

EVALUATING WEB SOURCES

One strategy I heard about was that students avoid sites that use a lot of exclamation points.¹

Goal: To determine the authority and accuracy of websites.

Objective 1: Know how to detect inaccurate information.

Objective 2: Recognize a “possible” trustworthy site.

Objective 3: Investigate and verify ownership of information.

Objective 4: Know major website types that can mislead.

In the early years, the World Wide Web seemed to contain more junk than gems. However, increasingly, this remarkable online environment has been disseminating freely accessible documents invested with authority by scholars, scientists, the government, the medical community, and public policy organizations. Moreover, the Web has proven to be a successful marketplace where opinions, news, and data ignored or suppressed by the mainstream press can be exchanged.

But the very reason that quality information and free exchange of ideas exist in the Web environment is the same reason that it is a breeding ground for useless, fraudulent, and inaccurate information. The

Web is truly “universal, open to all.”² Because no one entity controls or regulates the Internet, sites can be authored, edited, and published by anyone with technical knowledge of Web design and management. While some sites exert editorial control and facilitate the verification of their content, other sites lack such controls and filters. Thus, the Internet can be described as the “world’s largest vanity press.”³

Several studies have confirmed that undergraduates depend upon the Web for research. For example, the Pew study found that “73 percent of college students use the Internet more than they do the library.”⁴ These studies also indicate that students are aware that the Web distributes inaccurate information; hence, they do apply some critical standards. The Columbia study found that three quarters of the respondents claim to evaluate the trustworthiness of a source.⁵ John Lubans’s studies produced a ranked list of factors students use to test the trustworthiness of a site:

1. It is based on a respected print source.
2. It was referred by peers or teachers.
3. The page “ownership” is explicit.
4. The URL has .org or .edu in it.
5. Links on page lead to other sites.
6. The site displays a recent date.
7. There is an e-mail link to the owner.
8. The site looks “professional.”⁶

Clearly, these students are evaluating pages but at a very superficial level. While basic indicators, such as ownership and currency of content, are necessary as a preliminary step in ascertaining the reliability of a site, they cannot, in and of themselves, indicate the authenticity of an author’s credentials or bias, inaccuracies, and faulty reasoning inherent in the content. A Web document may be authored by an “expert,” but even they can make inadvertent errors or deliberately mislead.

Albeit, instructors and librarians warn students that they must go beyond an author’s credentials and check whether the document is “objective,” “well-researched,” and “contains reasonable assumptions.” These warnings are often embedded in course syllabi and packaged as Web evaluation “checklists.” Well-meaning they may be, but they mean little to novice students. These “warnings” often fall on deaf ears because most

undergraduates, especially freshmen and sophomores, lack the analytical skills needed to determine whether content is well researched, biased, or inaccurate. In short, they lack the tools to evaluate beyond the superficial. Thus, beyond determining authorship and currency (that is, if both are clearly stated), students have difficulty dealing with the content-related categories included in a typical checklist. Many librarians agree with the conclusions of Scholz-Crane, Deborah J. Grimes and Carl H. Boening, and Marc Meola that teaching to a simple checklist is not enough.⁷ Students need to learn analytical skills that will help them judge the quality of content. As Meola contends, checklists “promote a mechanical and algorithmic way of evaluation that is at odds with the higher-level judgment . . . that [librarians] seek to cultivate as part of critical thinking.”⁸

Methods of cultivating students’ higher-level thinking skills have been around long before the advent of the Web. And judging from the abundant pedagogical literature on critical thinking prior to 1990, students even then had trouble determining the reliability of information. But those generations of students did not have the pressure of worrying whether a book was reliable. Back then, students trusted the library’s collection of scholarly sources, material “filtered” by librarians, bibliographers, and faculty. Nowadays, the Web has added a new dimension to research. Students must expend more intellectual effort in critically assessing the source and content of information. As Vinton G. Cerf observes,

There are no electronic filters that separate truth from fiction. No cognitive “V-chip” to sort the gold from the lead. We have but one tool to apply: critical thinking. This truth applies as well to all other communication media, not only the Internet. Perhaps the World Wide Web merely forces us to see this more clearly than other media. The stark juxtaposition of valuable and valueless content sets one to thinking.⁹

Thus, while students always have had trouble critiquing research content, the Web makes it imperative that students differentiate the valuable from the valueless. Librarians and faculty need to work independently and collaboratively to teach students how to critically evaluate sources. And students would welcome it. According to the Columbia study, half of the students surveyed never received formal instruction in evaluating electronic sources, and of those, 82 percent believed they could benefit from instruction.¹⁰

LEARNING OBJECTIVES AND INSTRUCTOR ACTIVITIES

Objective 1. Know How to Detect Inaccurate Information.

This objective focuses on the ability of the student to be aware of personal possible biases, prejudices, or an unwillingness to accept the truth of something that violates his or her belief system. Students should be encouraged to question their motivation to think a certain way. The following are some sample questions:

- Am I being unfair in my view toward X (i.e., idea, opinion, argument, person, or theory)?
- What is my view based on (i.e., personal experience, opinions of friends and family, my fears and insecurities)?
- Am I simplifying X?
- Why do I resist considering other sides of the subject?
- Why do I feel the need to look at X as “right and wrong” or “good and bad”?
- Can I consider that X may be a gray area and that to make an informed decision I must consider all sides of an issue?

While the objective is to help students become healthy skeptics, instructors need to ensure that students do not leave the classroom believing that all persuasive communications are not to be trusted. To prevent such a cynicism from creeping in, D. G. Kiehl and Howard Livingston suggest that teachers introduce a discussion by distinguishing between cynicism and skepticism: “Cynicism involves a contemptuous, pessimistic, disparaging—often bitter—disbelief with no implication of further investigation; skepticism, on the other hand, involves the doubting and questioning of the validity or authenticity of something that purports to be truthful—but with the implication of ongoing probing and testing of evidence.”¹¹

Objective 2: Recognize a “Possible” Trustworthy Site.

Objective 2 focuses on basic strategies students can use to determine whether a Web source on its surface is trustworthy. Objectives 3 and 4 focus on teaching students investigative strategies that will engage

their higher-level thinking skills to determine whether the information *embedded* in the site contains factual errors, fallacies, or nonsequiturs. The evaluation process begins as soon as students encounter a website. They should ask themselves:

- Why is this site here?
- Why do I have free access to this site's information? and
- Why does the publisher want me to see this site?

These questions help students explore the motivation behind the launching of the website. The answers to these questions thus lead students to ask:

- Who funds this source?
- If the site appears to be promoting a product, can I still use the information?
- If the site does not appear to be selling a product, is it trying to promote or advocate something else, such as an ideology or political agenda?
- If the site does not appear to be selling or promoting anything, then what is it? Why is it on the Web? Is an educational institution or government agency funding it? If so, why?

When initially encountering a website, students often evaluate it by limiting the top-level domains (.edu, .org, and .gov), believing (or being told) that cutting out the .com sites will protect them from unreliable sources. However, this is not always the case. Consider the following:

- URLs that end in .org are authored by a variety of groups: public service, nonprofits, and advocacy groups, ranging from the ACLU to hate organizations (e.g., Institute for Historical Review [ihr.org]).
- URLs that end in .com. may not be selling products. For example, public service or nonprofit sites may have a .com domain because their Internet service provider uses it.
- URLs that contain a personal name preceded by a tilde (~) and end in .edu usually signifies a personal website that is housed on a

college server. However, the university may not necessarily stand behind the views contained on the website.

Who Is Behind the Site's Content? As mentioned, the top-level domain is not always a reliable indicator of who is behind the content of a website. The “who” may involve more than one entity. A website could conceivably have three entities involved: X writes the content; Y sponsors the site; and Z, the webmaster, manages and maintains the site.

Students must learn to determine who sponsors the site. Determining the funding source will often clarify why the site exists as well as alert students that the content may be slanted toward the views of the sponsor. Sponsors can be individuals, advertisers, organizations, the government, or educational institutions. Launching and maintaining a site can be expensive; hence, in doing so, the website's owner may want something in return for the expense. Determining a sponsor may be as easy as clicking on links labeled “About Us,” “Mission,” “Disclosure,” or “Disclaimer.” If the identity of the sponsor is unclear, then cut into the URL to the domain name, it may reveal the source of the website. For example, consider the website www.science.smith.edu/departments/Biochem/Biochem_353/MWStd.htm. Truncating to www.science.smith.edu reveals that the site originated from Smith College's Clark Science Center.

Another way of discovering the ownership of a domain name is to consult “whois” databases that supply data on the website, including administrator and technical addresses and server information. These databases include:

- Domain Tools, formerly Whois.sc., (www.domaintools.com),
- GeekTools (www.geektools.com/whois.php), and
- Alexa.com

For additional listings of whois services go to:

- Yahoo! (dir.yahoo.com/Computers_and_Internet/Internet/Directory_Services/Whois)
- Google (www.google.com/Top/Computers/Internet/Domain_Names/Name_Search)

Are They Who They Say They Are? A healthy skeptic will not accept the credentials of an author or sponsor at face value but will go beyond the boundary of the website to verify their credentials. Following are some questions that will help students determine the authenticity of an author:

- Do the site's links tell me anything about this person's credentials?
- Do authoritative sites link to this site? (Students can check by using "link checkers" offered by Google and other search engines.)
- What else has the author written?
- Does the author have a reputation among his or her peers?
- Is the author discussed or cited in relevant subscription databases?
- Is the author listed in standard biographical sources, such as *Who's Who*, *American Scholars*, or *Contemporary Authors*?
- If membership in professional organizations is listed, is he or she truly a member? (Students can check such sources as *Associations Unlimited*, *Gateway to Associations*, *Scholarly Societies Project*, *IPL Association Directory*, and *All Experts*.)
- Is there an e-mail address where I can communicate with the author?

Once these questions have been answered, students should have a better idea as to what sort of website they are dealing with. The following is a list of the major types:

- personal pages: no affiliation with an entity or institution, such as a university, organization, agency
- commercial pages: home pages of companies, public relations and marketers, advertisements for services and products; may also include studies, surveys, and white papers
- advocacy pages: promotion of social and political agendas
- nonprofit pages: position papers, studies, surveys, and reports issued by professional organizations and public service organizations
- scholarly/educational pages: journal articles, instructional materials, conference proceedings, institutional pages
- government pages: publications from city, county, state, federal, and international agencies

- popular press pages: electronic versions of newspapers and news magazines, alternative news, and weblogs
- archive pages: collections of art, manuscripts, and historical papers
- proprietary pages: password-protected materials, such as commercial databases made available to libraries

Objective 3: Investigate and Verify Ownership of Information.

Websites may not be what they appear to be. They may be reputable, but they may also distort facts, provide erroneous information, omit essential data, or contain illogical argumentation. Students must be taught not to assume that once an author, reporter, institution, or organization has been deemed reliable, the material therein is automatically considered reliable.

Determining the veracity of someone's statements, facts, and conclusions is problematic for undergraduates because they often:

- lack a deep knowledge of the subject they are studying,
- are not trained to identify factual errors and fallacies, or
- may have the attitude that differentiating the valuable from the valueless is not that important.

How can novices begin to evaluate content? How can they know the good from the bad? Successful evaluation begins by becoming a skeptic and asking a few questions that challenge the author's assumptions and factual data:

- Why is this true?
- Why should I believe this author?
- What makes it true?
- Why is it being said?
- What evidence is stated that makes it true?
- Has the claim been tested enough to make it true?

Verifying information proves troublesome for undergraduates because they tend to accept what they read, especially if the source is

from a recognized media source (e.g., newspaper or newsmagazine) or a governmental agency. They often have the attitude that if it has been published, it must be true, or if a top governmental official said it, it must be so. Hence, if they do not question the authority of the source, they are vulnerable to accepting erroneous information. The following are basic indicators of accuracy that can help students recognize the need to verify content. Ask students to be aware of and try to ascertain the type of evidence an author uses to support his or her information. For example, Is this historical account backed up by primary sources? Have the findings of X medical study been replicated by subsequent studies? How did the author come up with that statistic?

Anecdotal Evidence Anecdotal evidence is a claim based on personal observations or a few examples. For instance:

Violent movies trigger must suicidal tendencies in people because several people committed suicide after watching the Russian roulette scene in *The Deer Hunter*.

Claims backed up by anecdotal evidence are weak because they have not been tested scientifically to show that they are representational of a larger group. To draw firm conclusions about such claims, further investigation based on controlled, quantitative, or empirical studies needs to be conducted.

Sweeping Generalizations Sweeping generalizations are broad or hasty statements that simplify complex ideas. These types of statements are very common in political rhetoric and are used to stereotype. Statements are signaled by *always*, *all*, *typical*, and *usual*. As Alexandre Dumas said, "All generalizations are dangerous, including this one."¹²

Uncorroborated Evidence In his article on verification methods, Don Fallis reminds us that Hume "notes that people should pay attention to the 'number of the witnesses' . . . because it is much more likely that one individual will 'deceive or be deceived' than that several individuals will 'deceive or be deceived' in exactly the same way."¹³ Hence, several experts who are in agreement about something indicates a consistency and therefore may be an indicator of accuracy. However, those "experts" need to be identified by the author. For example, consider the following statements:

X is true because scientific studies have shown them to be true.

X is true because several historians claim it is true.

While these statements may be true, they have no validity because the author fails to corroborate by citing the studies or the identity of the historians. Failing to sustain statements without corroboration is like the police releasing a suspect on the strength of his alibi alone without independently verifying with others. A word of warning: Many students assume that if the source is footnoted or referenced, it is a “scholarly source.” Again, this assumption is not always correct. Consider Ann Coulter’s bestselling *Slander: Liberal Lies about the American Right*, which contains over more than seven hundred footnotes, yet many of her statements, as well as footnotes, have been found to be erroneous or deceptive. Another example is Edmund Morris’s *Dutch: A Memoir of Ronald Reagan*, which most scholars consider an “intellectual embarrassment” because it blends historical fact with fiction.

Vague Statements Weak or vague statements are claims that lack specific definitions, concrete explanations, or clear corroboration. For example,

Many Americans use the Internet.

Extreme Statements Extreme statements run counter to common knowledge, common practice, or scholarly consensus. For example,

Liberals have been wrong about everything in the last half-century.¹⁴

or,

Saddam Hussein is the single greatest terrorist threat to America.¹⁵

Currency of Information In some of the user surveys discussed earlier, students responded that they do check a site for timeliness. But what does “timeliness” imply? Does the date on a website mean that the content has been updated? All of it or just part of it? Or perhaps the content has not been updated but the webmaster updated the site technically.

Facts and Figures Using facts and figures is a powerful way to support an argument. However, they can also be used to twist information to suit the agenda of the writer. Consequently, students must be taught

to be vigilant in using information that can be verified. For example, students may be tempted to use information such as this from a survey discussed on the website ebreastaug.com, a medical marketing firm:

According to surveyed women that had undergone the breast augmentation procedure, 94% of them said they would recommend the surgery to others. This was an overwhelming response that shows how much breast augmentation procedures have evolved.

While that is an impressive percentage, the website fails to cite the survey that supposedly supports this claim. Unfortunately, many students will accept without question the accuracy of this statement. Unless trained to do so, most students will not think to ask, Who conducted the survey? Was the survey conducted using scientific methods? How can I find the original survey?

Completeness No one source can provide a full perspective on a topic. Information is inevitably left out. However, many sources leave out information for strategic reasons. Nowhere is this more apparent than sites that advocate ideologies or promote products and services. Often these websites frame issues to suit their purposes, which means omitting views or evidence that supports the “opposition.” Students need to be aware that responsible sites include or link to opposing viewpoints or evidence. To counter lopsided coverage, therefore, students should search out and examine several sources that will enable them see the full spectrum of ideas on a topic. Pursuing all sides of an issue also sends a message to students that they are not to omit from their research projects material that does not “fit” their thesis. They, too, must include opposing material and learn to use it to support their own viewpoints. Students should learn to corroborate by locating at least three independent, credible sources that agree with the stated claim, fact, or judgment. These sources must be independent of one another. Otherwise, the documents that are used for verification might be perpetuating the same inaccurate information.

However, in some cases verification can only be successful if the researcher backtracks to the primary source. For example, the popular media continues to perpetuate Al Gore’s claim that he invented the Internet. But, if one consults the original source, which was an interview with CNN’s Wolf Blitzer, what Gore really said was, “During my service

in the United States Congress, I took the initiative in creating the Internet.” When taken in context, what he actually meant was that he was instrumental in supporting development of Internet technology.

Objective 4. Know Major Website Types That Can Mislead.

Misinformation As journalist Carl M. Cannon, points out, “the real computer virus: misinformation.”¹⁶ He cites several examples of how Web misinformation spreads to the media and perpetuates itself. For example, in November 1998, the *New York Times* published a series of Chinese translations of Hollywood movies (e.g., *The Crying Game* became *Oh No! My Girlfriend Has a Penis!*) it found on topfive.com, which bills itself as the “best original humor on the Internet.” Upon discovering that the titles were spoofs, the paper issued a “red-faced” correction. Yet, other news outlets continued to repeat some of the fake translations, including ABC, CNN, and the *Los Angeles Times*.¹⁷

Urban Legends, Medical Misinformation, Counterfeit Sites Hoaxes thrive on the Internet. Online users are especially bombarded by calamitous e-mail warnings alerting them of hostile computer viruses or that the government will shut down the Internet for maintenance or, if a chain letter is not forwarded, something awful will happen. But there are other kinds of hoaxes that students are especially vulnerable to when researching, such as urban legends, counterfeit sites, propaganda, and hate sites. The following briefly explores each type.

Urban legends can circulate for years—remember the “Halloween sadism” tales of the 1950s and 1960s, such as the one about razor blades stuck in apples? While urban legends have been around for centuries, they have proliferated since the advent of e-mail, which can disseminate one of these fictitious stories within hours of its origination. A major reason they proliferate is because they play into the fears of readers who feel the need to warn others. There are several sites that list and monitor urban legends.

While it has yet to be proven that a substantial number of people have been harmed by medical misinformation, these sites can prove problematic for students using them for academic research.¹⁸ Medical hoaxes and misinformation are very real. Encourage students to begin their search with Web directories that will point to sites of established medical associations, such as the American Medical Association, rather

than search engines. Students can consult Health on the Net (HON), a nongovernmental agency, at www.hon.ch, which certifies medical and health websites. In addition to applying critical evaluation techniques, students should be aware of “hoaxbuster” sites that monitor medical hoaxes and other fraudulent sites. See later in this chapter, “Fraud Prevention websites.”

According to Paul S. Piper in his *Searcher* article, one of the most problematic of the hoax sites are counterfeit sites, which “exemplifies a site pretending to be something it is not, a Trojan horse so to speak. Counterfeit sites disguise themselves as legitimate sites for the purpose of disseminating misinformation.”¹⁹ While many of these sites are intended as spoofs, many are malicious. Nevertheless, as Piper points out, these sites can create confusion for searchers. Some are very sophisticated in design and text. Consider the fake site www.gatt.org that mirrors the official page of the World Trade Center. In design they look identical, only the text betrays the difference. The bogus site attempts to undermine the political agenda by replacing official text with subversive text. Less obvious than counterfeit sites are parodies and spoofs, but again, anecdotes from instructors and librarians tell of students falling victim to them. For example, the Onion, Bill Gates?

Propaganda Ethical persuasion and propaganda both attempt to convince people of the truth as they see it. The difference between the two, however, is that the former uses reasoned argument, and the latter uses manipulation and deception. Not all propaganda is lies; embedded in it are often seeds of truth or half-truths. While the “fact” may be true, the interpretation of the fact is a lie. The purpose of propaganda is to persuade through manipulation, that is, to influence people into buying into a position, opinion, or action. Hitler, for example, seduced his followers through hope and promise. The apparent ease with which many people buy into propaganda is because it manipulates through human weaknesses. For example, advertisers of luxury cars may manipulate potential customers by appealing to their vanity and sense of entitlement.²⁰ Persuasion can be effected through fear, ignorance, and chauvinism. In the first days following the Oklahoma City bombing, for example, many in the media and the public—reacting from fear, grief, and a need for a quick answer—jumped to the conclusion that Muslim terrorists were the culprits, which turned out to be false.²¹ Moreover, people fall victim

to lies and distortions because of their propensity to disregard that which runs counter to their beliefs. Liberals and conservatives often fall into this trap—discounting anything that the “other party” asserts.

Students are bombarded with propaganda: in advertising, in the media, and in the political arena. As Sonia Bodi points out, “the problem for our undergraduates is that propaganda provides them with ready-made answers causing them to stereotype which encourages them to avoid thinking, taking a personal stand, or forming their own opinion. The more we read of a particular point of view the more we believe we have an informed opinion.”²² Thus, librarians and instructors must help students learn strategies to prevent them from accepting blindly what they read and to suspend judgment until they can weigh the evidence. In his book on the goals of higher education, Patrick Nuttgens comments, “the mark of an educated person is that issues are no longer simple, that they are not black or white, that the truth lies somewhere in the middle, and that there is no escape from the responsibility of knowing one’s mind and making one’s own decisions.”²³

If ethical persuasion and propaganda seek to influence people’s beliefs, how can students differentiate between them? First, make students aware of the core differences between those that persuade honestly as opposed to those whose aim is to persuade through lies, distortions, and misrepresentations. The following describes some of these core differences.²⁴

Characteristics of a Propagandist

- Ignores the “other side” by omitting, distorting, or glossing over evidence
- Encourages thinking in black and white by reducing complex issues to simple explanations or solutions
- Appeals to the emotions more than the intellect

Characteristics of an Ethical Persuader

- Respects the audience and their right to differ
- Views the audience as partners in a honest conversation about ideas
- Does not ignore the other side; recognizes opposing claims
- Claims a solution based on logical reasoning and argument
- Appeals to evidence, rather than emotion, to support position

This list will make students aware that there are differences in how information is constructed as well as help to dispel the widely held belief that propaganda is something other countries do.²⁵ Thus, enlightened students can begin testing claims, arguments, and so-called factual statements by first knowing the motivation underlying their personal belief system (discussed in objective 1); determining the trustworthiness of a website (discussed in objective 2); and applying techniques of verification (discussed in objective 3).

CLASS ACTIVITIES

Teaching students how to question evidence, resolve conflicting statements, detect fraudulent information, and evaluate the quality of sources challenges instructors because successful outcomes depend upon cultivating students' higher thinking. Yet, teaching evaluative techniques can be fulfilling and challenging for instructors. The content is an attention grabber for students, unlike the tedium of some research skills. And, several research skills can be woven into the instructional session. For example, the following illustrates how students can learn to verify facts and statements by using their search skills and knowledge of research sources.

1. Session Strategy: Did Al Gore really claim that he invented the Internet? Have students research the story that Al Gore claimed to have invented the Internet. Begin by asking them to look at several sources that repeat the story. Most general periodical databases will list several articles including Joshua Green's article in the *Atlantic Monthly*. Then ask students to question the veracity of the statement, Did Al Gore really say this? If so, where did the statement originate?²⁶

One strategy to help students begin their search for the original source is to enter a Google search (e.g., gore/internet/invent). Near the top of the results is a page from snopes.com, which states that the story is a distortion of remarks Gore made during an interview with CNN's Wolf Blitzer on March 9, 1999.²⁷ At this point, students should not accept this as verification. They now

must locate the actual transcript of the interview, which can be located in Lexis/Nexis. Reading the transcript verifies that Gore's remarks were taken out of context.

This exercise enables students to become aware of how information can be distorted, how the media repeats distortions without verification, and how they can use their searching skills to verify information.

2. Assign students to evaluate a specific unreliable website, and then ask them to research the website in Lexis/Nexis to see if news reports cite this source. A good example to use is www.city-data.com/city/Santa-Fe-New-Mexico.html. The site provides facts and figures for the city of Santa Fe but fails to document the information other than stating that it was gathered from multiple governmental and commercial entities. In fact, the disclaimer advises users to use at their own risk because the provider does not guarantee accuracy. Yet, when the domain (www.city-data.com) is searched in Lexis/Nexis using the full-text field, several articles cite data from the site.
3. Have students compare a website with an article they are using for their research project. Ask them to determine whether the facts vary between the site and the article.²⁸
4. As a small-group activity, have students critique an evaluation written by a student. Provide a set of questions as guide. See examples 10.1 and 10.2 for sample student evaluations and questions.

Increasingly, primary and secondary material is being made available on the Internet. Students should know how to recognize evidence originating from these two kinds of sources. See example 10.3 for a brief discussion of primary versus secondary sources as well as some student activities.

These sources provide content to develop lectures, conduct demonstrations and discussions, and design exercises:

Block, Marylaine. "Gullible's Travels." *Library Journal* (Net Connect) 127 (Spring 2002): 12-14. Discusses how to make students aware of covert propaganda sites, such as the Institute for Historical Review (www.ihr.org), which attempts to legitimize the Holocaust denial movement via "the trappings of academic argument." See also Borrowman's article on how to use this site to teach Web evaluation.

Bodi, Sonia. "Scholarship or Propaganda: How Can Librarians Help Undergraduates Tell the Difference?" *Journal of Academic Librarianship* 21

- (1995): 21–25. Describes a series of instructional sessions that teach students the differences between scholarship and propaganda. Students use a set of indicators for scholarship and propaganda as a guide in analyzing the assigned articles.
- Borrowman, Shane. "Critical Surfing: Holocaust Denial and Credibility on the Web." *College Teaching* 47, no. 2 (1999): 44–48. Demonstrates how a combination of academic credentials and Internet technology can construct credible arguments to support hate and bigotry. To illustrate, Borrowman discusses how Dr. Arthur Butz, associate professor at Northwestern, "presents himself as a scholar engaged in the pursuit of truth, a truth which stands in opposition to the accepted version of the history of the Holocaust." The author also discusses Butz' ties with the Institute for Historical Review (www.ihr.org). See also Bodi's article.
- Browne, M. Neil, et al. "The Importance of Critical Thinking for Student Use of the Internet." *College Student Journal* 34 (2000): 391–98. To illustrate the existence of websites that contain conflicting information, the authors compare two sites on lowering the legal drinking age.
- Connor-Greene, Patricia A., and Dan J. Greene. "Science or Snake Oil? Teaching Critical Evaluation of 'Research' Reports on the Internet." *Computers in Teaching* 29, no. 4 (2002): 321–24. Describes a class exercise in which students examined an article on the dangers of aspartame and recorded their reactions to the article. Then, they broke into small groups and addressed a series of questions and reconvened to discuss as a class.
- Drobnicki, John A., and Richard Asaro. "Historical Fabrications on the Internet: Recognition, Evaluation, and Use." *Reference Librarian* 74 (2001): 121–64. Discusses several examples of websites that provide false historical information ranging from hoaxes, spoofs, counterfeit sites, and conspiracy theories.
- Ensmann, Richard. "The Scoop on Internet Hoaxes." *Poptronics* (February 2000): PS3–PS5. Identifies specific types of Internet hoaxes: good-times hoaxes, pen pals, money scams, computer viruses, freebies, danger alerts, household poisons, heart throbbers, and citizen action. Follows up with quick tips on how to recognize these types of hoaxes.
- Gibson, S., and Joanne Tranter. "Internet Information: The Whole Truth?" *Canadian Social Studies* 34, no. 4 (2000): 77–80. Discusses a brainstorming exercise that helps students think critically about Internet sites.
- Hiebert, Eldon. "Public Relations and Propaganda in Framing the Iraq War: A Preliminary Review." *Public Relations Review* 29, no. 3 (2003): 243–55. Hiebert discusses the Internet and its role in subverting the government propaganda machine.

- Lorenzen, Michael. "Hoax or Just Strange? A Web Evaluation Exercise." lorenzen.blogspot.com/2006/10/hoax-or-just-strange-web-evaluation.html. Discusses a class exercise on detecting hoax sites.
- Lynch, Darlene, et al. "Critical Thinking and the Web." *Journal of Social Work Education* 37, no. 2 (2001): 381–86. Recognizes the importance of social workers learning to critique websites for course work, working with clients, and grant writing. Covers specific techniques in determining public service/nonprofit sites from commercial and research sites from fraudulent ones, detecting deceptive mission statements, and recognizing pseudoscience, scams, and hoaxes. Includes pedagogical examples useful for social and behavioral disciplines.
- Meola, Marc. "Chucking the Checklist: A Contextual Approach to Teaching Undergraduates Web-Site Evaluation." *Portal: Libraries and the Academy* 4, no. 3 (2004): 331–44. Provides explanations and examples of three methods of approaching Web evaluation contextually, promoting/explaining peer-review sources, comparisons, and corroboration.
- Miller, Nora. "Anti-Spin: Using Internet Resources to Unwind Political Claims." *ETC: A Review of General Semantics* 62 (2005): 75–89. Annotates several websites that assess the claims made by politicians.
- Olson, John A. "How to Encourage Students in a Library Instruction Session to Use Critical and Creative Thinking Skills." *Research Strategies* 16 (1998): 309–14. Explains how he incorporates creative thinking processes and Berry K. Breyer's elements of critical thinking (disposition, criteria, argument, reasoning, and point of view) into a one-shot session. Olson also suggests several classroom techniques, such as the Socratic method, to motivate students to think critically about the information-seeking process.
- Piper, Paul S. "Better Read That Again: Web Hoaxes and Misinformation." *Searcher* (September 2000): 40–49. Delineates several categories and examples of hoaxes: counterfeit, parodies and spoofs, fictitious, and subject-specific sites.
- Scott, Robert Ian. "Politics, Advertising, and Excuses: Why Do We Lie?" *ETC* 61, no. 2 (2004): 187–95. Provides examples of how propaganda works in the press and in advertising.
- Tate, Marsha Ann. "Looking for Laura Secord on the Web: Using a Famous Figure from the War of 1812 as a Model for Evaluating Historical Web Sites." *History Teacher* 38 no.2 (2005): 225–40. Assesses how Secord's deeds are depicted on the Web and based on twelve websites devoted to Secord. Tate had difficulty in establishing the identity of the author and his or her credentials. She demonstrates how these sites provide widely varying accounts of Secord's deeds. Moreover, these sites tend to present a "black

and white” picture of Secord, thus avoiding historical surrounding Secord’s historical legacy.

The following lists articles that focus on the evaluation of medical websites:²⁹

Kahana, Alon, and Gottlieb, Justin L. “Ophthalmology on the Internet: What Do Our Patients Find?” 122, no. 3 (2004): 382–84. Good resource supplementing a lecture on evaluation of medical websites. Studied whether the results of searches on macular degeneration performed across several search engines are biased toward commercial sites. Concludes that the results of some search engines are “heavily tilted” toward commercial sponsors while others emphasized nonprofit and educational sites.

Lissman, Thomas L., and James K. Boehnlein. “A Critical Review of Internet Information about Depression.” *Psychiatric Services* 52 (2001): 1046–50. Examined the results performed on ten general search engines of a treatment of depression. Concludes that the overall content was of poor quality. Commercial sites appeared much more frequently in the top-ranked results.

Murphy, Rebecca, et al. “Evaluation of Web-based Information.” *International Journal of Eating Disorders* 35 (2004): 145–54. A good source of information for instructors who wish to use medical websites to teach Web evaluation. This study critiqued fifteen commonly accessed websites related to eating disorders. Concludes that the overall quality of the sites are poor.

Randal, Judith. “Study Evaluates Information on Breast Cancer Web Sites.” *Journal of the National Cancer Institute* 96, no. 6 (2004): 430. Reports on a recent study that addressed the question “Does the Internet tell women what they need to know about screening mammography?” The study evaluated twenty-seven websites and concluded that many of these sites provided misleading information on the benefits and risks of screening.³⁰

Ziel, Harry K. “How to Evaluate New Medical Discoveries.” *Skeptical* 7, no. 2 (1999): 40–42. Provides a succinct comparative explanation of how reliable and unreliable scientific information is transmitted in print and on the Internet.

INSTRUCTIONAL GUIDES, HANDOUTS, AND EXERCISES

1. Examples 10.1–10.2: Student Web evaluations
2. Example 10.3: Primary and Secondary Sources

Websites on Evaluation Checklists

1. Jan Alexander and Marsha Tate, "Widener University Evaluating Web Resources" (July 30, 2002), www-personal.umich.edu/~pfa/pro/courses/EvalPtEd.pdf. Provides sample websites and a PowerPoint presentation on evaluating websites. Includes separate checklists for business, personal, news, informational, and advocacy.
2. Johns Hopkins University Libraries, "Evaluating Information Found on the Internet," www.library.jhu.edu/researchhelp/general/evaluating/index.html. Provides a special section on detecting counterfeit sites.
3. New Mexico State University, "The Good, Bad, and the Ugly, or, Why It's a Good Idea to Evaluate Web Sources," lib.nmsu.edu/instruction/eval.html. A set of examples accompany the evaluative criteria.
4. Pace University Library, "Web Site Evaluation Worksheet" (May 2002), www.pace.edu/library/instruct/webevalworksheet.htm. The worksheet comprises fifteen questions that students answer as they evaluate a particular website.
5. Lake Sumter Community College Library, "Evaluating Library Resources" (2005), www.lsc.edu/library/guides/evallib.htm. Divides evaluative criteria into three areas: preliminary, content analysis, and scholarship and propaganda. Draws upon the work developed by UC Berkeley professor Eileen Grambrill.
6. University of California, Berkeley, Library, "Evaluating Web Pages: Techniques to Apply and Questions to Ask" (July 27, 2006), www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html.
7. Kathy Schrock, "Critical Evaluation of a Web Site Worksheet" (2003), school.discovery.com/schrockguide/evalhigh.html. Detailed worksheet appropriate for incoming freshmen. See also Wartburg College Library, "Web Worksheet," www.wartburg.edu/library/vesa.html. Worksheet that uses a point system. Appropriate for incoming freshman.
8. University of Mississippi Libraries, "Evaluating Web Sites," www.olemiss.edu/depts/general_library/files/bi/levelthree/eval_web.htm. Presents a set of questions for students to consider when evaluating websites.

Links to Examples of Websites for Evaluation Demonstrations These sites are useful in identifying websites for assignments and in-class group activities. For example, assign a small group a website, and have them apply evaluative criteria and report the results to the class. See also “Fraud Prevention Websites.”

1. Annenberg Political Fact Check, www.factcheck.org. A project of the Annenberg Public Policy Center of the University of Pennsylvania, this site’s mission is to “monitor the factual accuracy of what is said by major political players in the form of TV ads, debates, speeches, interviews, and news releases.”
2. Bowling Green State University Libraries, “Web Wizard: Your Guide to Becoming an Effective Web Searcher” (2005), www.bgsu.edu/colleges/library/infosrv/lue/webwizard/evaluate.html. Provides sample websites for students to practice their critical thinking skills.
3. Consumer Health, “Web Site Evaluation Checklist,” www.personal.umich.edu/~pfa/pro/courses/EvalPtEd.pdf.
4. “Spinsanity: Countering Rhetoric with Reason,” www.spinsanity.org. Deconstructs dishonest statements made by politicians, pundits, and journalists and debunks myths spread by the media. The site is no longer updated.
5. Virginia Tech University Libraries, “Bibliography on Evaluating Web Information” (August 13, 2004), www.lib.vt.edu/help/instruct/evaluate/evalbiblio.html#forms. Includes lists of websites covering evaluation forms, examples of websites, samples of hoax and humorous sites, and bibliography of sources discussing Web evaluation.
6. University of North Carolina, Asheville, Ramsey Library, “In Class Small Group Assignment,” bullpup.lib.unca.edu/library/infolit/as_evalweb.html. Provides a list of four websites.
7. Wake Forest University Library, “Evaluating Web Resources,” zsr.wfu.edu/research/guides/web/eval.html. Provides a list of sixteen sites students can evaluate.

Websites on Reasoning and Logical Fallacies The sites and sources listed below provide concise explanations of reasoning and logical fallacies.

1. Committee for the Scientific Investigation of Claims of the Paranormal, "A Field Guide to Critical Thinking," www.csicop.org/si/9012/critical-thinking.html.
2. Humboldt State University, "Argumentation and Critical Thinking Tutorial," www.humboldt.edu/~act/HTML. Includes multiple-choice, true/false, and short-answer tests.
3. Metropolitan Community College, "A Tutorial in Critical Reasoning" (February 20, 2001), commhum.mccneb.edu/argument/summary.htm. Includes short exercises.
4. Princeton University, "Avoiding Common Errors in Logic and Reasoning" (1999), webware.princeton.edu/sites/writing/handouts/logic&reason.pdf.
5. San Jose State University, "Critical Thinking Web Page," www.sjsu.edu/depts/itl/graphics/main.html. Provides tutorials, examples, and exercises.
6. Peter Suber, "Real World Reasoning" (1998), www.earlham.edu/~peters/courses/inflogic/inflinks.htm. Provides his students with numerous links on reasoning, fallacies, and critical thinking.

Websites on Fraud Prevention and Fact Checking The websites below track fraudulent websites. For additional sites, go to Google Directory at www.google.com/dirhp?hl=en and point to Reference > Education > Instructional Technology > Evaluation > Web Site Evaluation > Hoax Sites.

1. Center for Disease Control, "Health Related Hoaxes and Rumors" www.cdc.gov/hoax_rumors.htm
2. "Don't Spread That Hoax," www.nonprofit.net/hoax
3. Hoax Slayer, www.hoax-slayer.com
4. Museum of Hoaxes, www.museumofhoaxes.com
5. Quackwatch, www.quackwatch.com
6. ScamBusters, www.scambusters.org/index.html
7. Snopes.com
8. U.S. Department of Energy, "Computer Incident Advisory Capability (CIAC)" (October 4, 2004), hoaxbusters.ciac.org
9. U.S. Federal Trade Commission, "Consumer Information" (November 8, 2004), www.ftc.gov/bcp/menu-internet.htm (See also

- the FTC's publication on diploma mills at www.ftc.gov/bcp/edu/pubs/consumer/alerts/alt149.htm.)
10. U.S. Food and Drug Administration, "How to Spot Health Fraud" (October 8, 1999), www.fda.gov/fdac/features/1999/699_fraud.html
 11. U.S. National Library of Medicine, "Health Fraud" (November 4, 2004), www.nlm.nih.gov/medlineplus/healthfraud.html

Assessment Tools

1. Acadia University, Vaughn Memorial Library, "Credible Sources Count," library.acadiau.ca/tutorials/webevaluation. Basic interactive tutorial.
2. Anne Anderson, Northern Virginia Community College, "Evaluating Web Sites," www.nvcc.edu/alexandria/library/instruction/esl/evaluatewebsites.htm. Exercise asks student to apply Web evaluation skills to a selection of websites.
3. P. F. Anderson et al., "Web Site Evaluation Checklist" (1998), www.personal.umich.edu/~pfa/pro/courses/Web. Checklist of evaluative indicators in chart form (PDF). Includes instructions on how to score each indicator.
4. Ballard, Spahr, Andrews, and Ingersoll, LLP. "The Virtual Chase: Teaching Legal Professionals How to Do Research" (November 29, 2004), www.virtualchase.com/quality/index.html.
5. Colorado State University Libraries, "Evaluating Web Sites," lib.colostate.edu/tutorials/webeval_info.html. Provides an interactive tutorial.
6. Duke University Libraries, "Evaluating Web Pages." www.lib.duke.edu/libguide/evaluating_web.htm. Graphic tutorial covering basic evaluative indicators (e.g., authority, currency, bias, etc.).
7. Intute Virtual Training Suite, "Internet Detective: Wise Up to the Web," www.vts.intute.ac.uk/detective/index.html. Free basic tutorial developed for United Kingdom universities and colleges.
8. Ithaca University Library, "ICYou See: T Is of a Guide to Critical Thinking about What You See on the Web," www.ithaca.edu/library/training/think.html. Includes exercises.
9. Ohio State University Libraries. "Evaluating Web Sites," liblearn.osu.edu/tutor/les1. Tutorial includes examples and exercises.

10. Purdue University Libraries, "Evaluating Web Sites: A Tutorial," www.lib.purdue.edu/ugrl/staff/sharkey/interneteval/index.html. A set of worksheets accompanies the tutorial.
11. State University of New York, Albany, Library. "Evaluating Internet Sites 101," library.albany.edu/usered/webeval. Introductory tutorial.
12. University of Alaska, Fairbanks, Rasmuson Library, "Evaluating Databases vs. Internet Searches" (2005), www.uaf.edu/library/instruction/handouts/Info_Resources.html. Interactive exercise that includes Web evaluation and Internet and database searching.
13. University of California, Berkeley, "Evaluating Web Sites: Techniques to Apply and Questions to Ask," www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html. Provides in-depth guidance in evaluating websites.
14. University of California, Irvine, Science Library, "Evaluating Web Sites" sun3.lib.uci.edu/~sclancy/search/exercise02.htm. Exercise asks students to compare a list of websites that differ in subject, purpose, bias, and design.
15. University of California, Los Angeles Libraries, "Hoax? Scholarly Research? Personal Opinion? You Decide!" (2000), www.library.ucla.edu/libraries/college/help/hoax/index.htm. Brief exercise testing six indicators: authority, accuracy, advocacy, and objectivity. Students evaluate a set of websites. Appropriate as an in-class activity.
16. University of Massachusetts, "Evaluating Web Sources Exercise," www.umassd.edu/specialprograms/info_lit/evaluating_exercise.html. Students evaluate sample websites. Accompanying each site is a set of questions to guide students. Appropriate as an in-class activity.
17. University of Mississippi Libraries, "Evaluating the Web Tutorial," www.olemiss.edu/depts/general_library/files/bi/leveltwo/evaluating.htm. Tutorials include exercises.
18. University of North Carolina, Chapel Hill, Library, "Evaluating Websites" (2004), www.lib.unc.edu/instruct/evaluate. Provides a tutorial and quiz.
19. University of Utah, Health Sciences Library, "Internet Navigator: Modules 3," www-navigator.utah.edu. This interactive tutorial includes assignments and quizzes.
20. Widener University, Wolfgram Memorial Library, www3.widener.edu/Academics/Libraries/86. Provides tutorial and exercise.

APPENDIX: EXAMPLES

Example 10.1: Student Web Evaluation No. 1

Website: Heart of American Northwest (www.heartofamericannorthwest.org/index_page.html)

The website that I have evaluated is Heart of American Northwest. This website is authored by HOANW, an organization that provides “highly credible information” about the waste being dumped at the Hanford Nuclear Reservation in the state of Washington. This organization does not seem to have a political agenda; they only want to inform people about the history and future of the Hanford waste site. The site is very well documented with verifiable resources. The information provided by this website is fairly recent.

Suggested questions for the class to consider:

1. This site’s mission statement claims it uses “highly credible information” to advance its purpose of improving the quality of life in Washington. Where is this information cited in the website? Is it credible?
2. The site claims to provide an historical overview of the Hanford Nuclear Reservation. How do you know that the statements, facts, and statistics are accurate? Do the authors source the information?
3. The student claims that HOANW does not have a political agenda, that it is not advocating and supporting a cause. Is he or she correct in this assertion? Is the purpose of this organization solely to “inform people about the history and future of this waste site”?
4. The site is highly critical of the U.S. Department of Energy’s role in the dumping of waste at Hanford. Does the site present the view of the issue from the standpoint of the Department of Energy?

Example 10.2: Student Web Evaluation No. 2

Website: U.S. Environmental Protective Agency (EPA) (www.epa.gov)

EPA is an informational website put forth by the U.S. government. This website would be acceptable to my instructor because it consists of

government documents. This site is documented with many verifiable sources. The EPA's goal is to protect the environment. I would say this site has no bias because it contains straight facts from the government. A lot of the information is over five years old. So it would not be helpful because many advances have occurred in various fields like mercury poisoning.

Suggested questions for the class to consider:

1. The student makes the vague statement that the EPA site provides "many verifiable sources." How does the student know they are "verifiable?"
2. This student states that this site contains no bias because it provides "straight facts from the government." What does the student mean by "straight facts?" Is everything published by the U.S. government objective?
3. This student, like many, automatically assumes that all documents issued by the government are objective and truthful. Of course, this is not always the case. Depending on the topic, government documents often reflect the policies of the administration in power. Consider the EPA's stance on the impact of mercury emissions on children's health. In spring 2005 a Lexis/Nexis search revealed that several newspapers reported that scientists, physicians, and the Government Accountability Office (GAO) criticized as flawed the EPA's analysis of the affect of mercury emissions on children. Moreover, the EPA suppressed its own study on mercury emissions it commissioned Harvard to conduct. This study contradicted the EPA's conclusions that mercury emissions from power plants are not a threat to public health.
4. The student indicates that the site's content contains dated material and thus would not be helpful in researching the mercury emissions. While current information is vital, how could the older information assist a researcher?

Example 10.3: Primary and Secondary Sources

Primary sources provide the raw material for research. They range from firsthand accounts of a historical event to creative works to scientific

articles reporting research results. Primary sources allow students to study evidence firsthand without being influenced by the interpretations or analyses of others. Examples of primary sources include the following:

- testimony or direct evidence
- court reports
- diaries, autobiographies, letters
- creative works (e.g., musical scores, plays, and original art)
- scientific articles reporting original research
- birth certificate or driver's license

Secondary sources interpret, evaluate, or analyze the content of primary sources. Secondary documents provide a frame of reference for students and help them become aware of how others have interpreted the topic or event. Examples of secondary sources include the following:

- critical essay on Shakespeare's play *Romeo and Juliet*
- historian's interpretation of an event situated in the past
- textbook on biology

The following are sources that further define primary and secondary sources and provide search strategies in locating these documents:

1. California State University, Monterey Bay, "Primary Sources and Secondary Sources," library.csUMB.edu/instruction/howto/primary.php. Provides chart that identifies types of primary/secondary sources and the search tools needed to locate them.
2. Library of Congress, "Using Primary Sources in the Classroom," memory.loc.gov/learn/lessons/psources/source.html. Provides a lesson plan and suggested activities for using primary source materials with a historical context. Also includes graphic examples of primary sources: artifacts, letters, photographs, manuscripts, and so on.
3. Iowa State University Library, "Defining and Finding Primary Sources," www.lib.iastate.edu/commons/resources/primary/primary.html. Discussion focuses on historical research.
4. Ohio Historical Society, "Using Primary Source Documents in the Classroom," www.ohiohistory.org/resource/teachers/primary.

- html#definitions. Includes lesson plans that focus on evaluating primary documents.
5. University of California, Berkeley, Library, "Library Research; Finding Primary Sources," www.lib.berkeley.edu/TeachingLib/Guides/PrimarySources.html#primary. Provides a chart that breaks down types of primary sources and suggestions for ways to locate a particular type of primary document.
 6. Yale University, "Primary Sources," www.library.yale.edu/instruction/primsources.html. Provides detailed discussion of the categories of primary sources, such as published texts, manuscripts, and visual materials.
 7. University of Texas, "Primary vs. Secondary Sources," www.lib.utexas.edu/services/instruction/faculty/PriSec.html. An assignment that requires students to identify primary and secondary sources related to James Joyce's *Ulysses*.

NOTES

1. John Lubans, "When Kids Hit the Surf: What Do Kids Really Do on the Internet?" (1999), www.lubans.org/nynma.html.
2. Tim Berners-Lee, "The Internet's Creator Looks to the Next Evolution," *Electronic Design*, September 13, 2004, 90.
3. Joshua Green, "Playing Dirty," *Atlantic Monthly* (June 2004): 321.
4. Steve Jones, "Internet Goes to College: How Students Are Living in the Future with Today's Technology," *Pew Internet and American Life Project*, September 15, 2002, www.pewinternet.org/pdfs/PIP_College_Report.pdf. Other studies include: OCLC, "White Paper on the Information Habits of College Students: How Academic Librarians Can Influence Students' Web-Based Information Choices" (June 2002); Deborah J. Grimes and Carl H. Boening, "Worries with the Web: A Look at Student Use of Web Resources," *College and Research Libraries* 62 (January 2001): 11–23; Shippensburg University, Ezra Lehman Memorial Library, "Internet Use Survey—Analysis," September 26, 2000, www.ship.edu/~bhl/survey; Bradley P. Tolppanen, "A Survey of World Wide Web Use by Freshman English Students: Results and Implications for Bibliographic Instruction," *Internet Reference Services Quarterly* 4 (1999): 43–53; and John Lubans, "How First-Year Students Use and Regard Internet Resources" (1998), www.lubans.org/docs/1styear/firstyear.html.

5. Columbia University, "Electronic Publishing Initiative (EPIC)" (2004), www.epic.columbia.edu/eval/eval04frame.html.
6. John Lubans, "How First-Year Students Use and Regard Internet Resources," December 16, 2004, www.lubans.org/docs/1styear/firstyear.html of Web Resources," *College and Research Libraries* 62 (January 2001): 11–23.
7. Scholz-Crane, "Evaluating the Future: A Preliminary Study of the Process of How Undergraduate Students Evaluate Web Sources," *Reference Services Review* 26 (Fall/Winter 1998): 53–60; Deborah J. Grimes and Carl H. Boening, "Worries with the Web: A Look at Student Use of Web Resources," *College and Research Libraries* 62 (January 2001): 11–23; and Marc Meola, "Chucking the Checklist: A Contextual Approach to Teaching Undergraduates Web-Site Evaluation," *Portal: Libraries and the Academe* 4, no. 3 (2004): 331–44.
8. Meola, "Chucking the Checklist."
9. Vinton G. Cerf, www.isoc.org/internet/conduct/truth.shtml.
10. Columbia University, "Electronic Publishing Initiative (EPIC)" (2004), www.epic.columbia.edu/eval/eval04frame.html.
11. D. G. Kehl and Howard Livingston, "Doublespeak Detection for the Classroom," *English Journal* 88 (July 1999): 79. For further discussion, see Kehl's "The Two Most Powerful Weapons against Doublespeak," *English Journal* 77 (March 1988): 57–65.
12. The *Oxford Dictionary of Quotations*, 5th ed., s.v. "Alexandre Dumas ('Dumas fils') 1824–1895."
13. Don Fallis, "On Verifying the Accuracy of Information: Philosophical Perspectives," *Library Trends* 53, no. 3 (Winter 2004): 470.
14. Ann Coulter, *Slander: Liberal Lies about the American Right* (New York: Three Rivers, 2002), 251.
15. Laurie Mylroie, *The War against America: Saddam Hussein and the World Trade Center Attacks: A Study of Revenge*, 2nd ed. (New York: Regan, 2001), 2.
16. Carl M. Cannon, "The Real Computer Virus," *American Journalism Review* (April 2001): 29.
17. Cannon, "Real Computer Virus," 30.
18. Anthony G. Crocco, et al., "Analysis of Cases of Harm Associated with Use of Health Information on the Internet," *JAMA: Journal of the American Medical Association* 287, no.21 (June 5, 2002): 2869.
19. Paul S. Piper, "Better Read That Again: Web Hoaxes and Misinformation." *Searcher* (September 2000), 41.
20. Robert Ian Scott, "Politics, Advertising, and Excuses: Why Do We Lie?" *ETC: Review of General Semantics* 61 no. 2 (July 2004): 189.

21. Penny Bender and Susan Revah, "Jumping to Conclusions in Oklahoma City?" *American Journalism Review* (June 1995) 11–12; and Said Deep, "Rush to Judgment," *Quill* (July/August 1995): 18.

22. Sonia Bodi, "Scholarship or Propaganda: How Can Librarians Help Undergraduates Tell the Difference?" *Journal of Academic Librarianship* 21, no. 1 (January 1995): 22.

23. Patrick Nuttgens, *What Should We Teach and How Should We Teach It?: Aims and Purpose of Higher Education* (Hants, England: Wildwood House, 1988): 154.

24. The list is based on the work of David Martinson, "Just Propaganda? More Than a Simple Semantics Question for Social Studies Teachers—and Their Students," *Contemporary Education* 71, no. 3 (2000): 49–52; J. C. Merrill, *Journalism Ethics: Philosophical Foundations for News Media* (New York: St. Martin's, 1997); J. A. Jaks and M. S. Pritchard, *Communications Ethics: Methods of Analysis* (Belmont, CA: Wadsworth, 1994); and Scott, "Politics, Advertising, and Excuses."

25. Garth Jowett and Victoria O'Donnell, *Propaganda and Persuasion* (Newbury Park: Sage, 1999).

26. Green, "Playing Dirty," 321.

27. Wolf Blitzer, "Vice President Gore Calls for Continuation of Clinton Administration Policies: President Promises More Aid to Central America," transcript CNN Late Edition with Wolf Blitzer, March 9, 1999.

28. For more ideas, see Marsha Ann Tate, "Looking for Laura Secord on the Web: Using a Famous Figure from the War of 1812 as a Model for Evaluating Historical Web Sites," *History Teacher* 38, no.2 (2005): 225–40.

29. See related articles on the evaluation of medical websites: "Internet Information on Hip Replacement Surgery Not Always Accurate," *Health News* 11 no. 7 (2005): 5; "Web Site Revised after Bias Complaints," *AIDS Patient Care STDS* 19, no. 7 (2005): 472; C. Escoffery, "Internet Use for Health Information among College Students," *Journal of American College Health* 53, no. 4 (2005): 183–88; I. Hajjar, "Quality of Internet Geriatric Health Information: The Geriatric Web Project," *Journal of the American Geriatrics Society* 53, no. 5 (2005): 885–90; Mark L. Norris, "Ana and the Internet: A Review of Pro-Anorexia Web Sites," *International Journal of Eating Disorders* 39, no.6 (2006): 443–47; and U. Shaikh, "Extent, Accuracy and Credibility of Breastfeeding Information on the Internet," *Journal of Human Lactation* 21, no. 2 (2005): 175–83.

30. For text of the study, see K. J. Jorgensen and P. C. Gotzsche, *British Medical Journal* 328, no. 7432 (January 17, 2004), 148+, (bmj.bmjournals.com/cgi/content/full/328/7432/148).