

## **Theory-to-Practice**

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# ***Distinguishing Fact from Fiction on the Internet: Self-Directed Learners and the Critical Evaluation of Electronic Resources***

**Kathleen B. Rager**

### **Abstract**

The proliferation of access to the Internet has jettisoned it to the forefront as a significant tool for self-directed or independent learners. This article addresses an area of increasing importance to adult educators in general and to those interested in self-directed learning in particular as it explores the need to encourage and develop adult students' ability to evaluate critically Internet resources. The five evaluation criteria of authority, accuracy, currency, objectivity, and coverage are discussed and additional resources are recommended for use with adult students.

Karla is 57. She discovered a lump in her breast through self-examination and was diagnosed subsequently with stage three ductal carcinoma. In the nine months that followed her diagnosis, she spent 268 hours engaged in self-directed learning or self-education with regard to her breast cancer. Learning helped her to understand what was happening to her and gave her a modicum of control in an uncontrollable situation. It also allowed her to be an active participant in the decisions being made regarding her treatment.

Like many other self-directed learners, Karla turned to the Internet for information. Her experience was not positive. "I was horrified on the Internet. . . . It seems that the most horrific situations are put on the Internet. Sometimes you don't even know if they're true, and this is something I don't think people are aware of or even think about. You

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Kathleen B. Rager is Assistant Professor of Adult Education at the University of Oklahoma.

don't know who's putting this out there. But I read some stuff, and I thought, 'I don't have a chance in hell!' and I thought, 'I'm not going there anymore. This is not what's going to happen to me.' So I had to stop doing the Internet thing" (Rager, 2000, p. 85). Karla's experience with the Internet highlights a problem that those interested in self-directed learning need to address. Although the Internet is an incredible resource for those who have access and the skills to use it, judging the reliability of the information that may be accessed is often problematic or, in some cases, completely overlooked.

Gray (1999) asserts that "the Internet could probably be classified as one of the most powerful and important self-directed learning tools in existence" (p. 120). He defines it as "a network of hundreds of thousands of computers all over the world, connected in a way that lets other computers access information on them" (p. 119). Further, the World Wide Web (WWW), which he believes is the most versatile part of the Internet, "offers learners enormous opportunities for learning, including accessing information on formal educational courses, [sic] and collecting an unheard of wealth of data and information on a seemingly endless range of subjects" (p. 120).

Use of the Internet and the WWW is increasing rapidly. "In 1995, about 28.8 million people in the United States 16 years and over had access to the Internet at work, school or home; 16.4 million people used the Internet and 11.5 million of these people use the Web" (Kling, 1999, p. 58). Those numbers have grown tremendously, for it is estimated that access to the Internet in the United States doubles every two years.

With access growing, the influence of the Internet with regard to self-directed learning also is increasing. Spear and Mocker (1984), in their landmark study, found that self-directed learners "tend to select a course from limited alternatives which occur fortuitously within their environment, [sic] and which structures their learning projects" (p. 4). Now, however, anyone with a computer, Internet access, and the appropriate skills has the ability to tap into vast resources that are available electronically about any subject. In a sense the Internet provides everyone who can use it with the same "environment," thereby making a profound impact on Spear and Mocker's concept of the "organizing circumstance." However, as the Internet eliminates geographic location as a factor in accessing abundant resources for its users, it increases simultaneously the need for skill in distinguishing quality resources from junk.

Given these circumstances, the ability to evaluate critically Internet resources is an area of increasing importance to adult educators in general and to those interested in self-directed learning in particular. Adult education practitioners can and should play a role in focusing on the need to evaluate critically Internet information and in helping adult learners develop the ability to do so. Fortunately, university librarians have taken the lead in this area by providing useful evaluation guidelines and numerous resources. They have been engaged in the process themselves as they evaluate what to include in sources linked to library Web sites and in assisting library users in judging the quality or appropriateness of Internet-accessed information.

Cornell University Library (Kapoun, 1998) and the Wolfgram Memorial Library at Widener University (Alexander & Tate, 1996) are among those who have developed useful criteria for evaluating web pages for information quality. They suggest that the process begins with clarity regarding the purpose of the search. Obviously, one evaluates Web sites differently if the purpose is entertainment versus Karla's purpose of accessing reliable medical information on which to base decisions regarding her breast cancer treatment. In Karla's case the quality of the information was critical. "The World Wide Web (WWW) contains extensive data that is [sic] timely and useful, but it also offers propaganda, facts, and charts without dates or references, [sic] and opinions from individuals without authoritative knowledge" (Morrison & Stein, 1999, p. 317).

The Cornell and Widener libraries both suggest evaluating web pages through the lens of the same five criteria: *authority*, *accuracy*, *currency*, *objectivity*, and *coverage*. By *authority* they are referring to investigating the credibility of the author or creator of the page. Information about the author's credentials, institutional affiliation, educational background, and qualifications for writing on a particular subject should be assessed. A phone number or postal address included on the page could be used to verify the legitimacy of the page's sponsor or to ask for more information in this regard.

To assist in determining the *accuracy* of the information, it is suggested that the user look for information sources included on the web site so that they can be verified. Compatibility of the information with related sources is an indication of reliable information. Even simple things such as spelling, grammatical, and typographical errors should

be noted as they suggest a lack of quality control that can indicate problems with the information itself.

*Currency* refers to how up-to-date the information is, and judging it can be accomplished by looking for dates which indicate when the page was written and when it was last revised or updated. Obviously, the type of information sought dictates the criticality of this aspect. For the medical information that Karla needed, currency was critical, whereas for information on topics related to history and art, for example, it might not be.

In assessing *objectivity*, the fourth criterion, the challenge is to distinguish fact from opinion or propaganda. Verifying facts in other sources is usually the best way to accomplish this goal. Other helpful indicators include determining if the information is provided as a public service and if it is free of advertising. The purpose of the web site and the source of the information are critical in uncovering potential bias.

The last criterion suggests that sites should be evaluated regarding *coverage*. By exploring multiple sources on the same topic, it is possible to identify a variety of viewpoints and to distinguish those sites that cover the topic extensively as opposed to those which provide superficial or minimal information.

Examining a site with the five criteria of *authority*, *accuracy*, *currency*, *objectivity*, and *coverage* in mind is a great starting place for determining the quality of the information. However, many other resources are available on the Internet that also can be extremely useful. Two particularly helpful tools are interactive tutorials that are available on line at no charge. *Internet Detective* (<http://www.sosig.ac.uk/desire/internet-detective.html>) is a comprehensive program that teaches how to evaluate the quality of Internet resources. It covers such issues as determining purpose, site orientation, the meaning of URLs, and other pertinent topics. It takes about two hours to complete the entire program. The site also includes resources for teachers and trainers who choose to use Internet Detective with their classes. The libraries at Ohio State University have developed a shorter version of an online tutorial, entitled net.TUTOR (<http://gateway.lib.ohio-state.edu/tutor/>). It can be completed in 15 to 30 minutes and contains links to example sites. Both of these sites are excellent resources.

In terms of medical information Karla would have benefited from accessing the Information Quality Tool (<http://hitiweb.mitrotek.org/iq/default.asp>) that is available online at no cost from Mitrotek Systems.

The IQ Tool, which is currently being updated, consists of a 21-question evaluation that assists the user in rating the quality of a health information site. The tool ensures that the consumer asks the right questions when assessing an Internet medical resource. Other helpful online resources are provided through the National Network of Libraries of Medicine (Liebermann, 2000) and the California Medical Association (1999).

Ironically, school children today are being taught how to evaluate critically electronically accessed resources, but most of their adult counterparts have never had that opportunity. Karla and the many other adult, self-directed learners like her who are turning to the Internet for information commonly are self-taught in terms of their Internet skills (Cahoon, 1999). Unfortunately, they often think that, if it is on the Internet, it must be true. They need help in developing their ability to distinguish valuable resources from those that are not. Adult education practitioners can provide a valuable service by increasing awareness of the critical importance of this issue and by sharing information and resources that assist adult learners in becoming astute consumers of electronic information who can distinguish appropriately fact from fiction on the Internet.

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