can only enhance their ability to provide quality, user-centered instruction.

This study, combined with knowledge gained from the literature, has proved the authors are not alone in connecting their usability testing observations to their library instruction. In addition, their research has given the authors many ideas for library instruction related to online catalogs. First, we now recognize that instruction on information organization is necessary. Lesson plans should include basic descriptions of records and fields, catalog construction, and the difference between an online periodical

index and journal holdings in a catalog. Without a basic understanding of information organization, our users have little chance of navigating complex information systems such as libraries.

Second, the authors will take more care in teaching when and where to use specific search strategies. One of the authors has been teaching phrase searching and the use of plus (+) signs with keyword searching for many years. By participating in the usability testing, she now understands that even though a user might understand search strategies like phrase searching, he or she may not recognize certain strategies are limited to specific search types (e.g., keyword searches). More attention to explaining search types is needed. Help features and handouts are needed to illustrate and reinforce various search types and search strategies.

Third, the authors plan to keep "information overload" in mind throughout their library instruction sessions. Because researchers suffer from information overload at all levels of the research process, much of the instruction librarian's teaching process should address how to narrow and limit results. Usability testing shows the majority of users will make mistakes in the search process, often resulting in large and inefficient results sets. Students are often relieved when they learn strategies for narrowing large result sets to more relevant items.

FURTHER STUDY

Survey results in this study corroborated anecdotal evidence; usability testing is informing library instruction. Common themes emerged in the context of the changes reported by respondents, mirroring findings from the authors' experience with usability testing on their own online catalog. Survey data corroborates that changes are being applied in all the common instructional arenas, including BI sessions, credit courses, online tutorials, handouts and bibliographies, and even library tours.

The current study also raises a number of new questions. If library instruction methods are changing due to usability testing, what other areas of librarianship might also be affected? This study could be repeated to find additional areas of congruence between librarianship and usability testing. Furthermore, are there librarians not involved in instruction who might also benefit from usability testing who are not currently being asked to participate? Can catalogers benefit from observing how library users interact with data in online catalogs? Should they be included as test administrators and observers? Additional research could address the issues of librarians' duel interests as both test administrators and practitioners in the field. Moreover, are there uses for usability testing in libraries beyond studying websites and online catalogs? This study suggests usability testing is being used for an unintended purpose. Further research could investigate creative applications of usability testing in libraries.

Certainly, traditional usability testing will persist, and librarians will continue to learn and adapt the knowledge gained from observing their users. Further research into usability testing allows librarianship to garner a better understanding of its systems, its

users, and itself. There is nothing quite so revealing as seeing yourself as others see you. As more library resources are placed in an online environment, the need to address the usability and effectiveness of online systems will increase. Equally important, librarians need to address their efficacy in this changing environment. Usability testing offers a systematic way to address these issues.

REFERENCES

Borgman, Christine L. 1996. Why are online catalogs still hard to use? *Journal of the American Society for Information Science* 47 (7): 493-503. ABI/INFORM Global, http://proquest.umi.com (accessed March 29, 2006).

Cooper, Michael D. 2001. Usage patterns of a web-based library catalog. *Journal of the American Society for Information Science and Technology* 52 (2): 137-148.

Drake, Miriam A., ed. 2003. *Encyclopedia of library and information science*. New York: Marcel Dekker.

Gratch, Bonnie G. 1988. Rethinking instructional assumptions in an age of computerized information access. *Research Strategies* 6 (1): 4-7.

Halcoussis, Deniss, et al. 2002. An empirical analysis of web catalog user experiences. *Information Technology and Libraries* 21 (4): 148-157.

Novotny, Eric. 2004. I don't think I click: A protocol analysis study of use of a library online catalog in the internet age. *College & Research Libraries* 65 (6): 525-537. Education Full Text, http://vnweb.hwwilsonweb.com (accessed January 24, 2006).

Turner, Nancy B. 2002. Baffled, befuddled or bemused: Testing students' use of the online catalog. *College & Undergraduate Libraries* 9 (1): 71-79.

WebVoyage Usability Study Task Force. 2005. *Usability study: Final report.* http://office.ilcso.illinois.edu/Minutes/iuagwvustf/wvustf_home.html (accessed May 10, 2006).

Yu, Holly and Margo Young. 2004. The impact of web search engines on subject searching in OPAC. *Information Technology and Libraries* 23 (4): 168-180. Academic Search Premier, http://weblinks1.epnet.com (accessed January 12, 2006).

Appendix

Usability/Instruction Survey

1) Have you ever administered or participated in a usability study on your library's catalog, website, or search engine?

- ⬭ Yes
- ⬭ No

2) Did you use software or other technology to administer the usability test?

- ⬭ Yes
- ⬭ No

3) If so, please briefly describe the technology used.

4) Indicate your participation in library instruction at your institution. (click all that apply)

- ⬭ I am the instruction coordinator
- ⬭ Handouts/research guides/subject bibliographies
- ⬭ Online tutorials

⬭ For-credit library courses

⬭ Library instruction sessions

⬭ Orientations to the physical library building

⬭ I do not participate in library instruction

⬭ Other (please describe):

5) Did your participation in a usability study change the way you do library instruction?

⬭ Definitely

⬭ Somewhat

⬭ Not at all

6) If you answered "definitely" or "somewhat" to the previous question, which of the following did you change? (click all that apply)

⬭ Handouts/research guides/subject bibliographies

⬭ Online tutorials

⬭ For-credit library courses

⬭ Library instruction sessions

⬭ Orientations to the physical library building

⬭ Other (please describe):

7) Were any of the following CREATED as the result of a usability study? (click all that apply)

- ⬭ Handouts/research guides/subject bibliographies
- ⬭ Online tutorials
- ⬭ For-credit library courses
- ⬭ Library instruction sessions
- ⬭ Orientations to the physical library building
- ⬭ Nothing new was created as a result of a usability study
- ⬭ Other (please describe):

8) Please provide specific examples on the changes you made to library instruction from your observations after administering a usability study.

Table 1: Library Instruction Participation

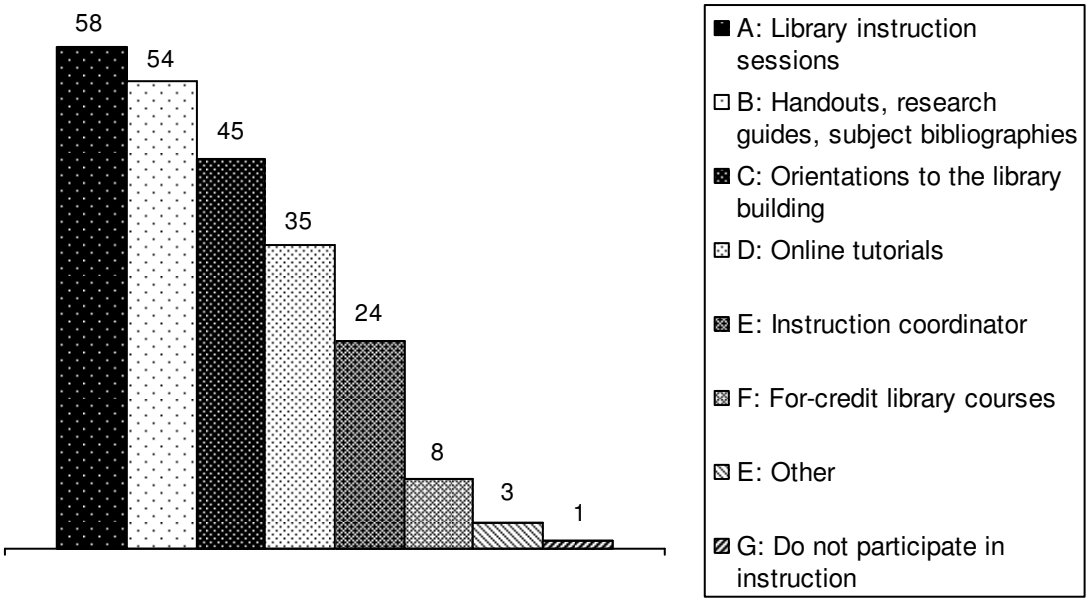

Table 2: Percent of instructional methods changed and created

Instruction Categories (select all that apply)	**Changed**	**Created**
Library instruction session	66%	10%
Handouts, research guides, subject bibliographies	46%	21%
For-credit library courses	2%	2%
Online tutorials	21%	25%
Orientations to the physical building	13%	3%
Other	11%	27%
No change	21%	39%