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IN THE EYES OF THE BEHOLDER: FINDING THE BEAUTY IN DISCOVERY TOOLS

NIKKI KRYSAK AND NANCY FAWLEY

BACKGROUND

Discovery tools emerged from the federated search tools of previous decades which searched across multiple platforms and databases but were, in many instances, slow and inaccurate and not widely used. The new tools are meant to be intuitive for users who have been weaned on Google's single search box, encouraging them to "dive in" and use them with or without the help of an "expert." Librarians, free from the obligation to teach students *how* to search, can now spend precious class time on teaching higher-level skills such as critical thinking and information literacy.

While academic libraries are committing large amounts of their limited budgets to discovery tools, librarians, who are in a position to promote and teach their usefulness, remain divided in their support for these tools. Some librarians embrace discovery tools while others refuse to use them, and this lack of consensus has consequences beyond the library instruction department. Recent research in information literacy and corresponding education fields indicate that search strategies and source evaluation are key areas of concern in library instruction (Asher & Duke, 2012; Head, 2013). When used correctly, discovery tools provide a chance to showcase evaluative techniques and higher-level refining skills.

The authors surveyed instruction librarians whose institutions have a discovery tool to learn what they like and dislike about discovery tools, and what prevents them from using these tools in instruction. Data was analyzed and key threads of resistance were identified. Recent studies on the research habits of undergraduates were combined with survey results to inform alternate methods of instruction that address concerns of both users and non-users.

THE SURVEY

Data for the study was gathered through a survey that was distributed through the ili-listserv, an American Libraries Association (ALA) mailing list sponsored by the Instruction Section of the Association of College and Research Libraries (ACRL) that is focused on instruction and information literacy. The survey targeted librarians who use a discovery tool in information literacy instruction, and consisted of four multiple-choice questions that all respondents answered, plus one or two additional questions dependent upon the respondents' reported use of discovery tools. There was also an opportunity for respondents to add comments at the end of the survey. These responses were coded to identify themes and organized into categories.

Results

More than 76 percent of the respondents indicated that they are very likely or likely to use a discovery tool in library instruction. The top two reasons given for their use were that they are a good starting point for research and the tools search many different formats (Table 1). "I use it as a springboard of fast-food drive thru... then do the fine dining in subject specific databases not covered by EDS." Other top reasons were that the tool is the default search box on the library webpage, it is interdisciplinary and it has a Google-like search interface. Those that did state they use a discovery tool had misgivings as well, the most common being that it is difficult for students to interpret the results.

Table 1: What are your reasons for using a discovery tool in library instruction?

Less than 24 percent of the respondents indicated that they were “neither,” “unlikely” or “very unlikely” to use a discovery tool in instruction. The top reasons for this were unreliable relevancy ranking, an overwhelming number of search results, and too many technical glitches (Table 2). Other reasons, unrelated to the tools’ technical structure and underlying mechanics, were concerns that the tools do not encourage critical thinking or good searching habits.

Table 2: What are your reasons for not using a discovery tool in library instruction?

Survey respondents who selected “neither,” “unlikely” or “very unlikely” were also asked to select changes that would make them more likely to include the discovery tool in their teaching. The majority selected fewer technical glitches, while others wished for a better understanding of how the tool searches and ranks items.

The optional additional comments complemented the survey results and shed further light on the pros and cons of using discovery tools. Two frequent comments pointed out the benefits of the tool as a starting point for research and its appropriateness for lower level classes, but also the problems of too many results and not linking to all resources

FOCUS ON WHAT YOU CAN CONTROL

Many of the concerns that librarians have about the use and effectiveness of discovery tools, regardless of whether they use the tool or not, are unfortunately beyond their control. The decision on which tool to purchase is made by administrators who may have cost and consortia issues that take priority over instruction librarians’ preferred choice of tool. Putting a search box for the discovery tool on the library homepage is another decision that may or may not be made with input from those using the tool on a consistent basis.

It is natural for librarians to want to understand exactly how and what a discovery tool searches before they commit to using it in the classroom. Relevancy ranking and the sources of subject headings and other controlled vocabulary are a continued source of frustration by all who use the tool, but are also functions that librarians have little control over. There may be some local fixes that can be done to improve the relevancy ranking so more applicable sources are retrieved at a higher ranking, but ultimately much is beyond a library’s control. The unfortunate truth is that these tools’ search algorithms are proprietary and librarians will never know exactly how a discovery tool works. Librarians need to embrace the mysteries of proprietary relevancy ranking, issues surrounding controlled vocabulary and subject headings, and which databases discovery tools pull their results from. This can easily be turned into a teaching moment about constructing a search.

Asher and Duke (2012) found that upon choosing a database, students often misunderstand “how various search engines (including Google) organize and display results” (p. 76). Moments like this parallel the experiences many instruction librarians face with the discovery tool when using it for the first few times. As instructors we must recognize our personal hesitations with new tools in order to consciously avoid taking a superficial approach to the resource in the classroom setting.

STUDENTS’ RESEARCH HABITS

Recent reports on students’ research habits support the need to teach students the skills for developing search terms and evaluating sources. Project Information Literacy’s report on how freshmen conduct research found that almost 75 percent of students surveyed reported struggling with selecting keywords and formulating efficient search queries. Additionally, over half listed filtering and sorting irrelevant search results and identifying and selecting potential sources as other troublesome concepts (Head, 2013, p. 15).

This echoes findings in Asher and Duke’s (2012) *Ethnographic Research in Illinois Academic Libraries (ERIAL)* study that found students lacked the methodological understanding to conduct an effective search for resources (p. 76). “Google’s simplicity and single search box seems to have created the expectation among students of a specific search experience within the library: in particular, a single search box that quickly accessed many resources and an overreliance on simple keyword search” (p. 72).

The study also found that students did the minimum level of effort needed, using whatever sources were most easily available to complete the paper (p. 81). Students made quick evaluations of search retrievals and rarely went past the first page of results (p. 80). The authors did find that students had greater success when they were “forced” to use subject keywords through a guided process or when facets were available to limit results (p. 80), areas where librarians can focus discovery tool instruction on.

Asher, Duke, and Wilson (2013), in their study on the search efficacy of Summon, EBSCO Discovery Service, Google Scholar and conventional library databases, also found students rarely looked past the first page of results. Regardless of the search

system, students were unable or unwilling to evaluate the sources and instead relied on the tool's default ranking to select the most relevant sources (p. 464).

DOING IT DIFFERENTLY

A better option is to focus on areas that librarians do have control over, such as developing lesson plans that take advantage of the unique aspects of discovery tools in order to more effectively address the findings of these timely studies about research habits. While no one wants to teach a tool that they cannot fully predict or explain its use of subject headings, controlled vocabulary and relevancy rankings, the unpredictability of search results is an opportunity to develop lesson plans that build critical thinking skills.

Evaluating Sources

When teaching students to evaluate sources within a discovery tool, the source type is made obvious by a simple visual. Therefore, we need to encourage students to think beyond the simple image of a book or a periodical to consider what source type means in terms of the information cycle and its relation to their topic. This represents an opportunity to teach the nuances of when a newspaper article rather than a scholarly article is a more appropriate source.

Maid and D'Angelo (2013) advocate the importance of guiding students through discriminating information on a variety of levels when researching in the digital age (p. 302). The discovery tool serves as a perfect platform for this technique due to its multidisciplinary nature and the imperfections surrounding its ease of use. They state that librarians should educate students on the danger of forming snap judgments when gathering information: "Unless they already have some familiarity with the area they are researching, they will need to learn which sources are more likely to produce the quality of information they need to discover" (pp. 303-304).

This sets the stage for collaboration with professors to deliver unique learning experiences. During library visits, rather than conducting a typical show and tell of useful databases, the librarian can use this opportunity to discuss primary and secondary sources in the context of a particular assignment. The discovery tool serves as a starting point when searching for primary source library holdings about eyewitness accounts before expanding the search to Google. Students learn through experimentation that unique primary sources are available in multiple formats by experimenting with advanced search and evaluation techniques. The classroom experience can be fortified if the university's discovery tool links to its special collections holdings or a digital library partnership such as Hathi Trust. In this context, teaching keyword and source evaluation techniques through discovery tools allows instructors to guide students through the challenging skill of integrating and synthesizing findings before deciding on a jumping off point for further research.

Search Strategies

Discovery tools work best with focused keywords. Thus, with time freed from teaching the how-to's of searching, class time can be spent on developing keywords and search strategies from students' research topics. It is important to note that subject headings and other controlled vocabulary are problematic to use as limiters because the discovery tool only searches the items linked within their respective "home" databases. Furthermore, students do not necessarily need or want to know how the tools work behind the scenes and a technical explanation may confuse them or cause them to tune out. Instead, it is best to use discovery tools as a rich source of alternate keywords particularly within the vocabulary of the discipline.

Librarians can guide students to have a "tool box" of search terms to alternate and swap in different combinations in order to retrieve a more varied set of sources. The search can then be further refined by using the discovery tool's wide range of limiters or facets. Students can drill down to a specific time period or item type as needed or required by their assignment.

Consider the Context

When developing a lesson plan using a discovery tool, consider the context and the course level. Is this a first year course and a student's first introduction to research? Or is it a capstone course where it can be assumed that the student has already been introduced to the tool? Plan accordingly and do not introduce at an introductory level content or concepts that students learned earlier in their university career. Upper level courses are an opportunity to build on earlier lessons or introduce advanced techniques that are more applicable to the research project at hand.

Go Beyond the Comfort Zone

Discovery tools already take librarians out of their comfort zone, so why not try a few more risks? Explore the flipped classroom concept, but take it further than simply inverting content and assigning a tutorial prior to class. Educators at the Flipped Learning Network make a distinction between flipped learning and the flipped classroom and stress the importance of learner-centered, intentional content that is taught in a flexible environment. Suitable content for pre-class work includes contextual tutorials about understanding the research process or information cycle.

Allow time for unmediated learning. Educator and TED prize winner Dr. Sugata Mitra famously put a computer in a hole in the wall of a Delhi slum and discovered the children were able to learn how to use the device on their own with no outside assistance. He defines this as “minimally invasive education” where the learning environment and peer groups produce the motivation to learn. Start the class by allowing students to use the discovery tool before there is mediated instruction. Have students swap research topics, do a search and have their classmate evaluate the retrievals that would ultimately result for his/her topic. Students can also report out to their peers to describe how the tool works and how best to use it.

CONCLUSION

Discovery tools are messy. They can also be visually appealing and intuitive to use by anyone familiar with the one-box-search of Google and other search engines. The challenge lies not in deciding whether or not to use the discovery tool in instruction, but rather in figuring out how to maximize its value as a research tool based on the information needs of the student. Source requirements and the multidisciplinary considerations of an assignment will inform the librarian whether to naturally position the tool as either a starting block or a place to round out findings from more specialized resources.

REFERENCES

- Asher, A.D., & Duke, L.M. (2012). Searching for answers: Student research behavior at Illinois Wesleyan University. In L.M. Duke & A.D. Asher (Eds.), *College libraries and student culture: What we now know* (pp. 71-85). Chicago, IL: ALA Editions.
- Asher, A.D., Duke, L.M., & Wilson, S. (2012). Paths of discovery: Comparing the search effectiveness of EBSCO Discovery Service, Summon, Google Scholar, and conventional library resources. *College & Research Libraries* 74(5), 464-488.
- The Flipped Learning Network. (2014). The four pillars of F-L-I-P™. Retrieved from http://fln.schoolwires.net/cms/lib07/VA01923112/Centricity/Domain/46/FLIP_handout_FNL_Web.pdf
- Head, A.J. (2013, December 5). Learning the ropes: How freshmen conduct research once they enter college. Project Information Literacy Research Report: The Passage Studies. Retrieved from http://projectinfolit.org/pdfs/PIL_2013_FreshmenStudy_FullReport.pdf
- Maid, B.M., & D'Angelo, B.J. (2013). Teaching researching in the digital age: An information literacy perspective on the new digital scholar. In R. McClure & J.P. Purdy (Eds.) *The new digital scholar: Exploring and enriching the research and writing practices of nextgen students*. (pp. 295-312). Medford, NJ: American Society for Information Science and Technology.
- Mutra, S. (2011). Hole-in-the wall: Minimally invasive education. Retrieved from <http://www.hole-in-the-wall.com/MIE.html>

Images for Tables and Figures

Table 1

	Response percent	Response count
Good starting point for research	75%	84
Searches many different formats	72.3%	81
It is the default search tool on the Library webpage	68.8%	77
Tool is multidisciplinary	66.1%	74
“Google-like” search interface is intuitive to students	65.2%	73

n=112

Table 2

	Response percent	Response count
Relevancy ranking is not reliable	67.6%	23
Too many search results	61.8%	21
Too many technical glitches	55.9%	19
Does not encourage critical thinking	47.1%	16
Does not encourage good searching habits	44.1%	15

n=34