The Credibility Challenge

Summary

The Internet can be a rich and valuable source of information – and an even richer source of misinformation. Sorting out the valuable claims from the worthless ones is tricky, since at first glance a Web site written by an expert can look a lot like one written by your next-door neighbor. This lesson offers students background and practice in determining authority on the Internet – how to tell whether an author has expertise or not, and whether you're getting the straight story.

Objectives

In this activity students will:

- Learn how to determine authority on and off the Web.
- Apply techniques for determining authority.

Background

Many students still learn research skills based on the idea that they'll be getting their information from books, journal articles and other highly vetted sources of information. In reality, however, they do an increasing amount of research on the Internet, where authority is more difficult to divine. These exercises give students practice in determining the likely credibility of various Internet sites.

Materials

1. Web sites:
    - Usability.gov
    - Romantic Circles
    - Pharyngula
    - Quackwatch
    - NewsBusters
    - Daily Kos
    - Bits
    - Everything2
    - H2G2
    - Encyclopedia Mythica
    - Anne's Anti-Quackery and Science Blog
    - Alternative Science
2. Student handout #1, "Questions for Determining Authority."

Procedure

Decide how you will have students present their results (class presentation, short paper, etc.). Make enough copies of the student handout so that every student can have one, and pass them out at the beginning of class.

In the full class, ask students some general questions:

- How often do you get information from the Internet? How much of it do you believe?
- How reliable do you think Internet information is? How does it compare to information from books?

Tell students that one way to determine whether information is true and useful is to look at its authority. This lesson will talk about the role of authority, especially on the Internet, and how students can determine the authority of their sources.

Divide the class into groups of two to five students each. Assign each group to examine one of the following Web sites. Depending on class size and number of groups, you may not end up assigning every site.

- Usability.gov (http://www.usability.gov) – no single stated author; government site
- Romantic Circles (http://www.rc.umd.edu) – multiple qualified authors; educational site
- Pharyngula (http://scienceblogs.com/pharyngula/) – single qualified author; slant; sponsoring institution without political aims
- Quackwatch (http://www.quackwatch.com/) – single qualified author; slant
- NewsBusters (http://www.newsbusters.org/) – multiple approved authors/editors; slant; sponsoring institution with political aims
- Daily Kos (http://dailykos.com/) – multiple approved authors/editors; slant
- Bits (http://bits.blogs.nytimes.com/) – multiple approved authors/editors; sponsoring institution without political aims
- Everything2 (http://everything2.com/) – multiple authors of varying qualifications; community editing
- H2G2 (http://www.bbc.co.uk/dna/h2g2/) – multiple authors of varying qualifications; edited and unedited versions available; sponsoring institution without political aims
- Encyclopedia Mythica (http://www.pantheon.org/) – multiple authors of varying qualifications; editorial staff
- Anne's Anti-Quackery and Science Blog (http://amr2you.blogspot.com/) – single non-qualified author; slant
- Alternative Science (http://www.alternativescience.com/) – single non-qualified author; slant

Exercises

Exercise #1 – Anatomy of a URL

Before even looking at a Web site's content, students should notice the site's top-level domain. For sites based in the U.S., these will usually be one of the following: .com, .org, .net, .mil, .gov,

.edu. Non-U.S. sites will often have a TLD denoting their country of origin, for instance .au for Australia, although people from any country can purchase .com, .org and .net domain names.

Traditionally, .com denotes a commercial entity, .org means a nonprofit organization, and .net is a network (for instance, an Internet service provider). In practice, anyone can purchase a .com, .org or .net domain name, and individuals often buy a .org or .net domain when their preferred .com is not available. However, it is still true that many nonprofit organizations will avoid .com domains so as to avoid implying that they have a commercial component. It's also true that, while not all .coms are commercial, all large commercial organizations will have .com addresses.

The .gov, .mil and .edu TLDs can only go to government, military and educational sites respectively, so they reflect a different order of authority from a .com or a .org. Students and faculty can both have personal Web sites with .edu TLDs, so be aware of whether the site is an official school Web site, a research site or a personal site. Personal sites will often have the user's name in the URL.

Information on a .gov or .mil site has the backing of the (local, state or federal) government or the military. It may be difficult to find a single author for these sites, but you can assume that the information has a certain amount of authority because of this association. This does not necessarily mean that information on these sites is true – for instance, in 2005, the sex education Web site 4parents.gov was found to make a number of incorrect assertions and omit important information. But it does mean that the government or military tacitly approves of the site. If nothing else, .gov and .mil sites can be counted upon to reflect the views of the government and military.

Some domains, such as wordpress.org and blogspot.com, exist to give free platforms to anyone with something to say. Web sites hosted on one of these domains are less credible than other sites, because they are available to anyone (unlike, for instance, a page on NYTimes.com). Their information is not necessarily false, but should be approached with more caution.

Have students rank the following URLs in order of authority:

- http://random.blogspot.com
- http://www.random.gov
- http://www.columbia.edu/~jrandom
- http://www.random.com

Exercise #2 – Finding the Author

The word "authority" comes from the same root as "author." A source's authority often depends on who its author is. This is usually easy to determine with books and magazine articles. Some nonfiction books are written under a pseudonym, or pen name, but most print authors take responsibility for their work right on the cover or in the byline.

On the Internet, authorship can be more difficult to determine. Some sites have only one author. Others have many authors, who may or may not use their real names. Some sites have no

obvious author – their content may be written by a number of people who do not get authorship credit.

It's generally best not to trust any information you find on the Internet until you can at least determine who wrote it. Many Web sites have an "about" section. If this doesn't answer your question, check for contact information. Sometimes an FAQ (frequently asked questions) list will answer questions about authorship.

Have students find out who authored the information on their Web site. Is there one single author? Is there a group of authors? Is authorship restricted or unrestricted? If students cannot find a named author, can they get other clues about where the content came from?

Students should also take note of whether the site has editors. Editors often write content – and on some sites may be responsible for most of the available content – but they are also in charge of maintaining a certain standard of accuracy in a site, book or other publication. The presence of an editor, and especially of a full editorial staff, implies that there is some amount of oversight. However, the fact that a site is edited does not necessarily mean that it is neutral or correct.

Exercise #3 – The Author's Authority

Not all authors are equal in credibility. Once you've found out who's responsible for the site's content, you need to find out whether they have any expertise.

A book's author will often put relevant information in an "about the author" section on the book flap. Some Web sites also have "about the author" sections. For others, you will have to do more digging – you may want to Google the name of the author or authors. You may also have to make some educated guesses.

Have students study their Web sites to answer as many of the following questions as they can. For some sites, they will be answering questions about an editor rather than an author.

- What is the author's education level?
    - Does he or she have a degree? From what school? In what subject?
- What is the author's previous writing experience?
- How much does the author probably know about the topic or topics on which he or she is writing?
    - Does he or she deal intimately with this subject in daily life, or only research it for the purpose of writing about it?
    - If relevant, has he or she performed experiments and independent research projects on this topic?
- Does the author have a neutral perspective on the site's subject matter, or is he or she trying to promote a particular viewpoint?

Exercise #4 – Sponsorship

Even an author with a high level of expertise can offer misleading information. Many Web sites have an agenda – they have an interest, usually either ideological or financial, in presenting a skewed version of reality. This can also be true with print media. Magazines, newspapers and publishing houses may have directors or sponsors who support a particular viewpoint.

Determining sponsorship can be tricky. Check the bottom of the page for the logo of a sponsoring organization. An "information" or "about" page or an FAQ may point you to organizations that are involved with the page. You should also look at the affiliations of the author(s) and editor(s). Of course, some sites are independent entities and have no sponsorship – their authority would rest on the credibility of the author.

If the site's URL is along the lines of "organization.com/blogs," students should check out the "parent site" – in this case, organization.com. That parent site may be a blogging platform like blogger.com or wordpress.com, but it may be a sponsoring institution.

If students find that the site has a sponsor, they should investigate using Google to find out how the organization is perceived. Don't take a group at its word – find out what other people are saying about it as well.

Have students determine, as best they can, the answers to these questions:

- Is there an organization that is in charge of the site's content, or that funds the site's operation?
- Does this organization have a vested interest in the site's subject matter?
    - What perspective do they want people to have on this topic?
    - Are they likely to encourage the author(s) and editor(s) to give a skewed presentation?

Direct students to the FactCheckED resource Straight from the Source. Straight from the Source can be an excellent resource for students who want to determine whether a source is neutral or biased. Students who found that their site had a sponsor should check whether that organization is among the groups listed in Straight from the Source.

Optional Activity

Some people argue that the Internet allows for a different kind of authority – one that comes not from the top down, i.e. from educated experts writing to people who know less than them, but from the bottom up, i.e. from your average Joe or Jane. Information that comes from the bottom up may not have what we typically think of as authority, but there are scholars who argue that it can be as accurate as top-down information – if not more so.

"Word of mouth" is a good example of bottom-up knowledge. Nobody decides what gossip will reach your ears – it comes from the people around you. Internet forums and message boards work the same way. Most books and periodicals are top-down – authors and editors who are deemed to be experts produce all the content. In some cases, the readers might be able to respond; for instance, by writing a letter to the editor of a newspaper. Even in this scenario,

though, the editors decide which of these responses will be published. Many sources on the Internet involve some combination of these modes.

Have students generate some examples of each type of site (bottom-up information, top-down information and a combination of the two). Then have them discuss Wikipedia in terms of bottom-up and top-down knowledge. If your class has completed the FactCheckED lesson on "Wikiality," students can draw on their experiences in that lesson. However, most students, even if they have not thought analytically about Wikipedia before, likely have enough experience with the site to support discussion.

Lead discussion with the following questions:

- Is the information on Wikipedia authored in a top-down or a bottom-up fashion? (To the teacher: Wikipedia relies on hundreds of thousands of members to provide most of its content, so it is primarily bottom-up. However, it has an extremely active and involved editorial staff, so there is top-down oversight. Students may forget the second point.)
- Is Wikipedia a better or worse source of information than sources that are purely bottom-up? What are the benefits of bottom-up information in Wikipedia? What are its drawbacks?
- Is Wikipedia a better or worse source of information than sources that are purely top-down? What are the benefits of top-down information in Wikipedia? What are its drawbacks?

About the Author

Jessica Henig earned her B.A. in history of science from Smith College and her M.A. in English from the University of Maryland. While at Maryland, she taught digital literature and rhetorical writing. Prior to joining the Annenberg Public Policy Center in May 2007, she worked for the National Academies Press. She has also worked for the National Institutes of Health and as a freelance researcher and editor.

Correlation to National Standards

National Social Studies Standards

I. Culture Social studies programs should include experiences that provide for the study of culture and cultural diversity.

X. Civic Ideals and Practices Social studies programs should include experiences that provide for the study of the ideals, principles, and practices of citizenship in a democratic republic.

Essential Skills for Social Studies

Acquiring Information

A. Reading Skills

1. Comprehension

2. Vocabulary

B. Study Skills

1. Find Information

2. Arrange Information in Usable Forms

C. Reference & Information-Search Skills

2. Special References

D. Technical Skills Unique to Electronic Devices

1. Computer

Organizing & Using Information

A. Thinking Skills

1. Classify Information

2. Interpret Information

3. Analyze Information

4. Summarize Information

5. Synthesize Information

6. Evaluate Information

B. Decision-Making Skills

C. Metacognitive Skills

Interpersonal Relationships & Social Participation

A. Personal Skills

C. Social and Political Participation Skills

Democratic Beliefs and Values

A. Rights of the Individual

B. Freedoms of the Individual

C. Responsibilities of the Individual

National Educational Technology Standards

Profiles for Technology Literate Students

Performance Indicators

All students should have opportunities to demonstrate the following performances.

2. Make informed choices among technology systems, resources, and services.

7. Routinely and efficiently use online information resources to meet needs for collaboration, research, publication, communication, and productivity.

8. Select and apply technology tools for research, information analysis, problem solving, and decision making in content learning.

Information Literacy Standards

Information Literacy

Standard 1 accesses information efficiently and effectively.

Standard 2 evaluates information critically and competently.

Standard 3 uses information accurately and creatively.

Social Responsibility

Standard 7 recognizes the importance of information to a democratic society.

Standard 8 practices ethical behavior in regard to information and information technology.

Standard 9 participates effectively in groups to pursue and generate information.

English Language Arts Standards

Standard 1 Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary work.

Standard 3 Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).

Standard 7 Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

Standard 8 Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

Standard 12 Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).