

Tracking Research Scents in the Wilderness

How the interface design of search tools affects user behavior

By Elizabeth M. McKenzie

In 2008, Julie Jones, then at Cornell and now at the University of Connecticut, won the AALL LexisNexis Call for Papers competition with an entry that was eventually published in the winter 2009 issue of *Law Library Journal* as “Not Just Key Numbers and Keywords Anymore: How User Interface Design Affects Legal Research.” I was first exposed to Jones’ research when she made a presentation at the American Association of Law Schools annual meeting in January 2009. Jones cast information-seeking behavior as a bear searching for the richest food sources in the wilderness. She analogized the results of queries to the scents a bear might follow to find either berry bushes or salmon.

The “scents” a legal researcher follows are the titles of links brought up with a query, and the quality of the “scent” can be judged by how many clicks it takes to reach the actual information and by how closely related the information turns out to be to its label. The berries might be surer and easier to get and take less effort to find but they also provide less nutrition. Jones noted that a bear would probably be wiser to look for the more nutrient-rich salmon if he could find it. In the case of both the bear and the researcher, each needs the best outcome of each search with the least effort expended.

Jones’ point was that the behavior of legal researchers, our students, and new associates in particular is shaped by the code that creates the user interface of Lexis, Westlaw, and other search engines they might use. As I listened, I realized that the behavior we as librarians try to shape, that we bemoan and blame ourselves and each other for—bad search strategies, poor database choices, default choices of search options—are really logical reactions of rational creatures to

the environment in which they find themselves. Like bears in the wilderness, we are trying to maximize our results with the least amount of effort in order to increase our survival chances. Meanwhile, the user interfaces students and young lawyers encounter are subverting their behavior and options.

Interface Design Impact

Using the results of eye-tracking tests and many other tests, website designers structure pages to take advantage of data on user behavior. And they try to structure and guide user behavior

on the information food chain. Student passwords (at the time that Jones performed her research) had the least access to treatises, and most searches steered them to the least efficient methods of search and the most expensive databases. Students had to click through many more layers to reach secondary resources, raising the “access cost” (think of that bear in the wilderness).

There were shocking and clear differences in what databases were available or even visible to law students. The design clearly steered students to the primary sources first and foremost and

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through the design of the website as well. Sophisticated website and database designers use the data and gather data themselves to increase user satisfaction and improve the design of their products.

However, a window for criticism opens when it appears that these user interfaces are designed to increase the vendor’s profit margin in a cynical effort to misdirect clients to use the product in ways that increase the user’s bill, either by sending users to less efficient databases to search or by training them to use searching rather than browsing to locate information.

Jones analyzes the interfaces provided by Lexis and by Westlaw and discovers that the user interface differs markedly depending on whether one uses a librarian password, a lawyer password, or a student password. Students are lowest

lastly to secondary sources, which most librarians would recommend as a starting place for most research tasks. And indexes and tables of contents, which would allow browsing, were not as visible in the directories, which steered students into the search boxes instead. Searching, of course, costs more in the transactional billing contract, whereas browsing is free. At the time Jones did her tests, this was true for both Westlaw and in Lexis.

The lawyers’ passwords, while not as extreme as the students’ had higher access costs than the librarian passwords, falling midway between student passwords and librarian passwords. We would never have known this—after all, what librarian uses a lawyer password or a student password?—had it not been for Jones testing the “costs” for different user groups.



First Test—and a Surprise

I was electrified when I heard Jones' AALS presentation and I read her paper with great interest. In the paper, Jones used Alabama as a test state. I decided to try to reproduce Jones' results in my home state of Massachusetts, also a small state. I thought I would involve our student intern in the project and asked to have him do the student portion of the research. I referred him to the original article and then gave him a research problem to run in Westlaw. The problem with this model is that I had no control over when he would actually run the research and thus could not run the librarian search at the same time.

Between the earliest search on April 5 and the latest search on July 13—three months—the numbers of documents in various databases jumped amazingly. This may simply reflect added documents in the databases, but it is a puzzle that I never solved completely to my satisfaction.

In addition, I had no idea that Westlaw was in the process of redesigning the student interface. It turns out that they also were very impressed with Julie Jones' research and, to its credit, responded by improving the student interface. By the time my student intern and I followed Jones' lead, the Westlaw interface had changed entirely. Despite the disarray this created in my plans, I must give a huge amount of credit to Westlaw for reworking its interface in response to Jones' article. Thomson-West should be congratulated on this major improvement, responding to a librarian critique and rolling out the change with

no fanfare of its own. Lexis, as far as I can tell, has made no changes at all in its interface.

In spite of the problems with the research design and the intervening changes to Westlaw's student interface, I still discovered some insights worth reporting from that first effort. I compared the databases that the intern found to what I could see using a librarian password. Then, I searched for other secondary sources. I queried Westlaw IDEN, the database of databases, for Massachusetts secondary sources relevant to my research problem and was quite surprised to find a treatise exactly on point that was not listed in my

Environmental Practitioner tab that I explored most recently, Westlaw offered tables of contents for most of the secondary resources, though they were only non-interactive text rather than hypertext links into the full text of materials. Thus, the user could look at the table of contents to see what was included, but not actually use the table of contents as a browsing and navigating tool in lieu of the search option.

Second Test

After considering the problems with my first test, I re-tested the student passwords against librarian passwords in Westlaw and Lexis on August 12,

generation than most of the law students being targeted by both companies.

Lexis' secondary sources nearly always have interactive tables of contents that pop up as the user enters the database. That arrangement encourages the user to browse the treatise using the hypertext links in the table of contents. So, while access cost is still quite different by user type, Lexis deserves some credit for offering a good number of excellent tutorials and hypertext tables of contents, both of which encourage browsing instead of searching, a more cost-effective method in a transactional billing environment.

From the time I first heard Julie Jones present her paper in January 2009, until August 2009, Westlaw's site has changed enormously in response to Jones' critique. Lexis, on the other hand, has not changed their interface at all. Realistically, librarians cannot count on Westlaw or any vendor to maintain these user-friendly changes. I want to focus on how librarians can help our patrons, whether they are lawyers, law students, or even lay users, to get the best use out of the legal databases that we pay so much for. Most of the time, librarians would probably want most users to begin most searches with a secondary source. Those of us who specialize in certain areas probably have lists of the secondary sources we would recommend and know on which sites they are available. For instance, in my first Massachusetts landlord-tenant example, the best material is probably the *Massachusetts Practice* and the *MCLE*. Having the secondary sources in hand, a researcher could quickly gather the primary law and also benefit from an explanatory text from a reliable, respected source.

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Massachusetts tab at all. My search was a landlord-tenant issue, and I was amazed to locate *National Business Institute Massachusetts Real Estate Practice*, which shows up on a general real estate practice tab but not on the basic Massachusetts tab under secondary sources. Searching that resource turned up useful-looking returns, although I am not positive that the material is not duplicated or bettered by material in *Massachusetts Practice* or *Massachusetts Continuing Legal Education (MCLE)*, both of which are on the main Massachusetts tab, under secondary sources>treatises.

Westlaw's updated student interface has dramatically changed how students access the databases. They have much more equal access to the materials now; in terms of click counts, it is comparable to that of librarians and attorneys. And to make secondary materials more attractive for student use, Westlaw now has a very slick video tutorial that appears very prominently when the student logs on and explains how to use the tab system and customize tabs. The pre-assembled tabs for students include the librarian tabs and lots of secondary resources. Tabs are available both by jurisdiction and by substantive law topic.

I discovered that not all the databases in the Westlaw tabs are available to the student password (nor, most likely, to the law school password), but the titles are there, alerting students to the existence of all these secondary resources, special materials, and even the IDEN database if they can figure out what it is and how to use it. At least in the

2009, with a hypothetical about leaking underground storage tanks from a shuttered gas station polluting wetlands in Massachusetts. I also took a look at the BNA database so I would have a third vendor to compare.

BNA's passwords are not coded by user types, so they don't have that user-specific issue. In the months since the Jones article, Westlaw has made remarkable progress in making more materials better available to students and to attorneys. I would say that the differences between librarian and student access are now moot or nearly moot on Westlaw.

Lexis has not made changes in terms of differential access cost to students, at

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least as of the time of this second test. Students still have to click more to get down to the secondary resources. On the other hand, Lexis had 15 different tutorials for students, including one on how to use tables of contents to browse rather than search. The tutorials are not quite as flashy as the one on Westlaw, but are quite good and quite easy to follow and learn from. I actually prefer the Lexis tutorials, though we must keep in mind that I am of a different

A Modest Proposal

I would like to propose that librarians in each state or region begin a project to create tabs that Westlaw and Lexis should use. Possibly, we can create shared tabs that can be incorporated by one or both of the two services, or that we can share and add to our own "customized" tabs lists. We should ask the two vendors to participate with us in developing the tabs. After all, it should be to their benefit since the resources will be in

demand at firms, and we will be doing a great deal of market research for them.

If the large vendors don't want to use our lists, at the very least we can create shared lists of best titles for our patrons by subject area and state. AALL and the regional chapters can post the lists to their websites. These might also be made available to non-law libraries in the form of recommended resources, though the list for practitioners and librarians would be much deeper and more detailed than what public libraries would want. Public library lists already exist for many states through the Legal Information Service to the Public Special Interest Section Toolkit available at www.aallnet.org/sis/lisp/toolkit.htm. This add-on may finish the toolkit's reach. Perhaps a system of adding asterisks for the basic or core materials would address this need.

Firm/corporate and state, court, and county librarians may feel too busy to compile lists. Possibly if academic librarians invited nominations from their

colleagues in all library types ("name your favorite resource by subject") to be compiled into draft lists, then added to and corrected by colleagues in private libraries, the same result could be achieved in a collegial manner. Another possibility might be organizing committees in regional or city library organizations to work on the project with volunteers who would then bring a draft back to the whole group.

Regardless of the method, such an effort definitely needs to be shared by all types of librarians because we all hold different pieces of the puzzle. Law school passwords do not reach all the databases that should be noted, and firm passwords may be similarly limited. We all have our own specialties and serve our own special clientele.

Law librarians need to continue to agitate for the online services to modify their interfaces to emphasize browsing. The improvements so far are great—and must be maintained and extended. Tables

of contents and indexes should continue to be more prominent for researchers so that browsing becomes a more obvious route. Tabs can be set up to incorporate links to the tables of contents and indexes. Westlaw programmers can create these links, but at this point, we cannot seem to create links in tabs we customize ourselves. If the services would add this capability to our customization menu, it would be a big help in many ways. The current Lexis display in which the table of contents appears below the query box seems very good to me, though perhaps others have better ideas. This modification and design seems to be a perfect project for AALL chapters, but perhaps other groups might have an interest as well.

Any takers? ■

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More Online

Read **Julie Jones' original *Law Library Journal* article** "Not Just Key Numbers and Keywords Anymore: How User Interface Design Affects Legal Research" on AALLNET at www.aallnet.org/products/pub_llj_v101n01.asp.

View a **summary of click counts for student and librarian passwords** at www.aallnet.org/products/pub_sp1002.asp.

Memorials

AALL Spectrum has been advised of the deaths of **John Hagemann**, **Nancy K. Holden**, and **Michael J. Petit**.

Mr. Hagemann retired last spring after 41 years on the University of South Dakota School of Law's faculty. During most of that time, he served as director of the McKusick Law Library. Mr. Hagemann was a long-time member of AALL and served on many special interest sections. He was a beloved figure in the South Dakota State Bar and among the many graduates of the University of South Dakota School of Law. Mr. Hagemann died on December 13.

Ms. Holden earned a master's degree in library science from the University of Maryland, College Park, later becoming librarian at the university's law school. From 1982 until retiring in 1994, she was librarian for the Baltimore law firm Niles, Barton & Wilmer. Ms. Holden and her husband traveled a great deal and had visited such destinations as South Africa, Russia, Iceland, and the Midway Atoll. She died on November 17.

Mr. Petit worked at Georgetown University for many years before becoming head of cataloging and bibliographic access at the American University Washington College of Law in Washington, D.C. He was a member of AALL since 1994 and was involved in the Academic Law Libraries Special Interest Section, and the Technical Services Special Interest Section as well as numerous committees and chapters. Mr. Petit died on November 26.

AALL Spectrum carries brief announcements of members' deaths in the "Memorials" column. Traditional memorials should be submitted to Janet Sinder, *Law Library Journal*, University of Maryland At Baltimore, Thurgood Marshall Law Library, 501 W. Fayette Street, Baltimore, MD 21201-1768; jsinder@law.umaryland.edu.