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Library Analytics: Shaping the Future-How Analytics Helped Smith College Discover the Best Bento

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Library Analytics: Shaping the Future — How Analytics Helped Smith College Discover the Best Bento

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In this month’s column, we’re featuring a project that leveraged analytics around user behavior to inform design decisions around Library Discovery. This column builds on a presentation and previous efforts by Rob O’Connell, Director of Discovery & Access, at the Smith College Libraries to use analytics to help inform their library website redesign and ultimately led to the adoption of a Bento Box style implementation of EBSCO Discovery Service (EDS).

The genesis of the project began with observations of patron confusion caused by the previous implementation of the EDS interface. Librarians reviewing usage logs of EDS saw that most searches were for known-items and that these specific searches were about the students learning how to interact with the materials available. Librarians were regularly incorporating the discovery tool into their instruction sessions but noticed that while students were doing more complex searching during class sessions, they’d go back to simple, familiar keyword searching when working on their own. O’Connell believes that one reason for the high level of known-item and general topic searches was that Smith was marketing its discovery services to first- and second-year students and other novice searchers. He said the high incidence of known-item searching might differ from other institutions. At a comprehensive or Carnegie Doctoral 1 institution, more advanced students might be more database-focused which correlates with some of the observations at Smith where graduate students are more database driven.

At Smith, they’ve seen user research behaviors indicating that many students start their research with-known-item web searching and then move their initial search results into the discovery service. This adds up to the fact that, at least for discovery, there is no “one size fits all” and local mitigation of the interface that works best for each site is important. In 2016, Smith started a rebuild of the library website and had decided upon a bento box approach after seeing a presentation by librarians from the University of Alabama at a user group meeting. Smith’s goals were to build out a bento box approach using modern web design based on the extensive Google Material Design framework (https://material.io/guidelines/) that outlines how to rebuild for the modern web (e.g., motion, dynamic web). The initial redesign was first vetted by librarians, who when first seeing the skeleton were excited about the possibilities of the bento box. Together, the librarians of

References


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Smith decided to use evidence-based decisions to inform further redesign. They had questions centered on the user perspective, such as “Where do the troubles lie?” and “Is there too much information on the screen?”

Smith developed a cross-department user research team of five staff that included two librarians from collection services, two teaching librarians, and one programmer from Digital Strategies & Services. This makeup ensured that the team members could evaluate the bento box approach from different angles by various people with different sets of knowledge. Initial usability testing focused on screen wording and display elements (e.g., how would you filter these results?) with the ultimate goal being to learn if their students understood what’s being searched and how to manage the information on screen to optimize their search experience.

Testing of the initial bento box design focused on discovery by categories, common to bento box designs in other libraries — books, articles, and LibGuides — to determine which of these categories Smith users found helpful. One surprising result was how poorly LibGuides tested with students: of all students who didn’t understand why they were seeing something in the search results, they wouldn’t click on it making it nonessential to the overall design.

Another change made through observation related to databases. Testing showed that students had difficulty associating database names with their subject areas. Common databases, such as JSTOR were easy to identify, however, databases with unfamiliar names were less likely to be clicked on. To remedy this, Smith created a narrow by subject box which allowed patrons to select a subject area, such as biology, and have their search results filtered to show databases that are best for that subject area. Librarians can control which databases show up using an administration tool. The reasoning was that students didn’t need to dive into the unknown — topic-restricted searches worked better. O’Connell said these were both examples of a “reversal of the norm” but the testing proved it out.

In Smith’s user testing, they could verify results quickly across multiple users, work agilely to make changes, and continue testing those revisions programmatically. For example, the first iteration of the bento box, had drop down menus allowing the user to add various boxes, such as material type, databases from a list, or third party platforms like New York Times or Getty Images. In this initial design the dropdowns were towards the top of the screen and the team observed that users did not notice or use them. So, they revised the page to put all that information in one spot and then revised the wording to encourage usage. Additional testing helped them explore the correct order in which to offer materials (e.g., books, articles, databases, local results and video).

In another example from the initial design, users were transferred to multiple additional interfaces when using the “Explore More” feature. The sudden change in the display was confusing to students and led to the creation of a slide out sidebar to load additional content. This new design tested well and kept students within the bento box display, reducing confusion and streamlining the research process.

The Smith team also tested the number of APIs that could be included in the bento box design. They tested API displays for Wikipedia, New York Times, Getty Images, and Digital Public Library of American (DPLA). Many of these interfaces either tested poorly or the content was deemed inappropriate for the final product. While DPLA did not necessarily test well, the team viewed the results as potentially important for the research process, bringing primary-source content into the mix. In one usability test a student could locate images in DPLA on a challenging research topic. O’Connell said those results were great because “we want them to discover resources they never would have found.”

An important part of the testing revolved around the language and terminology used in the display. O’Connell said, “The tricky part was getting the wording right so students click
Wandering the Web — Backpacking, Hiking, Trekking, and Running on Trails in the United States

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As outdoor sports activities continue to grow in popularity, two areas that have seen some of the most growth in recent years are trail hiking and running. According to a 2017 study by outdoorindustry.org, “running, including jogging and trail running, was the most popular activity among Americans when measured by both number of participants and by number of total annual outings.” Additionally, hiking has continued to remain one of the most popular outdoor sports in the United States. The following resources have been selected with beginner and intermediate hikers and trail runners in mind.

Hiking, Backpacking, Trekking. https://americanhiking.org/gear-resources/tips-for-your-next-hike/ — American Hiking provides information on virtually every aspect of hiking, trekking, and camping. This page links to previously published American Hiking Society articles, fact sheets, and check lists which are well curated and organized into categories such as Outdoor Skills, Gear, and Safety & First Aid... etc. A must visit for those new to the outdoors, and equally beneficial for those with years of experience. The home page also provides information on advocacy, preservation, and volunteer options.

http://www.hikingbeginner.com/ — This site is dedicated entirely to new hikers. With sections on equipment, hiking etiquette, safety and first aid — as well as information on using a compass and gps, and exercises & techniques — it is an extensive go-to guide for beginner and intermediate hikers. The site also provides links to additional reading materials and resources on the subject.

http://www.backpacking.net/beginner.html — The Beginner Backpacker is an excellent resource for families and those with younger children. Provides a lot of practical and pragmatic advice with strong emphasis on safety and preparedness, including sections on “Hiking with Children” and “Common Sense” basics. Also includes a “Recommended Reading” list for further reading.

Trail Running https://trailrunner.com/resources/ — The official website of the American Trail Running Association, this is a comprehensive site for trail runners of all levels of experience and skill. The site features sections with tips on how to get started in the sport, as well as information on how to help preserve and maintain trails. The website also maintains lists of running organizations and clubs, magazines and blogs (with links), and also provides a community event calendar where users can post race dates and signup links for events around the world ranging in distance from 1 kilometer to 100+ mile ultramarathons.

http://trailrunnermag.com/ — Trail Runner Magazine is a valuable source of both information and entertainment for trail running enthusiasts. The site regularly features training tips and plans, gear reviews, recipes, nutrition and hydration tips, as well as news about major trail races and feature articles on professional and amateur runners from around the globe.

http://www.rei.com/learn/expert-advice/trail-running-basics.html — Sponsored by REI, this site gives the basics for those new to trail running, including tips on choosing shoes that fit properly, first aid, and basic training guidelines. While no means exhaustive, this continues on page 75

Finding patterns in the analytics of searching will allow librarians to apply those findings to the bento box. In the future, they can build and deploy customized bento boxes for search terms as they are utilized to help the user start in the direction they really want to move towards in their discovery process. O’Connell said all of these customized search options become possible and scalable at the institutional level because they can harvest data across their APIs, Google Analytics and other data points. The Smith team knows that it does not have to be at scale to start, just a few patterns emerging can lead to incremental changes and the further refinement of data collection. For example, they have plans to build a large database of how subjects are connected based on their search patterns and can track how those are added or removed from the bento box based on user behavior.

When asked what they would measure if they could, O’Connell said it would be helpful to track usage by undergraduates, graduate students and faculty to determine where they are starting their research and what are the successes and challenges for each group. He’d like to know how faculty are using the interface compared to students and whether graduate students are leveraging the bento box or going right into database searching. He also said that authentication data could be valuable to explore, but because privacy is paramount for Smith College most of these direct analytics about type of user and authentication are not possible. Smith has considerable success with what he called “guerrilla testing.” By setting up a testing station in the student center or other spots on campus, librarians can capture students in various majors as well as students who log in rather than come to the library.

The goal is ultimately to build a dynamic search interface that will serve as both a starting point for initial research as well as support customized advanced research. At Smith College, analytics are not collected to help the organization prove their worth to the institution. While O’Connell concedes that many institutions need to collect data to prove their worth, Smith College Libraries are well supported by the institution allowing staff the flexibility to collect data to understand what they can do better and engage in an iterative development process based on observation that will continue to benefit students and the libraries.