Choosing Sources in the Library of Babel

Barbara Fister

Gustavus Adolphus College

Imagine a vast library that has no circumference and no center. It contains an infinite number of texts, many of which are imperfect copies of other ones. Some who use it believe that it includes everything, eternally, while others see it as a feverish library in which texts are in danger of changing from one day to the next. All who use this library are tantalized and frustrated by it, certain that what they seek is available, yet impossible to find among the baffling abundance of options.

We're talking about the Internet, right?

In fact, this "Library of Babel" was described in 1941 in a short story by Jorge Luis Borges. Though we tend to think of our libraries as well-organized places full of high-quality information and the web a chaotic and shabby imitation, traditional libraries and the virtual version have much in common. Both hold a vast amount of material, much of it contradictory, of poor quality, and out of date. Both also require researchers to make constant choices as they examine their options. But students usually find the web more convenient to use than libraries, and far simpler in its organization. After all, through one simple interface you can find newspaper articles, government reports, recipes, and recycled term papers, and send them straight to the printer without leaving your computer. When we try to tell them that it's not all on the Internet, they aren't impressed. They don't want it all—they simply want enough to get the job done. And they'd often rather scan through fifty pages of Google results to find what they want than search unfamiliar databases, check holdings, chase down books, and photocopy articles.

Though many librarians see this as a disturbing new trend, students are actually engaging in the same kind of information-seeking behavior that researchers observed before the web was invented. When faced with an information need, a primary criterion most searchers consider is convenience. A good answer is valuable, but not if it's too hard to find. This reliance on quick and dirty information isn't a new vice invented by the

overscheduled generation. After all, when Ranganathan boiled librarianship down to five laws back in 1931, one of them was "save the time of the reader." Students arrive at college familiar with the process of finding information on the Internet and with little to no experience with academic libraries. Therefore, it's not surprising that the web is where they turn. It's quick and it's familiar.

The reliance on information from the web (that uncontrolled, anarchic space where anyone can publish anything) has lead to much hand-wringing about the quality of web-based information. In the past five years there have been numerous articles and opinion pieces in *The Chronicle of Higher Education* concerned with the importance of teaching students to use the web wisely, or on how to persuade them to use the library instead of the web. There have been no articles on the importance of teaching students to evaluate traditional print resources.

The irony is that students are far more likely to have been exposed, at some level, to the need for skepticism when reading a website. They are certainly much more likely to have authored a website than to have published their writing in a traditional form. They have a grasp of where websites come from. They are much less informed about how a newspaper story, a study in *The New England Journal of* Medicine, or a university press book came into existence. They have little idea that the processes for determining which stories should be told and how the "facts" related in those stories are validated differ significantly from medium to medium. When we emphasize the necessity of evaluating web sources and urge students to seek out "scholarly" sources instead, we may be inadvertently sending the message that print sources—particularly those that bear certain external signs of being written for an academic audience—are inherently trustworthy.

Students don't know that book publishers do not employ a stable of fact-checkers to verify author's claims, and that getting the facts straight is the author's job. Students also don't realize that although newspaper reporters do have a tradition of confirming what they learn from a source, and that fact-

checking is done on a selective basis in newsrooms, the speed of the news cycle makes it impossible to catch every error before printing. In a recent week *The New York Times* published nearly ninety corrections. Most of them were relatively trivial, yet this serves as an indication that even for the "newspaper of record," the record is imperfect. Students have little idea what "peer reviewed" really means. Though we can give them checklists of what makes a journal article "scholarly," we don't always mention that a shabby piece of trivial research published in a third-tier journal may be less valuable than a rigorously researched and imaginative article in *Harper's.* The fact that a text has been "edited" or "has gone through the peer review process" doesn't make it true. It simply means an editor and two or three academics in the discipline have critiqued it, perhaps suggested changes, and rendered an opinion on whether it ought to be published. In a famous experiment reported in *Behavior and Brain Research* in the mid-1980s, Douglas Peters and Stephen Ceci resubmitted articles to journals that had previously published them. Most of them were rejected for publication. There is a certain subjectivity in the process that is even more pronounced in other media. In the dozens of responses to the Peters and Ceci article, one writer reported he'd submitted a novel that had won the National Book Award to a number of literary agents and publishers, *all* of whom declared it wasn't publishable.

Even without being familiar with the vagaries of publishing, students will have to negotiate a variety of sources that simply disagree with one another. To do that, they will have to quickly make informed guesses about quality. The advice students are typically given about how to evaluate print sources is as likely to be followed as they are to brush after every meal. Good hygiene, perhaps, but impractical.

Students are told to ask themselves questions such as "What are the author's credentials?", "What is the reputation of the publisher?", and even "How rigorous is their peer review process?" Most academics would have a hard time answering these questions for sources outside their own discipline. Short of hiring a private investigator to conduct a background check for each of their sources, most students wouldn't know how to begin researching these questions. And even if they could, it's unreasonable to expect them to take the time to do so.

Advising students to look up book reviews or check Katz's *Magazines for Libraries* may be less time-consuming, but is still unlikely to be taken seriously by most students. And what exactly will students get from the exercise? Even though a journal may (or may not) have a reputation, not every article they publish will be appropriate or particularly valuable for a given project. And reviews are notoriously poor predictors of the long-term impact of books. Initial responses to Michael Bellesiles' book *Arming America: The Origins of a National Gun Culture* were full of praise for his startling and thoroughly-documented argument. It had all the markers of being an important piece of scholarship—a highly-credentialed author, a well-respected publisher, and excellent reviews. However, if a student relied on reviews alone, she would never learn that questions raised about the author's research led to his resignation from a teaching position and the rescinding of a major prize. More importantly, asking students to determine quality by looking it up reinforces the notion that students can't evaluate a text themselves. It teaches them that the only way to know if a source is authoritative is to get another authority's opinion rather than to learn to think for themselves, which would seem to be the whole point of the exercise.

It may appear as though I'm suggesting that students aren't willing or capable in terms of evaluating sources, and that we're asking them to do the impossible. This is not the case at all—I *know* they can do it. I've interviewed students about their research processes and am impressed by the sophisticated ways that students who take pride in their work talk about their sources. They constantly choose among the sources they find, and those choices aren't all dictated by convenience.

How do undergraduates who succeed at research evaluate their sources? First, they start with an understanding of the rhetorical power of using well-chosen references. They know that the goal is to marshal evidence to support their argument, and they realize that strong evidence is more persuasive than weak or second-hand evidence. They choose their sources carefully because they will be putting them on the stand as expert witnesses in their defense. Second, they look for patterns and connections among the sources they examine. Within the body of sources avail-

search" (http://scholar.google.com/scholar/about.html), Scholar is Google's answer to the quality versus quantity dilemma associated with regular web searches.

Since its introduction in November of last year, librarians have been avidly debating the flaws and merits of this new search tool. Regardless of our opinions, however, there can be little doubt that students will very likely adopt this new flavor of Google with great enthusiasm. Since Scholar is still in beta, opportunity exists to help shape the continuing development of this tool. Google invites user feedback via (scholar-support@google.com) and provides access to an online forum for discussion of the tool (http://groups-beta.google.com/group/Google-Labs-Google-Scholar).

Google Suggest

Introduced in December 2004, the suggest tool monitors what is typed into the search box and makes real time suggestions regarding possible refinements. For example, type the word "yellow" into the search and Google suggests a variety of searches including "yellow pages", the musical group "Yellowcard" and "Yellowstone National Park." You can then quickly select a search by scrolling down the list with the arrow keys and pressing enter. This is a fun tool for exploring search options, and also has the potential to help students formulate better searches.

Google Compute

Google Compute is a distributed computing tool that allows you to donate your computer's idle time for work on research projects. Currently, the Google Compute resources are being used to help Stanford University's Folding@home project [http://folding.stanford.edu/] which is working to understand protein folding in order to develop treatments for diseases such as Alzheimer's and Parkinson's.

Conclusion

As the overwhelming buzz surrounding Google Scholar and Google Print has demonstrated, the innovations produced in the Google Labs can have a major impact on our work as instructors. Regular visits to this corner of the Googleverse will help to keep you aware of future innovations in searching and ready to answer your students' questions regarding these new tools when they arise!

able, they look for confirmation and conflict, for voices that emerge as leaders of the discussion on their research question, for dissenting voices, and for boundaries between different schools of thought. They don't need to research the authors' backgrounds to find out if they are credentialed. Instead, they look at how the authors are situated within the literature they're examining. And finally, they *read* their sources to see if the ones on which they rely offer a well-framed argument supported by evidence.

These students see themselves as players in a process of creating knowledge, not as transcription clerks. This perception that to do research is to join an ongoing conversation about ideas isn't something we can teach or hand out as a checklist. It can only be learned through modeling, hands-on experience, and frequent practice. Involvement in this ongoing conversation is one of the most important things that students can take away with them from college. The "facts" will change. The tools will change. The reputations of publishers and journals and authors will change. But having the confidence to wade into a mass of information, regardless of whether it's on television, on the web, in the committee rooms of Congress, or on the shelves of the library, and independently sort it out is something students will need for the rest of their lives.

Works cited

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