



*The State of
Site Search
on Higher Ed
Websites*

2020

mStoner + Funnelback

The State of Site Search on Higher Ed Websites

2020

BY MICHAEL STONER

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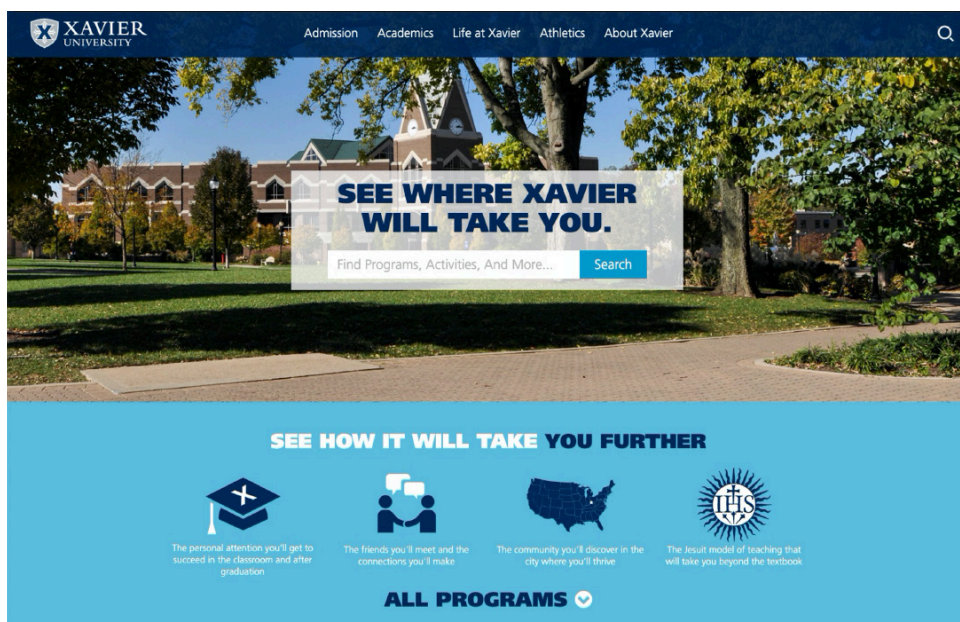
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THE STATE OF SITE SEARCH

GOOGLE PRETTY MUCH PERFECTED internet search by around 2005. It may not be surprising that in the years following, “What Would Google Do?” became a mantra among web developers faced with designing interfaces for complex websites. And because college and university websites are very complicated to design, some institutions actually considered home pages that consisted of a Google-style search bar with relatively few other links, while pundits urged them on.¹ In 2015, Xavier University’s website featured a large search box front and center on its home page, as shown in the screenshot below (its current home page features a link to a virtual tour that echoes a search box). And in 2017, Bellarmine University’s website was structured around a search box focused on content for prospective students. But the trend didn’t catch on widely.



In 2015, Xavier University’s website featured a large search box front and center on its home page.

In the past 15 years, there’s been a great deal of progress in the design and overall utility of college and university websites. Many institutions have worked hard to develop a powerful, visitor-centered design. And most UX (user experience) designers understand how important it is to make sites easy for people to navigate visually through a clear and well-organized design. Creating clear pathways to key content enables visitors to follow the “scent of information” deeper into the site to find what they want.

¹ In a blog post called “What Would Google Do?” posted on June 23, 2006, I argued for simplifying .edu home pages by following Google principles (mstoner.com/blog/design-and-usability/what_would_google_do): “Reduce the complexity. Chuck the dozens of links. Get rid of a lot of the extraneous words and images. Keep it clean. Make it scannable. If the School of Engineering achieves a large number of page views consistently, then link them from the home page. But not the School of Business if they have a tenth as many.”

In fact, when we asked college and university web and marketing professionals about the pain points for their websites, outdated design was much less of an issue than poor on-site search. The latter was identified as a pain point twice as often as outdated design!

There's no denying the importance of well-designed site search on many websites. Imagine trying to find a specific product on Amazon.com without searching for it. This is true even at a typical liberal arts college, where a site may run to 20,000 or more pages and the best UX may not enable visitors to find exactly what they want among them. Then, too, there is a subset of website visitors who prefer to use a search function to find what they want on a site, whether or not the site's UX has been carefully tuned.

Funnelback and mStoner wanted to explore the state of search on contemporary college and university websites. This white paper relies on three sources of information:

1. A 2019 study of the websites of the top 50 liberal arts colleges in the United States. We visited each site and verified how institutions were handling site search. (See Appendix 1 for results.)
2. A 2019 survey distributed widely to various mailing lists and through social media. Nearly 200 higher ed web professionals completed a questionnaire on how visitors to their sites used search. (See Appendix 2 for results.)
3. An analysis of site search on the institutional websites of 75 clients for whom mStoner manages web analytics.

Note that throughout this paper, we focus on the experience of search on a specific website—at best, that includes all the assets within an institution's domain: administrative and academic departments, schools and colleges, research centers, etc.

GROWING PAINS—OR JUST A PAIN?

GIVEN THAT SITE SEARCH would seem to be a fairly mature offering in 2020, it causes a lot of pain among higher ed web professionals.

Part of the pain reflects the fractured and still-evolving state of the market: several Google tools that were widely adopted in higher ed were phased out in the past several years. Many institutions are now struggling with how to replace these systems.

Second, even those who have replaced the sunsetted Google tools face ongoing challenges. Many of the existing tools could be more effective in the way they operate—and those that are effective could be better used. In our informal survey, higher ed web managers complained about search functions that turn up old or irrelevant results, skip over internal subdomains and databases, and lack institutional branding. Ironically, the same audience might have named the same problems a decade ago.

THE IMPORTANCE OF SITE SEARCH

Just how important is on-site search?

Developing a rich user experience is essential on a website today, but robust on-site search is an important adjunct. In a blog post at Moz, Rob Ousbey notes that there are three key uses for on-site search:

“

Navigational: The immediate intent is to reach a particular page that the user has in mind, either since they visited it in the past or because they assume that such a page exists.

Informational: The intent is to acquire some information assumed to be present on the site. No further interaction is predicted, except reading the contents.

Transactional: The intent is to perform some web-mediated activity. The interaction constitutes the transaction defining these queries, and they are the most difficult to evaluate.²

Though the user experience on the majority of higher ed websites has improved immensely in the past five years, respondents to our survey of higher ed professionals reported that visitors to their websites rely on site search more than they did three years ago: 71 percent of respondents said it was more important than three years ago, while only a quarter of respondents said it had about the same importance.

But despite the fact that web visitors rely on search, as far as we're aware, very few people in higher ed have explored what impact a high-quality search function has on their website or whether implementing better search capability brings improved conversions or other tangible results.

In contrast, there are plenty of examples from e-commerce that demonstrate the value of good site search. For example, on e-commerce sites, on-site searchers are more than 200 percent more likely to convert than regular users—and *they spend more money on the site.*³ People who use the search box tend to be “late-stage” shoppers: they know what they want, and they're looking for options or prices. So if someone can quickly find a “blue button-down shirt” and explore options and pricing, they are more likely to purchase it. If they don't find what they want, they may as well head to another website. (Yet, research by eConsultancy revealed that 42 percent of businesses don't optimize their site search!⁴)

Compare that to how visitors use search on a college or university website. They may be seeking “communications”—perhaps a course, perhaps a major or degree, or perhaps they are trying to reach someone in the institution's communications department.

2 Rob Ousbey, “Getting the Best from On-Site Search on Your Website,” Oct. 26, 2009 (moz.com/blog/using-on-site-search-on-your-website).

3 Sherice Jacob, “How Site Search Is Killing Your Conversion Rate (And How to Fix It)” (neilpatel.com/blog/site-search-killing-your-conversion).

4 JP Sherman, “SEO Has a Younger Sibling: It's On-Site Search, and It Deserves Attention,” Jan. 9, 2017 (moz.com/blog/on-site-search).

When you help visitors find what they want through optimizing on-site search, they're more satisfied with their experience on the website. More importantly, though, if they're "transactional" searchers looking for a way to apply or to give, or late-stage "informational" searchers who need information that helps them make a decision about applying to your institution, finding what they want quickly can move them to convert. And monitoring what people search for—and what they click on from the results presented to them—can help you tune up your site so that they find what they want more quickly.

TOOLS IN USE IN 2020

Let's take a look at the current toolset available to web professionals who want to develop a best-in-class search experience for their website. In 2020, web professionals have four options for site search. All of them are being used in higher ed:

- ▶ Google Custom Search, the latest offering from the search giant, is hosted on Google servers. Google even offers a free tool (an API) so that nonprofits can integrate the search on their site.
- ▶ Many content management systems (CMSs) offer an integrated search module. Since it's usually licensed as part of the overall CMS, this is a relatively low-cost option that many institutions pursue.
- ▶ Open-source search tools include Apache Solr, among others. Like other open-source products, these require a great deal of modification and customization. They're free to use, but the cost of customization and ongoing management can be dramatic, and the institution needs to plan and budget accordingly.
- ▶ Tools specifically designed for site search, like Funnelback, bundle some of the most desirable search features, such as the use of facets, search of multiple databases, and others.

In addition, some institutions are still using Google search solutions (like Google Search Appliances) that are no longer supported and are being sunsetted by Google.

We haven't been able to determine how many colleges and universities use Google Custom Search, but we believe that a large majority do, since it's functional enough and free. And many institutions use other Google tools.

But we do know something about how national liberal arts colleges use site search tools—because we looked. As part of our research for this paper, we visited the websites for each of *U.S. News & World Report's* top 50 national liberal arts colleges for 2019. (Because of ties in the rankings, that meant we actually explored 55 websites.)⁵

⁵ For details, see Appendix 1.

Here's some of what we found:

- ▶ Forty-one of these institutions used Google Custom Search for site search; seven used a search built into their CMS; and three used a combination of a built-in search and Google Custom Search.
- ▶ Six institutions had more than 100,000 pages on their sites. The others averaged 45,792 pages per site.
- ▶ Most of the CMSs used by this group were open-source solutions: 23 used Drupal, 15 used WordPress, and one institution used both Drupal and Wordpress. Proprietary systems included Cascade (used by six institutions) and TerminalFour (used by two). No other CMSs were used by more than a single institution.

In our survey of web managers, which covered a broader group of institutions, 63 percent of respondents reported that their websites used Google Custom Search, and 20 percent used CMS-based search. Seventeen percent used other solutions, the most common of these being Funnelback.⁶

Poor site search is definitely a pain point: it was the second most common choice as the worst website-related pain point, and 46 percent of respondents ranked it among their top three worst.

SITE SEARCH PAIN POINTS

Web professionals have consistent complaints about site search on their websites. Here are some of the most important:

- ▶ Search yields outdated or irrelevant results.
- ▶ Search isn't optimized to search across internal domains or multiple databases, significantly limiting results.
- ▶ Key content is omitted from search.
- ▶ The pages displaying results can't be styled to match the institutional brand.

In short: Effective site search should integrate with underlying systems across a website so that it can return up-to-date results that look like they belong on that site. It should also allow visitors to select data relevant to them, thus yielding a much more satisfactory experience.

⁶ For details, see Appendix 2.

In our survey of higher ed web and marketing professionals, we asked broadly about pain points for the institution’s website. Poor site search is definitely a pain point: it was the second most common choice as the worst website-related pain point, and 46 percent of respondents ranked it among their top three worst.

It’s important to point out that several other overall website issues need to be addressed before on-site search will be truly effective, however. A successful search can be implemented only on sites that have a well-developed information architecture (the No. 1 website-related pain point cited by respondents) and content that is compelling and well organized (the third most common pain point). Content also needs to follow best practices for search engine optimization (SEO) and be tagged with topics and keywords. A site redesign or CMS implementation that fails to address these issues will not fully benefit from a great site search tool—or most marketing technology solutions for that matter.

As far as site search itself is concerned, the biggest pain points, according to our respondents, are searches that return old or irrelevant results (named by 53 percent of respondents), searches that are not as good as Google (38 percent), styling that is too basic or off-brand (26 percent), and search indexes that omit key content (24 percent).

In their open-ended comments, respondents mentioned that it was difficult to configure their search tool and to filter results. Clearly, those are two desirable features that respondents believe their audiences want in site search. Filtering, in fact, was an element of the second most popular option respondents chose when asked which additional search features would be most useful to their audience; 29 percent selected the ability to “search for programs, with options to filter for degree types and link to program details.” That was second only to “promoted search results to help visitors find commonly used resources quickly,” chosen by 42 percent.

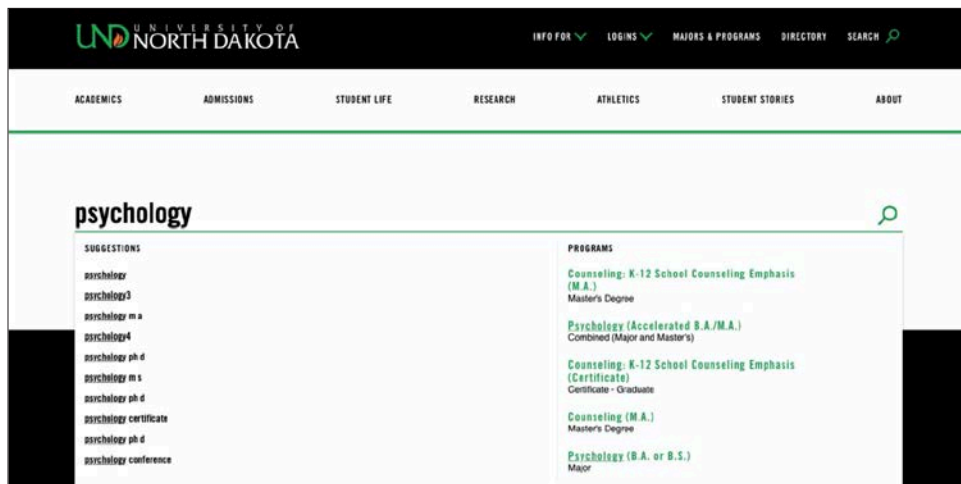
When asked what was preventing them from implementing a custom site search, 46 percent cited competing priorities, and 45 percent cited cost. Only 21 percent said that uncertainty about the return on investment was a factor in not moving forward.

BEST PRACTICES FOR 2020

BASED ON OUR RESEARCH and our own consulting work, we’ve identified these best practices for site search in 2020.

1. Use structured content.

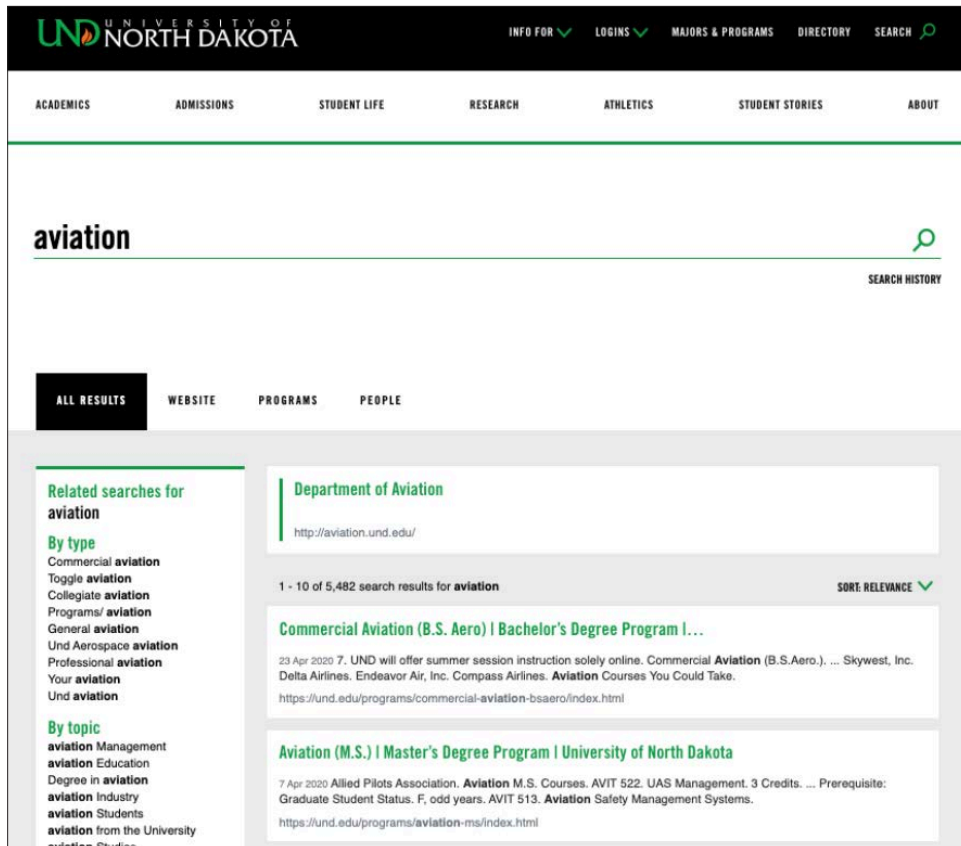
Developing content for your site based on best principles of SEO is important for organic search results. But keyword searches have limitations for on-site searching. So consider where and how you can use structured content—content that can be stored in a spreadsheet or database—to facilitate detailed searches. For example, discrete fields for first name, last name, or department provide the opportunity to deliver the exact result a visitor is looking for to augment keyword searches of web pages.



Here are two examples, one from the University of North Dakota and the second from American University, that illustrate the results of a search for “psychology.”

Common examples are filtering directory/people results, programs, news, or events. (A search filter is a specific product attribute a site visitor can use to refine the search results of a particular category listing. For example, do a search for shoes on Zappos.com, and in the left-hand column, you’ll see various filters you can use to refine your search. Filters allow a searcher to narrow the selection quickly and find the most relevant results.) Creating a search that allows visitors to filter on the desired type of content is helpful. You can automatically apply filters when a visitor wants to conduct a search within the context of a directory or academic program page.

Developing structured content also enables you to deliver results like related programs: if someone searches for a BA in accounting, for example, you could present related options with the search results. This happens on many e-commerce websites: when you search for a specific backpack, you’ll see other similar products in addition to the backpack you searched for.



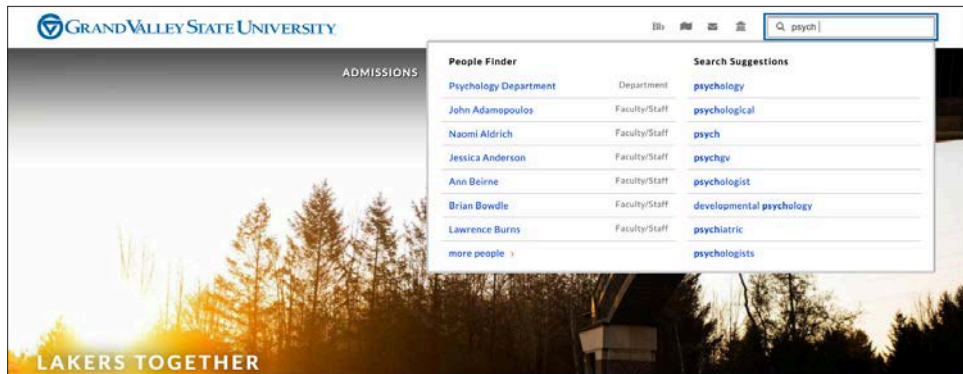
A search for “aviation” at the University of North Dakota surfaces the Department of Aviation as a unique result separate from other aviation-related programs and pages.

2. Track and monitor analytics.

Use Google Analytics, at a minimum, to track site search. Google Analytics allows you to track the pages where visitors began searching on your site; the terms they searched for; the web pages they visited after clicking on one of the search results; and how effective the search results were in generating further engagement, transactions, or conversions.

For example, searches for certain keywords might suggest synonyms that could be used (for example, “calendar,” “events,” etc. in order to present the primary event calendar). Similarly, programs or areas of interest that prove popular in search results might suggest promoting key program or department pages (nursing is a common example). For instance, a search for “aviation” at the University of North Dakota surfaces the Department of Aviation as a unique result separate from other aviation-related programs and pages (as shown in the screenshot above).

You can use the information derived from a strategy like this one to validate and refine search effectiveness.



An example of autocomplete from Grand Valley State University's website.

3. Pay attention to search scope.

Content quality has a huge impact on search results, so you want to carefully explore how your Google Analytics review can help you determine what content your website visitors are clicking on as a result of their searches. You should review this content regularly and make sure it's updated. When outdated content shows up in results, update it or archive it. If you see multiple searches for content that exists somewhere on your site—perhaps in a subdomain—but doesn't appear in the search results, ensure that domain is linked to your on-site search. Searching the correct subdomains, omitting old/archived content from results, and pruning content all improve search quality.

4. Ensure that search engine optimization and site search work together.

You can enhance your on-site search both by adhering to the Web Content Accessibility Guidelines at the AA (mid-range) level,⁷ as well as by considering your use of page metadata for organic SEO. So adopt SEO best practices in developing your content, including using page headings properly, writing meaningful page titles and URLs, and using keywords effectively.

5. Incorporate search suggestions in your search bar—and make the search bar easy to find!

Visitors are trained by e-commerce and other commercial websites to expect a sophisticated search experience. First, they need to be able to find your search bar, so make sure that it stands out—and, ideally, include a search bar, not just a button. Then, as they type in their search query, offer search suggestions or autocompletion. The screenshot above shows how Grand Valley State University implemented autocompletion on its website.

7 See [Web Content Accessibility Guidelines \(WCAG\) Overview \(w3.org/WAI/standards-guidelines/wcag\)](https://www.w3.org/WAI/standards-guidelines/wcag).

6. Control results.

Use features such as synonyms and the ability to reorder or prioritize results. Many institutions treat search as a “set it and forget it” feature, but with minimal effort, web admins can be in control of results, particularly for important search keywords. It’s likely that people who search for “undergraduate admissions” are looking for the office of undergraduate admissions—not the times the topic came up in faculty meetings, though that’s what may show up in the top search results if you have no way to order the search according to the most desired results. You’ll want to be able to prioritize results just the way you’ve prioritized audiences for your website. Here’s where careful attention to analytics can really pay off. This is exactly what the University of North Dakota is doing in the search for “Aviation” as illustrated above: showcasing a distinctive program but making other choices easily accessible, based on analysis of previous search results and the choices searchers make.

The screenshot shows the University of North Dakota website search results for the query "psychology degrees fall 2021". The page features a navigation bar with links for INFO FOR, LOGINS, MAJORS & PROGRAMS, DIRECTORY, and SEARCH. Below the navigation bar, there are tabs for ACADEMICS, ADMISSIONS, STUDENT LIFE, RESEARCH, ATHLETICS, STUDENT STORIES, and ABOUT. The search results page displays the query "psychology degrees fall 2021" and a search history link. The results are categorized into ALL RESULTS, WEBSITE, PROGRAMS, and PEOPLE. The main content area includes a "Related searches for psychology degrees fall 2021" section with links to und.edu, med.und.edu, commons.und.edu, blogs.und.edu, and cnpd.und.edu. There is also a "Format" section showing 257 pdf results. A "Date" section shows results for various time periods: Past year (973), Past 6 months (868), 2020 (837), Past 3 months (825), Past month (376), and Past fortnight (192). The main search results list 1 - 10 of 1,149 search results for "psychology degrees fall 2021" where 149 match all words and 1,000 match some words. The top results include "Forensic Psychology (M.A.) | Online Master's Degree | University..." and "Counseling (M.A.) | Master's Degree Program | University of North...".

Results from the University of North Dakota’s site for a search of psychology degrees for fall 2021.

7. Consider advanced features for on-site search, such as faceted search. And explore how personalization can help you learn more about what your audience needs from your site—and give you the opportunity to guide them to your most important content.

Faceted search results for visitors and personalization are powerful tools if implemented thoughtfully.

Faceted navigation allows search on multiple attributes: for shoes, it might be color, model, and the sport for which they're used. In higher ed, facets for a course might be academic department, term offered, faculty member teaching, college in which the course is taught, etc. For a good example, see above results from the University of North Dakota's site for a search of psychology degrees for fall 2021.

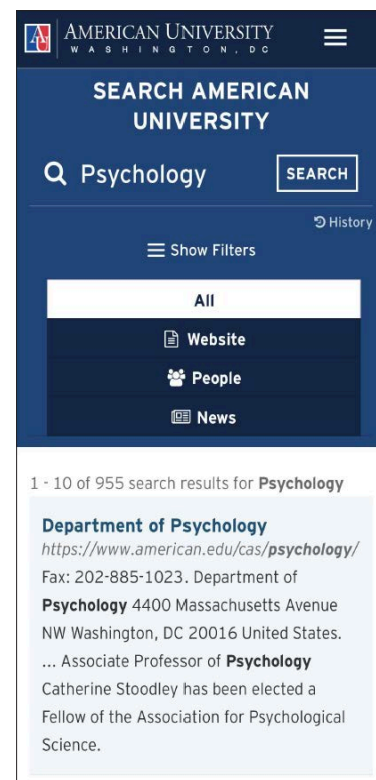
Personalization takes into account external data, like geolocation, user segmentation, or other third-party data, to customize results based on information known about the user. Hofstra University, for example, automatically promotes content for international students for all visitors outside the United States.

Even anonymous visitors are telling you something about themselves as they navigate your site and input keywords to search. This is an opportunity to promote and personalize results for targeted search keywords.

8. Optimize search for smartphones and tablets.

Offering a search experience tailored to mobile devices is almost table stakes in 2020, though it's often neglected as institutions focus more attention on developing an effective user experience across primary pages. However, it's essential that search experiences work well on mobile. The screenshot to the right provides a good example: American University's mobile search (captured on an iPhone). Note the use of filters to enable the searcher to quickly refine the search.

Finally, one option we believe many institutions will offer in the near future is the ability to use geolocation search for real-time help for people who are visiting campus. ●



American University's mobile search (captured on an iPhone). Note the use of filters to enable the searcher to quickly refine the search.

APPENDIX 1

FINDINGS: SEARCH AND OTHER FEATURES OF TOP NATIONAL LIBERAL ARTS COLLEGE WEBSITES

These are the primary findings of an observational survey of the websites of the [top 50 National Liberal Arts Colleges](#) as ranked by *U.S. News & World Report*, conducted by a Funnelback contractor in July and August of 2019. In all, we explored the websites of 55 institutions (the number is greater than 50 because of ties in the rankings).

During that visit, we cataloged the style of user experience, the CMS used to produce the site, and a number of additional characteristics of the website. We also conducted several site searches for key information that a prospective student might seek, in order to test what results site search would yield. First, we searched for “tuition,” looking for results for the current year (2019–2020). Then, we searched for “international application.”

FIGURE 1
Content management systems in use







Drupal		23
Wordpress		15
Cascade		6
Terminal Four		2
Other		8
Drupal + Wordpress		1

FIGURE 2
Site search tools in use






Google Custom Search		41
CMS built-in search		7
Google Custom Search + CMS built-in search		3
Bing		2
Other		2

FIGURE 3
Navigation style on website

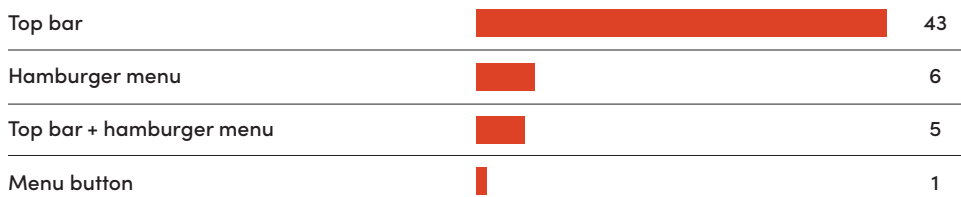


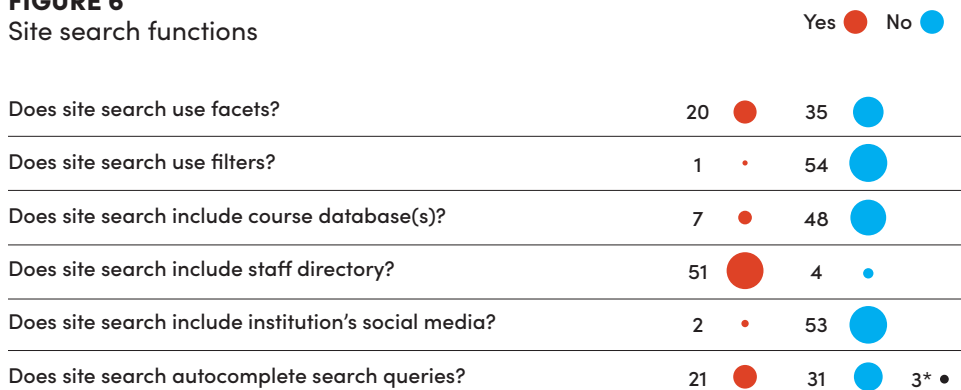
FIGURE 4
Search bar style on website



FIGURE 5
Search bar style on mobile site



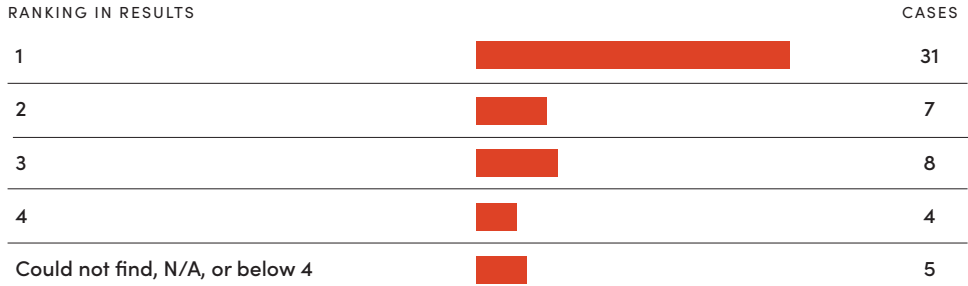
FIGURE 6
Site search functions



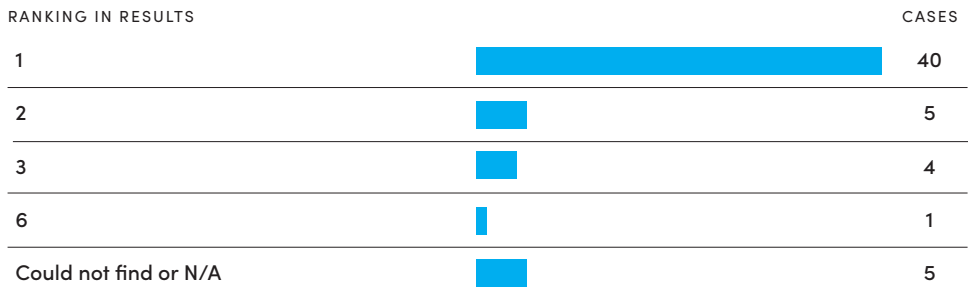
* Partial complete (these sites had a custom-built search bar that autocompleted queries for certain parts of the site)

FIGURE 7
Site search results

Where did the tuition page for 2019–2020 show up in search results when searching “tuition”?



Where did the correct page show up when searching “international application”?



APPENDIX 2

FINDINGS: SURVEY OF HIGHER EDUCATION WEB PROFESSIONALS ABOUT SITE SEARCH

These are the primary findings of an online survey conducted by Funnelback and mStoner, between July and September 2019. The survey was distributed on social media, sent via email, and promoted on Higher Ed Live.

There were 199 respondents overall. We asked an open-ended question inviting respondents to share their titles. Of the 126 people who did so, 29 percent had titles of director or higher, and 45 percent had job titles indicating they worked on their institution's website.

Here's an overview of the survey results.

FIGURE 8
What tool do you use for site search?

● Google Custom Search	63%
● CMS-based search	20%
● Other search tool*	17%



* Eight respondents named Funnelback, two Mind Breeze, and one each SiteSearch 360, Google CSE, both Google and Drupal Search, Elastic, Cludo, Hosted Apache Solr, Relevansii, Swifttype/Elastic, Swifttype

In response to the question "What do you currently use for website search?" (n = 133)

FIGURE 9
How important is search to your website visitors?

● More important than three years ago	70%
● About the same importance as three years ago	24%
● Less important than three years ago	6%



In response to the question "How important is website search to your site visitors?" (n = 199)

FIGURE 10

What percentage of your website visitors use search?

● Up to 25%	31%
● 26%–50%	18%
● 51%–75%	18%
● More than 75%	15%
● Write-in answer	4%
● Don't know / not sure	14%



In response to the question "What percentage of your site visitors use site search today?" (n = 198)

FIGURE 11

What are your pain points with your website?

Poorly organized information architecture

PAIN POINT	Worst	19%
	Among top 2 worst	36%
	Among top 3 worst	51%
	Among top 4 worst	63%

Poor on-site search results (directory, program, general search)

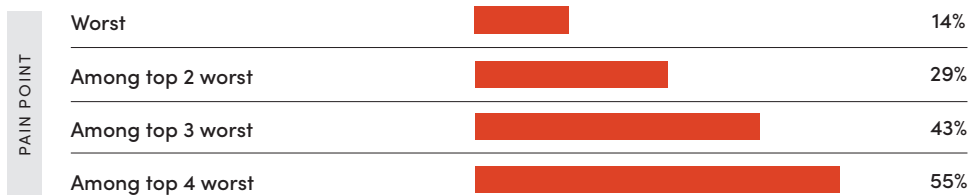
PAIN POINT	Worst	17%
	Among top 2 worst	34%
	Among top 3 worst	46%
	Among top 4 worst	62%

Inconsistent and poorly written content

PAIN POINT	Worst	17%
	Among top 2 worst	30%
	Among top 3 worst	45%
	Among top 4 worst	61%

FIGURE 11 (continued)

Clunky technology or content management system



Lack of quality video or photo assets



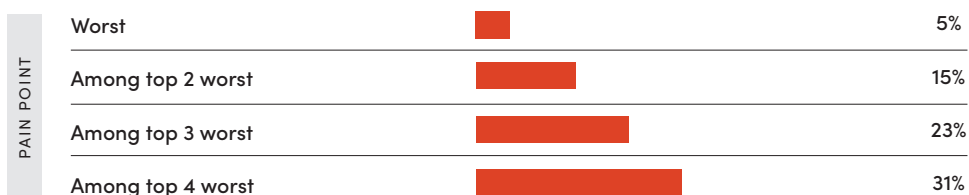
Outdated design



Outdated institutional brand platform

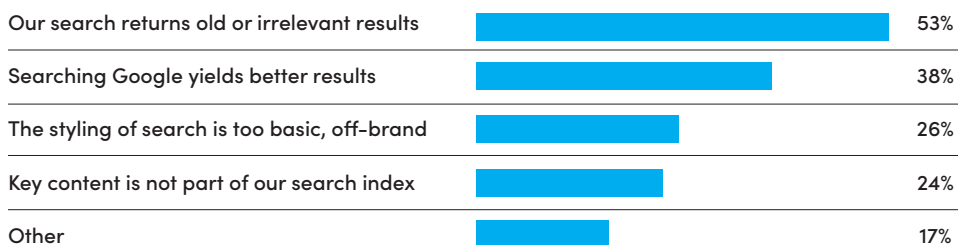


Lack of mobile-friendly pages



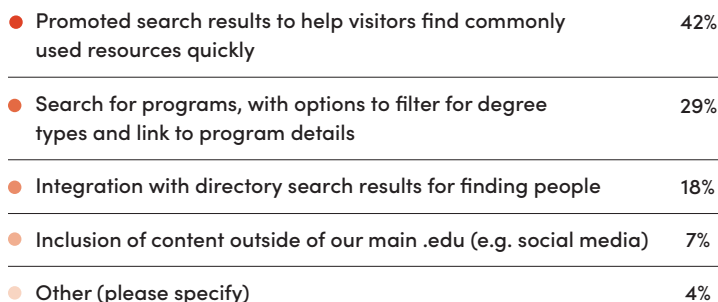
In response to the question "Please order any pain points with your institution's website from worst (1) to least (8)." (n = 166)

FIGURE 12
Biggest pain points for site search



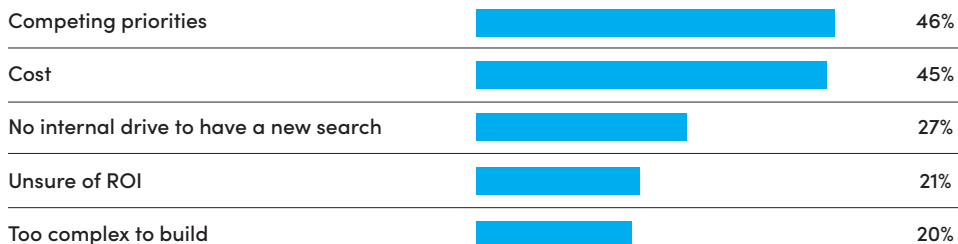
In response to the question "What are your biggest on-site search pain points? Select all that apply." (n = 133)

FIGURE 13
Most useful additional search features



In response to the question "Which search feature would be most useful to your website audience?" (n = 128)

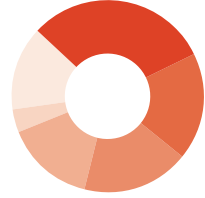
FIGURE 14
Barriers to implementing custom site search



In response to the question "What is stopping you from implementing a custom search solution? Select all that apply." (n = 128)

FIGURE 15
Types of institutions represented

● Public university	39%
● Private university	37%
● Liberal arts college	13%
● Community college	7%
● Professional school	2%
● Other	2%



In response to the question "Which of the following best describes the higher education institution where you work?" (n = 126)

ABOUT US

mStoner

MSTONER, INC. is a creative agency that builds elegant, creative, and effective solutions to your greatest digital challenges. We craft powerful, tailored, human-centric experiences to illuminate your brand and allow you to tell the story only you can tell. We connect you with the right audience at the right time so you can form right-fit relationships. We position your team for improved productivity, sustainable growth, internal alignment, and proof-positive success. And we aim to make your job fun again and help you create inspired work that you are proud to show off. Since 2001, we've worked with more than 350 colleges, universities, and professional schools in the U.S. and abroad.

Funnelback

FUNNELBACK FOR HIGHER EDUCATION is a flexible, quick-to-implement website search solution tailor-made for higher ed. Optimize your website UX by neutralizing internal silos and competing priorities with a search bar that just works. Each result set is tailored, focusing on the courses, staff directories, videos, or events most relevant to the user. Born out of a university collaboration with the Australian government in the early days of the internet, Funnelback surfaces the most relevant information for each user at the right time, every time. Choose the search solution that offers best-in-class search, pre-built for the needs of higher education and flexible enough for enterprise.