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Term papers, Google, and library anxiety: how can information literacy improve students' research skills?

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Term Papers, Google, and Library Anxiety:
How can information literacy improve students' research skills?

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Dateline: Tuesday, May 25, 2010—the cover story for *USA Today* is entitled, "Twitter power, learning from ourselves, in real time." The article speaks about the evolution of the global phenomenon Twitter, a 140-character limit text-based microblog, "from a social outlet to a marketing tool and more."[1] Cofounder Evan Williams has described Twitter as an "information network…[telling] people what they care about as it is happening in the world."[2] Even the Library of Congress is onboard with plans to archive the world's tweets in order to preserve the historical record for scholarly inquiry of "what both the first-person participants in history and its spectators were saying."[3]

In today's information age, Twitter is just one of a plethora of outlets vying for attention, offering large quantities of digital data, and contributing to the condition that has become endemic in our society—*information overload* or *TMI* (too much information). Librarians David Bawden and Lyn Robinson have identified that "information overload occurs when information received becomes a hindrance rather than a help, even though the information is potentially useful."[4] Today's digital natives are Internet-savvy and are usually very adept at juggling not only the myriad of technological gadgets that have become essential to daily existence but also the influx of information received from these devices. They have sharply honed skills at "googling" fast facts and have discovered how to manage social connections through texts and tweets, but research indicates that when it comes to doing college research many students are overwhelmed by the abundance of resources available.

How does one cope when a basic Google search results in several million results? Too often students are confused and frustrated, seemingly paralyzed by the amount of information available. University Librarian David Baker calls this continually increasing trend a "data deluge,"[5] and the consequences of this flood can be damaging. Procrastination and avoidance of research assignments create stressful environments that impede success. How do students navigate the information-rich but sometimes cumbersome task of academic research?

If Twitter offers "real-time" insight into the "meaningful and mundane"[6] issues of the day, what can we learn about students' own experiences with library research in a world where an incredibly broad range of information is available right at their fingertips? In their own words below are eight students' tweets posted on May 25, 2010.

1. "i just came back from the library and doing research… stressed"
2. "Just went to the library to do research on my assignment, and all the reference books are gone."
3. "7 hours straight in the library has me seeing things! Now to watch 24 while i create a bibliography for this research paper!"
4. "i checked out 6 books from the library for my research paper, im such a geek"
5. "I feel so scholarly; went into the depths of the library to find a research journal."
6. "At the library... During MY lunch time helping a friend on their research paper :)"
7. "Google Docs folder has now reached 100 documents. Information overload!"
8. "information overload. there is just too much. how will I do it!"

These tweets describe many of the same concerns identified in a recent national study of college students on seven U.S. campuses in fall 2008. This study attempted to uncover how students find the information they need, what obstacles they encounter, and what strategies they employ to meet their information needs. The preliminary findings suggest that students are challenged by the amount of information available and express frustration that in an information-rich climate it feels that "the more you know, the less you know"; students struggle to sort out relevant material when too many results are offered; and students labor to find the needed

information, whether it is a full-text article online or a book on the library shelf.[7]

Librarians have long been aware of students' confusion about the library and its resources. In the 1980s, librarian and researcher Constance Mellon noted the fear and unease students experience when confronted with a school assignment that necessitated a trip to the library. She called the phenomenon "library anxiety," a condition akin to math or test phobia, and noted that many students were so overwhelmed by apprehension in the face of library research that they lost the ability to think rationally about the task at hand.[8] The academic consequences of the situation were significant; as Mellon noted, "[t]he anxiety students feel about the library is getting in the way of their learning."[9] In the years since Mellon's initial study, information platforms have changed significantly, from card catalogs to CD-ROMs to the Internet and beyond. However, students' anxiety about the library and about academic research has remained surprisingly constant, even given the relative ease with which "digital natives" can navigate new technologies. The findings of a 2008 study of undergraduate students mirror those of Mellon's: students still express feelings of confusion when doing research in the library, and that confusion hinders their ability to think critically and rationally about their search for information.[10]

This library anxiety, coupled with a lack of critical thinking, leads many students to engage in research practices that are counterproductive and hinder their ability to locate and select appropriate sources. The vast amount of information available at their fingertips makes it even more difficult for students to separate the useful scholarly wheat from the biased or unreliable chaff, thus increasing feelings of anxiety. As a result, many students, intimidated by library Web pages and resources, forego subscription sites and turn to where they are comfortable, relying exclusively on Google searches of the free Web for their research.[11] Studies of student behavior on the Web, however, indicate that they search too quickly to give more than surface consideration to such issues as source reliability, accuracy, or bias. When confronted with the overabundance of information available online, students tend to download or print volumes of information for future use without taking the time to read or properly evaluate the material.[12]

How can students overcome their information overload and begin to appraise the glut of information available online and on the library stacks? The answer is by developing a set of critical skills that librarians call "information literacy." Information literacy is the ability "to recognize when information is needed and…[to] have the ability to locate, evaluate, and use effectively the needed information."[13] The information-literate person has the skills necessary to articulate and define an information need, which for students may mean clearly focusing a topic; to find that information proficiently and accurately; to carefully assess the information for quality and relevance; and to turn that information into new knowledge by using it to complete a task.[14] Information literacy is about more than completing a research assignment or succeeding in college, although the information seeking practices it promotes are essential for those purposes. Information literacy skills will help students make wise choices in all aspects of life, from writing a paper to buying a car to looking for a job. The information literate individual has been empowered to become a smart consumer of information, to take control of the bits and bytes that surround us every day, and to make informed sense of what can be an overwhelming information landscape. Because that landscape is constantly and rapidly changing, these competencies are essential for the future: information literacy skills are highly portable, applicable in any situation where a decision regarding the quality and accuracy of information is required.

Information literacy is a mindset, a holistic way of approaching the quest for information, analyzing the sources of that information, and understanding the ramifications of that information so as to create new knowledge. Acquiring such fluency is a process, one that will unfold throughout a students' academic career and beyond, into the workplace, the home, and the public sphere. However, students can consciously begin to practice and hone the skills that are the basis of information fluency by asking several important questions whenever they begin the research process; in time, the questions will become second nature as students become accomplished at acquiring, assessing, and using information.

First, a researcher must clearly define the nature and scope of the information necessary for the task at hand. For a student, this may mean understanding and defining the assignment and focusing the topic to a clear and manageable research question or thesis. Brainstorming techniques, such as prewriting questions and concept maps, can help with this stage of the process. Questions may include: Who is my reader? What is my research topic? What do I already know about the topic? What more do I need to learn? What specific information do I need to learn more? Concept maps are a mechanism

for graphically charting out the issues and questions that arise around a topic and for generating keywords that can be used in a future search. The Online Writing Lab (OWL) at Purdue, a good source for writing tips and strategies, provides students with a set of prewriting questions that can help define an information need: http://owl.english.purdue.edu/owl/resource/673/02/. This YouTube video describes using concept maps to explore a topic and to look for words and phrases connected to that topic: http://www.youtube.com/watch?v=av5PKePIkcE.

The next step is to locate information in an appropriate source. Wikipedia and other "free" web sources may tempt a researcher with the promise of quick and easy searching, but the quality of the information on such sites is questionable. The information-literate researcher will seek information from reputable sources, such as the subscription databases found on the UNH Libraries' Web site: http://www.library.unh.edu/researchtools/databases/. Finally, the savvy researcher will carefully assess all sources located—even from high-quality online periodical indexes—for relevance to the research topic; timeliness of the information; authority and expertise of the writer; credibility or trustworthiness of the source; perspective or bias of the author and the source; and the intended audience (Middle school students? Experts in the field?) of the source. Students who take the time to follow these steps when conducting research will do more than ensure that they have appropriate sources for their papers and projects: they will begin the lifelong process of critical engagement with information.

The UNH Durham and UNH Manchester librarians have created online resources—called Library Guides—to assist students in developing and enhancing their skills in information fluency: the guides are available at http://libraryguides.unh.edu/index.php. The first step on the path to information literacy is remembering to ask for assistance with an information need, and librarians, as information professionals, are happy to help with any questions students may have.

Endnotes

1. Marco R. della Cava, "Twitter power: learning from ourselves in real time," *USA Today* 25 May 2010: 1A.

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3. della Cava, 2A.

4. David Bawden and Lyn Robinson, "The dark side of information: overload, anxiety and other paradoxes and pathologies," *Journal of Information Science* v.35 (2) 2009: 183.

5. David Baker, "From needle and haystacks to elephants and fleas: strategic information management in the information age," *New Review of Academic Librarianship* v.14 2008: 2.

6. della Cava, 2A.

7. Alison J. Head and Michael B. Eisenberg, "What today's college students say about conducting research in the digital age," Project Information Literacy Progress Report, Information School, University of Washington, 4 Feb. 2009, 07 Jun. 2010, http://projectinfolit.org/pdfs/PIL_ProgressReport_2_2009.pdf.

8. Constance Mellon, "Attitudes: the forgotten dimension in library instruction," *Library Journal*, 01 Sep. 1988: 138-139.

9. Mellon, 138.

10. Nahuyn Kwon, "A mixed-methods investigation of the relationship between critical thinking and library anxiety among undergraduate students in their information search process," *College and Research Libraries* Mar. 2008, v. 69(2).

11. Shannon Bomar, "A school-wide instructional framework for evaluating sources," *Knowledge Quest*, Jan/Feb. 2010, v. 38 (3).

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13. ALA, "Presidential Committee on Information Literacy: Final Report," 10 Jan. 1989, 09 Jun. 2010, http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm.

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