

Usability Testing of a Library Web Site: Librarians and Anthropologists Working Together

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Abstract

This discussion group focused on how an ethnographic study on students at Fresno State led to research on library website usability. Three librarians, an anthropology professor, and six anthropology majors are collaborating on methodology, procedures, and data compilation and analysis to measure the ease or difficulty students experience while answering a set of basic research questions using the library website. The goal is to obtain a sufficient sample of user-driven data that will inform decisions about website improvements. While the project is not complete, the presenters talked about the study's methodology and what this in-depth research involves.

Introduction

Librarians nationwide have recently been very excited about using ethnographic techniques from anthropology to better understand user behavior. From September, 2008 to May, 2009, two Fresno State Anthropology professors and three research assistants used ethnographic techniques to study undergraduate student life on campus and find information that “librarians could use to both increase library usage and improve student users’ experience of library services” (Delcore, Mullolly, & Scroggins, 2009). The researchers took their “primary methodological and conceptual frames from design anthropology” that “lies in the contention that the design of products and services can benefit from the ethnographic study of users” in their natural context (Delcore, et al., 2009). The study’s results were compiled in *The Library Study at Fresno State*. One section focused on the library’s website and noted that “many students are, in fact, bypassing the library website by using Google or – for the more sophisticated – Google Scholar, sometimes to search Madden Library holdings themselves” (Delcore, et al., 2009). Study recommendations on website redesign led to the creation of the Web Usability Workgroup whose goal was to learn more about how students use the library’s website and identify problems they may encounter. This group is now working extensively with one of the Anthropology study’s co-authors and his students to observe and film students as they use the library website to answer a set of common research questions. Future website design will be based on the resulting user-driven data. While the study is not complete, the presenters focused on methodology, preliminary findings, and how the data will be compiled and analyzed.

Description

After a brief overview of library ethnographic research, the presenters talked about the Fresno State study's ethnographic study's recommendations on improving the library's website and the subsequent creation of the Web Usability Workgroup to determine how students use the site, and what challenges they may face. By observing what students actually do, future website design will be user-driven, not based on the assumptions of librarians and website designers.

The Web Usability Workgroup, collaborating with an Anthropology professor and his students, established a plan that including articulating the study's purpose and methodology, determining the user group to be tested, and establishing procedures that followed institutional research laws, regulations, and university review. Discussions on methodology involved creating the contents of the test, and then determining how it would be conducted and how results would be compiled and analyzed. It was decided that a sample of forty-two juniors would be filmed as they worked on ten basic research questions using the library website. Their search strategies would be timed and recorded, and all students were asked to explain aloud what they were thinking as they answered the questions. Juniors were selected because they should have some experience with the website and the sample size of forty-two was calculated to be large enough to significantly represent the junior class as a whole. The description of the study's methodology covered the following:

- Creating a set of ten basic research tasks
- Creating a pre-survey form to ensure that student volunteers were juniors
- Ensuring that all participants signed the survey forms agreeing to being filmed
- Creating a script that moderators used to explain the process
- Submitting the required information to the university for institutional research review
- Training study moderators (Anthropology and library faculty, anthropology students)
- Adding Screenium software to four Macs in order to film students and record their searches
- Conducting a pre-test of ten students so methodology/tasks could be modified when necessary
- Recruiting students coming into the library over a four-day period
- Tabulating times spent on all tasks for each subject individually using Excel
- Creating and applying codes for verbal and non-verbal actions with some additional notes
- Analyzing, compiling and releasing results

The presenters explained that the close collaboration with Anthropology faculty and students was invaluable due to their knowledge and experience with observation-based research. The pre-test was crucial because any confusing or misleading questions and instructions were easily revised. It was necessary, for example, to clearly instruct students to use the library website, not Google, to find their answers. It was surprisingly easy to recruit students as they entered the library and a \$10.00 Starbucks gift card was sufficient incentive. Using Anthropology students as test moderators was successful because they were usually objective and provided insight not colored by extensive library experience or users expectations. Sometimes, however, moderators had difficulties ensuring that students talked out loud about what they were thinking as they worked and knowing when to let students wanted to continue working on questions or stop and move on to the next one.

Now the group is creating an Excel spreadsheet that will record the participants' research strategies in detail and the times spent on each task. All videos will be closely analyzed; verbalizations will be recorded and non-verbal behaviors will be coded. While the group is excited about this study, watching the videos has readily shown that many students have substantial difficulties using the library's website. While this has been both discouraging and enlightening, it is very exciting to know that website revisions will be based on the user-driven data this research has provided.

Key Points

The presenters had planned a small group activity for attendees that would help them identify the basic components of a web usability study that could be applied at their own institutions. The discussion after the presentation, however, used up the time allotted for it. Instead, a very lively and engaged exchange of comments, concerns and ideas followed. People wanted much more information on the study's methodology and preliminary findings. They shared their personal knowledge of website usability studies, thoughts about their own libraries' websites, and library-based preconceptions about user needs that negatively affect website design. It was very obvious that many librarians have definite concerns about the problems college and university students experience using library websites for research.

Some attendees, for example, wondered if library websites should be changed to more resemble Google, the first choice for many students. Should a single search box be prominent? What should it search? How should the website be described? Are library websites simply too complex and confusing? Do they provide too much content and too many links? Do students understand the difference between Google and the expensive databases that libraries carefully select to support their research needs? Does it matter if they understand the difference or know how much libraries pay for expensive online resources? There was definitely some disagreement on this. Using library jargon was another topic that concerned attendees. Do the terms that librarians routinely use mean anything to students? If not, what other words or phrase make more sense?

Library website design reflects great intentions but as the Fresno State study's preliminary results are showing, these intentions are not helping many students with their research projects. Indeed, they may be a serious detriment. Several people talked about the importance of library instruction and information literacy efforts to help students become more effective and efficient researchers. It was generally agreed, however, that it is impossible to reach all students, especially as funding and staffing levels decrease throughout California's institutions of higher education. Many students are accessing library websites with little experience or understanding of how to navigate them or what they offer, rather, turning to Google for answers.

There were many questions about how the Web Usability Workgroup will analyze the research videos and then compile the results. While the presenters stated that this part of the study is just beginning, they noted that it will definitely be somewhat time consuming to fully code forty-two sessions and then compile and analyze the outcomes. The preliminary viewings, however, readily indicate that repeated patterns of problems occurred. While it was easy for most students, for example, to determine if the library owned a specific journal title, it was challenging for almost everyone to find periodical or newspaper articles on specific topics. So far, it has been surprising that many students repeatedly make remarkably similar erroneous choices while working on tasks. The Fresno State students who participated in the study were

impressively serious about completing the ten-question research exercise and very clearly expressed, both verbally and non-verbally, their frustrations when the strategies they selected did not work.

Finally, people asked questions about when this study would be completed and how the results would be disseminated. A final report should be done by early fall. Based on this short session, it is very obvious that the attendees shared many concerns about library website usability and how to make design decisions that significantly improve access. Frequently the design of library websites is based on the assumptions, anecdotal data, and individual preferences of web staff and library administrators even as reference, instruction and liaison librarians often report that students do not know how to use them effectively or even know how to use them at all. This observation-based methodology is based on creating research exercises, carefully selecting a specific group of participants whose sample size is sufficient to be representative, setting up appropriate research procedures, and finally analyzing and compiling relatively complex data. The outcome – obtaining truly user-driven data for user-driven website design - is definitely worth the effort.

Delcore, H.D., Mullolly, J., & Scroggins, M. (2009). *The Library Study at Fresno State*.

Retrieved from

[http://www.csufresno.edu/anthropology/ipa/TheLibraryStudy\(DelcoreMullollyScroggins\).pdf](http://www.csufresno.edu/anthropology/ipa/TheLibraryStudy(DelcoreMullollyScroggins).pdf)

Appendix 1

Discussion Session Handout

“Usability Testing of a Library Web Site: Librarians and Anthropologists Working Together”

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Presentation slides and documents on Slideshare:

<http://www.slideshare.net/adinscore/usability-testing-of-a-library-web-site-librarians-and-anthropologists-working-together>

Recommended Reading:

Foster, N. F., & Gibbons, S. (2007). *Studying students: The Undergraduate Research Project at the University of Rochester*. Chicago: Association of College and Research Libraries. Retrieved from <http://docushare.lib.rochester.edu/docushare/dsweb/View/Collection-4436>

Delcore, H.D., Mullooly, J. & Scroggins, M. (2009). *The Library Study at Fresno State*. Retrieved from <http://www.csufresno.edu/anthropology/ipa/TheLibraryStudy%28DelcoreMulloolyScroggins%29.pdf>

Lehman, T. & Nikkel, T. (2004). *Making Library Web Sites Usable: A LITA Guide*. New York, NY: Neal Schuman Publishers.

Norlin, E. & Winters, C. (2002). *Usability Testing for Library Web Sites*. Chicago, IL: American Library Association.

Campbell, N. (2001). *Usability Assessment of Library-Related Web Sites: Methods and Case Studies*. Chicago, IL: American Library Association.

Tullis, T. & Albert, B. (2008). *Measuring the User Experience: Collecting, Analyzing and Presenting Usability Metrics*. Burlington, MA: Morgan Kaufmann Publishers.

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