Scoping Out Success for Your Users: More Options, Less Confusion

Emily King and Nicole Sandberg*

With the advent of federated, single-search, discovery tools like Proquest's Summon®, many modern library websites have moved to a homepage design that is centered around a single search box. The single search option is a great improvement over sites with lists of links to database collections and other library tools.¹ At our institution, the College of Southern Nevada, this approach has helped to open up the silos of library databases to make online library content more findable.

While this approach has greatly increased the findability of the rich scholarly content included in our library databases, the results list from our single search tool can be overwhelming to novice researchers. Single search boxes deliver a large results set, but our experience in library instruction sessions and reference desk interactions indicates that students struggle to identify the right article or book for their assignment in that result set. To address this challenge at the College of Southern Nevada, we used the Summon® API tools to create several custom scoped searches. The labeling on these scoped searches matches the terminology used by instructors and from our librarians in information literacy classes. While we still have the single search box on our homepage, it is no longer the most prominent feature. Instead, we have shifted the focus of the library homepage to four app-like buttons that allow students to quickly conduct a search that is limited to the following common categories: books, films or full-text online articles.

This paper covers the user research and design process that enabled these changes and describes the impact that these design changes have had on teaching and learning. As a result of these changes, students are less overwhelmed with the results when they perform a search, reach the desired types of sources sooner and tend to come away feeling less anxious about library research.

College of Southern Nevada

A well designed website reflects the population that it is designed to serve. To understand the design process for the CSN Libraries’ website, it is helpful to understand a bit about the College of Southern Nevada (CSN) and our user population.

CSN is a large urban community college serving the Las Vegas valley in Southern Nevada. The Las Vegas valley includes the cities of Las Vegas, North Las Vegas and Henderson and has a population of almost two million residents. CSN is the only community college in southern Nevada and serves nearly 40,000 students with three main campuses and four smaller learning centers spread across the Las Vegas metropolitan area. Each of the main campuses has a fully staffed physical library and library collection. Because CSN is the only community college in southern Nevada, it also serves the outlying areas of southern Nevada with distance education classes and three additional regional technology centers.²

* Nicole Sandberg is Instructional Services Librarian at College of Southern Nevada, nicole.sandberg@csn.edu; Emily King is Digital Services Librarian at College of Southern Nevada, emily.king@csn.edu.
CSN offers over 160 degrees and certificates across a wide range of academic programs, some of which are offered entirely online. These programs support students seeking a wide range of outcomes including students gaining additional job skills to help them in the tourist and hospitality industry, students working towards an associate degree to transfer to a four-year institution and students working towards degrees in the health care related sciences.

The CSN student population includes a wide array of ages, academic abilities and technological experience. Many students are also working while attending school, sometimes full-time, and therefore do not have a lot of time to spend on campus. One thing that most of our students do have in common is they have little or no experience finding information through the library website.

![FIGURE 1](image-url)
College of Southern Nevada Library Website

Like many academic libraries, CSN’s online library has evolved significantly over the years to match the changing demands of online library services. The initial version of the website was little more than general information about the physical library (such as hours and location) and, as the library started to get online collections, links to the various outside sites that provided online library content (see figure 1). When the library website was first designed, it really didn’t need to be more than this. At that time, most of the library resources were in print and CSN students really needed to come into the library to successfully complete their research assignments. While CSN Libraries did have some online resources, in general, these collections were not robust enough for a student to complete all their research online. As a result any student that used library services and collections had to come into the library at some point. Once the student was in the library, he or she could meet with a reference librarian to help them navigate the library’s online resources, if online library materials were appropriate for their assignment.

The first major CSN Library website redesign occurred as a result of the amount of online library resources increasing to a point that students could do their research completely online without ever coming into the physical library. During this same period, CSN started to offer more classes online. This was a wonderful development for students because it expanded the number of students that CSN could serve, but it also meant a smaller percentage of students were coming into the physical library to do research. This dynamic limited student interactions with reference librarians that could help them navigate the online library materials they needed to use. For these students, the library website was the library and the library website needed to transform from a resource page with links to services into an interactive service point to accommodate these students.

To construct this new interactive service, the Library decided to do a complete redesign of the library website in the summer of 2012 (see figure 2). Inspired by other library websites of the time, the newly designed library website used a classic three-column web layout centered around a federated, single search tool that allowed students to search across the spectrum of print and online library resources. Adding this single search tool allowed for discovery of library materials without students needing to select a specific online database.

![First redesign of the CSN Libraries website](image-url)
Having a single search tool greatly increased the discovery of online library materials and CSN Libraries saw increased use of our online collections when our new site launched. Students no longer had to select a specific database collection to find something online, they could search almost all of them at once with one tool. While this improved the discovery of the library materials, it introduced new challenges. Unlike the searches that students were used to using, like Google or Amazon, CSN students, particularly students that had not already received library instruction, were overwhelmed by the search results. Because they did not necessarily know what results they should be getting they had trouble identifying which materials were the right type of material from their information need.

To combat this shortcoming of the single search tool, the library website included other tools that students could use if the single search did not work for them. The main search box had tabs that, when selected, would change the display to a library catalog search or a list of links to the online databases. The secondary tabs called “Articles Databases”, “Video Collections” and “Subject Guides” provided a directory-like experience to get to the article databases and video collections by name. The last tab, called “Catalog” gave the option to search the Library’s WebOPAC which included books and films, but not article content. In addition, a short list of favorite and frequently used databases were added to a sidebar so they could be easily found. Unfortunately, the heat map data and observational data of students showed that these backup options were not a good fall back. Nearly all web traffic on the homepage was on the single search tool leaving the rest of the content on the homepage mostly ignored.

**Information Literacy Instruction**

Like many academic libraries, the information literacy instruction program at CSN is centered around giving students the information skills they need to identify, find and evaluate information sources for college-level research. Most information literacy instruction is taught by partnering with faculty who have assigned research assignments. Many of these classes are in the Communication or English program where students are learning how to communicate in a scholarly manner, but librarians also partner with other degree programs to help students develop the skills to conduct research in their discipline.

The typical library session happens in a face-to-face classroom during one of the classes regularly scheduled times. The main instructor works with the librarian to identify one or two information literacy students learning outcomes for the class (see figure 3). The session is usually held in a classroom with computers so that students can follow along and actively participate. The time allotted is usually fairly brief, around thirty to fifty minutes per session. The class is typically scheduled at a time in the semester when they are aware of their assignment requirements and their research topic. The instruction session incorporates the general context of the assign-

<table>
<thead>
<tr>
<th><strong>FIGURE 3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Learning Objectives for CSN Libraries’ instruction program</strong></td>
</tr>
<tr>
<td>• Use research databases to find materials relevant to completing an assignment</td>
</tr>
<tr>
<td>• Evaluate found resources with regard to their appropriateness for academic research (e.g., website evaluation)</td>
</tr>
<tr>
<td>• Choose the best types of sources for students’ information needs</td>
</tr>
<tr>
<td>• In the library, locate and access physical sources needed to complete an assignment</td>
</tr>
<tr>
<td>• Develop an assignment appropriate topic or research question</td>
</tr>
<tr>
<td>• Identify keywords from a student-generated topic or research question</td>
</tr>
<tr>
<td>• Develop a search strategy using advanced techniques such as phrase searching, truncation, limiters, or Boolean logic</td>
</tr>
<tr>
<td>• Identify when and how to cite materials and do so using a specific citation style</td>
</tr>
</tbody>
</table>
ment to ensure the students can connect the skills that they are learning with the larger context of their class or program requirements.

With version two of the website, many of the librarians directed the students into a subject or format specific databases that worked for their assignment instead of using the main search tool. In sessions where they directed students to these tools much of the beginning of the session consisted of the librarian guiding the students where to click on something and navigate to a page or database. Although that information was important for the students’ ability to complete their assignment, these activities did not enhance the information literacy skill development of the student. Librarians that did use the single search tool in their teaching usually had to devote a similar amount of time to explaining how to tailor their search results by using the Summon® search facets. Including these activities was necessary, but ultimately reduced the emphasis on the student learning outcomes of the class.

Understanding the CSN Libraries’ Website User

At this point, we were not happy with the performance of our single search tool. We wanted to improve it, but we did not really understand why it was not working as well as we had hoped for our students. To address these performance issues, we had to understand the root of why students were experiencing problems with our single search option and why the alternatives to single search were not being used. We thought if we could identify these underlying problems, we could design the library website to address them. To perform this analysis, we looked at what available data we were already collecting that could help us understand our patron’s behavior. In the public services realm, we used reference transaction data and observational data from library instruction sessions. On the web data front, we examined search log data from our single search, heat map data of our website, web traffic data from our library web pages and usage statistics from vendor databases. Finally, we collected research assignments and analyzed the assignment requirements, in addition to the library and research language used in those assignments.

Several trends emerged from the data. The first and most important was that the primary use of our library website was searching for library materials. The heat map showed that patrons were overwhelmingly using the single search box and the search log analysis showed that they were searching for research topics as opposed to general library or campus information. While this was not a surprise, we were pleased to confirm this as a priority, so we could make this use case a focus of our website redesign.

Next we found that faculty using the library website were mainly using it to support their instruction instead of conducting research for themselves. Faculty were looking at what resources the library had that they could assign their students or they were looking at the website to find what tools we had available to students doing research for their class. This trend was not surprising because, as a community college, the faculty’s primary role at the College is teaching. While research is encouraged, it is usually their secondary duty. In addition, CSN Libraries collecting focus is on supporting the current curriculum at CSN instead of supporting the research interests of faculty. As a result most of the materials that are discoverable through the library are focused on the faculty’s direct instructional needs.

As far as the students’ motivation for interacting with the library, this was also focused around instruction, specifically on completing assignments for their classes. Our students’ motivation for coming to the library website mirrored what we found with faculty. They were almost exclusively looking for a specific book, film or article that have been assigned by their instructor or they had a research assignment and were told they needed to come to the library website to conduct research for that assignment.

We also found that students who were coming to the library website to conduct research for an assignment were confident about what they were looking for on the library website, since the was usually specified
in their assignment, but they were not confident as to why. This lack of context for the type of information they were finding meant they often did not know how to parse the links in their result set to choose the best ones for their information needs. For example, they may know that they need a scholarly article for their assignment, but they do not necessarily know which item in their search results “counted” as a scholarly article and the role the information they got from that article should play in their final assignment. This lack of context contributed to them not knowing where to go when a single search did not give them the results they expected. While this trend was not surprising, it was really helpful to explain why the single search results were so overwhelming.

Possibly as a reaction to students not understanding the single search results, we also observed that there was a good number of faculty who gave very detailed instructions about how to get to a specific database or a specific set of search results as part of the research assignment. This trend helped to explain some of the seemingly outlier data we were seeing with particular databases or links that were getting traffic while others were being almost completely ignored.

In the research assignments requirements and instructions, we also noticed the way information sources were introduced to students was focused on the format type (for example: book, online journal article, website) as opposed to a discipline type (for example: a health science resource, a sociology article or an industry report). While we had assignments that were dictating going to specific databases, in general the databases the instructors were pointing students to were general scholarly article databases, not discipline specific collections. Because of the nature of our database collections, those collections tended to have a more disciplinary focus rather than a format focus.

Applying the Data to the Design

Given these trends, the library website committee decided to overcome these barriers we should completely redesign the library website again. Like the second version of the library website, this new site would be designed around searching for library materials, but unlike the second version of the library website, the search of this version of the CSN Libraries website would address the specific search challenges we had observed in our data.

The first decision we made to overcome these challenges is we did not want to have a single search tool to meet all the needs of patrons coming to the library website. We wanted to have different searches for patrons that were doing general topical research and patrons that were looking for known items for their class. By bifurcating the main library search, we were able to design for the specific, and very different, needs of patrons searching for library materials.

Next we needed to decide how to actually display these two default search options on our homepage. We knew that we did not want to have more than one search box, but we also did not want to end up with another list of links like the first version of our library website. We looked at other academic library websites for design ideas. During that time, the Harold B. Lee Library at Brigham Young University released their new website redesign with buttons for various different types of searches. This design had the ability to catch the eye of the user immediately without making them parse through a lot of links to find what they needed. We decided to adapt that design for our library website.

Once we decided to use a button design, we had to define what specific functions we wanted to include in our button options. Based on our research, finding a book and finding an article were the two most common formats that instructors asked students to find. Patrons finding a book were frequently looking for a specific item, so we made sure that search included a drop down box that allowed for title, author and subject searches. To be clear about what the purpose of the search was, we simply called the search “Books.”
For the article search, we automatically applied all four article format types that were commonly searched for in CSN classes and applied the filtered for full text online articles so students would only see the articles that were immediately available. On the search results screen each of these filters shows up in bold on the left hand of the screen to indicate what conditions have been applied to the search results (see figure 4). In keeping with the simplicity of our first button, we called this button “Articles.”

Even though we were pushing to make the two new searches the focus on the new site, we did not want to remove the ability to get to the complete list of library databases. We knew that no matter how well designed the discovery tool was, there would always be sometimes when patrons still needed to use specific databases. We wanted to make it easy for these instructors to direct their students to those databases, so we made the third button a link to our A to Z list of library databases. We decided to call this button “Databases” because assignments directing students to these resources typically used the word database. Using this term also had the additional advantage of not attracting attention of students who were not familiar with library databases who may find browsing the A to Z list intimidating.

Lastly, we added a button for getting help from the library. It was the only button that was not focused specifically on getting to library materials, but we wanted to ensure getting help from the library was intuitive and easy. We called this button “Get Help” to make the purpose as direct and intuitive as the other buttons on the page.

Even though we now would have multiple search options available on the homepage, we did not want to completely get rid of the single search option. Our two scoped searches assumed that the user knew the type of material they needed to find, but even though this was a common need of users, there were still many assignments that did not give students this information. At first, we tried make this search into another button, but we did not find the right terminology to make a button that was intuitive. Eventually we decided that since this search was a general search that was searching everything at the library and it should remain as a search box.

Since we were leaving the single search on the homepage, we had to find a way to de-emphasize it, so it was not the first thing that students saw when they got to the homepage. It needed to be visible, but only visible when you had looked at the buttons and decided none of them were going to meet your information need. We decided to do this by making the buttons very bright on the white background and make the search box have barely any color, so that it blends into the background of the page.

The website committee implemented these design decisions into several prototype with designs with different color combinations for the buttons and the search box during the summer of 2015. These prototypes
were tested with students and faculty to see which combinations produced the best results. The most successful designs were incorporated into the new library website and were launched at the beginning of August 2015 (see figure 5).

### Assessing and Improving

The reaction from campus about the new version of the library website was immediate and positive. Students loved the streamlined design with the functional search options and faculty loved how easy it was to direct students to the content they needed. We immediately observed improved interactions with the website at the reference desk and in the library classroom.

While we were receiving a lot of positive feedback from campus, this feedback did not really tell us whether or not our users were actually being more successful in the completion of the research tasks they needed to do. We wanted to make sure that the site was addressing the functional challenges that we had seen with version two of the library website. We decided to assess this through formal usability testing in Fall of 2015. First, we translated the library website tasks we had found from our initial data collection into tasks for a usability test. Then we met with between three to five students from each campus with a variety of experience doing research and using the library website to complete the tests.

In general, the tests showed that the button design was working the way we had hoped. When students were asked to find books or articles, all the participants used the buttons as intended over the single search tool. When
participants were not given a specific format type for the task about half used the main search and the other half used the buttons. When prompted to find a specific database, the participants were able to use the databases A to Z list to find the specified database.

We did find a couple of things that needed to be improved about the initial redesign. A few of the participants expressed that the terminology of “books” and “articles” was a little confusing. They did know whether it would take them to a search for books and articles or just information about books and articles. Participants mostly ignored the “Get Help” button when prompted to get help from a librarian, opting instead for the contact button in the header of the homepage.

We also received feedback from faculty about how film materials owned by the library fit into search buttons on the homepage. The history department in particular used a lot of film in their classes. They felt that, like books and articles, films were sometimes difficult for their students to find through the main search box. They liked how the scoped searches worked for books and articles and asked if we could do something similar for films.

Students and faculty were not the only users who benefited from the change in the CSN Libraries’ website. Information literacy sessions taught by librarians improved after the redesign. With a more intuitive homepage the librarians could focus more of their limited instructional time on teaching information literacy. Most navigational explanations typically take a few seconds now and are usually focused on how to get to the library homepage itself instead of how to navigate the CSN Libraries’ website.
Conclusion

The reimagination of the CSN Libraries website has been a success. We have created an interactive tool that is intuitively designed to meet the research needs of the students and faculty at the College of Southern Nevada. This design has tested well with patrons and we have seen increased use of the website and increased usability. The CSN Libraries website committee is continuing to apply what we have learned in the assessment and redesign of the website to iterate the website to meet the next evolution of CSN Libraries’ users’ needs.

<<Insert figure 6>>

We have already started this process, by making small incremental changes to the website over the course of 2016 (see figure 6). We removed the “Get Help” button because users did not seem to need it. We added a film search as requested by the faculty of the history department. We also added verbs to the buttons to indicate the type of action the button would do when clicked. Instead of “Books,” “Articles” and “Films,” the buttons now say “Find Books”, “Find Articles” and “Find Films.” Because the databases button did not bring people to a search engine, we changed the wording on that button to say “Browse Databases.” In keeping with the iterative design cycle, we are currently testing these changes and collecting feedback to prepare for our next iteration of the CSN Libraries’ website.

Notes


