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COURSE CORRECTION

Teaching Students to Swim in the Online Sea

By GEOFFREY NUNBERG

INFORMATION literacy seems to be a phrase whose time has come. Last month, the Educational Testing Service announced that it had developed a test to measure students' ability to evaluate online material. That suggested an official recognition that the millions spent to wire schools and universities is of little use unless students know how to retrieve useful information from the oceans of sludge on the Web.

Clearly, "computer skills" are not enough. A teacher of Scandinavian literature at Berkeley recently described how students used the Web to research a paper on the Vikings: "They're Berkeley students, so, of course, they have the sense to restrict their searches to 'vikings NOT minnesota.' But they're perfectly willing to believe a Web site that describes early Viking settlements in Oklahoma."

That trusting nature is partly a legacy of the print age. If we tend to give the benefit of the doubt to the things we read in library books, it is because they have been screened twice: first by a publisher, who decided they were worth printing, and then by the librarian who acquired them or the professor who requested their purchase.

The Web imposes no such filters, even as it allows users to examine subjects people would never have gone to a traditional library to research, like buying a printer or a cheap airline ticket. Many adolescents use the Internet to get information about issues they are reluctant to discuss with parents or teachers, like sexual behavior, sexual identity, drug use or depression and suicide.

But there is a paradox in the way people think of the Web. Everyone is aware that it teems with rotten information, but most people feel confident that they can sort out the dross. In a survey released last month by the Pew Project on the Internet and American Life, 87 percent of search-engine users said they found what they were looking for all or most of the time.

That level of confidence may not be justified, particularly when a search for information requires judging a Web site's credibility. According to the Pew survey, only 38 percent of search-engine users were aware of the difference between unpaid and sponsored search results, and only 18 percent could tell which was which.

A 2002 study directed by BJ Fogg, a Stanford psychologist, found that people tend to judge the credibility of a Web site by its appearance, rather than by checking who put it up and why. But it is much easier to produce a professional-looking Web site than a credible-looking book. The BBC was recently duped by a fake Dow Chemical site into broadcasting an interview with an environmentalist posing as a company spokesman.

Then, too, search engines make it all too easy to filter information in ways that reinforce pre-existing biases. A Google search on "voting machine fraud," for example, will turn up popular Web pages that feature those words prominently, most of which will support the view that voting machines make election fraud easier;

opposing sites won't tend to feature that language, so will be missed in the search. A researcher exploring the same topic in a library would be more likely to encounter diverse points of view.

Up to now, librarians have taken the lead in developing information literacy standards and curriculums. There's a certain paradox in that, because a lot of people assumed that the digital age would require neither libraries nor librarians. But today, students have only limited contact with librarians, particularly because they do most of their online information-seeking at home or in the dorm.

More important, leaving information literacy to librarians alone suggests a failure to understand the scope of the problem.

Part of it lies in the word "literacy" itself. No other language has a word that covers such a broad swath of territory, from reading and writing skills, to a familiarity with culture, to elementary competence in subjects like math or geography. To many, "information literacy" suggests a set of basic ABC's that can be consigned to Information 101.

One can list some basic principles of information literacy, like "Recognize an information need"; "Evaluate sources critically"; and "Check to see if the site sponsor is reputable." But those precepts are only of limited help with all that people now use online resources to do.

Last fall, for example, I co-taught a graduate course on "Information Quality" at Berkeley's School of Information Management and Systems. The students were highly sophisticated about search engines and knew their way around the Web.

But even they had difficulty with exercises that involved evaluating information in unfamiliar areas, like using the Web to decide which online degree program to recommend to a friend.

Still, given more time, those students would have known where to go for more accurate maps of the territory they were exploring. Unlike most students, they knew that "what's out there" doesn't end with what comes up on Google. University librarians complain that students tend to confine their online research to Web searches, ignoring other resources that the libraries have access to, like old newspaper archives, map collections and census data.

No less important, the students in our course would have known to use an even more basic technique: asking the right person. E-mail turns the Web into a vast digital help desk; user groups are teeming with people who will gladly explain the finer points of espresso machines or the history of English slang. But most people rarely think to make use of them.

In the end, then, instruction in information literacy will have to pervade every level of education and every course in the curriculum, from university historians' use of collections of online slave narratives to middle-school home economics teachers showing their students where to find reliable nutrition information on the Web.

Even then, it is true, most people will fall back on perfunctory techniques for finding and evaluating information online. As Professor Fogg observes, people tend to be "cognitive misers," relying on superficial cues whenever they can get away with it.

Only when confronting a question that is personally important - a health problem, a major purchase - are most people motivated to dig deeper. But that is reason enough to make sure that people have the skills they will need.

Geoffrey Nunberg, a Stanford linguist, is heard on NPR's "Fresh Air" and is the author of "Going Nucular" (PublicAffairs, 2004).